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Education for Design Policy Synthesis
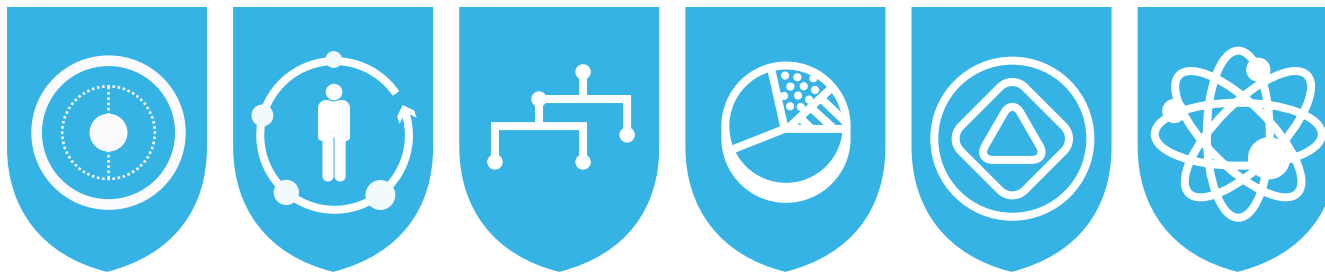
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Preface

The Problem

The world today faces a myriad of complex issues. From mass migrations to war, a growing divide between the rich and the poor, to human-induced environmental problems such as global warming and overflowing landfills, these problems can seem insurmountable. However, humans also possesses the ability to develop elegant solutions to solve these problems.

The design community is in a unique position. Design thinking, a set of qualities and skills possessed by many designers, can be used to approach these complex issues with creativity. Unfortunately, many designers are viewed as, and sometimes trained to be, little more than window dressers. The design community needs to develop strong designers, capable of operating effectively within a policy context. These designers must take a human and environmentally-centered position, approach complex problems systematically, and propose solutions that are innovative. They also must be taken seriously by policy makers.

Education for Policy Design Synthesis, the focus of this report, is a blueprint for a master's level education program that will prepare designers to work effectively in a policy context. The goal of this program is to fuse design skills and methods with policy knowledge and techniques to create an individual capable of developing innovative and relevant solutions to the many problems facing public policy today.

The Project

Four design teams used a design process called Structured Planning (discussed later in this Preface) to systematically analyze issues, synthesize findings, and develop innovative concepts for policy design synthesis.

In addition to the Education team, The Research Initiative for Policy Design Synthesis developed a research agenda, identifying new research areas, tools and methods applicable to a design and policy environment, and planning a strategy for the continuous growth of their project.

The Campaign for Policy Design Synthesis developed a communication campaign that seeks to inform and persuade policy leaders of both the power and possibility of design thinking.

The Natural Systems Institute team developed a 21st century zoo proposal as an evolutionary response to the global warming problem. This project demonstrates the possibilities of design thinking in a policy context.

Background

In the 1980's, with the first comprehensive gathering of data on global warming, tangible effects of population growth began to be firmly associated with the actions of industrial society. Meeting the demands of a growing population for material goods was beginning to be seen as a two-way street. The concept of a "better life" was beginning to look like a relative one—briefly better, relative to the past, but frighteningly better, relative to a very uncertain future.

Because few listened when something might have been done about it, we are now confronted with global warming as an observable, highly threatening fact. Like many other massive events, it took a long time to gain strength, and it will take longer to lose it. It is still in a strengthening pattern, and it is hard to see how that will change in the foreseeable future.

In spite of world-wide awareness, population growth also is still in an accelerating phase. The population of the world is now 6.46 billion and rising. Just 50 years ago it was 2.76 billion. Despite the fact that almost all developed nations are at replacement-level birth rates— or lower— world population is still on a steep incline because of high birth rates in developing countries. Before world population begins to level off, we can expect to see the number rise to over 10 billion— barring catastrophic events.

And catastrophic events are distinct possibilities, growing in probability every year, all because of population growth. A better life for a growing population— even eliminating poverty, as the

September 2005 issue of Scientific American argues as a goal— means more energy to be produced and more resources to be processed. Without sustainability, this can only mean unchecked resource depletion and uncontrolled greenhouse gas emissions. Both will generate disasters at an accelerating rate.

Global population growth and the problems it has induced— from resource depletion to global warming— are arguably the most serious threats ever to our civilization. But as we finally commit to confronting them, technologies now just evolving will put awesome new capabilities at our disposal. We may yet be able to escape the worst ravages, perhaps even bring better quality of life to our descendents. The question is, will our political decision makers have the wisdom to avail themselves of the right tools at the right time? Will we be able to avoid the worst of projected disasters and make best use of the new technologies? Decision makers will need the best of creative thinking from the science community—and from a design community prepared to contribute.

The evidence is that decision makers are not using— or receiving—the full range of advice they need. Advice that offers proactive, constructive, creative options for action is not being heard. The design community must assume new responsibilities and reinvent itself to fill this void. In so doing, it will have to rethink matters of education, research and professional activity, and it will have to prove to leaders that design thinking is a critically valuable asset.

Relevant Trends

Trends initiated by emerging technologies, changing environmental conditions, and evolving social change will have real impact on the situation. Among such trends are:

Food Production on Land

Food production for a growing population is an absolute requirement. In the last 50+ years, beginning with the green revolution that virtually saved India from starvation, the rise in food production has outstripped population growth. But arable land per capita continues to decrease— by 2050, it will have decreased over 62% since the 1960's— and productivity cannot increase indefinitely.

Food Production at Sea

The oceans, once thought to be a limitless food source, are fast becoming a depleted resource. Stocks of wild finfish and shellfish are declining alarmingly. The fishing industry is turning more and more to deep-water species to replace them, often with little knowledge of the biology of the replacement species.

Water Resources

Already in many parts of the world, water supplies are reaching levels of insufficiency. Complicated by agricultural needs for irrigation and the needs of urban centers becoming megacities, the fresh water resources of our lakes, rivers and subsurface aquifers are subsiding. In 2003, 9,500 children were dying daily from insufficient or contaminated water supplies. One-third of the world's population, by some experts' analysis, lives in water-stressed countries now, with two-thirds of the world to share their dilemma by 2050.

Mineral Resources

Mineral resources are approaching finite limits, exhausted in some locations, more difficult to extract in others. While supplies of some minerals are in no immediate danger, others are under severe pressure. Oil is a resource of vital concern, with production expected to peak in this decade or shortly thereafter. The Hubbert Curve, long-used as a predictive tool in the petroleum industry, when coupled with modern corrective tools, predicts that we are reaching worldwide peak production now and face a reduction in production of approximately 3% per year very soon. Not only will that oil production have to be replaced as an energy source, additional energy sources will have to be found to keep pace with the population curve.

Population Movement

In an interesting paradox, the countryside is becoming less—not more— inhabited as we add to the population. The people are moving from the country to the cities. As of this year, 2005, the world is more urban than rural for the first time. In the next fifteen years 300 million rural Chinese will move to the cities. In 1950, only two cities in the world, Tokyo and New York City, were over 10 million in size. By 1975 there were 4 such

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mega cities, and by 2003, there were 20. By 2015 there will be at least 22. In China alone there are between 100 and 160 cities with over 1 million inhabitants (America has 9, and Eastern and Western Europe together have 36). Cities are complex, sophisticated systems, but their managers will need all the skill they can command to deal with the great urban migration.

Climate Change

Climate and weather patterns are changing. Some regions are simply getting drier or wetter, but the greatest damage will come from sustained, severe droughts and intense, prolonged flooding. The problem is change: eco-systems confronted with wetter or drier conditions for periods far longer than the environment or its inhabitants are prepared.

Rising Ocean Levels

Ocean levels are rising. Temperature rise under global warming is greatest at the poles, and polar melting is accelerating. Melting icebergs have little effect on rising water levels because the ice is already floating, but ice melting on land, such as in Greenland and Antarctica, will contribute to rising water levels, and the thermal expansion of water as it is heated a degree at a time will also contribute. The Intergovernmental Panel on Climate Change in its 2001 report, estimates a 45 cm (18 inch) mean rise by the end of the century with a low estimate of 9 cm (3.5 inches) and a high estimate of 88 cm (35 inches). Many of the world's major cities are on ocean coasts or waterways close to the oceans.

Storm Violence

The increased heat energy created by global warming is feeding more violent storms. Storms over the water will increase in number and in violence. Storms over land, although less subject to the stimulation of ocean heat, will draw from the weather systems that build over the oceans and move readily onto land. All but the regions most remote from the coasts will be influenced. Category 4 and 5 levels can be expected increasingly for hurricanes, cyclones, typhoons and tornados.

Moving Ecological Zones

On a longer scale, climate changes are moving the zones in which species can live. Warmer winters, earlier springs and hotter summers are changing key environmental characteristics crucial for species' survival, even existence; and as ecological zones migrate northward (or southward in the southern hemisphere), they will do so at a pace too fast for plant species to follow. When species disappear, others dependent on them are also affected, and eco-systems disintegrate. Biodiversity will decrease and extinctions will take place.

Increasing Expectations

The growing availability and capabilities of communications such as cellular telephones, satellite and cable TV, and the Internet across the country (and the world) are providing people with daily knowledge of living conditions, problems, products, threats and services everywhere. The media are creating growing avenues for fast communication between protectors and populace. They are also educating the populace on the state of conditions and creating expectations that both fuel demand and create willingness to change.

Internet Penetration

Computer use and Internet access grow exponentially every year. Information of encyclopedic detail can be obtained more and more easily, and complex, sophisticated processes can be used remotely. Access to high-quality communications and sophisticated computer tools are increasingly available to individuals and groups anywhere. In the United States, Internet penetration has reached 67%.

Emerging Technologies

The pace of technological change continues to accelerate, bringing new science to commercial, institutional and industrial uses at an ever quickening pace. Most notable among many fields, major technological innovations can be expected in the new disciplines of molecular nanotechnology, robotics and the biosciences.

New Relationships

Greater public mobility and access to information is changing the nature of association for many individuals and organizations. Organizations that once operated in isolation are now players in a common environment. Sometimes the emerging relationships are competitive, sometimes cooperative. New forms of relationship can be expected and created as conditions evolve.

Project Statement

Using Structured Planning methodology, develop a proposal for a design education program to prepare qualified individuals for governmental and institutional service as advisors on Policy Design Synthesis.

The proposal should:

1. Characterize critical activities where high-level decision makers should have access to the strengths of design thinking.

2. Identify current weaknesses in the preparation of designers for working at institutional and governmental policy-making levels.

3. Consider procedures and organization structures appropriate for recruiting, training and placing students.

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Project Goals

As general guidelines a program for Policy Design Synthesis education should:

- Explore a full range of possibilities, paying especial attention to appropriate technologies and user needs.

- Consider both high- and low-tech concepts, as they are appropriate.

- Include ideas for content, form and structure—including procedures, policies, events, activities, organizational concepts and any relevant relationships among them.

- Explore revolutionary as well as evolutionary ideas.

- Accommodate all users of the system, from implementation to adaptations and provide for them in the design. Thoroughness is a step toward system integrity.

- Consider potential costs and funding thoughtfully; the proposal should not incorporate unnecessary frills, but it should not sacrifice effectiveness for low cost.

- Treat the design problem as design from the inside out; user operational needs come first, with every attempt possible made to satisfy them in some way, even when tough design decisions must be made.

- Conceive the properties and features of the educational program as means to build trust and cooperation between schools and the governmental and institutional leaders the schools will support.

- Consider the project as one component of four demonstrating advanced design thinking and showing how it can be extended to decision making at the policy planning level.

Overall, the solution should:

- Assume that the proposal can be acted upon as it is conceived. Do not under-propose on the assumption that a concept might be politically opposed.

- Demonstrate what might be achieved. The value of the proposal is in its ideas, not its certain attainability. Ideas that might not be fully attainable under today's conditions may be incrementally achieved tomorrow— if they are known.

The Process

The semester-long Systems and Systematic Design course is a project-based course in which teams of graduate students, deliberately of mixed international origins and different academic backgrounds, apply the computer-supported Structured Planning process to complex design and planning problems. The goal for each project is to develop information thoroughly, propose innovative solutions that take maximum advantage of the information, and integrate these ideas into system concepts that can both be evaluated in their own right and (in a real situation) be the comprehensive project specifications for a follow-on detail design phase of development.

Course Issues

Complexity. What is the nature of "systems" concepts, where products, processes, services and settings are organized to act together to achieve multiple goals? What can be done to assure that a concept is as complete as possible, covering many functions and attaining a high degree of "wholeness" and organic reliability?

Design and planning methods. What is Structured Planning and how can its took-kit of methods be used to collect, structure and handle information in projects of greater complexity than can be comfortably dealt with intuitively? How can such methods be used by a team to extend the effectiveness of all?

Teamwork. How do individuals with different cultural origins and different academic backgrounds work together successfully on teams? What roles are there to be played and what difficulties must be overcome?

Structured Planning

Structured Planning, the systematic planning process taught in the course, is a process for finding, structuring, using and communicating the information necessary for design and planning activities. It is a front-end process for developing concepts thoroughly and cohesively.

A number of projects have been undertaken with it and used to further its development. Among nearly 100 of these, an early published project for Chicago's transit authority (CTA) was Getting Around: Making the City Accessible to Its Residents (1972). In 1983, the House of the Future project won the Grand Prize in the Japan Design Foundation's First International Design Competition. In 1985, the design of a habitation module for Space Station was undertaken for NASA. In 1987, the Aquatecture project won the Grand Prize again in the Japan Design Foundation's Third International Design Competition. In 1991, Project Phoenix on global warming was honored as Environmental Category Grand Winner in Popular Science magazine's "100 Greatest Achievements in Science and Technology" for the year. In 1993, two award winning projects, NanoPlastics and Aerotecture, were widely publicized in Europe and Japan; in 1995, the National Parks project developed plans for the future of the U. S. National Park Service. In 2001, Access to Justice, a project sponsored by the National Center for State Courts, was implemented for use in state courts across

the United States, and in 2005, four projects on Home, Play, Work and Health were finalists in four of the five competition categories for Denmark's INDEX Awards, the world's richest design prizes. As the process has evolved, it has become an increasingly useful planning tool for products, systems, services, processes and organizations. It is now being used commercially.

A diagram of the process, shown in two figures (pages 14 and 15), outlines the activities that make up Structured Planning and the working documents and final products that are produced along the way. Where products of the process are discussed here in the abstract, it is possible to see specific examples produced for this project in the appendices that accompany this report.

I Project Definition

The Structured Planning process begins with Project Initiation and the production of a Charter. This is a "brief" that serves as an initial communication vehicle between client and planners. It contains background, context, basic goals, a project statement that cuts to the heart of the planning task, resources to be used, and an initial set of issues to be investigated.

Defining Statements are mini "white papers" produced in the Framework Development portion of Project Definition. They focus the project within the direction of the Charter, concentrating on the issues and arguing specific directions that the project should follow with regard to them. Together with the Charter, they define the project.

II Action Analysis

Any system can be viewed as a complex entity working with its users in different ways appropriate to its modes of operation. To plan effectively, a planning team must recognize these Modes, identify Activities that occur within them, and isolate the Functions that the users and system are intended to perform within each Activity. The result of the Activity Analyses conducted is a Function Structure.

Half of the purpose of Action Analysis is the enumeration of Functions. The other half is the development of information about these Functions that reveals insight about what happens as they are performed. During Action Analysis, insights are sought about why things go wrong in performing some Functions, and how other Functions manage to be performed well. These insights are uncovered in the Design Factor Description procedure and developed in documents that become part of a qualitative knowledge base. Activity Analyses record information at the Activity level; Design Factors document insights and ideas associated with Functions.

To capture as fully as possible the ideas suggested on Design Factors, Solution Element documents are written in the Solution Element Description portion of Action Analysis. These are one-page documents designed to capture enough detail about ideas to give them substance when they are needed later. They have three important sections: "Description" — a short explanation, "Properties" — what the idea is, and Features — what the idea does. The Solution Element form is the tool used for committing ideas to paper.

The product of Action Analysis is three sets of critical information: a set of Functions (the Function Structure), a set of insights (Design Factors) and a set of preliminary ideas (Solution Elements).

III Information Structuring

Paradoxically, as useful as the Function Structure is for establishing coverage, it is not the best form of organization for developing concepts. Reorganizing information for use in concept development is the job of two computer programs, RELATN and VTCON.

The controlling factor for whether two Functions are associated from the planning standpoint is not whether they are categorically "related" in some manner, but whether a significant number of their potential solutions are of concern to both. Which Solution Elements are of concern to each Function is established in an Interaction Analysis procedure. The RELATN program then uses this information in a Graph Construction process to establish links between Functions.

Another program, VTCON, completes the information structuring process. The graph establishes paths through the Functions by linking them when they are related, but, unlike a road map, a graph is not naturally arranged nicely for visual comprehension. In the Hierarchy Construction activity, VTCON finds clusters of highly interlinked Functions and organizes them into a semi-lattice hierarchy, a very general form of hierarchy most appropriate for planning. The hierarchy is called an Information Structure.

IV Synthesis

In its form from the VTCON program, the Information Structure is simply a hierarchical organization. Nodal points do not have names. The task of Means/Ends Analysis is to create labels for all nodal points in the hierarchy. Moving bottom-up from the known Functions in the bottom level clusters, the question is asked, "To what end are these Functions means?" The answering purpose, in turn is grouped with its sibling nodes and viewed as means to a higher level end. The process continues to a completely labeled Information Structure.

The process is then reversed as a top-down, structured brainstorming procedure: Ends/Means Synthesis. In this process, the planning team asks of high level nodes, "what means do we need to meet this end?" As means are established, they are treated in turn as new ends for which means must be found, until the means become concrete enough to be described as final elements of the system (System Elements). Solution Elements originally conceived for the Functions involved are constantly reviewed as possible end products. New ideas, however, are encouraged, and original ideas are modified or combined in the light of the means that evolve.

During Solution Evaluation, features of the System Elements are evaluated for their contribution to fulfillment of Functions in their part of the Information Structure. If there are unfulfilled Functions, this is the signal to return to the Ends/Means process for additional development.

System Element Interaction compares System Element with System Element in a search for additional synergies that can

contribute to systemic qualities. More than simply recognizing relationships, the planning team proactively seeks out ways for System Elements to work together — to the extent of modifying one, the other, or both. Changes are incorporated in the properties and features of the individual System Elements.

The last task, System Element Description, completes the write-up of System Elements as specifications, including a succinct description, all relevant properties and features, and extensive Discussion and Scenario sections that contain detailed expositions of the ideas in both conceptual and operational terms.

V Communication

Because the result of the Structured Planning process is a complex system, usually with a number of System Elements, a Communication Structure is frequently included as an aid to understanding. This is created during Concept Organization by the VTCON program from an assessment of how important the System Elements are to each other's operation. Using this structure, the reader can understand the system and navigate its concepts with greater efficiency.

The product of the Structured Planning process, assembled in the Project Completion section, is a Conceptual Plan, made up of an Overview that provides background and introduces the system, the System Elements that describe the ideas and their relationships, and Appendices that contain all relevant support information, including the Defining Statements, Design Factors, Function Structure and Information Structure.

The top questions row:

what relevant trends are creating new needs?

what needs should the project address?

what are some of the key issues involved?

what resources can be brought to bear?

what additional issues surface from research?

what positions should the project take on the issues?

how strongly should the positions be regarded?

what happens within this system?
or
what should happen within this system?

who are all the users of this projected system?

how can the system best be represented as a balanced collection of activities?

what problems arise when Functions are performed?

What insights can be gained about why things go right or wrong?

what ideas can be generated to take advantage of these insights?

what is it that makes this solution work?

what does this solution do to make it useful?

which Functions are related?

how do the solution ideas support or obstruct the performance of Functions?

which Functions should we look at together in order to create a more systemic solution?

I Project Definition

Project Initiation

Establishment of project intent and assembly of means for proceeding

1. PROJECT STATEMENT
2. BACKGROUND
3. TRENDS
4. GOALS
5. RESOURCES
6. SCHEDULE
7. METHODOLOGY
8. ISSUES
↓

CHARTER
project guidelines

Framework Development

Examination of critical issues and articulation of framework positions

QUESTION AT ISSUE
↓
ALTERNATIVE POSITIONS
↓
ARGUMENT
↓
POSITION
↓

DEFINING STATEMENTS
white papers framing project

milestone
client checkpoint

II Action Analysis

Activity Structure

Activity Analyses
worksheets for modeling activities

Solution Elements

Activity Analysis I

Identification of Modes of operation and Activities of the system

MODES
Major conditions of operation or behavior (may have SUBMODES)
↓
ACTIVITIES
Purposeful performance(s) within each Mode

Activity Analysis II

Analysis of Activities to uncover Functions and insights about them (Design Factors)

ACTIVITIES
↓
FUNCTIONS
Actions performed by the system or by users working with the system
↓

FUNCTION STRUCTURE
System Functions organized by analysis
• *Modes*
• *Activities*
• *Functions*

Design Factor Description

Recognition and elaboration of insights

OBSERVATION
↓
EXTENSION
↓
Creation of ideas for using the insights
↓
DESIGN STRATEGIES
↓
SOLUTION ELEMENTS

DESIGN FACTORS
insights with associated ideas

Solution Element Description

Description and annotation of ideas inspired by the insights of Design Factors

BRIEF DESCRIPTION
↓
PROPERTIES
"what it is"
↓
FEATURES
"what it does"

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Functions

III Information Structuring

Relationship Data File

Graph of Functions

Working Hierarchy

Interaction Analysis

Designation of relationships between Functions and Solution Elements

Bi-directional Scale
+2 Strongly supports fulfillment
+1 Supports fulfillment
0 No effect
−1 Obstructs fulfillment
−2 Strongly obstructs fulfillment

Graph Construction

Operations with the RELATN computer program (Phase 1)

COEFFICIENTS OF INTERACTION
↓
Selection of threshold for link strength from histogram
↓
Operations with the RELATN computer program (Phase 2)
↓
GRAPH

Hierarchy Construction

Operations with the VTCON computer program

DECOMPOSITION PRIMARY CLUSTERS
↓
Evaluation, reruns and refinement
↓
Operations with the VTCON computer program
↓
HIERARCHICAL CONDENSATION

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Writing Formats

Project Statement
<action>
<possible modifiers>
<object of planning>
<goal>
<possible modifiers>

Constraint
"must" must be done

Objective
"should" should be done

Directive
"ought to" ought to be done

Mode
<noun> class format

Activity
<gerund> duration format

Mode
<noun> class format

Activity
<gerund> duration format

Function
<verb phrase> action format

Title:
content-descriptive phrase

Observation:
distilled sentence

Extension:
open-ended explanation of insight

Design Strategies:
<imperative verb phrase>

Solution Elements:
<evocative adjective>
<noun>

Properties:
<noun phrase>

Features:
<verb phrase>

Activity Structure — working documents

Design Factors — final documents

The Structured Planning process: phases I through III.

what organizational insights does the new structure suggest?

what functionalities should be shared on a broader basis system-wide?

what new ideas are suggested by the association of **Functions**?

which of the **Solution Elements** can be used as is?

which **Solution Elements** can be used if modified to reflect newly revealed associations?

is there coverage for all **Functions** in the **System Elements**?

what additional features need to be incorporated?

how can the functionality of both **System Elements** be improved if they work together?

what would happen to the system if these relationships were extended?

what properties and features are essential to the working of the concept?

how can the ideas be explained best, both for what they are and how they are used?

what else can be communicated as a help to the detail design team?

how can the reader best navigate the **System Elements**?

what additional understanding can be gained through hierarchical organization?

how should the system concept be introduced?

what supplementary materials will be of the greatest help?

how can the reader track back ideas to the problems that inspired them?

IV Synthesis

V Communication

Preliminary System Elements

Elaborated System Elements

System Element Relationship Matrix

Means/Ends Analysis

*Labeling of primary Function clusters and higher-level superset clusters; the rediscovery of **purpose** — seen freshly*

MEANS ⇒ END

*What **END** are the subset clusters the **MEANS** to?*

↓

INFORMATION STRUCTURE

System Functions organized for synthesis

- *bottom-up recomposition*
- *cross-functional associations*

Ends/Means Synthesis

Final synthesis of concepts to accomplish purposes

END ⇒ MEANS

*What **MEANS** are necessary to accomplish this **END**?*

↓

SYSTEM ELEMENTS

1. Existing solutions
2. Modified solutions
3. Speculative new solutions

FEATURES and PROPERTIES

Solution Evaluation

Check of concepts against Functions of the cluster

FEATURES vs FUNCTIONS

*Do **Features** satisfy **Functions**?*

↓

YES: CONTINUE →

NO: ADD, ADD TO, OR MODIFY SYSTEM ELEMENTS ←

System Element Interaction

Comparison of System Elements with each other for the addition of synergistic features

SYSTEM ELEMENT vs SYSTEM ELEMENT

Establishment of new relationships; Determination of relationship strengths

SYSTEM ELEMENT RELATIONSHIPS

System Element Description

Final description of concepts

COMPONENTS

1. Description
2. Properties
3. Features
4. Discussion
5. Scenario
6. Related System Elements
7. Fulfilled Functions
8. Associated Design Factors

↓

SYSTEM ELEMENTS

specifications for design

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Concept Organization

Organization of System Elements for communication and understanding

RELATIONSHIPS (from System Element Interacton)

GRAPH

*Graph decomposition and condensation by **VTCON** computer program*

↓

COMMUNICATION STRUCTURE

System Elements organized for understanding

- *linkage for navigation*
- *associations by functionality*

milestone
client checkpoint

Project Completion

*Consolidation of information into a **Conceptual Plan***

MAIN COMPONENTS

1. Overview
2. Communication Structure
3. System Elements

APPENDICES

1. Defining Statements
2. Function Structure
3. Design Factors
4. Information Structure

↓

CONCEPTUAL PLAN

concept brief for design project

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Writing Formats

Level 1-2 nodes: Activity format

Level 3+ nodes: Mode format

Means: <imperative verb phrase>

Features: <verb phrase>

Activity Structure working documents

Design Factors final documents

The Structured Planning process: phases IV through V.

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Introduction

The policy making process is, at its core, a problem solving process. Many policies set forward fail to produce the intended results. Though politics is certainly one reason for these failures, poor solution generation also plays a part.

Policy is made in many places, levels, contexts, and situations. Policy not only puts laws in place but defines processes. For example, emergency management protocols, like those used in the recent Hurricane Katrina disaster is designed and implemented by policy makers. Likewise, civic activities from public education to health care to trash pickup are set by policy makers.

The Education for Design Policy Synthesis (EPDS) program does not intend to revolutionize how policy is made. Rather, EPDS will prepare skilled people to enter the public policy arena armed with innovative methods and techniques. As members of or consultants for policy design teams in for governmental departments, non-governmental agencies, or private organizations, the EPDS graduate offers critical contributions to successful policy plans.

What is Design Thinking?

Design thinking is characterized by a very specific group of skills and qualities. These characteristics are often dominant in designers but are also present in other disciplines, like policy planning:

- **Conditioned inventiveness:** design thinkers invent with an objective in mind and work within identified constraints.

- **Human-centered focus:** designers seek practical, relevant solutions to basic human needs.

- **Environment-centered concern**: design thinkers recognize the context in which they work and the impact their work has on the environment.

- **Ability to visualize:** design thinkers have the skill to formalize and communicate ideas.

- **Tempered optimism:** the special ability to overcome creative barriers such as pessimism or a negative environment to deliver professional and creative solutions.

- **Bias for adaptivity:** design thinkers develop solutions that not only solve the immediate problem but can be adapted to changing demands and needs.

- **Predisposition toward multi functionality:** design thinkers seek solutions that can solve multiple problems.

- **Systemic vision:** design thinkers investigate problems broadly and develop holistic, interrelated systems.

- **View of the generalist**: design thinkers are curious, gaining knowledge across many disciplines. This generalism helps them draw unconventional connections and serves as a source of inspiration for their work.

- **Ability to use language as a tool:** designers use language to approach abstract concepts, reveal and explain patterns and distill complex phenomena to their essence.

- **Affinity for team work:** design thinkers often work collaboratively, for clients and very often in multidisciplinary teams. Their interpersonal skills and creative skills are a valuable asset.

- **Facility for avoiding the necessity for choice:** design thinkers look at present solutions and are able to rearrange their essential characteristics into a new configuration.

- **Self-governing practically:** design thinkers have the capacity of tempering unconstrained creativity with practicality.

- **Ability to work systematically with qualitative information:** design thinkers use structured methods to find information, gain insights from it and organize it.

Source : Owen, Charles L. "Design thinking. What it is. Why it is different. Where it has new value" (October 21, 2005)

How can design and policy thinking work together?

Design Thinking, Skills, and Methods

Traditional designers are concerned with the creation of products, communications, services, and systems that improve people's lives and satisfy human needs. Directing their efforts outward, they work for others, using a wide range of design and planning tools to gather and organize information to define unmet human needs. Once needs have been identified, designers are involved in problem solving, analysis, concept development, and evaluation. Designers are creative, human-centered individuals that engage in divergent thinking to generate new concepts.

Designers who employ design thinking into their work have the additional ability to think systemically. Their value lies is in their ability to think systemically, work collaboratively, communicate effectively, and visualize ideas. Using a systems point of view, designers can recognize the potential unintended consequences that may arise from a particular solution. By taking a holistic, generalist view of the system, designers are able to contribute solutions that consider the best interests of humankind and the environment. Their creative thinking is directed towards inventing, and their human-centered values and concern for the environment govern their design.

Designers share additional qualities, such as a tempered optimism, adaptability, multifunctional thinking, a generalist view, ability to use language as a tool, self-governing practicality, and the ability to work systematically with qualitative information. These qualities enable designers to work comfortably in ambiguous situations, adapting to the changing environment to create good design solutions. Because designers work for clients, their professional set of tools also include good interpersonal, listening, communication, and collaboration skills that enable them to work effectively in multidisciplinary teams.
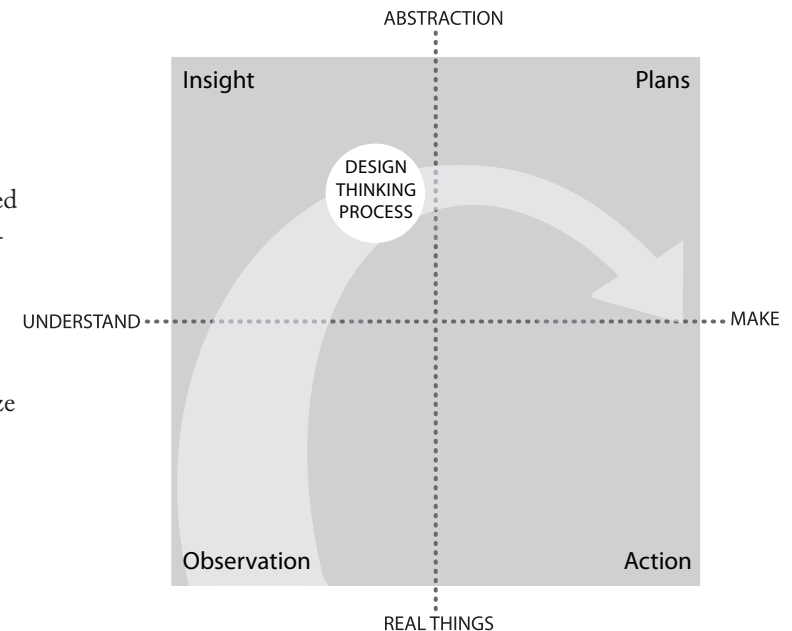
The design thinking process

Policy Knowledge and Techniques

Policy makers come from many different backgrounds. Their skill set differs from a designer's in their knowledge of policy development, economics, and the political domain, as well as their interpersonal, leadership, and negotiation skills. Because so much of their work involves working with others to create new policies, strong communication skills and the ability to be diplomatic are essential. Effective policy-making requires policy makers to be respectful of constraints, such as budgets, laws, and authority, and be aware of the consequences and tradeoffs for alternatives considered. Citizens and interest groups expect efficient resolution of issues, requiring policy-makers to act efficiently and decisively. Once a policy has been implemented, policy-makers must monitor the implementation of policies for unintended consequences and revise them as necessary.

History of the Issue

↓

Analysis

↓

Formulation

↓

Implementation
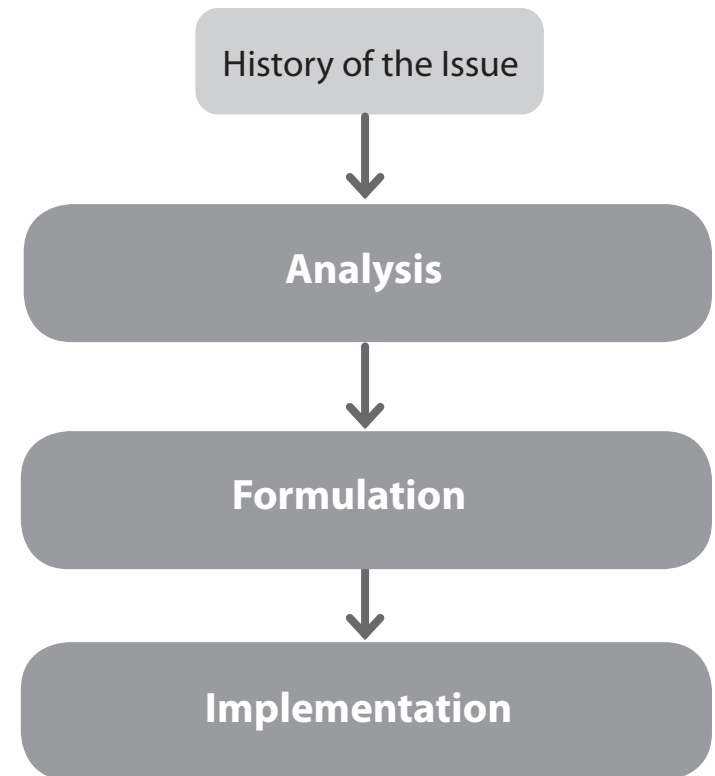
The policy making process

Bringing Policy and Design Practice Together

Design's systemic view and generalist approach can be a valuable addition to a policy setting. Although policy makers do their best to make good policy, many policies still result in negative unintended consequences. Incorporating design thinking into the policy making process would contribute by creating better alternatives that anticipate unintended consequences by taking a holistic view of issues.

Designers tend to feel comfortable with tangible things, such as products, communications, services, and systems. The EPDS Program would teach designers to become more comfortable with intangible things, such as policy and laws, as well as expose them to the policy environment and the skills required in a policy setting. The program would help policy makers see beyond their policy framework by thinking systemically to see the issue from a broader view. Understanding the holistic view and being able to frame problems from multiple perspectives can prevent ill-advised policies from being created that may result in negative unintended consequences. A combination of these skills can create policies that are effective and affect positive change for society and the environment.

qualities

diplomatic

user-centered

leadership

fusion

integrity

open-minded

enthusiastic

curious

flexible   visionary   creative

empathetic

negotiation   systems thinking

Policy   optimistic   Design
Thinking   Thinking

collaborative

responsible   global perspective

analysis   listening skills

policy
domain   planning   discipline   synthesis
knowledge

communication

shared skills

quantitive   visualization

policy-   design-
specific skills   specific skills

learned skills

Combining the skills of designers and policy makers

The EPDS Program

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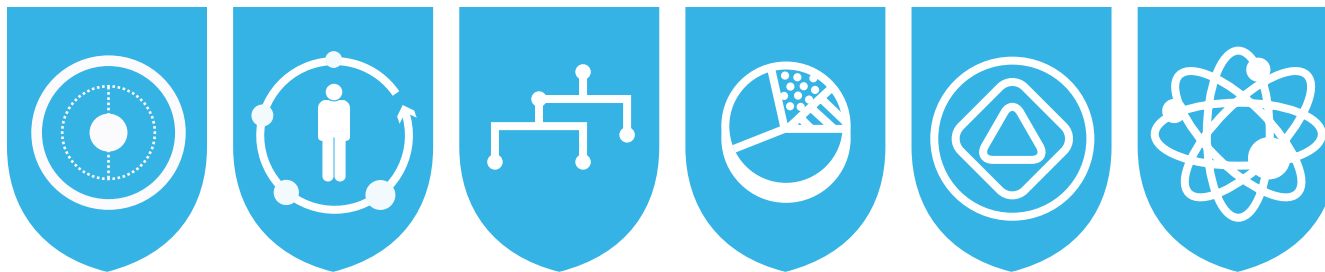
About the Program

The EDPS Program is a set of tools and techniques for developing an integrated design and policy education program. The goal of the EPDS Program is to produce a confident, credible professional capable of successfully negotiating a policy environment and producing outstanding solutions.

The EPDS Program emphasizes instruction but also provides tools for managing the student lifecycle, developing the program's infrastructure and administration, adapting to trends, and developing a good reputation through promotion and partnerships. A living education system must both deliver educational material to students and support the ongoing adaptivity of the system. To achieve this goal, the EPDS System focuses on three interrelated functions: instruction, adaptation, and communication.

Instruction The Instruction function focuses on curriculum and pedagogy. The System does not suggest a specific set of courses but provides an outline of concepts, skills, methods, and qualities necessary in the development of a strong EPDS graduate.

Adaptation The Adaptation function provides tools for the ongoing assessment and development of program offerings and strategy.

Communication Through promotion, partnerships, and promulgation, the Communication function provides tools for developing the reputation and credibility of the program.

The EPDS Program is intended as program within either an established school, rather than a stand-alone institute. The program can take advantage of the faculty, reputation, and infrastructure of an existing institution, adding administrative and communication systems as needed. Program designers can choose to develop a faculty of design and policy professors or focus on a policy-oriented design faculty, complementing their strengths with offerings from a partner school. Designers can also choose to use the system as a whole or select and modify System Elements to suit their particular needs. Ideally, the program will be located in an urban center with access to teaching and research resources, and within close proximity to institutions engaged in policy decision-making.

Instruction

Instruction

Student Lifecycle

Program Adaptation

Adaptation

Administration

Communication

Promotion & Relationships

Infrastructure
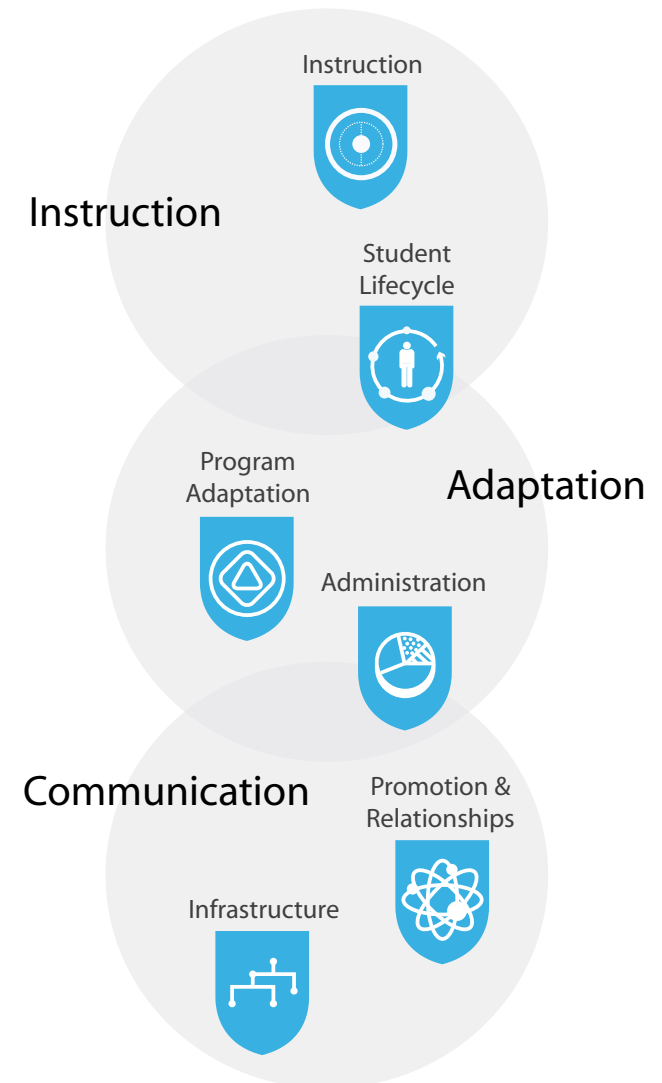
System Elements

Instruction

Student Lifecycle

- Recruitment System
- JobNet
- Alumni Network

Infrastructure

- Interplay
- The Brain

Administration

- Governance
- My Brain
- Curriculum Development Team

Program Adaptation

- Trend-spotting
- Strategy Consensus
- Implementation Protocol
- Assessment Program

Promotion and Relationships

- Communication Strategy Builder
- Contact Tracker
- Liaisons
- Promulgator
- Polizign Drinks

Foundation

- Immersions

Design

- MethaDesign
- DesComm
- Design Qualities

Fusion

- PolyDomain
- PolyComm
- Leadership

Policy

- Polyzign
- Strategem
- Collaborator
- Good Citizen

Demonstration

- Instill-ation

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Instruction

The EPDS System provides students with a balanced education in both design and policy. Design coursework focuses on design methods, communication techniques, and the development of design qualities. Policy coursework covers policy area knowledge, teaches communication techniques relevant to the policy environment, and instills qualities crucial to success in a policy environment. Fusion coursework combines design and policy work together in an integrated environment. When developing a course catalog, designers can use these tools as guidelines to ensure coverage of all educational principles.

Instruction begins with an intensive Immersion where the student then learns core skills and knowledge. The student's work is completed with a demonstration project called Instill-ation.

System Elements

Foundation
Immersions

Design
MethaDesign
DesComm
Design Qualities

Policy
PolyDomain
PolyComm
Leadership

Fusion
Polyzign
Strategem
Collaborator
Good Citizen

Demonstration
Instill-ation

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![Instruction logo] **Instruction**

Curriculum Structure

The EPDS curriculum has three stages: foundation, core, and demonstration. Influenced by the Bauhaus education structure, these three stages ensure that students develop a body of knowledge and skills that can be practically applied. In the EPDS system, the timeline of each stage can be adjusted depending on the new program's needs. We have recommended that the program be a master's degree level program of 2-3 years in duration. In this scenario, immersions might last 3-6 weeks during the late summer; the core program might last for two years, with the demonstration the focus of the final year. However, since the ideal EPDS student is a busy, mid-career professional, program designers can develop alternative academic calendars to accommodate work and family commitments.
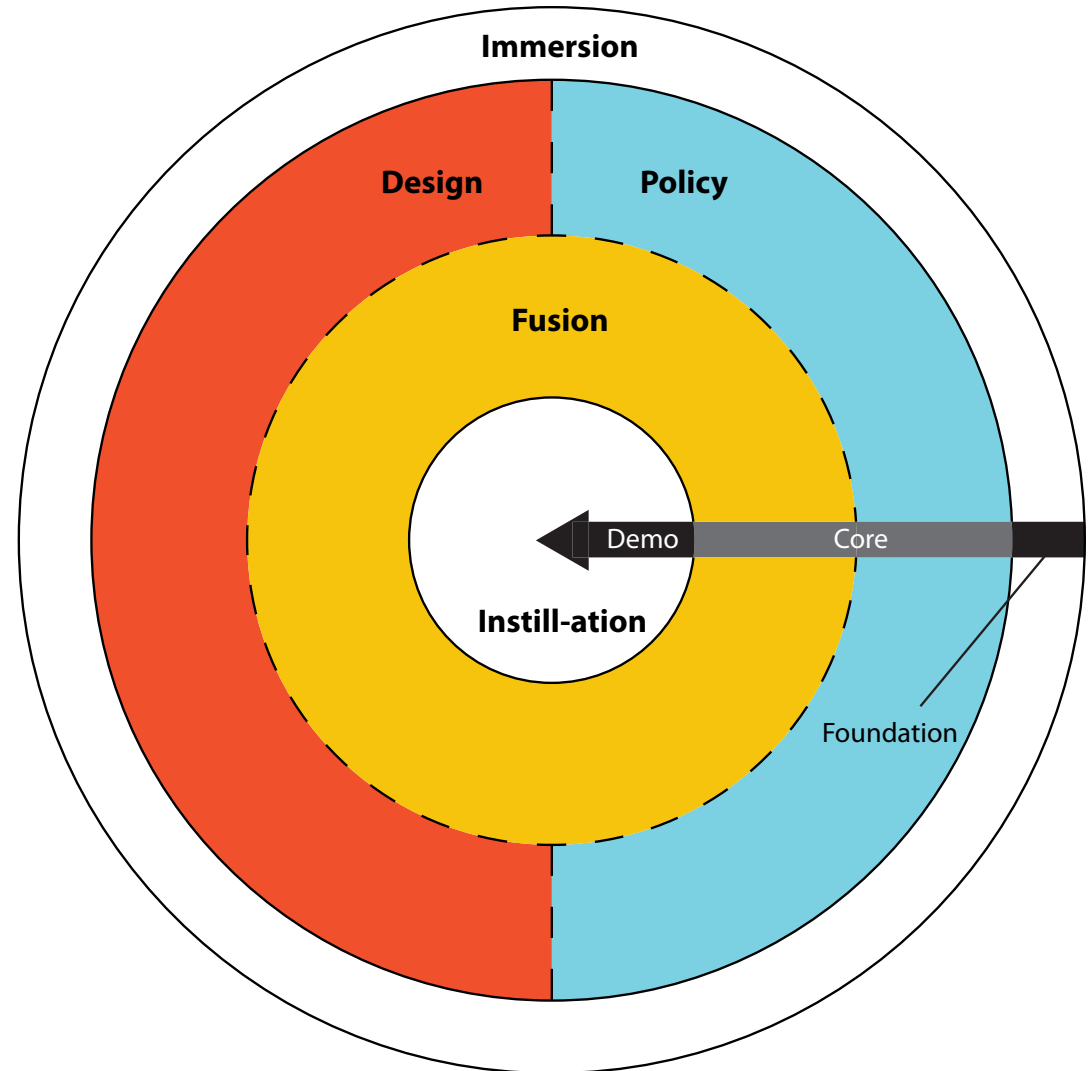
The EPDS curriculum structure

Instruction

Immersions

Student **Immersions** is a series of short courses in which students can learn about different subject areas. The first Student Immersion begins prior to the start of classes where students go on a trip off-site to learn valuable skills in teamwork and other soft skills that will prepare them for the main program. Such an experience can help students get to know their peers; as well as understand the types of skills that will be expected of them during the program. With different backgrounds in education, work experience, language, and culture, students will need to learn how to effectively lead, communicate, and work with different people.

The offsite "foundation program" is a crash course for new students to help them develop skills needed for situations they may encounter during the school term. The workshops can focus on different subjects, presentation skills, group dynamics, listening skills, effective team meetings, roles and responsibilities. Teamwork is an integral component of the design policy education program, so developing skills for effective teamwork is important to positively affect group performance.

During the first Student Immersion, students may engage in role playing to expose them to different roles played within a group setting, such as the roles of leader, participant, facilitator, and expert. These role-playing scenarios illustrate how a team dynamic might work and provide guidelines on how to improve efficiency and effectiveness during meetings. They will also learn how to use other soft skills required for success during the program or in a future working environment.

After the "foundation program," students begin the school term equipped with new tools and prepared for the work ahead. Students should have learned to adapt to changing situations and be flexible when working in a team. Team morale should stay positive as team members treat each other with mutual respect. During the school year, mini-classes may be offered during a weekend or during the week in which additional skills may be taught. For those who want a refresher course of the "foundation program," an advanced immersion program can also be offered during the year.

These skills are very important for the program as well as work in a future workplace. Experiential learning during Student Immersion will help policy design students "learn by doing" by engaging in different experiences.
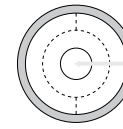
Foundation

Properties
- Off-site foundation program
- Mini-classes (weekend or week-long)
- Field trips
- Experiential learning opportunities

Features
- Introduces students to different subject areas
- Provides students with opportunities to engage in experiential learning
- Builds teamwork and other soft skills

Instruction

Scenario. Jack had been accepted to the policy design program that was starting in August. In the acceptance and introduction package he received in the mail, information about a one-month Student Immersion program that was being offered to new students. It was being held off-site at a hotel in a different city. Student Immersion was described as a "foundation" program that helps students prepare for student life and work at the policy design school by learning valuable skills required in the program.

After arriving at the hotel, Jack met about 20 other new students that came from different cities with different experiences. After brief introductions and administrative items, they broke out into small groups and headed into a team building workshop. During this workshop, Jack and a few of his fellow students were grouped into a team of five. They were presented with a short project and each person received a paper with the role they were supposed to play. Jack was randomly selected to be the group leader during this first round. The group members went through the short project and played their assigned roles that had different personalities attached to them. Some were chosen to be disruptive, others were very aggressive, or detached, or had some type of communication barrier. Jack had to navigate these obstacles to finish the project.

The activities of the group were videotaped. At the end of the workshop, the group members met with an advisor that watched parts of the videotape to evaluate the team dynamics. It was very eye-opening for Jack, as this was the first time he was put in a position to lead, and he discovered that he needed to do a better job of delegating tasks to his team members while trying to motivate them and get better buy-in. He learned how to quickly evaluate his team members and to use each of their strengths better. The other workshops during the week were very informative.

Jack attended one seminar that focused on relating to different cultures and how they may be perceived incorrectly. Another seminar dealt with how design thinking is different and how to think in a nonlinear fashion. During this program, Jack spent a lot of time with his future classmates and developed some friendships.

During the semester, the skills learned during the Student Immersion week really helped Jack. These skills are not usually taught in a classroom setting, so he was glad to have had the opportunity to learn them through an experiential setting. Without these skills students would go through a lot of frustration before learning them during the school year. His teams worked well together, and he was now aware of how to address issues that came up. Jack was looking forward to attending mini-class workshops to add additional skills and tools to his skill set.

Instruction

MethaDesign

MethaDesign are generalist methods and exercises that can be applied to almost any problem solving situation. The key aspect of these methods is that they draw from the perspectives of **Design Qualities.** When used in an appropriate manner (there can be more than one) the method can produce new and innovative ways of seeing and analyzing a problem and synthesizing a solution. This is the nature of design thinking is to see a problem in ways that may not be derived through other analytical methods, such as quantitative analysis, and to create solutions in an innovative, but systematic way.

The systematic approach to design is not commonly used because many experienced designers rely on their own experience and trust their internal creative intuition to achieve coverage and provide a solution that aims to solve a specific problem. While intuition is a valuable asset especially if it is grounded in experience and in recognizing patterns along projects, it is something that can't be transmitted immediately.

MethaDesign provides working frameworks for students to articulate their design practice in a disciplined manner. The value of these structured practices are that they work as a guide for the creative process, ensuring that all aspects are considered, helping turn good policy ideas into effective policy ideas.

From a design methodology perspective, the curriculum emphasizes learning analysis and synthesis tools, user-observational frameworks, and methods for a systematic approach to problems, which are specially used for dealing with large and complex systems.

Analysis tools and frameworks allow students and graduates to break down a problem into manageable pieces. Qualitative user-observational tools and frameworks allow students to understand user behavior, which can then begin to form a basis for the issues that might be considered in strategic planning efforts. Qualitative observational frameworks can be combined with more traditional quantitative analytical methods to provide a deeper understanding of the issues.
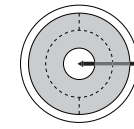
Design   *Core*

Sub-Element
- FutureVignette

Properties
- A collection of frameworks and methods
- Problem analysis tools
- Methods to turn analysis insights into synthesized solutions
- Observation exercises
- Decomposition/problem breakdown exercises
- Critical questioning perspective
- Framing exercises
- A database

Features
- Provides students structured ways of approaching problems
- Trains students to be more disciplined when approaching a design problem
- Provides students with guidelines and frameworks to follow in order to cover as many aspects as possible in problems

Instruction

For example, consider the question many cities have on their minds today, "How can cities become more appealing to "families" with children?" There is plenty of quantitative data to sift through, but now let's add to that qualitative data that approaches the question differently.

A sub topic likely will center itself around public spaces for families to visit. The **AEIOU Framework** might be of use in understanding issues relating to spaces:

A, for Activities, asks, what are the modes people work in and the specific activities and processes people go through?

E, for Environments, asks, what is the character and function of the space or environment overall, and of individuals' spaces or shared spaces?

I, for Interactions, asks, what is the nature of routine and special interactions between people, families, siblings, and parents and their children? What about between people and objects in the environment, across distance?

O, for Objects, asks, what are the objects and devices people have in their environments and how do they relate to their activities?

And finally U, for Users, asks, who's there? What are their roles and relationships? What are their values and prejudices?

Quantitative methods will not yield this kind of data on its own, but combining the quantitative and qualitative data will yield powerful insights which can lead to significant innovations: in the above example, an effective plan for cities to attract families with children.

This example demonstrates the systematic and repeatable approach to providing means of producing effective policy and effective strategic plans for change. Graduates of EPDS will have the tools necessary to produce these insights and results.

Instruction

Future Vignette

Future Vignette gives students and faculty the power of imagination by removing current existing solutions from the picture so they can focus on creating new innovative solutions without being bogged down with the present situation. **Future Vignette** helps users start from a blank sheet of paper to come up with a new vision of how the world should be at a future date. Once a plausible future scenario has been envisioned, students then work backwards to think of the steps they need to take today to make the vision a reality. This method helps frame a discussion to identify goals, assumptions, problems, resources, etc. that help the team get on the same page. This process allows new assumptions to be created instead of using old ones, preventing students from using the same mode of thinking that created the initial problem to begin with.

To create truly innovative solutions to problems, students need to employ a different mode of thinking than they typically use to tackle problems. **Future Vignette** helps students change the way they perceive the world by thinking from a systems perspective. People have been taught to perceive the world in terms of objects or components that can individually be studied and understood.

This approach breaks down complex systems into individual parts, and then analyzes each part to understand the system. When using this approach, the interrelationships between these parts have been lost. Systems thinking allows students to understand the interactions and relationships between the parts of the system as well as analyze the behaviors of the individual parts themselves.

Process. **Future Vignette** begins with defining the objectives and constraints that need to be worked with. Once there is a solid understanding of what constitutes a successful outcome and an awareness of why the current system is problematic, future scenarios can be developed. Then, looking back to the present, these future scenarios can be assessed against current reality. Repeating this process will help uncover an innovative solution that has considered all unintended consequences. Once a direction has been chosen, the most effective investments, strategies, actions, and tools can be identified that meet the defined objectives using **Strategem.**
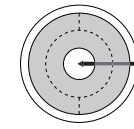
Design   *Core*

Super-Element
- MethaDesign

Properties
- A framework or model for thinking about future scenarios
- Guidelines to using technique effectively
- Evaluation criteria to assess scenarios
- Scenario creation tool

Features
- Identifies objectives and constraints
- Creates ideal future scenarios
- Helps anticipate unintended consequences
- Assesses scenarios against current reality
- Helps identify effective investments, strategies, actions, and tools that meet objectives

Instruction

Students that frequently employ **Future Vignette** in their projects will begin to understand and develop how a systems thinking approach helps anticipate the unintended consequences of their solutions. Instead of taking a highly analytical approach to break down a problem into its many components, students will begin to take a more integrative approach that leads to synthesis rather than dissection. To share the future vision created using **Future Vignette**, future scenarios will be created visually using **DesComm** to paint a picture of what the future might look like. This scenario can be shared with others to tell the story through a visual diagram.

Scenario. Alice and Matt were working together on a project for a client. The client needed to present a solution for the increasing traffic gridlock that was plaguing the city's business district. While brainstorming for ideas, Alice began to think about a different way to approach this issue. Instead of brainstorming solutions from the available options at their disposal, maybe they should reach further and think bigger. Exactly what was the goal of this project? Was it to redirect traffic flows to alleviate traffic jams, to change the timing of the traffic lights, use traffic patrols during busy periods, or build wider streets? These were all solutions that could be incorporated with the existing materials, but would this really solve the problem?

Alice brought up the idea of **Future Vignette**, which she had learned in policy design school, and she helped bring Matt up to speed with the topic. Alice and Matt began imaging what the ideal future scenario would be, and they imagined what it

would like to have an entire city that did not generate pollution from transportation and had no traffic problems. It was a pretty lofty goal, but this vision motivated Alice and Matt to think big. The next step in the process was to look back to the present from this future scenario to determine what could be done today to help to achieve this future goal. At first, Matt suggested solutions such as more public transportation and bicycle lanes, but these were ideas based on the current available options and assumptions. They would be trying to solve the problem with the same thinking that created them. A new set of assumptions would have to be used.

In this future scenario for the city, Alice and Matt knew that the public transportation services would have to be very efficient, clean, and appealing to all people. Instead of throwing more volume at the problem, they decided that an extensive research project needed to be done to analyze the patterns of current commuters and determine which parts of existing transportation system contributed to pollution. After the data was analyzed, they could begin coming up with new ways to structure the future public transportation solution. They also brainstormed about ways pedestrians could navigate the city without disrupting traffic. Pedways, tunnels, and skywalks could be created around the city.

To solve the pollutions problem, Alice and Matt believed that hybrid engines were a solution tied too closely with the current energy situation. An electric power grid to run the public transportation would decrease the reliance on gasoline, although they would still need some gas for emergency back-up

purposes, and would eliminate much of the pollution entering the air. Matt suggested the use of batteries and high-transfer rate rechargers at stations. They also looked at emerging technologies and power sources that would be available in the future.

After two hours of **Future Vignette** brainstorming, Alice and Matt had come up with a multitude of solutions and scenarios to help achieve their goal of a clean, traffic-less city. Among the solutions was a way to solve the traffic problems in the business district in particular. **Future Vignette** allowed them to identify and address potential problems and unintended consequences that could surface from their solution.

 Instruction

DesComm

Design communication requires skills such as visualization, persuasion, and effective storytelling. **DesComm** is a design communication tool that helps create powerful scenarios and visualizations by helping the user think through the design process.

Students can access different modules in **DesComm** to work on their visualization, persuasion, or storytelling skills. Each module takes the student through a step-by-step process that can be use to determine fill in the scenario. A list of guidelines provide direction, as students think through the design process to bring an idea to life.

Visualization module

The visualization module helps students create visualizations to illustrate a scenario or communicate an idea.

Persuasion module

The persuasion module helps students craft logical arguments to help them develop a case to get buy-in from others.

Storytelling module

The storytelling module teaches students how to create a compelling story that communicates their ideas. Creating powerful visualizations can help communicate and support policy decisions that are being made.

DesComm can be used without using the software tool by creating printed guidelines which students can use in the classroom, on project teams, or at work. These guidelines can act as checklists to help the user incorporate the elements of design communication in their work.
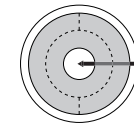
 Design   *Core*

Properties
- Visualization module
- Persuasion module
- Storytelling module
- Scenario development
- Guidelines

Features
- Helps students use visualization methods to analyze a scenario
- Helps students with their abilities to craft a solution and to get buy-in
- Teaches students how to create a well-told story that brings together their ideas and solutions
- Allows for guidelines to be printed and taken outside of the computer to be used in lesson plans or project planning

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Design Qualities

Design Qualities

The use of these characteristics is easily applicable to a variety of situations, whether in the policy arena or other contexts, but designers should instinctively call upon these characteristics to solve problems.

Human–Centeredness, the characteristic of having consideration for the human perspective, is essential for this program. Graduates of the program should understand human behavior. They should be focused on how to find interesting insights into why people behave the way they do, what are the trends in lifestyle, how it applies to everyday life, what is changing in the world, how technology affects the way people live, and the way they interact with each other.

HumanFocus is a series of activities, exercises, and case study in which students engage in projects that would result in improvement to everyday life. It is important to focus on how the user might is affected by outcomes or decisions made. Questions raised might include: How will this policy decision affect a particular group of people? How will modifying this policy or initiative affect the public or a particular group of people? This would be followed by mapping out how and why this happens as well as determining solutions to help graduates. The project may or may not involve a topic directly relating to public policy. If not, then correlations can be drawn to see how understanding human-centered awareness helps to create better policy.

Generalism

Designers must also possess the perspective of a generalist. There are many people who specialize in a variety of fields, but not many of them can step back to see the broader perspective because they have been trained to see the world through a very specialized lens.

Systemic Vision

Relating to generalism, the design quality of being able to have a systemic vision is about thinking broadly about problems. This means designers can treat problems as systemic problems which may

Design   **Core**
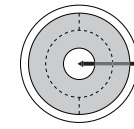
Properties
- A set of qualities of characteristics
- Abstract in nature
- Traits that tend to be found in systematic design thinkers

Features
- Help policy advisors and strategists create conditions for exploration and ideation of policy-related solutions
- Foster an open collaboration between various advisors in the context of forming policy or plans relating to public sector issues
- Focus on human-centeredness
- Help to visualize, imagine, and tell stories
- Foster a bias for adaptivity and multi-functionality
- Allow for systemic and systematic ways of approaching problems
- Build an affinity for teamwork

yield systemic solutions such as processes, procedures, policies, or plans. We increasingly see this idea in a business context. Design thinking is gaining traction in the business world in that strategic planning is embracing innovation issues and expertise. In a similar manner, these principles can be applied in the policy context.

Open-Mindedness and the Facility for Avoiding the Necessity of Choice

EPDS should instill in its students the quality of open-mindedness and the facility for avoiding the necessity of choice. Avoiding immediate choice is a critical quality of designers. When analyzing a situation, it is far too easy to focus on one way of solving a problem at the expense of ignoring or not seeing other problems.

Designers bring a unique perspective in that they seek to create solutions that can be multi-functional. They avoid the necessity for choice to determine if we can "have our cake and eat it too." By avoiding choice, students of EPDS remain open-minded to keep the bigger in perspective while at the same time understanding specific issues within the larger context. Then they can see if designers take a systemic perspective to ensure coverage of a problem.

Tackling complex issues in Case Studies and during Policy Systems Workshops will give students an understanding of why and how avoiding the necessity for choice provides the potential for creating solutions that consider all aspects of an issue. Policy Systems Workshops are longer projects that use Structured

Planning to facilitate understanding of complex problems. Structured Planning is an information organizing and gathering tool that ensures coverage of all relevant issues pertaining to a larger problem.

Switch Thinking is a method by which students proceed toward a particular solution for a problem. During the process, another problem that was not foreseen is introduced by the faculty member. Students must now consider this new problem and its effects in light of the larger problem and seek to find a solution that can help solve both simultaneously.

Mind Agilizers uses methods, creativity techniques, and exercises to open students' way of thinking. They provide students with the perspective necessary to explore and evaluate different solutions. Mind agilizers can help students in all steps of the creative process.

The nature of design is to see if there is another way of looking at a problem. Students must learn to accept each solution as possible until it is evaluated, leaving all assumptions.

The use of different frames, mental models, and paradigms helps to see the situation from different perspectives. Mind Agilizers can be applied in a set of exercises to make students conscious of the limitations of their mindset. This may include checklists to analyze and uncover what constraints guide thinking, or a comparison between mindsets among different people.

Being conscious about the limitations of the mindset and the way we approach situations is the first step to agilize students' way of thinking. In order to be able to reframe perspectives and

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⊚ **Instruction**

be capable of switching from one to another, a set of exercises will facilitate the creation of customized frames.

"Role-playing" adversaries and stakeholders is a way to temporarily adopt an outsider's point of view. "Comparing new with old frames" helps to find analogies of present situations and the past by seeking elements that are common between now and then, which ones have changed, and what can be learned from a situation that resembles the current one.

A set of exercises and workshops are used to train students in the process of generating ideas and evaluating those ideas. **Mind Agilizers** will focus on teaching different ways to generate solutions such as synectics, prototyping, lateral thinking, provocation, sketching, and the use of "springboards" to articulate wishes to open up space for invention.

The sum of these **Mind Agilizers** will provide the students a framework for creativity required to tackle problems. Creativity can't be taught overnight, but the aim of these exercises is to indicate and demonstrate the actions and perspectives that, if used, and practiced on a regular basis, can provide a more robust approach to the task of problem solving.

Instruction

PolyDomain

Students may enter the EPDS Program with a variety of backgrounds including design or public policy. In order to enter the world of policy planning, advising, or making, they must have the policy domain knowledge, or **PolyDomain**, of the areas in which they will advise. This could include areas such as health, labor, and education policy. Other requirements would also include quantitative analysis, negotiation, economics, and organizational analysis. More specialized topics might include regional ecosystem management, global health diplomacy, poverty and social policy. The key is to master these topics and how design thinking can create new ways of approaching these policy domains.
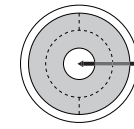
Policy   *Core*

Properties
- Sets of knowledge
- Specializations – in a particular area of interest, e.g., healthcare, politics, education, the environment
- Topics
- Country specific issues, e.g., Natural Disasters, Emerging Markets, etc.

Features
- Provide public policy domain knowledge such that students and graduates can enter a policy arena or   situation and delve into the issues with credibility
- Provide skills necessary to be a credible strategist or advisor in the policy planning process (or policy making role)

Instruction

PolyComm

The policy making process requires a real understanding of building relationships, interpersonal skills, **Empathy, Diplomacy,** and **Negotiation**. These are not easily taught, and today's public policy educational programs may not effectively instill these traits in its students. Teaching these skills is no easy task, but is a worthwhile pursuit. Some policy makers don't understand or possess these "soft skills" and hence fail (in unforeseeable ways) to create effective policy.

Negotiation is about gaining information. It is also about gaining knowledge about what other parties know, what they don't, and how each piece of information can help or hinder each party. During a negotiation, it is critical to understand what each party is trying to achieve, what each party's best alternative is, and what the other parties are bargaining with and what they would or would not collaborate on.

When teaching negotiation, the goal is to simulate as accurately as possible a situation in which two or more parties (or students/student teams) can engage each other in the process. In order to provide the desired atmosphere when teaching negotiation, the stage should be set such that you can provide all of the factors raised above. This could be provided in a simulated setting or through a situation in which students can participate in or "shadow" a real negotiation.

Negotiation Simulations are simulated experience in which students participate in simulated negotiation situations. Students are each given sets of information about what they know as well as what they might know about the other parties involved in a negotiation. After given time to absorb and study the information given, they participate in the simulated negotiation. This may involve two or more parties who each have their own agenda.

The difference between this type of negotiation simulation and others taught, for example at Harvard's Kennedy School of Government, which is primarily what was described above, is that there will be a facilitator or team of facilitators, who will play the "designer," "design team," or "innovation strategist" role. This individual or team is trying to satisfy as many party agendas as possible and develop a comprehensive solution rather than satisfy one at the expense of another. They will call upon design methods and design thinking to determine how they can best approach

 Policy
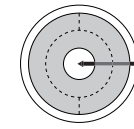
 Core

Properties
- A set of qualities of characteristics
- Abstract in nature, not concrete
- Traits that tend to be found in effective strategic planners and policy makers
- Workshop

Features
- Allows students to master the skills of negotiation, empathy, and diplomacy
- Allows students to critique each other on the basis of how successful they were able to facilitate a discussion or negotiation

Instruction

the problem. Another option could involve all teams or parties using design thinking and methods to find comprehensive solutions.

Instruction

Leadership

Leadership is a critical skill to have in the field of public policy. Students at EPDS must learn to master this skill because graduates of the program are expected to advise leaders in government, institutions, and NGO's in roles such as strategic planning, policy planning, or policy advising. They will help cities define their "micro-dominance," or their niche leadership in the world. For example, Chicago is a micro-dominance center for Theater. Singapore is developing a micro-dominance in the Life Sciences. It will take people with sound leadership and communication skills to step into these kinds of planning roles. EPDS graduates will have those skills in place.

Various exercises can be created to develop EPDS students into future leaders in the public policy sector. Following are two examples:

Leader Definition is the process that EPDS students will use when enrolled in team-based coursework. First, team members will provide their backgrounds to the faculty to ensure balance on teams and to ensure there is no concentration of any one skill on a team. Once teams are formed by the faculty, each team will define the roles and responsibilities of the team leader.

Depending on the length of the course, a rotational schedule will determine who is team leader and when. This ensures all team members will have a chance to be a team leader. Team member evaluations will take place to show team members how they have performed, what each did well, and what each needs to improve upon.

Show Me Workshops will help students hone their leadership and communication skills. Projects from courses taken can provide topics for seminars, or students may be given new topics to prepare and present. The group will evaluate how effective each student was in conveying the message of the presentation. Depending on the type of presentation, students may be trying to persuade, mobilize, or simply summarize an idea or topic.

These are the types of activities needed to produce effective leaders. Without the ability to communicate effectively, it is difficult to expect ideas to be understood by policy makers or other organizational leaders. EPDS students will take these steps toward becoming effective leaders.

Policy
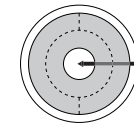
Core

Properties
- A characteristic
- Abstract in nature (qualities)
- Exercises
- Process

Features
- Provide public policy domain knowledge such that students and graduates can enter a policy arena or   situation and delve into the issues with credibility.
- Provide skills necessary to be a credible strategist or advisor in the policy planning process (or policy making role)

Instruction

Polyzign

Polyzign ensures that these two seemingly disparate disciplines remain not in silos, but rather in conjunction with each other to ensure a richer, more cross-functional education. If design and public policy arenas are treated separately throughout the curriculum, i.e., design courses separate from and independent of policy courses, the goal of program – developing graduates and candidates that use design thinking to create better policy – will be much more difficult to obtain.

Faculty use the **Polyzign** process to develop courses that fuse design thinking, whether through design-related exercises, methods, or tools with topics or coursework of public policy. The faculty member could browse all of these in the **MethaDesign Database**. Within this database are descriptions of all of the methods that have been developed thus far as well as a comprehensive demonstration of examples indicating when you might use each method. Because design methods continue to evolve, so does this dynamic database. Faculty are encouraged to create and modify methods to fit the coursework and course topics, which is what design thinking is about: finding innovative ways of solving problems.

For example, a faculty member, perhaps a member of the **Curriculum Development Team**, might be teaching a course in the Education for Policy Design Synthesis program on healthcare policy reform. As part of the coursework, students must analyze a case study on a specific healthcare reform issue and what happened as a result of the enacted policy. The next step in the coursework is to determine what could be done to improve the situation or how the issue could have been considered differently such that the unintended or negative consequences that resulted could have been avoided. The course goal might be to get students to think differently and out of normal conventions in order to develop better policy, in this case better healthcare reform policy. From here, students are to synthesize a solution or solutions that would help enact better policy.

In this situation, the faculty member considers what design methods might be used to perform analysis, synthesis or both for the course topic. The faculty member teaching this particular course will engage in the **Polyzign** process to determine what design methods and exercises might be most applicable to the coursework.

Fusion
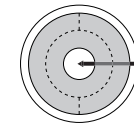
Core

Properties
- A concept or philosophy
- A process
- A software application
- A workshop
- A series of exercises

Features
- Links appropriate design methods with policy course work
- Allows the creator(s) to determine what design methods are most appropriate for a given policy topic, course, or exercise
- Allows students to determine what design method might be most appropriate for a specific situation or problem
- Allows students to track their progress toward fulfilling requirements of design and policy

Instruction

This involves searching through the **MethaDesign Database** to find the most appropriate means of using design thinking. The faculty member might browse the database and find **Provocative Ideation**, the set of methods used for generating ideas. The faculty will then look into what methods there are for brainstorming and choose one or multiple methods he or she finds most appropriate. In this case, students might use **Future Vignette**, a tool that allows you to imagine a future ideal scenario and work towards that goal. The database will have examples of how the brainstorming methods are used, in what context, and what requirements there are to carry out the exercise.

The challenge of bringing design thinking into the policy arena is that they seem vastly different. At its core, policy planning and the policy making process is a combination of research and interpersonal relationship oriented procedures. Design thinking is a means of approaching the policy making and planning process that is fundamentally different from other problem solving approaches.

Students can use the **Polyzign** process and tool in interesting ways. The **Polyzign** tool can be accessed via **The Brain**. They can use it to determine what design methods might be most appropriate when solving a problem as faculty do. They can also use it to build and track their curriculum progress throughout their time at EPDS as well as determine if the curriculum matches their career path. **JobNet** helps to facilitate this. They can use it to ensure they cover core requirements and balance their coursework in design and policy. Students coming in with

backgrounds in design may need to spend more of their time at EPDS focused on policy coursework. But again, it is essential that they see both in action together.

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Instruction

Strategem

Strategem is a tool to teach students how to use business frameworks, create strategic plans, and to think strategically. It helps students make decisions by offering strategic simulations that students can go through to learn strategic thinking skills. Creating a strategy requires students to assess many different forces and variables, such as timelines, budgets and other strategic drivers affecting the situation. Using **Strategem** guides students through the process of evaluating strategies that were developed from the visions created using **Future Vignette**.

Using different business frameworks, students can craft a plan for a better policy design. Students can draw from a database of frameworks, such as Michael Porter's models and strategies, McKinsey's models, Era analysis, Mintzberg's strategic planning model, Positioning maps, Product planning maps, Conjoint analysis plots, Industry convergence, and other frameworks (Keeley, 2004). A lifecycle analysis can also be conducted using **Strategem** to analyze environmental strategy. The system can identify the potential consequences of using different strategies by using input provided by the student.

Learning how to use these frameworks can be a valuable tool for decision-making and can be used to frame group discussions. Students can use **Strategem** during their meetings by filling it in with content about their specific issue. It can produce diagrams from this input, which can then be emailed or printed out to help them think about their strategy and analyze their findings. New business frameworks can be added to **Strategem** or modifications can be made to existing models. With its link to **The Brain**, **Strategem** can reference information and resources for the frameworks as well as information related to strategy, such as news articles and strategic plans to provide examples of strategic thinking in practice. A library of case studies that examine strategies of different organizations are also included in **Strategem** that can includes visual representations for analysis.
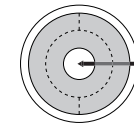
Fusion *Core*

Properties
- Business frameworks
- Link to Design Methods Database
- Strategy simulations
- Strategic diagram creation tool
- Environmental strategy tools
- Information and resources, such as articles, examples of strategic plans, and case studies

Features
- Teaches students how to use business frameworks
- Teaches students strategic thinking and decision-making skills
- Creates visual models of strategy that can be printed, emailed, or saved in a presentation
- Teaches students about corporate responsibility and environmental strategy

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Instruction

Collaborator

Teamwork is an integral part of the education process at the policy design program. **Collaborator** is a team building tool that facilitates effective team communication and interaction by assigning roles, establishing guidelines, and creating an environment for mutual respect between team members. **Collaborator** helps team members work together to create better ideas.

According to Overcoming the Five Dysfunctions of a Team, there are five critical characteristics to effective teamwork:

1. Building trust

2. Mastering conflict

3. Achieving commitment

4. Embracing accountability

5. Focusing on results.

Collaborator helps students develop these five functions of effective teamwork. Along with these goals, students learn how to communicate and interact effectively within team environments.

Collaborator provides guidelines, such as some basic principles for brainstorming sessions:

- Start with a well-honed statement of the problem

- Do not judge, challenge, evaluate, or criticize

- Focus on quantity, not quality

- Organize concepts on the board

Once all ideas have been generated, an evaluation process can begin by using a voting system by team members. Post-its can be used to place votes to identify the strongest concepts to move forward with. These can be combined or integrated into even stronger concepts.

Interplay contributes to **Collaborator** by designating spaces where teams can meet and work together in efficient and productive spaces. **Team Rooms** foster brainstorming sessions and an environment for active communication.
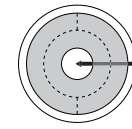
Fusion *Core*

Properties
- Interdisciplinary, structured teams for class projects
- Rules for effective team engagement
- A tool for building teams

Features
- Helps student groups understand how to operate effectively as a team
- Ensures individual and project goals are openly shared
- Helps students gain experience not just in areas of current strength but in new areas
- Offers supportive environment to try new things
- Develops interpersonal skills (negotiation, diplomacy, mobilization)
- Teaches techniques for managing group dynamics

Instruction

Mixer

Mixer is a method for project team assembly, constructing balanced project teams and helping those teams function efficiently and productively. Teams for class projects are carefully constructed to be balanced and interdisciplinary. Each team should have members strong in design, policy or both. Some aspects of the team design are stated explicitly. Everyone is given an opportunity to play the role of team leader, and given opportunities to take on roles outside their expert areas to learn new skills.

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Instruction

Good Citizen

Good Citizen is a tool that helps teach social and environmental responsibility and awareness to help students understand the consequences of the decisions they make to the environment around them.

Good Citizen's experiential education can be delivered through experiential immersion trips as a part of Student Immersions. Experiential education helps build student awareness by having students experience things firsthand. These experiences allows students to understand and be aware of the things the experience taught them, encouraging them to become more responsible designers. Field trips and excursions can be taken to landfills and other interesting locations that teach students about the environmental consequences of a policy that was made.

To teach social responsibility, social projects can be built into school projects, or students can engage in volunteer work, such as teaching children about design. The EPDS Program can partner with different organizations to provide access to various social opportunities that help students develop into citizen designers. "Designers must be good citizens and participate in the shaping of our government and society. As designers, we could use our particular talents and skills to encourage others to wake up and participate as well." (McCoy) **Good Citizen** helps students develop a human-centered and environmental concern in their decision-making process.

Many students underestimate the present global environmental situation, and often fail to see how it is related to policy design. Many people are aware of the consequences pollution has on the environment, but are not as aware of the fact that it also affects people through contamination. Demonstrating how contamination not only affects our environment, but also within students' personal lives can show how humans are not immune from the effects of pollution. In the European Union, the blood tests of 13 ministers revealed they were contaminated with chemical pollutants from sofas, pizza boxes, and pesticides (www.terradaily.com). **Good Citizen** takes into account the ramifications of policy design decisions on the environment.

Good Citizen allows students to chart out and analyze the potential consequences from their decisions. A simple decision tree eventually builds up to more decision trees, showing the results of both intended and unintended consequences to the surrounding people and environment.

Fusion
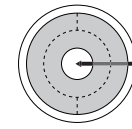
Core

Properties
- Experiential learning tool
- Citizen scenario tool
- "Cause and effect" tool
- Environmental responsibility tool
- Field trips

Features
- Helps teach students how their decisions affect the environment
- Instills responsibility in students' policy design thinking
- Incorporates social responsibility in decision making process
- Creates a way for students to give back to society and fosters thinking to create solutions that improve the environment

Instruction

Good Citizen attempts to broaden the students' horizon to look past immediate goals, and to incorporate a more complete, altruistic vision.

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Instruction

Instill-ation

Instill-ations serve two important purposes for EPDS. As a practical demonstration of a student's skills and academic achievement, **Instill-ations** ensure faculty that graduates can uphold the standards of the institution. They also help EPDS build strong relationships with the partner institutions. Finally, they provide a positive, real-world example of design thinking at work in a policy environment.

During the final portion of the student's EPDS experience, the student works with a local government agency, a non-profit organization, or a small business involved in policy design. The student works closely for the client as either part of a policy design team or away from the client in a consulting capacity. The student is supported in this work at EPDS by a faculty **Instill-ation Advisor** and by peers in an **Instill-ation Workshop**. Project management and communication is handled in person and with the assistance of tools like **Cerebellum** and **The Brain**.

First, **Instill-ation** clients and students are matched together. An ideal Instill-ation client has a significant policy design problem that would benefit from design thinking. The project should also be well-suited to a student's skills, background, and interest. The **Instill-ation** Advisor, a faculty member, works closely with Liaisons to match students with clients.

Once a client and student have been matched together, the student begins a discovery process. During the discovery process, the student and client, with the guidance of the **Instill-ation Advisor**, set the goals of the project and establish the working terms. During the course of the project, the student has the support of both the **Instill-ation Advisor** and the **Instill-ation Workshop**. Once the project is over and an **Instill-ation Defense** is successfully completed, the student's work is saved to the **Knowledge Exchange** for future reference.

Instill-ation Workshop

The **Instill-ation Workshop** is a central component to the **Instill-ation** educational support system.It is taught by an **Instill-ation Advisor** and attended by all **Instill-ation** students. Members of the **Instill-ation Workshop** can bring their client work to the group for advice and support.
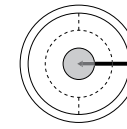
Demonstration

Properties
- A final demonstration of the student's skills
- A work-experience program
- A partnership building tool
- Support system made up of both advisors and students

Features
- Allows students to apply their skills
- Builds relationships between program and potential employers/partners
- Demonstrates the capabilities of design thinking within a policy environment
- Provides a safe environment for students to produce real world solutions
- Builds a collaborative community amongst students
- Builds a strong relationship between program and potential employers

![Instruction icon] **Instruction**

Techniques and professional practices are further developed through lectures, readings, and discussion.

Instill-ation Advisor

The Instill-ation Advisor is a member of the EPDS permanent faculty and is charged with supporting students throughout their final work at EPDS. In addition to one-on-one meetings with Instill-ation students, the Instill-ation Advisor plans workshop sessions to ensure all students have the tools they need to succeed.

Instill-ation Defense

At the project's end, the student presents their final work to a defense committee. The committee is made up of the Instill-ation Advisor, one to two key client contacts, and two additional professors or professionals of the student's choice. This committee evaluates the quality of the student's work. A successful Instill-ation Defense leads to the student's graduation.

Instill-ation Defense

Instill-ation Workshop

Instill-ation Advisor

Working with Instill-ation Client
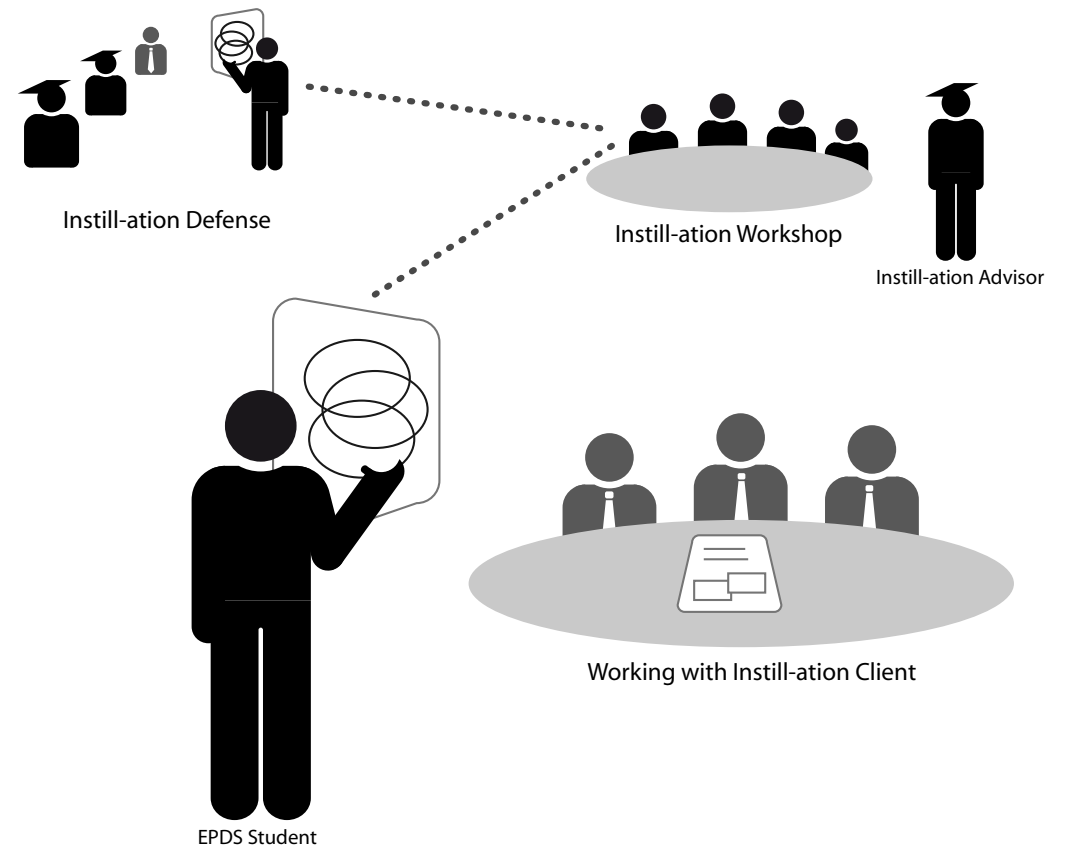
EPDS Student

Student Lifecycle
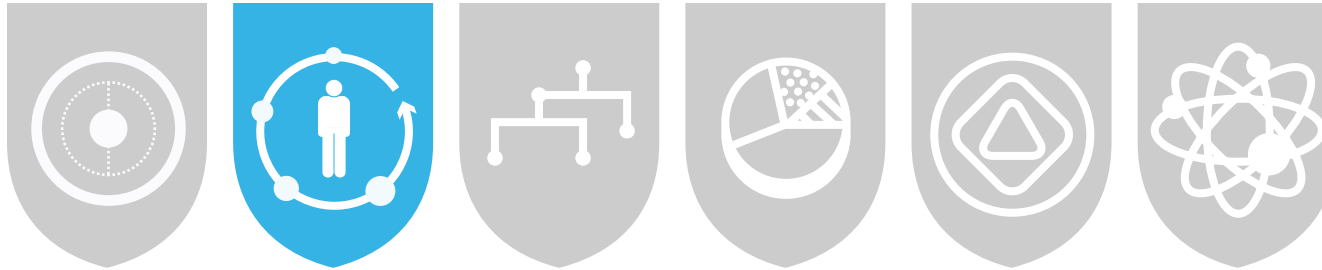
Using the EPDS Recruitment System, the program will recruit mid-career policy planners, designers, or others interested in using design methods and thinking to affect policy planning and design. The ideal EPDS student has area experience and has attained success in their chosen field but desires new skills that will help them better achieve goals and effect change. They should have also demonstrated a consistent interest in public policy or has actively pursued a role in civic life. Once the student has completed the program, both JobNet and AlumniNetwork will continue to support the graduate professionally.

System Elements

Recruitment System

JobNet

Alumni Network

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Student Lifecycle

Recruitment System

Recruitment System is a comprehensive system used for planning, implementing, and assessing recruitment events and activities. It is composed of tools, teams, materials, and the system. The first component is called Recruitment Tool. It identifies tools to use in each recruitment activity. It contains various tools and methods for use in recruitment. It is comprised of tests, activities, and interviews. These tools can be applied with each other simultaneously for test applicants' performances in both IQ and EQ. To determine what tools to choose, EPDS staff must a have recruitment plan set before selecting a method.

The second component is the team of people who engage in the recruitment event called the Recruitment Team. The team comprised of staff, faculty and volunteer students. The team also gathers all applicant information and compares these with Recruitment Tools. The main task of the Recruitment Team is to plan, prepare recruitment materials, implement plans, organize events, collaborate on teams of people, and assess the progress by using Assessment Tool. This team must be trained well in coordinating different groups of people. They have to be able to comprehensively explain every step from introducing the program to the end of application process. It is necessary to acknowledge and make sure that each candidate receives all the important information.

The third compartment is called Recruitment Material. These are the material resources, comprising of recruitment tests and a software test program to evaluate the qualifications of applicants. Recruitment Material includes communication materials, both on-line and in print, application forms, flyers, program brochures, an event calendar, and all information that details the recruitment program for applicants.

Properties
- A web-based tool
- Database of application information
- Recruitment tool to evaluate applicants
- Events for the recruitment program
- Team of people who work on recruitment events
- Promotion material

Features
- Used in each recruitment processes
- Plans the schedule for recruitment time
- Gather all applicant's information and compare
- Input all recruitment information
- Houses applicant data
- Keep and collect data in the system
- Host recruitment events
- Monitor applicant qualifications
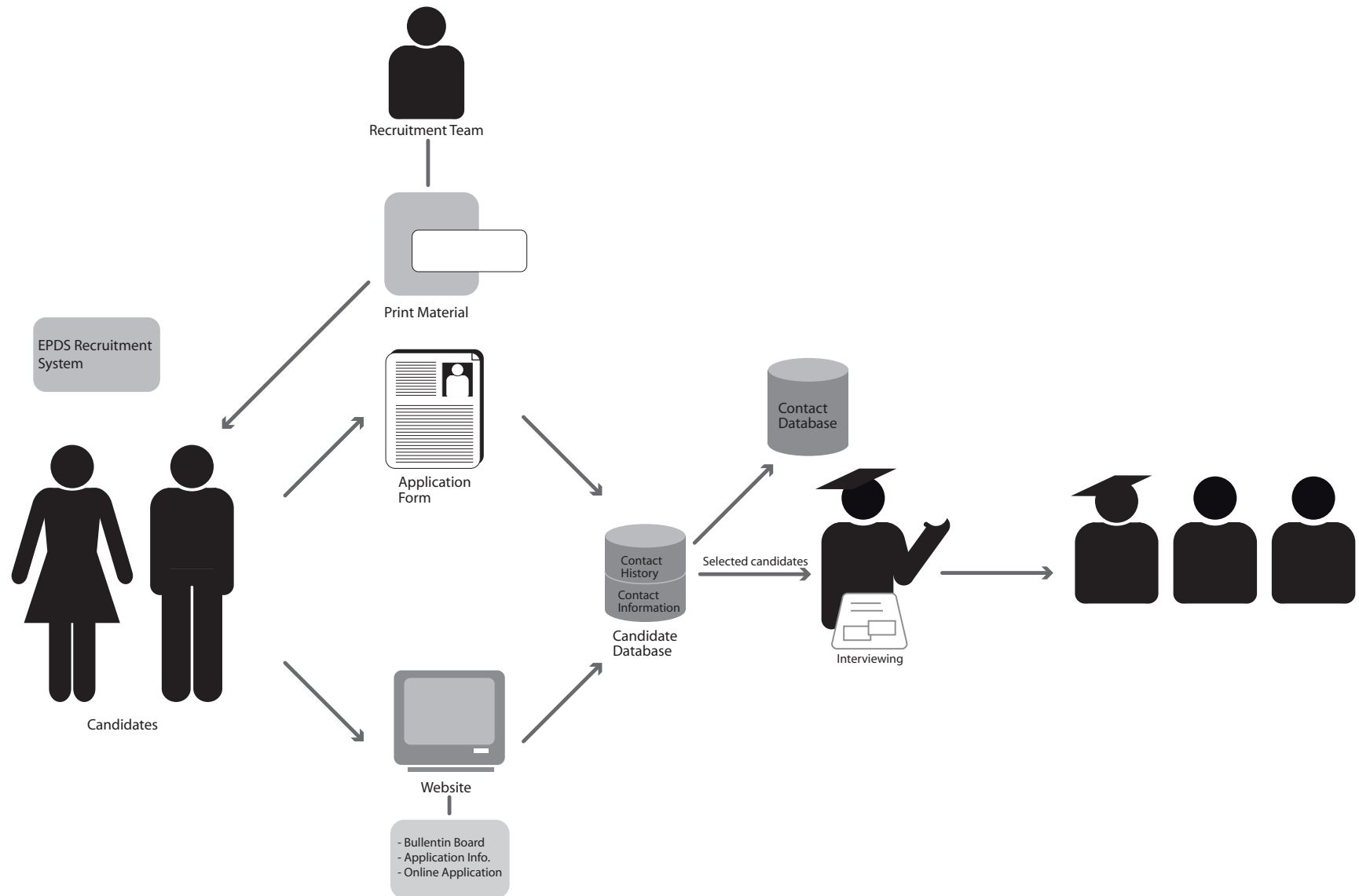
Student Lifecycle

With all three components, **Recruitment System** is the database system that provides the entire system with the data used during the process of recruitment. It is the archive system that receives application data from recruiting firms, potential employers, partners and direct applicants. Also, it is the web database for providing news, schedules, timelines and event updates about recruitment. By storing data of qualified people, **Recruitment System** assists the Recruitment Team in analyzing and monitoring candidates and their qualifications.

This system stores faculty application data as well, including full-time, adjunct, and guest lecturers. Also, it archives the candidate contact information for future reference.

For students, the **Recruitment System** links to **JobNet** to help students get internships and jobs efficaciously. Events by the Recruitment Team helps students get interviews from different organizations. Also, the team helps determine projects, programs, or research for EPDS students to join with partners. Students have to prepare their resume (C.V.) and send it to the Recruitment Team to maintain student records, arrange interview times, and organize interview locations.

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Student Lifecycle

Recruitment Team

Print Material

EPDS Recruitment System

Application Form

Candidates

Website

- Bullentin Board
- Application Info.
- Online Application

Contact Database

Contact History

Contact Information

Candidate Database

Selected candidates

Interviewing

Illustration: Recruitment System

JobNet

Whether a company is looking for an intern, new graduate, or experienced hire, they need an efficient way to screen for potential new employees. **JobNet** is a web-based tool that helps match EPDS students to positions in policy design based on criteria entered by both the job applicant and employer. This interface is an information resource for any job that is related to the policy design field. Users can search a database for potential jobs opportunities in policy design, filtering for different search criteria, such as geography, position, potential salary ranges, and industry.

On **JobNet**, the user can find information about companies and organizations within an industry or detailed information about the organization. A questionnaire that helps target their aptitudes and career potentials can advise them on what positions they are qualified for, and others they may need to take additional courses for. The results of these questionnaires and searches can be stored in the user's profile. Users are assigned a username and password that links their profile to **MethaDesign** and **Polyzign**, which contain their curriculum and skills acquired through courses taken. Resumes can be stored online to be made available to employers.

Users can browse through surveys that provide inside information on what it is like to work in a certain organization or contribute to a discussion on topics related to careers in policy design.

In addition to employment services, **JobNet** will have a section devoted to news regarding the policy design industry. This may include current issue topics online or in print, video of trade conferences or seminars, and any additional information that the users of **JobNet** can post that may help users.

Scenario. Robert was starting his final year at the policy design graduate school. However, he was still unsure of exactly what he wanted to do after he graduated. One day, Robert asked his policy design professor and mentor about his dilemma. The professor advised him to take an online career assessment questionnaire on the JobNet website and browse the site for any interesting articles. He also recommended checking the Contact Tracker to see if there were any alumni of the school who would be willing to talk to Robert about what potential jobs may be out there for him.

Properties
- Information resource for jobs
- CareerMatch that uses a questionnaire to match jobs to applicant's skills
- Skills4jobs provides skills required for different jobs
- Guidebooks for the job search process, industry information, and career paths
- Discussion board
- Surveys conducted of employers and employees
- Policy design news

Features
- Provides networking options/contacts
- Store current resumes onlines
- Both employers and jobseekers can post positions online
- Help students target their aptitudes and career potentials and match them to potential job opportunities
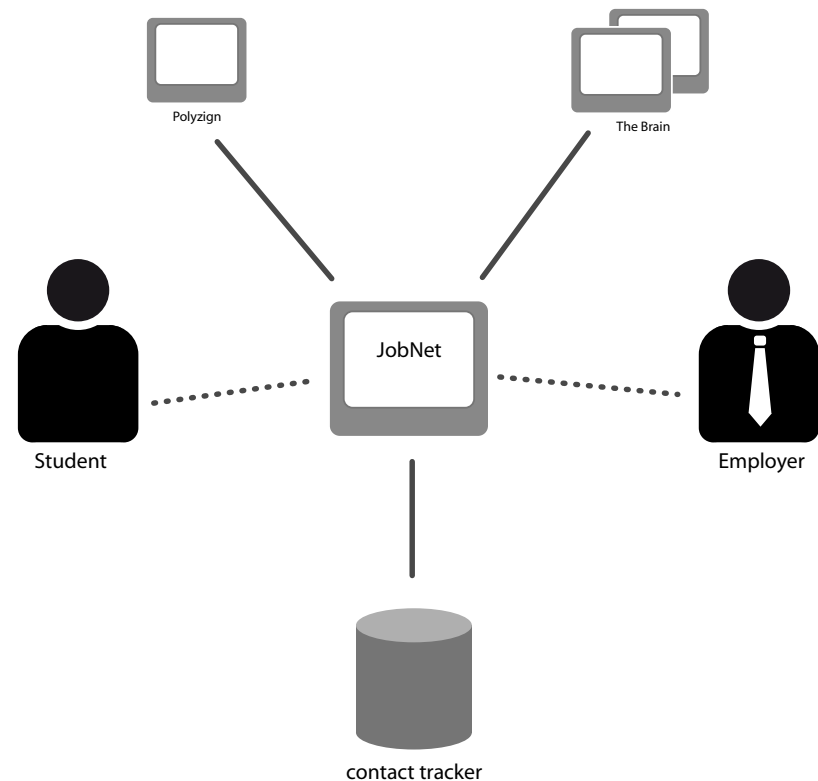
That night, Robert went onto the **JobNet** website. After filling out the quick profile and setting up a username and password, Robert was set to start the questionnaire. After 25 minutes of answering 50 multiple choice questions, the program created a customized career assessment profile that was able to point out Robert's strengths, narrowed down what his interests were, and matched up industries that were compatible with his profile.

A list of 20 potential job opportunities matched up with Robert's profile. He looked through the list and by clicking on the company name, was able to find out more information about the company, such as financial information, recent news articles about the company, culture, reviews, and a link to the company's website. Had Robert not used the Career Profiler, he would've spent days, maybe weeks trying to research companies and try to find companies that he was interested in.

After uploading his resume into **JobNet's** resume database, Robert browsed through **Contact Tracker** to see if there were any alumni that he might be able to talk to. Finding several names, he selected a couple of them to email with questions. He then browsed through the discussion board and read about an interesting field that had not showed up on his career profile. He decided to use the Skills4Jobs link to figure out what skills for needed for that job. He found out that if he was interested in this type of position, he could easily become qualified by taking only two more classes that would provide the skills he needed for the job. Robert decided to register for those two classes for his last semester. He was relieved that he was able to find this information before his last semester had started so that he knew which courses would help in the most in his career direction.

A few months before he graduated, Robert had interviewed with five interested firms who contacted him after viewing his resume on **JobNet**, and he received two offers from them. Throughout the recruiting process, Robert was very comfortable about the companies that he was interested in and definitely could see himself working for one of them. He was glad he included **JobNet** in his job search process.

Polyzign

The Brain

JobNet

Student

Employer

contact tracker

Illustration: Contact Tracker

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Student Lifecycle

Alumni Network

In order to build the Education for Policy Design Synthesis program, it is important to have a broad and influential network. From this perspective, the program needs to build strong bonds between groups of influential people and organizations. One of the strongest relationships to build is the alumni network because they form the group of people who support and potentially influence the program.

Alumni Network is the tool for communicating and collaborating with alumni in order to keep relationships with them, and allow alumni to impart their support and immersions to the program.

Alumni Immersion is a program that immerses the alumni and shares their knowledge, expertise and experiences through conferences, lecturers, and workshops. It allows them to share and build on the knowledge they have gained previously through the program.

Alumni Organization is the association for alumni to keep in touch with the program and support their careers. It also provides updates of personal alumni data, the EPDS society, and other knowledge resources. It runs alumni events to keep contact among alumni and faculty. Alumni Organization has an Alumni Website to allow alumni to contact each other. The Alumni Organization will send Alumni Newsletters to all alumni members to update with news and invite to any events.

Alumni Team is the group of people comprised of alumni, faculty, and staff in order to coordinate, run, and host the alumni events with other groups of people. Also, they have to keep contact with alumni and provide resources for alumni through the Alumni Website. The Alumni Website is the website for alumni to look up peers for the purpose of keeping contact and communication among the EPDS community. It also allocates the Alumni WebBoard to discuss any interesting and compelling issues to exchange for their opinions. Moreover, it posts upcoming events, conferences and programs, and extended courses on the board.
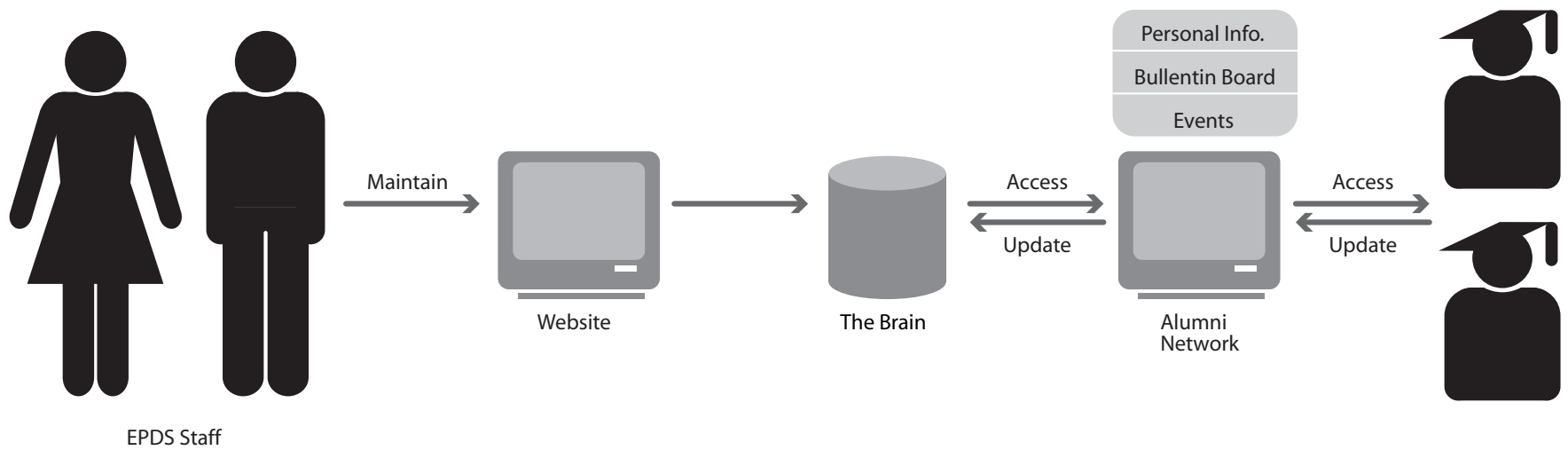
Properties
- A web database for alumni information
- Website to interact in various issues
- Team members
- Web board
- Blog
- Bulletin board to inform and update news and events

Features
- Identify and inform the alumni personal information from past-present
- Identify the update news and upcoming events
- Receive the news from school/program the upcoming events
- Interact with each alumnus
- Keep connections
- Recommend recruitment, seminars, and activities
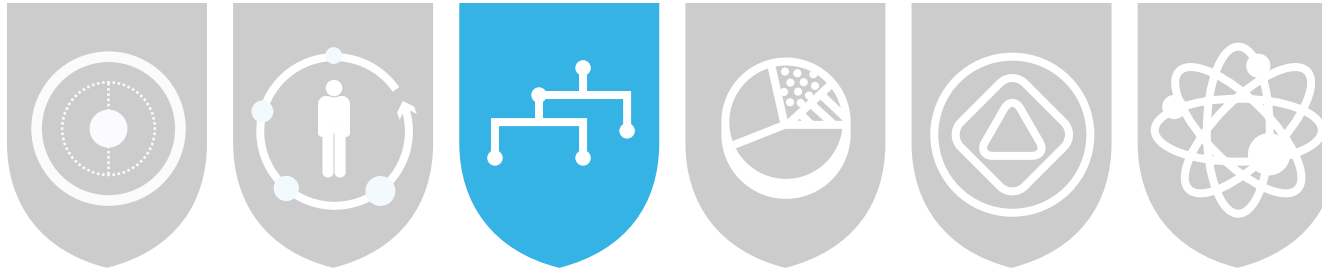- Share opinions, issues, discussions
- Associate with school/program

Personal Info.

Bullentin Board

Events

Maintain

Access

Update

Access

Update

EPDS Staff

Website

The Brain

Alumni
Network

Illustration: Alumni Network

Infrastructure

A well-designed space and strong internal communication tools provide the foundation of a positive educational environment. Interplay, the plan for the EPDS internal environment, will provide space for creative exploration and collaboration. The Brain, with its project management tools, knowledge base, communication tools, and classroom intranet ensure that members of the community can work together effectively, regardless of physical location.

System Elements

Interplay

The Brain

Infrastructure

Interplay

Interplay is the design of the environment to create a culture of positive interaction between students and their peers, faculty, administration and environment. This environment facilitates work, collaboration, inspiration, and restful states for the student. Because students may spend so much of their time at school for classes, they need dedicated space for individual work as well as areas for group work.

For the policy design student to achieve their best results, an environment that facilitates learning is needed. Part of this is related to the physical aspects of the environment such as good lighting, pleasant wall colors, soundproofing, and aesthetically pleasing surroundings. Another aspect of a productive environment is the students' attitude and well-being. If the students feel that they have a place to retreat to or a place to take a break from their studies, Interplay will provide some of that comfort to help ease the tension.

Interplay creates a few designated rest areas where students can escape, not feel as if they are at school and relax their mind before going back to their work. The Union and PlayRoom are two of these relaxation areas.

The Union

The Union is an area for students to relax, eat, take a break, and mingle with other students. The Union includes amenities such as couches, tables, food, and coffee, newspapers, and a bulletin board for posting announcements. These spaces will have comfortable chairs and sofas, a small kitchenette, vending machines with many healthy eating and drinking options.

PlayRoom

PlayRoom is an area students can go to let off some steam. With games, entertainment, a TV, and music, students can take quick breaks here to have some fun. Providing healthy breaks keeps students more productive with their work and makes the education more enjoyable.

Properties
- Modular furniture for easy reconfiguration
- Museum to display history, photos, project work
- The Union for lounging and eating
- Inspiration area
- Classrooms
- Team rooms areas for teamwork and brainstorming
- Playroom for rejuvination during study breaks
- Study hall for quiet, independent study
- Prototyping Lab
- Teleconferencing center

Features
- Facilitates the process of communicating and sharing ideas
- Fosters accidental engagement and impromptu meetings
- Facilitates the process of collective co-creation

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Infrastructure

Inspiration Area

Inspiration Area is an area for students to go to for inspiration on ideas. They can read articles and other students have contributed, 3D model prototypes that have been created, or other interesting projects students are working on. Photos of interesting findings, people engaged in workshops, and Student Immersions are posted to create a positive community environment.

Classrooms

Classrooms contain modular furniture that enables students to rearrange furniture easily for different classes. Round tables create an environment of collaboration rather than a lecture setting.

Interplay is designed so that there are dedicated areas for both group and individual work.

Team Rooms

Team Rooms are dedicated areas for group work. These rooms have plenty of whiteboards, markers, and other supplies that are useful for team deliberations, and brainstorming, allows groups to have private or semi-private spaces. Some rooms have modular dividers so they can accommodate different size groups.

Study Hall

With so much collaboration in the program, it is often difficult to find a quiet area for students to focus on their individual work. Rather than forcing students to go home to find quiet areas, Study Hall provides a separate room with individual cubicles where students go to work uninterrupted.

Teleconferencing Center

The Teleconferencing Center allows teams to interview people over a speaker phone, or work remotely with other team members in different locations.

Prototyping Lab

Prototyping Lab is an environment within the facility that enables students to build and test their ideas in a creative environment. This area facilitates the whole process of creation from sketching ideas, visualization, to prototyping.

By creating an atmosphere of cooperation, inspiration and wellbeing, Interplay caters to the students' needs so that they may be more productive and have an enjoyable educational experience.

Scenario. Classes have been pretty tough on Adam this semester. He is taking a full course load, and it seems like all the main deliverables are due at the same time. He feels like there is so much to do, yet little or no time to do it.

It is a long walk to school for classes everyday, and with winters in Chicago, it was a brutally cold trek in the mornings. But as soon as Adam walks into the policy design building, he begins to warm up quickly and his spirits are lifted. The school's warm and inviting interior design is a stark contrast from the drab and dirty concrete city landscape that he had just walked through.

At his desk, Adam puts his bag down, sets up his laptop and plugs in the power cord. Since the school is entirely wireless,
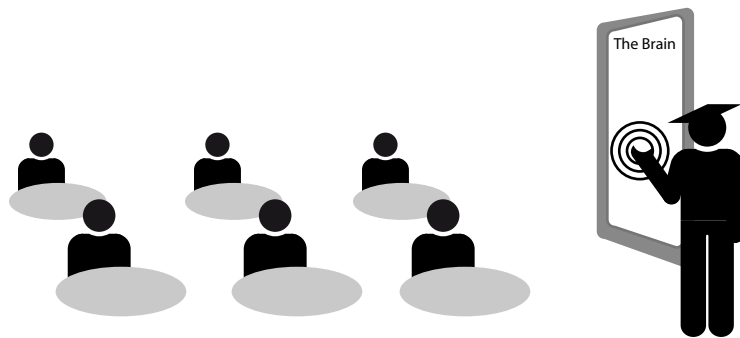
Infrastructure

Adam has no need to plug into the network. As he looks around the room to check out who was in today, he sees many heads buried in their computer screens, all typing and clicking away. Windows and skylights with natural light shined down, and the lights above were warm and bright.
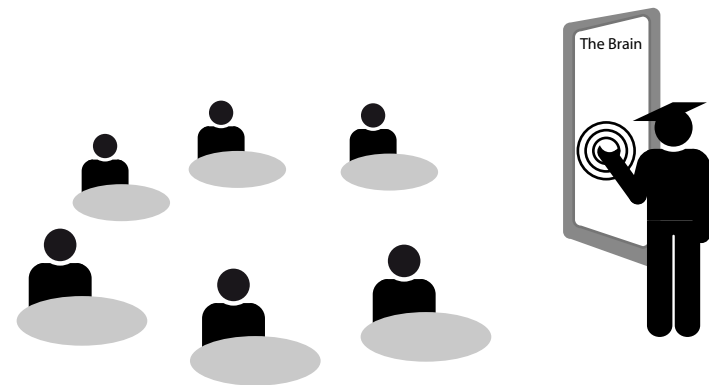
Walking into his first class, Adam sits down in the second row. Each desk has a power outlet for a laptop, and the desks were designed to allow them to swivel and tilt, making it easy to converse with other classmates or rearrange furniture to work in groups. After lecture, Adam and his team members decide to meet to go over some tasks for their final project. They walk to a Team Room down the hall. Once the door closed, the team starts talking. As they start brainstorming, Adam and his team write their ideas on the whiteboard walls. By the end of the meeting, the entire wall was filled with ideas. The team presses a button on the wall, enters their email addresses, and the system captures a digital copy of their brainstorming session and emails it to them.

After another class, Adam was hungry and tired. He went upstairs to the student lounge to grab a granola bar and some vitamin water. He had another class in 2 hours, but he was so exhausted that he needed to rest. Next to the student lounge was a soundproof room with cots and alarm clocks. Adam goes in and grabs an hour nap so that he would be refreshed and alert for his next class and the long night of work ahead of him.
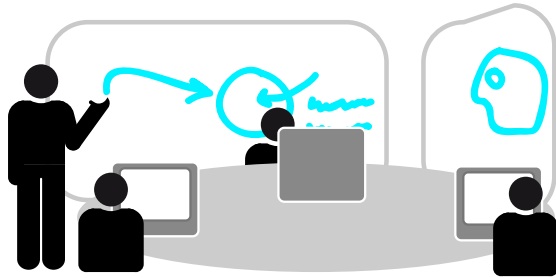
Classroom, Configuration 1
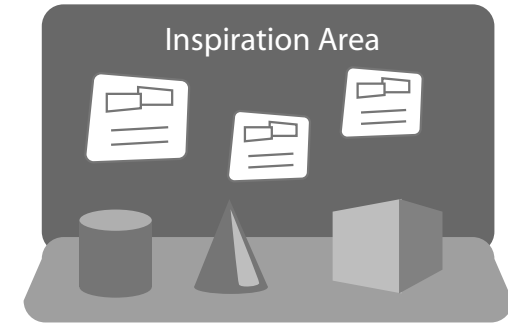
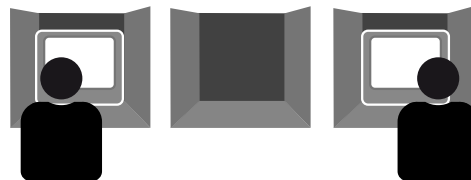Classroom, Configuration 2

Illustration: Interplay

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Infrastructure

Team Rooms

Inspiration Area

Inspiration Board

Study Hall
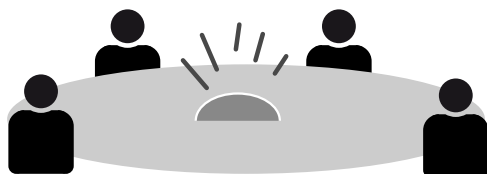
Prototyping Lab

Teleconferencing Center

Illustration: Interplay

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Bulletin Board

The Brain

The Union
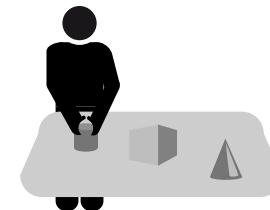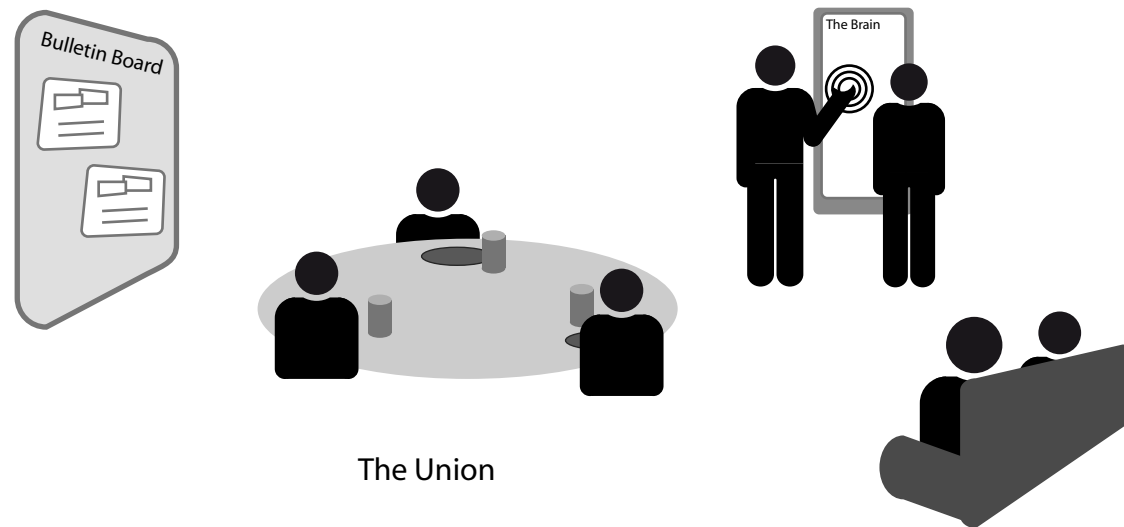
Illustration: Interplay

Infrastructure

The Brain

All activities within EPDS require communication, collaboration, or archiving activities. **The Brain** will facilitate these activities by providing a central, web-based tool that can be accessed by members of the community from anywhere.

The Brain has four sub-elements, each of which satisfy four basic functions. Each will be discussed in detail in subsequent System Elements.

Thalamus The Thalamus is the central communication and information broadcasting system. Accessible from both PCs and a publicly placed kiosks, the Thalamus provides space for community discussions, sharing work, broadcasting messages and job posting, and a directory of community members.

Cortex The Cortex is used in classrooms to support learning activities.

Hippocampus The Hippocampus is the EPDS memory, storing research, projects, and artifacts produced by the community.

Cerebellum The Cerebellum is a project management facilitation tool that supports academic and administrative groups.

In addition to these four areas, **The Brain** also provides access to other databases throughout the program, such as JobNet, AlumniNet, and Contact Tracker. Access is controlled through an account management system maintained by a member of the IT staff.

Access is based on roles within the community. Typical roles might be: student, faculty, alumni, partner, staff, Instill-ation client. These roles can be further sub-divided as necessary at the program's discretion. Each role might have access to different information. For instance, students might

Sub–Elements
- Thalamus Communication Tool
- Cortex Classroom Intranet
- Hippocampus Knowledge Exchange
- Cerebellum Project Management Tool

Properties
- A web-based electronic information system
- Stores electronic documents
- Users can add, edit, and delete items
- Users can search
- Users can print and download items
- Users can access items from anywhere at anytime
- Users can save items they find to their own library of documents within the system
- An account management and permissions-based system
- Ties multiple systems together

Features
- Provides a central location for community knowledge and communication
- Provides a centralized point of access to all electronic data

Infrastructure

have access to the Cortex, the Hippocampus, the Thalamus, and the Cerebellum but alumni might only have access to the Thalamus, Hippocampus, and the AlumniNet. Partners might only have access to certain components of the Hippocampus. The Brain should be maintained by an IT staff person who can create accounts and provide access to areas of The Brain.
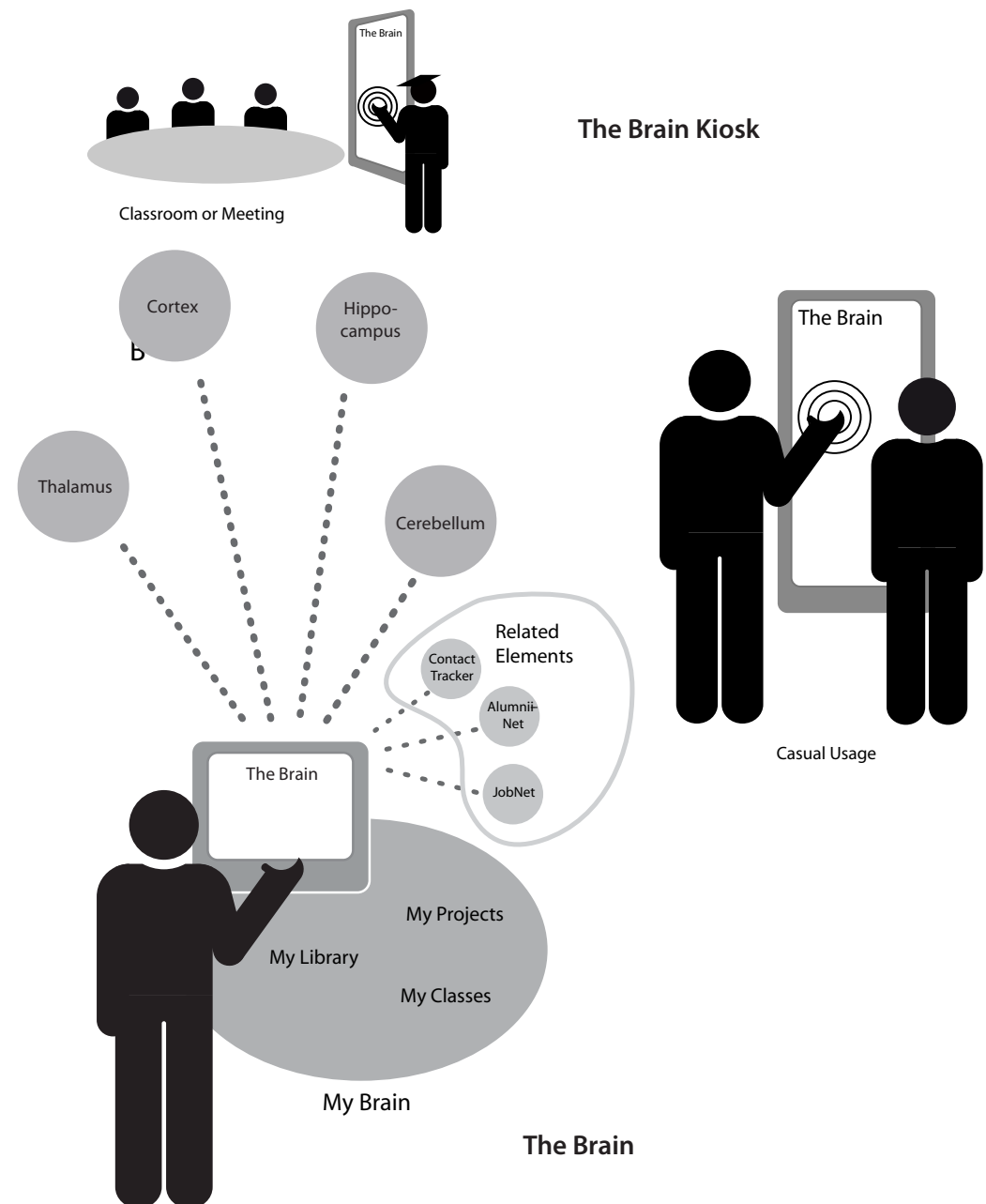
My Brain
Users of The Brain can create their own home page called My Brain. On this page, they can get quick access to their Cerebellum projects, to their Cortex classes or to documents saved from the Hippocampus. In addition, discussions or items of interest from Thalamus might also appear here.

The Brain Kiosk
The Brain Kiosks are large touch screens located throughout the program. Using the same functionality as The Brain, The Brain Kiosks encourage casual exploration of non-traditional uses of information.

As part of the **Interplay** environment, The Brain Kiosks bring institutional information into a public context. If placed in public areas, like lounges, lobbies, or cafeterias, The Brain Kiosks can be used to broadcast information or encourage casual exploration. If placed in a classroom or working environment, users can access the Hippocampus for reference information or use the Cerebellum to manage group activities.

The Brain Kiosk

Classroom or Meeting

The Brain

Casual Usage

Cortex

Hippo-campus

Thalamus

Cerebellum

Related Elements

Contact Tracker

Alumni-Net

JobNet

The Brain

My Projects

My Library

My Classes

My Brain

The Brain

Illustration: The Brain

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Thalamus Communication Tool

Thalamus Communication Tool

The Thalamus is the central communication and information broadcasting system for EPDS. Accessible via The Brain from both PCs and publicly placed Brain Kiosks, the Thalamus contains space for community discussions, sharing work, broadcasting messages and job posting, and a directory of community members.

Inspiration Board

The Inspiration Board is a web-based free-flowing forum for the sharing of work, ideas, articles, and other knowledge of interest to the community. Any member of the community can post something to the Inspiration Board. Users of The Brain can sign up for notifications or add Inspiration Board postings to their My Brain pages.

Public Forum

The Public Forum is an asynchronous discussion system that allows members of the community to openly discuss important issues. Community members can start a thread or contribute to a conversation.

EPDS Directory

The EPDS Directory has all contact information for members of the EPDS community.

Event Calendar

The Event Calendar contains events from around the program and within the larger design and policy communities. Members of the community can submit postings to a central administrator. Events are sorted into categories for easy browsing.

Announcement Engine

Members of the community can post job postings or announcements that they would like the

Super–Element
- The Brain

Properties
- A web-based interface communication system
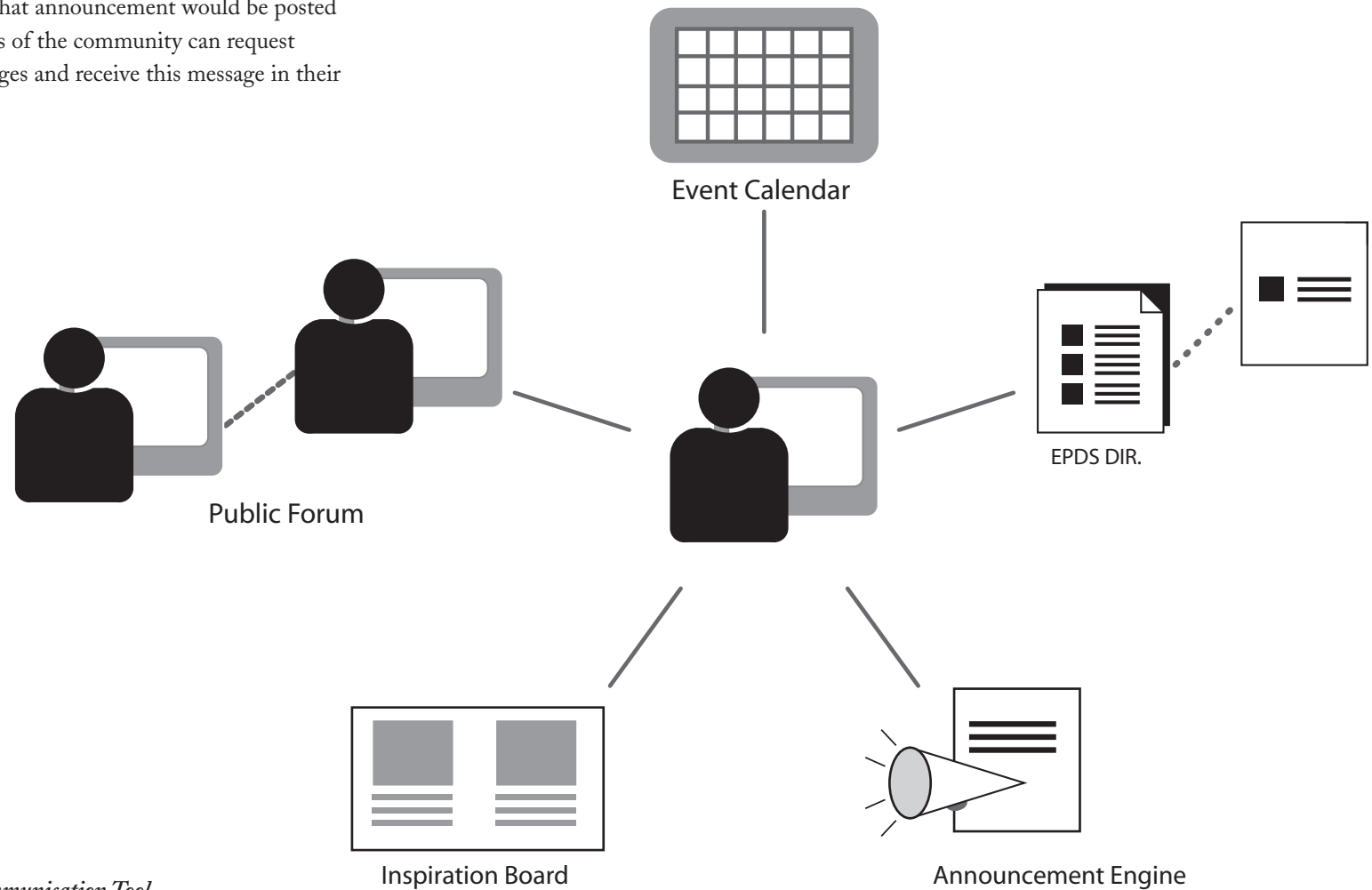- Accessible from both PCS and a publicly-placed kiosk

Features
- Binds different web systems into a single portal
- Standardizes the interface across all databases
- Allows the sharing of data in different context

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Infrastructure

community to be aware of. For instance, a MyVoice forum might post requests for participation to The Brain using the Announcement Engine. That announcement would be posted to the Thalamus. Members of the community can request notifications of new messages and receive this message in their e-mail inbox.

Event Calendar

Public Forum

EPDS DIR.

Inspiration Board

Announcement Engine

Illustration: Thalamus Communication Tool

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Infrastructure

Cerebellum Project Management Tool

Most projects can benefit from a systematic approach to project management. Software and web-based tools that support project management can ease a group's organizational burden and facilitate more efficient, even more creative work. Cerebellum Project Management Tool is a web-based project management tool available to all EPDS groups, whether academic or administrative. Cerebellum might be used in classroom projects, as part of an Instill-ation, by the Curriculum Development Team during course design, or by strategic initiatives throughout EPDS.

A successful group project has clearly articulated goals, specific, assigned tasks, and clearly identified roles for each member to play. Poor communication and document management can seriously hinder the progress of what might otherwise be a successful project. A project manager can help the group create and track the project's schedule, assign and track tasks, and manage files and shared documents. The project manager ensures that the project continuously moves forward and creates an atmosphere that supports good work from the team. Cerebellum further assists the project manager in these tasks and facilitates team communication.

The Cerebellum Project Management Tool includes several interrelated components that support project management activities and promote communication amongst team members. BlogChat and Gabber allow synchronous and asynchronous communication, saving this communication to an archive for later reference. MileMarkers provides scheduling and task tracking capabilities. AccountTracker manages user accounts and roles within Cerebellum. FileTracker allows the team to store and access files from anywhere through a central repository. GroupThought provides the collective authorship capabilities.

GroupThought

GroupThought is a collaborative writing tool that allows a group to collect, organize, edit, and save their thoughts in a centralized location. A web-based word processor, GroupThought allows team members to enter text and edit the text GroupThought by others. GroupThought tracks the contributions of each member and can reveal these associations as requested by the team.

*Super-Element*
- The Brain

Properties
- A web-based, data-driven application
- A tool for managing information associated with a project
- A collaborative writing tool
- A system for sharing and tracking versions of project documents
- An asynchronous discussion tool
- A task allocation and schedule tracking tool
- Has multiple user accounts
- Allows users to manage multiple projects and teams
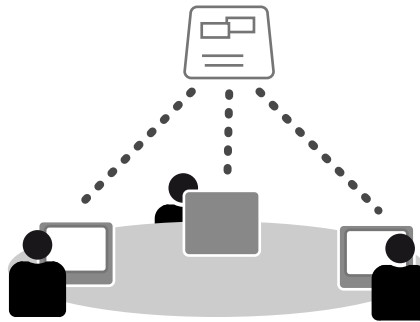
Features
- Ensures team has access to files they need both at and away from the program
- Facilitates both distance and group work
- Provides a central resource for all materials related to the project
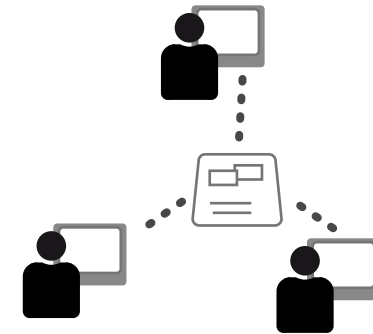- Captures the history of the project for later use

Infrastructure
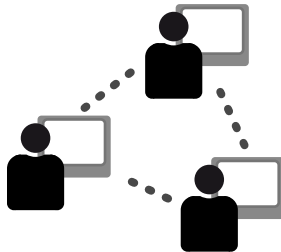
Gabber & BlogChat

GroupThought

FileTracker

Illustration: Cerebellum Project Management Tool

Possible applications for GroupThought include the collective development of agendas, meeting minute recording, brainstorm documentation, or collective document development. GroupThought documents can be saved and accessed on multiple occasions. Once a GroupThought document has been completed, it can be exported to work in other software programs, such as word processors or layout programs. The file can then be saved for reference or further work to FileTracker.

Blogchat

BlogChat is an asynchronous communication tool that allows discussions to continue amongst the group after the conclusion of face-to-face meetings or Gabber interactions. BlogChats follow a blog-like format. Someone posts a discussion point, reference, or other statement. Members of the team are notified of this addition and are invited to participate in the BlogChat. Entries and discussions are saved for future reference.

Gabber

Gabber is a synchronous, chat-like tool that allows group members to communicate with each other in real-time regardless of their physical location. Gabber discussions can be archived within Cerebellum for later use. A Gabber meeting can be accompanied by images or make use of GroupThought to track ideas.

MileMarkers

MileMarkers are Cerebellum's scheduling and task tracking tools. Using accounts created in AccountTracker, the designated project manager can establish project milestones and assign tasks to team members. Team members can indicate when they have finished a task or reassign the task to someone else.

AccountTracker

AccountTracker gives team members access to their Cerebellum project. Roles can be assigned within AccountTracker that give team members different access rights within Cerebellum.

Infrastructure

However, unlike many project management tools, all group members can access most core functions rather than relying on a project manager. The role of project manager can be assigned by the group but the AccountTracker system does little to limit capabilities.

FileTracker

FileTracker is a storage tool and version tracking system for all files belonging to a specific project. Team members must be able to access, edit, and track versions of their work from anywhere.

Cortex Classroom Intranet

Over the last decade there have been significant changes to the traditional classroom. Internet technologies have helped extend the learning process beyond the classroom's four walls. Asynchronous discussions mean students can ask faculty questions after class and faculty can post those answers for the rest of the class to see. In addition, these tools can encourage students to look to each other for answers. The benefits of classroom intranets are so significant that they have become a fixture of most classrooms regardless of education level.

The Cortex takes the basic classroom intranet model and customizes it for the EPDS. With a Discussion Board, a Materials Library, and the ability to submit and receive assignments through a Submission Tool, the Cortex is an important classroom support tool.

The Cortex is accessed through The Brain. Each student has a page of Cortex classes called "My Classes" that allows them quick access. Professors also have a list of their classes but they also have the ability to create courses and edit the content on an ongoing basis using the Course Builder.

Discussion Board

The Discussion Board enables asynchronous discussions to happen outside of class. Both students and faculty members can create a discussion topic and post questions or comments. Class members can sign up to be notified via e-mail when new posts are made.

Materials Library

Course materials are made available to the class by the professor. Materials can be posted to the Materials Library in multiple formats. For items needing copyright protection or outside fair use, a check-in and check-out system will allow a limited number of copies to be available at any one time.

Submission Tool

The Submission Tool allows students to submit assignments and helps faculty track submissions.

Super–Element
- The Brain

Properties
- A secure web-site, accessible from anywhere
- A course materials library
- An asynchronous discussion tool
- Ties into the Assessment Program
- A course administration tool
- A system for creating new courses and archiving old ones

Features
- Allows teachers to provide materials and assignments in one place
- Allows students to access necessary class materials from anywhere
- Provides a public forum for the teacher and students to discuss issues outside of class time
- Ensures students know how they are progressing

Infrastructure

Course Builder

The Course Builder is used by faculty members to set up and administer their Cortex course. Faculty can select rules for establishing the Discussion Board and Materials Library.

Catalog Manager

The Catalog Manager is a web-based tool for providing faculty access to developing new courses and for archiving old ones. It can be used by the Content Expert or Administrator members of the Curriculum Development Team to review old courses.

Infrastructure

Curriculum
Development
Team

Course Catalog Manager

Faculty

Course Builder

Faculty

Student   Discussion Board   Student

Cortex

Student   Material Library

Documents

Faculty   Submission Tool

Documents

Course + Course + Course = Course

Course   Course

Course
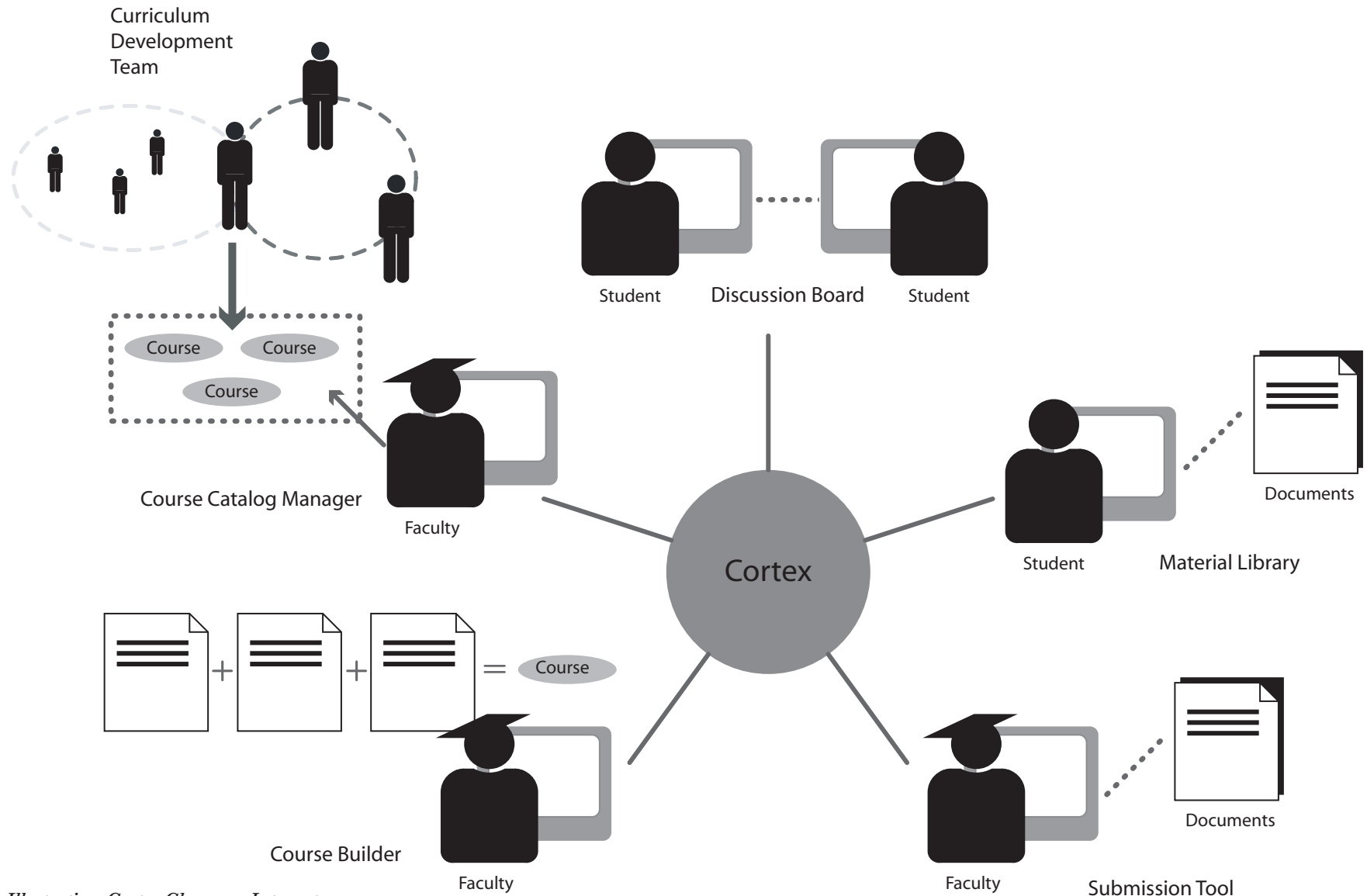
Illustration: Cortex Classroom Intranet

Infrastructure

Hippocampus Knowledge Exchange

Knowledge generated by EPDS is crucial to its ongoing growth and adaptation. Without a formal archiving system in place, information may be lost and work redone. Artifacts generated by EPDS may take either physical or electronic form. Regardless of format, this information must be stored archivally and made easy to access by all members of the community. The **Hippocampus** system provides several archiving methods, including Hippocampus Archive, a physical archive, Hippocampus Electronic Archive, a web-based system linked into The Brain, and an Archivist to manage and maintain quality.

Hippocampus resources are available not only to students and faculty but to the entire EPDS network of partners and alumni. Once research in completed, an article written, an image captured, or a project is wrapped up, artifacts are submitted to both the Hippocampus Electronic Archive, and, if necessary, to the Hippocampus Archive. Submitted items are reviewed by the Archivist, tagged appropriately, and made available to the community.

Hippocampus Electronic Archive

The Hippocampus Electronic Archive is a web-based knowledge storage system. Accessible by the whole community, electronic versions of documents, articles, and presentations are stored here. Items added to the Electronic Archive are tagged with metatags and can be retrieved using a robust search system.

The Hippocampus Electronic Archive can be accessed through The Brain. Users of The Brain can save discoveries for later use or refer colleagues to Hippocampus Electronic Archive entries. This sharing and distribution of knowledge supports both research and community building activities.

Super–Element
- The Brain

Properties
- An archivist role
- A way to add, edit, and save electronic information
- A way to add, store, and preserve physical products
- A search and retrieval system

Features
- Gives institution a memory, ensuring prior work is available as a resource
- Provides quality assurance
- Aids program development and assessment by providing a record of achievement
- Promotes the exchance of ideas and builds community

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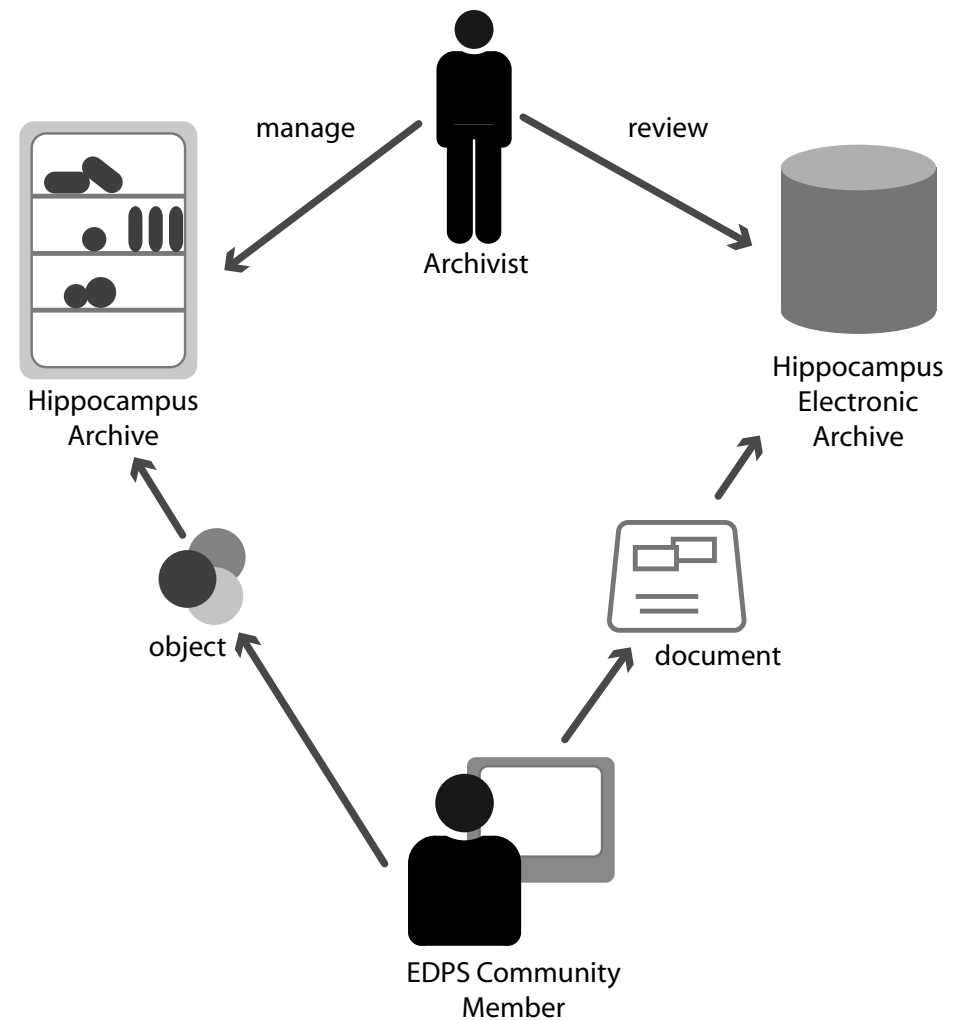
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Archivist

The Archivist is a staff position that oversees, maintains, and assesses institutional knowledge. The Archivist plays a crucial role both in preservation and in ensuring that the quality of included work is high.

The Archivist is in charge of both the Hippocampus Archive and the Hippocampus Electronic Archive. The Archivist gathers and preserves physical items such as products, prototypes, books, and articles. The Archivist periodically reviews the Hippocampus' Electronic Archive to evaluate its usage and review the quality of information included. The Archivist may develop outreach programs to encourage participation in the Hippocampus' Electronic Archive. The Archivist will develop and implement a search and retrieval system for physical items and for electronic items.

Hippocampus Archive

The Hippocampus Archive stores both physical resources and artifacts from EPDS projects. Managed by the Archivist, the Hippocampus Archive preserves institutional knowledge and products for future use. A storage, search and retrieval system makes the Hippocampus Archive a useful resource for the EPDS community.

Illustration: Hippocampus Knowledge Exchange

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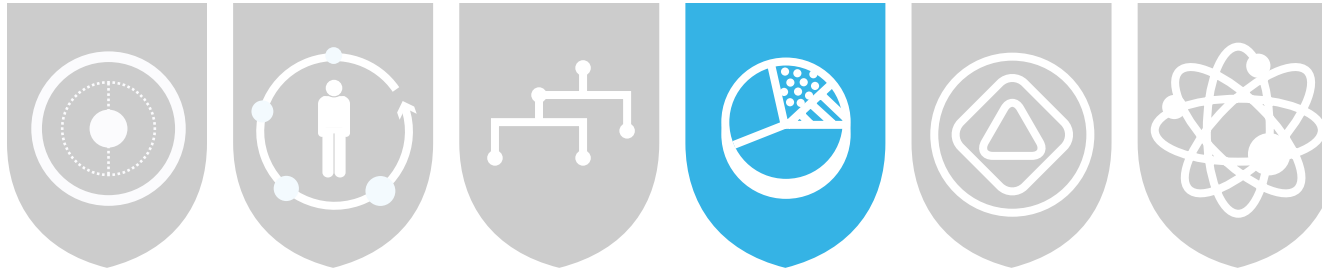
Administration

A strong, adaptive governing system is crucial to the health of any EPDS program. This set of System Elements outline tools and methods for the administration of the program. Governance outlines the administrative structure. My Voice helps the program build an inclusive culture through feedback methods and tools. The Curriculum Development Team oversees course selection, design, scheduling, and implementation.

System Elements

Governance

My Voice

Curriculum Development Team

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Administration

Governance

One of the most important structures of Education for Policy Design Synthesis program is how to structure the organization's administration in order for faculty and staff to coordinate effectively with each other. To accomplish the goal, the structure of the governance has to be planned thoughtfully in the direction of great success.

Governance is a comprehensive designed system to help structure and manage the organization of the program, staff, faculty, and students. The philosophy of the school is that collaboration works among different departments and people (faculty, students, and staff).

Retention System is the software tool that evaluates how the program is performing. Comprised of the Retention Checklist and Retention Feedback, it will measure faculty, staff, and student satisfaction and gather in what areas are doing well and what areas need improvement.

Incentive is an evaluation system that ensures employees of the program are satisfied with their jobs. It is designed to attract and retain faculty and staff and provide motivation for being at EPDS.

Scanning Role is the person who has to update and gather all trend information and sources of new knowledge. They must also compile all data and analyze them to improve the system to be organized more effectively.

Properties
- Database system
- The structure of operating and managing system
- Infrastructure system
- Hierarchy operating structure

Features
- Collect faculty and staff information
- Manage and operate the school/program
- Plan short and long term goals and strategies
- Contact people among organization
- Provide information for adapting, improving, and managing the program
- Get feedback from faculty, staff, and students to improve working system
- Coordinate partnerships with organizations, governments
- Promote school program
- Improve the facilities for faculty, staff, and students
- Create good working environment for the program

Administration

Environment

Incentive

Salary

Scholarship

Research

Candidates

Input data

Faculty

Give feedback

Retention
Team

Database

Analyze data

Retention
Team

Propose better
Retention offered

Board

Approve

Better
Offered
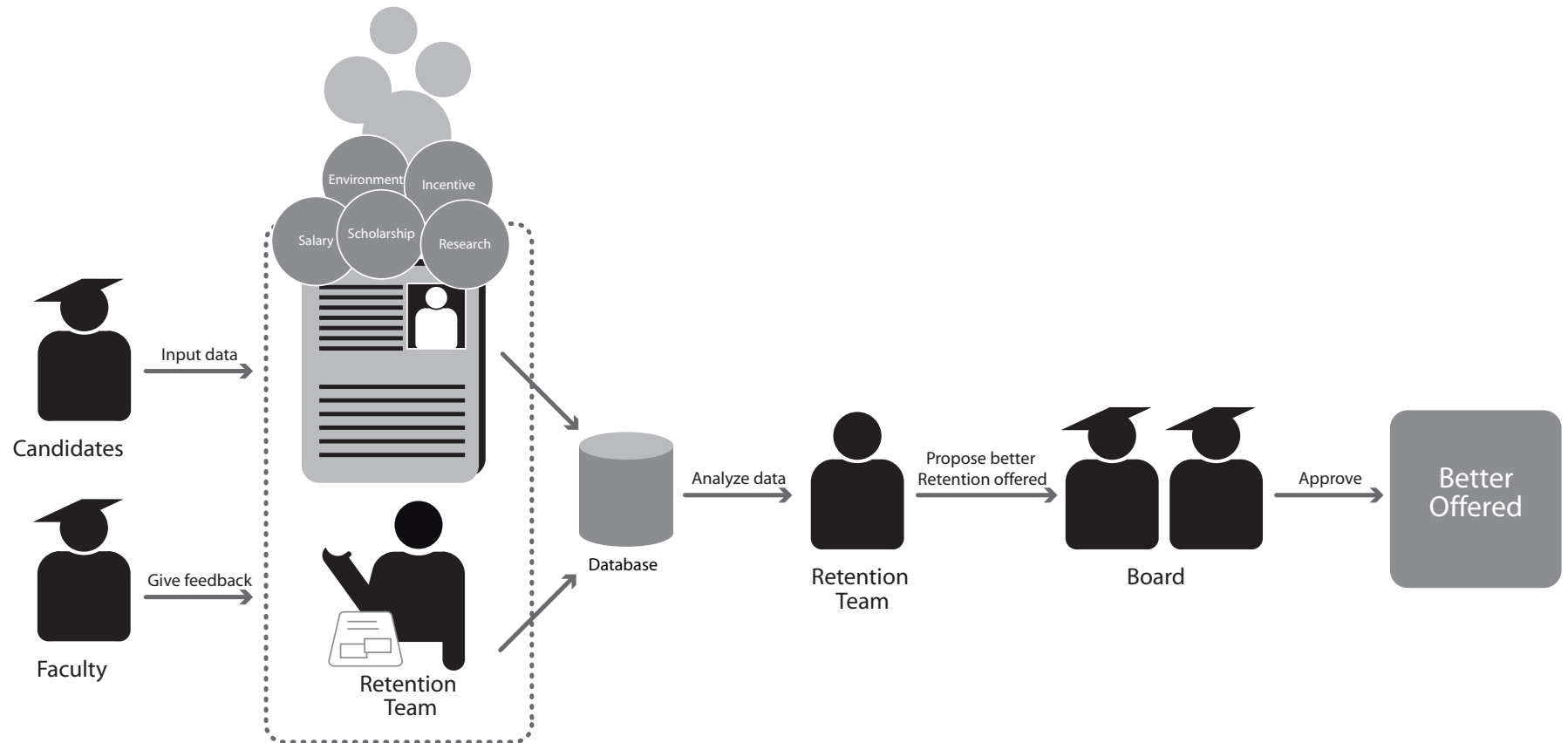
Illustration: Governance Retention System

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Administration

```
                          ┌─────────┐
                          │  Board  │
                          └────┬────┘
                               │
                        ┌──────┴──────┐
                        │  Executive  │
                        │  Director   │
                        └──────┬──────┘
              ┌────────────────┴────────────────┐
        ┌─────┴─────┐                      ┌─────┴─────┐
        │  Faculty  │                      │   Staff   │
        └─────┬─────┘                      └─────┬─────┘
```

Full	Adjunct	Guest

Account	Promotion Promulgation	Administration	Research	Management
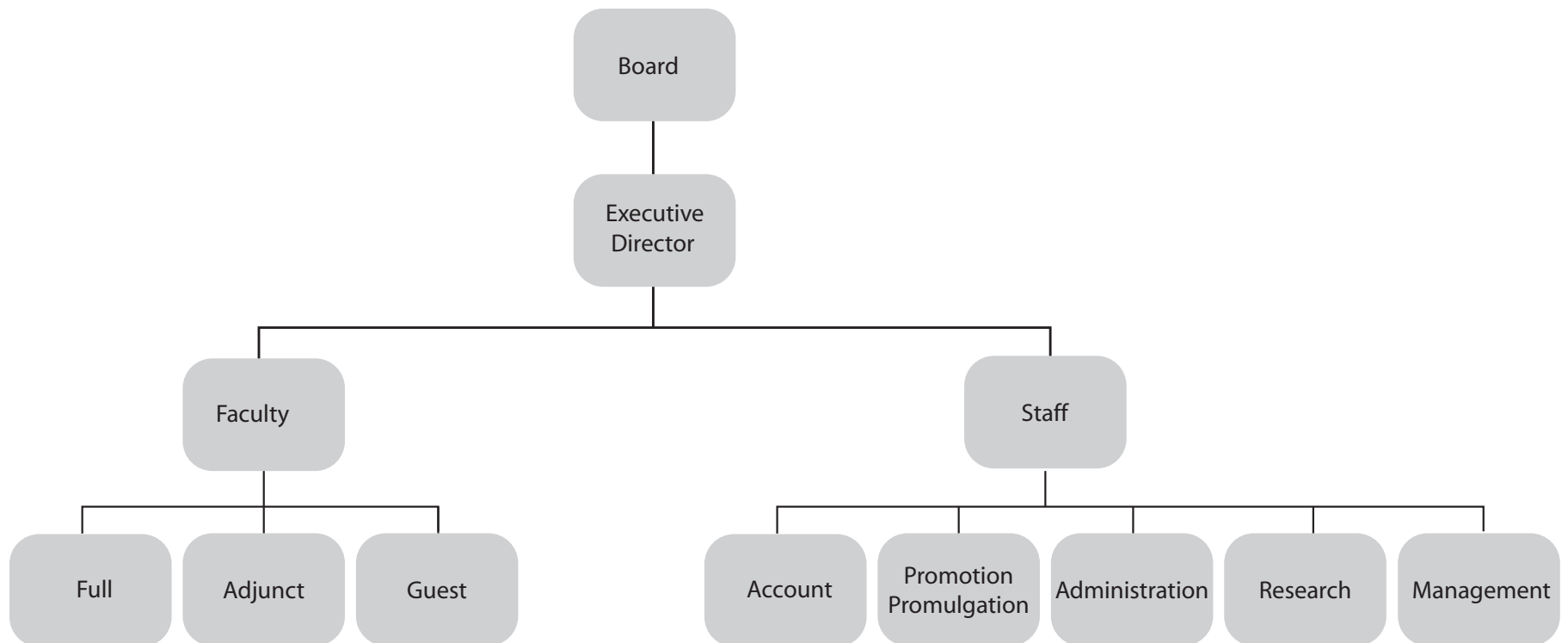
Illustration: Governance Hierarchy

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Administration

My Voice

As the EPDS Program grows, the program will need to adapt its processes, curriculum, and strategy to changing design and policy trends. However, change is often a de-stabilizing force in a community and implementation should be handled with care. An inclusive, healthy community provides formal and informal outlets for ideas to be discussed and concerns to be voiced.

MyVoice is system of electronic and face-to-face forums that allow community members to have input in the growth and change of their community. Elements of the system can be used independently or together, depending on the size of the change and the expected desire for input.

For example, the **Curriculum Development Team** may be designing a new set of courses that teach structured planning in for healthcare policy development. The **Curriculum Development Team** may have received this directive from Strategy Adaptation. Course concepts have been developed using the **Polyzign**. Prior to scheduling and including these new courses into the course catalog, the Team may be interested in testing the concepts amongst potential course students. In addition to using Idea Iteration, they may also set up a MyVoice Forum and invite specific students they know have an interest in healthcare. They may also post an open invitation on the MyVoice Kiosk or open a discussion for the whole community on the MyVoice BBS.

The **MyVoice** system may also be used to discuss other items of community interest in addition to curriculum adaptation. Examples may include items in the vending machine, a student social events initiative, the hiring of a new executive director, parking problems, or development of the AlumniNetwork. Participants can include students, administrators, staff, faculty, alumni, partners, board members, or invited guests.

MyVoice BBS

MyVoice BBS is a web-based bulletin board system that provides an asynchronous forum for the public discussion of program addition. Like most web-based discussion forums, someone posts a topic for discussion and invites members of the community to participate. The MyVoice BBS system is differentiated from traditional models in that the initiative lead can either allow feedback

Properties
- A web-based discussion system
- A public meeting
- A forum for questions and answers
- A web-based bulletin board where plans and announcements can be posted
- A electronic kiosk bulletin-board where plans and announcements can be posted

Features
- Allows various parties to contribute their feedback to important decisions
- A way for decision makers to gain alternative viewpoints
- Structures and organizes feedback
- Captures ongoing discussions
- Provides a place for decision makers to post plans
- Builds a trusting, inclusive community

Administration

from the entire community or from selected participants.

Process. The initiative lead creates a new discussion on MyVoice BBS and invites participants. For private discussion, invited participants receive and e-mail with a link to the MyVoice BBS forum. They follow this link, read the initial question and can post responses, thoughts, or questions. Theses responses are visible to other members of the forum and can in turn be responded to in a threaded discussion.

For public discussions, the initiative lead can invite participants by posting a notification to both the MyVoice Kiosk and an announcements area of Thalamus.

MyVoice Kiosk

MyVoice Kiosk uses The Brain's Thalamus Kiosk to display announcements of current MyVoice BBS public discussions or invites participants to attend a MyVoice Forum. Community members can approach the kiosk, read announcements and post comments to the MyVoice BBS.
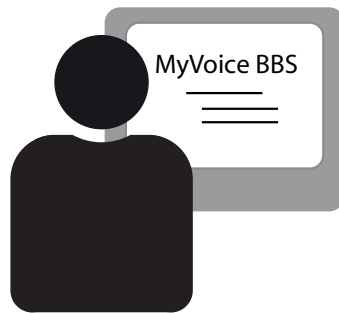
MyVoice Forum

MyVoice Forum is a face-to-face forum for the discussion of new ideas. In a MyVoice Forum, the initiative lead opens, presenting her concept and rationale to the group. A question and answer session follows this presentation.

A MyVoice Forum can be set-up on Thalamus. When setting up a forum, the initiative lead can choose to make this forum public or private. When a public forum is set-up, an announcement is posted to MyVoice Kiosk, Thalamus, and an e-mail is sent to the whole community. When a private forum is established, e-mail invitations can be sent to participants and their RSVPs monitored.
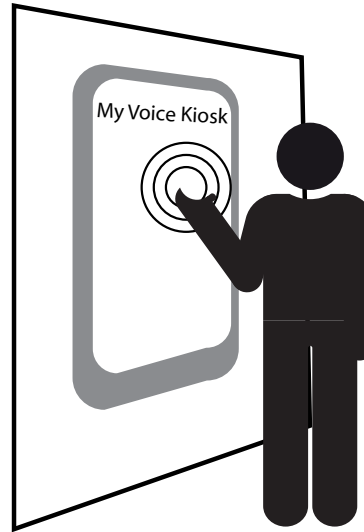
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Administration

My Voice Kiosk

MyVoice Kiosk
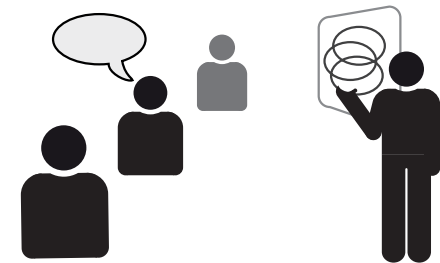
MyVoice BBS

MyVoice BBS

MyVoice Forum

Illustration: MyVoice

Administration

Curriculum Development Team

The **Curriculum Development Team** oversees curriculum guidelines, requirements, and course structure. The Team also oversees course selection, design, scheduling, and implementation. The **Curriculum Development Team** structures the course catalog based on input from research, assessment, and adaptation processes like MyVoice, the Assessment Program, and Strategy Adaptation.

The Core Team is made up of a Content Expert, an Administrator, and an Advisor. The Team evaluates and balances directives, plans and schedules the course catalog, and facilitates the design of those courses.

The Content Expert The Content Expert is a senior member of the faculty, charged with the educational content of the program. The Content Expert works with the Core Team to determine high-level objectives and identify scheduling problems. The Content Expert assigns faculty to courses and advises Course Designers on the development of syllabi and course content. The Content Expert must approve the course content but must bring all courses to the Core Team for final implementation.

The Administrator The Administrator schedules courses and coordinates resources including rooms, faculty, and media carts. The Administrator identifies possible conflicts for the Content Expert and Advisor to resolve.

The Advisor The Advisor looks at both institutional and financial capabilities, providing guidelines where necessary. Possibly a Board member or Executive Director, the Advisor keeps the program's strategy in mind. Though the Advisor does not have direct input into course content, the Advisor can raise issues and conflicts between offerings and strategy.

Course Designers

Course Designers are assigned courses to develop. Course Designers, members of the faculty and design the course they will teach at a syllabi and day-to-day level. Course Designers can propose

Properties
- A team
- A content expert role (a faculty member)
- An administrator role
- An advisor role
- A collection of education and content experts
- A tool for planning the course schedule, assigning resources, and faculty

Features
- Helps team evaluate directives
- Balances directives
- Plans and schedules the course catalog
- Facilitates the design of courses
- Designs courses that support the strategy of the schools
- Weighs input from various sources to identify and fill needs

new courses to the Content Expert who will take these proposals to the Core Team.

scheduling
communicating
facilitating
tracking

System Elements:
My Voice
Assessment Program
Strategy Adaptation

admin

faculty

faculty

faculty

core team

content expert

input

advisor

financial strategy

course designers

Illustration: Curriculum Development Team

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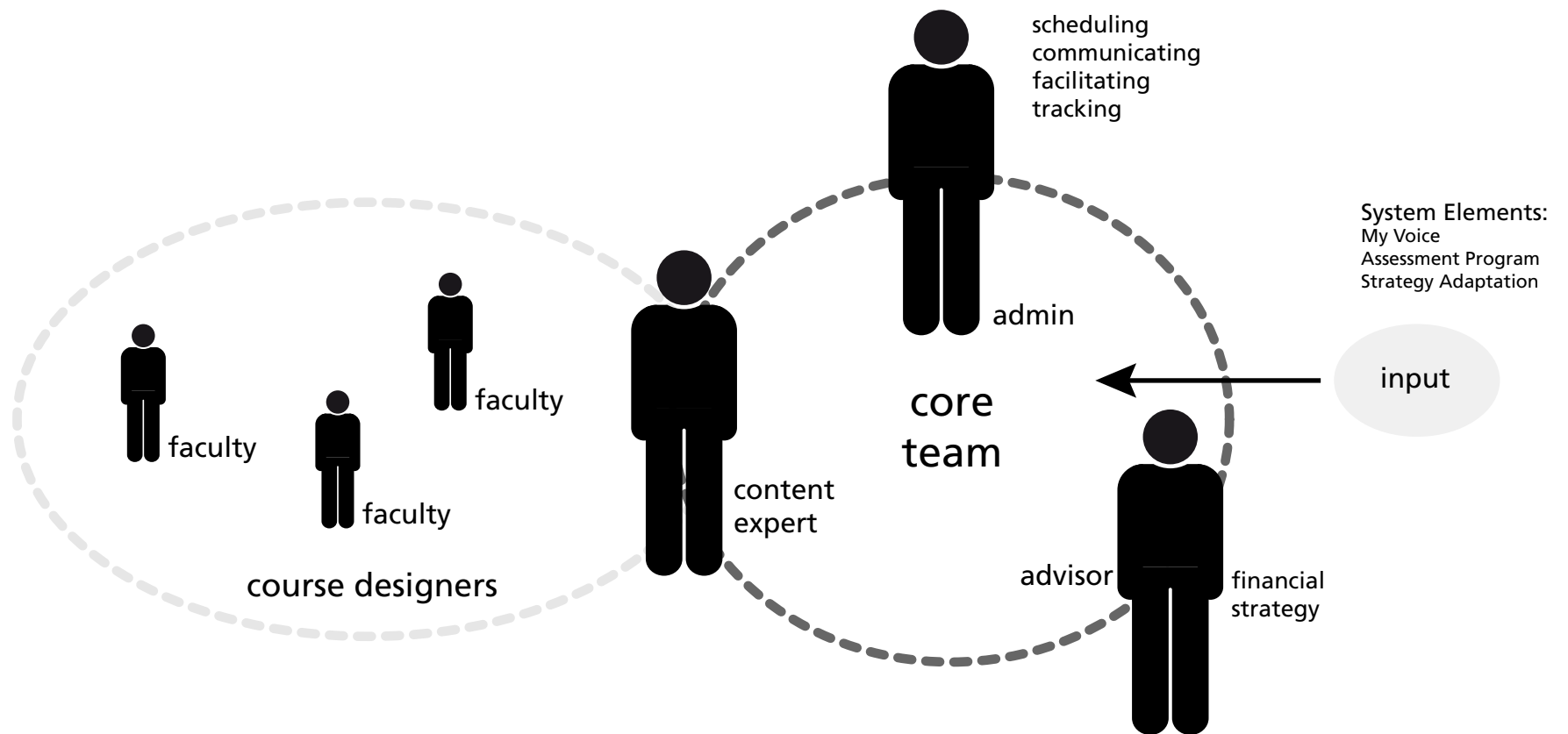
Program Adaptation

A living program must regularly assess their strategy and offerings and adapt themselves to current trends and issues. Trendspotting is a research process which objective is to collect the most relevant trends of thinking and action in the policy making domain. Strategy Consensus is a discussion process that helps the community to streamline the overall strategy lines that would influence the decisions and actions of the institutions. The Implementation Protocol is a process to piece and spread the strategies along the future, prioritizing the more needed actions and matching resources with goals. The Assessment Program is a continuous assessment tool for the curriculum, student development, and overall health of the program.

System Elements

Trend-spotting

Strategy Consensus

Implementation Protocol

Assessment Program

Program Adaptation

Trend-spotting

With the aim of being a leading institution in the field, the Educational Program for Policy Design Synthesis not only has to be aware of the current status of the profession domain but also has to look ahead and plan its educational efforts and institutional strategies according to future developments within the policy making environment.

Trendspotting

Trendspotting is a process which defines the actions and resources required to identify the most relevant trends, which involves a combination of experts, procedures, information tools, frameworks and documents.

In order to evaluate the newest trends, a group of academic and professional experts on the policy environment must be brought together. This task requires specific knowledge about who is who in the world of policy making and also requires an objective assessment of capabilities of each individual considered.

Policy Gurus

Policy Gurus is a human team based within the educational program whose task is to be an active participant in the policy making theoretical field, participating in events, collecting information from publications and making this knowledge available to the educational community. The main value it brings to the Trendspotting process is the capability of identifying who the experts and leading professionals are in the field that could serve the program with their forecasting knowledge and work on crafting the future trends analysis.

Panel of Experts

The outcome of this selection process is a Panel of Experts that has been put together balancing the most theoretical knowledge that comes from research and academia - faculty members are obvious candidates here - with the most practical knowledge that comes from the everyday practice of policy making.

Properties
- A process to recruit experts
- A human organization that is very knowledgeable about the policy making environment
- A content management system that captures the new knowledge generated
- A data/information crunching protocol
- A set of tools to envision new ideas
- A set of communication tools to allow group members to share information
- A synthesized document that distills the findings and trends

Features
- Identifies ideal candidate experts
- Puts together to work a human team with high expertise
- Provides communication and idea generation tools
- Analyzes critically and systematically research data based on guidelines and priorities
- Collects the insights and new data

Program Adaptation

The nature of the Panel of Experts is to be a varied group of people with different backgrounds, disciplines and expertise. The model allows them to work in a group as a think tank, allowing discussion, fluid exchange of ideas, and setting up of the right environment in which a wide array of opinions and perspectives can be suggested and evaluated.

The main goal, by means of their up-to-date knowledge, is about the present situation in policy and their intuition about its future progression, to distill the fields of knowledge that will have a greater relevance in the future of policy, paying special attention to the ones that may affect the practice of design thinking, both directly or indirectly, in the policy environment.

Trendwatch

As a knowledge base that holds and delivers all this knowledge and makes it accessible, Trendwatch is a database that enables faculty and researchers to both access and store data related to knowledge generated in the field. This might include news articles, notes from a conference, television show recordings, findings from research studies, both internal and external, and other forms of information.

To support the process of idea generation and knowledge transformation, a range of tools and methods will be provided to the Panel of Experts.

Concerning the idea generation tools, several techniques and methods are available in order to facilitate the generation, capturing and tracking of ideas:

• Future Vignette will help experts ideate and visualize future complex systems scenarios based on pieces of knowledge and using creativity and iterative process to envision the rest of the picture.

• The Cerebellum project management tools available for internal use within the institution are especially ideal to support content management related tasks. Among all its features there are several worth highlighting: GroupThought enables collaborative writing and saving thoughts in a centralized way, BlogChat is an asynchronous discussion tool to maintain conversations after meetings are over, and Gabber is a synchronous chat-like tool that allows members to communicate with each other.

This 'live' working and documenting allows keeping track of the overall process and avoids losing ideas that may potentially generate new ones.

Forecasting Scenario

The high value of the ideas and knowledge generated in this collective process requires it to be captured in order to allow the community to benefit from it. This takes the shape of a "Forecasting Scenario," a document that describes a future scenario in the policy environment and how design thinking could fit, how it can affect it, and how it could work within its frame. This document will be used as a starting point for discussing future strategies for the educational program which is described in Strategy Consensus.

The "trendspotting" process is planned to be executed in a regular basis in order to enable a more progressive adaptation to

Program Adaptation

the ongoing events and that will affect the way design thinking education develops.

Environment Guru

Selection

ACADEMIA

POLICY

Panel of experts

Communication Tools

Idea Generation Tools

Collect and filter trends

Forecasting Scenario for Design thinking in Policy
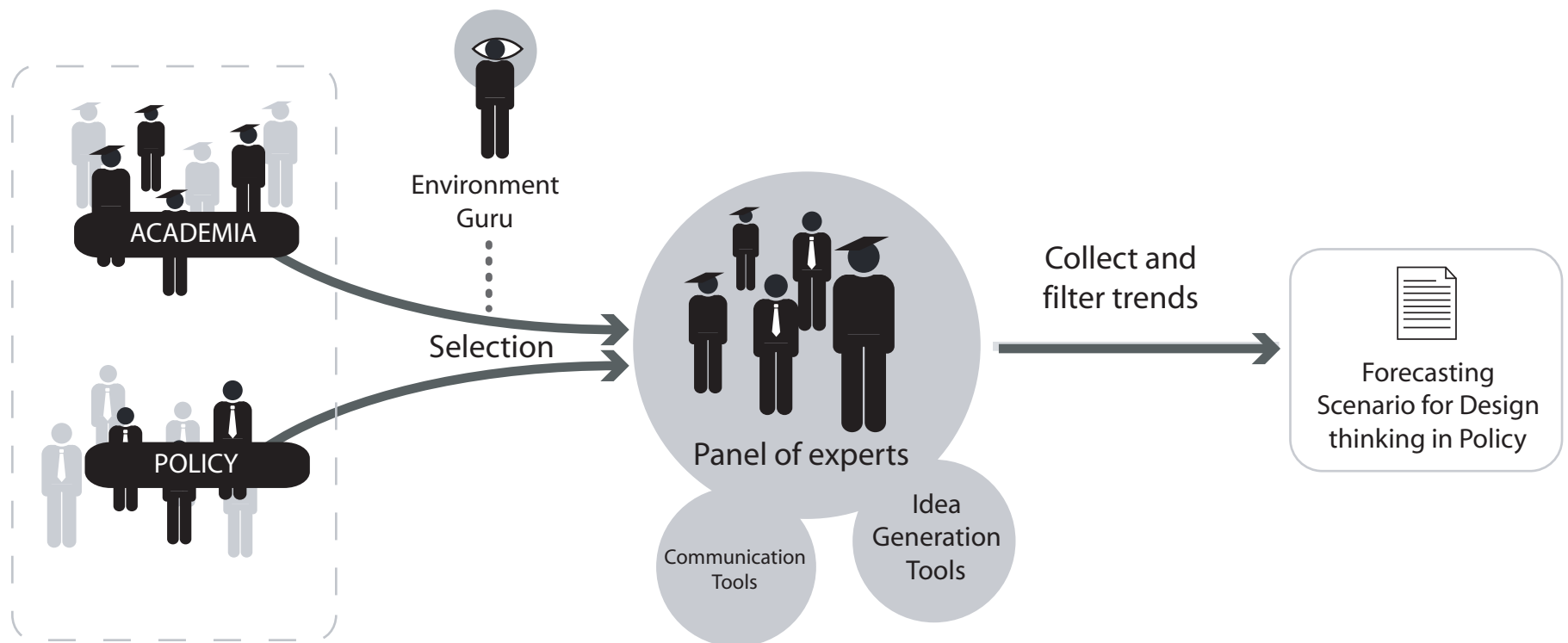
Illustration: Trend-spotting

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Program Adaptation

Strategy Consensus

A common problem in educational institutions is the lack of alignment between parties (e.g., the board of directors, faculty, alumni, students) in the way they each consider future opportunities. The consequences of these differences results in uneven support for initiatives within the program, which leads to a lack of focus of the program.

Strategy Consensus

Strategy Consensus seeks to establish an open framework and process to allow all voices within the community to be heard and to be part of the decision process that will define and redirect future strategies of the institution and reflect it in a collective Declaration of Intentions upon which everybody will refer its future work to.

The first step is done immediately after the Trendspotting process is finished and after the direction of the educational program considers that the strategies of the program have to be tweaked or redirected according to the Forecasting scenario described by the Panel of Experts.

This document, created by a neutral group of experts, serves as a basis for the direction of the Declaration of Intentions. The final version of this document is to be used internally and describes the overall strategies that the program aims to follow, independently of who is in charge or who is directing the institution, aiming to work as a common ground across bodies of governance through the years to provide more stability.

MyVoice

The first sketch of the "Declaration" is published and posted to be reviewed by all layers inside the institution. As a way to provide feedback, the process will use MyVoice, a multi-modal feedback system that allows different tiers of the community (students, staff or others) to express their agreements and disagreements with the presented document. MyVoice enables web-based discussion, virtual public meeting capabilities and capture of feedback. This will provide enough input for later examination and consideration by the parties responsible for making the process succeed.

Properties
- A discussion protocol
- An open dialogue event
- A presentation of the proposed changes
- An evaluation system
- A consensus facilitator
- A fair and equal decision making environment
- A voting system (different voting weights)
- A community shared declaration of intentions (similar to a charter)
- A feedback collector system

Features
- Guides the process of streamlining the educational program strategy
- Facilitates consensus among faculty, board, students and community
- Enables a balanced distribution of decision power among the community
- Makes agreements concrete and makes everybody agree about the direction of the program based on real findings
- Establishes the overall strategy for the long term

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Program Adaptation

Once the feedback process is completed, the parties responsible for crafting the Declaration of Intentions goes back to the input received, and objectively tweaks and reviews the declaration in order to submit it for approval through a voting procedure by all members of the community. Everybody in the community has had the chance to express their opinion as this has been reflected in the second version of the document.
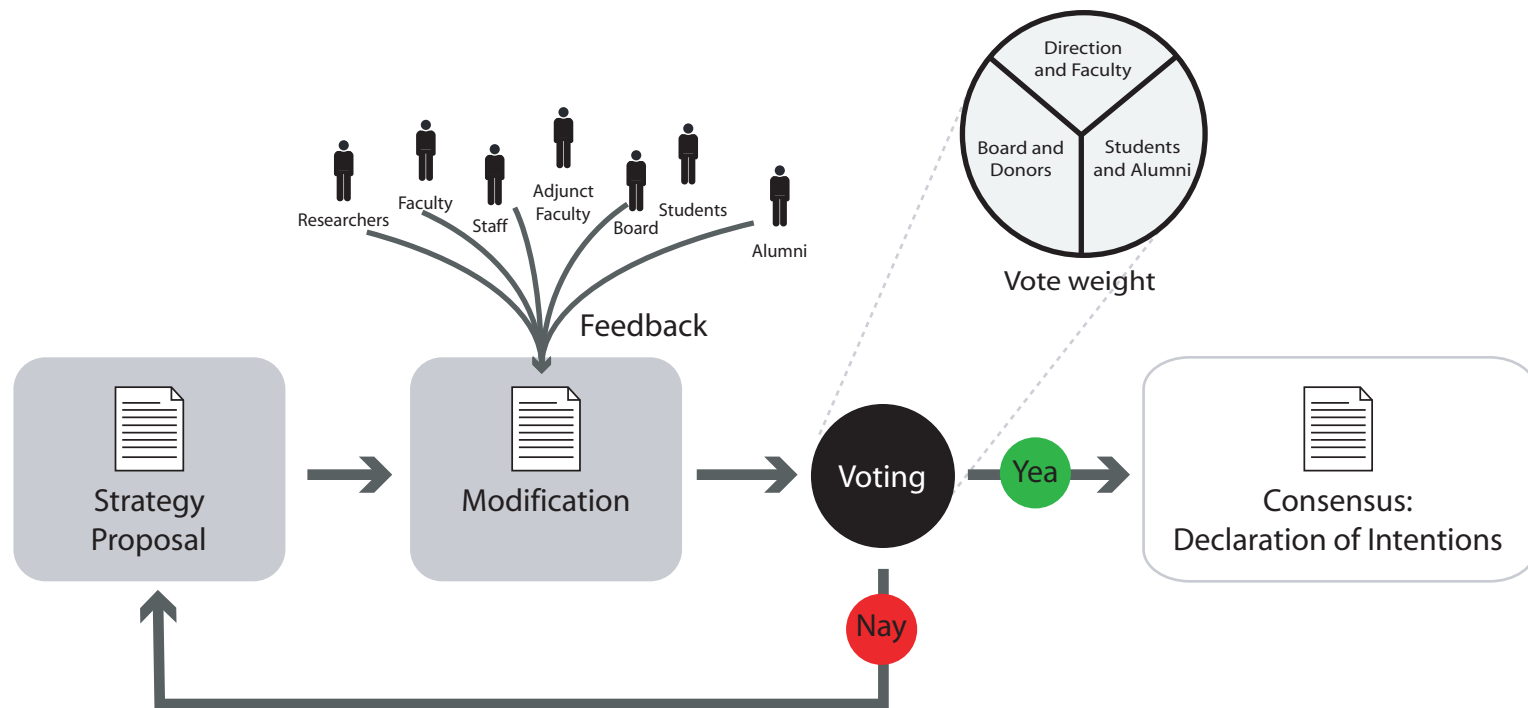
At the time of voting, everybody has the right to vote, however, to ensure a more balanced distribution of decision power according to experience and rank, the votes will weight differently. For example, the dean or director of the school and faculty might account for a third of the votes, students and alumni for another third and the rest of the community such as the board of directors and donors the last third. By doing this no single tier will have full control over the decisions and they will always need at least a big part of the other tiers to pass. Again, proportions of vote weight are an approximation of how a fair democratic system could work, but is recommended that when put it into practice, an evaluation of its results are checked to ensure all tiers' powers are in balance.

Depending on the outcome of the voting results two different scenarios lay ahead. If the document is approved, it is a sign that the majority agrees on the proposed, and it reflects that everybody is on the same page. This will hopefully ensure a regular and steady direction in which everybody will feel comfortable with and agree on working towards the same goals.

If the voting process denies the document, the parties in charge of the Declaration of Intentions have to take responsibility of its rejection and enter a reflection process to understand the reasons for the refusal. This should lead to a new rewriting of the document and the community should build consensus in order to reach agreement.

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Program Adaptation

Researchers Faculty Staff Adjunct Faculty Board Students Alumni

Feedback

Direction and Faculty
Board and Donors
Students and Alumni

Vote weight

Strategy Proposal

Modification

Voting

Yea

Nay

Consensus: Declaration of Intentions

Illustration: Strategy Consensus

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Program Adaptation

Implementation Protocol

Managers have strong ideas and beliefs about how to manage the institution. But rarely are these ideas and intentions communicated to the rest of the community, nor are they documented or planned in a concise and precise way such that the community has access to it. This prevents the community from being able to work collectively towards the same goals.

Implementation Protocol

To address the problem of isolated planning and lack of communication, the Implementation Protocol seeks to establish a framework and tools to facilitate the evaluation of both human and material resources, the prioritization of goals, and the planning of its arrangement over time.

The initial action is to gather a diverse group of people from within the educational program that will have competencies affected by the implementation of the strategy and that represent every department involved in the execution: planners, faculty, researchers, administrators and public relations. This diversity of expertise and approaches is very much needed in order to address the plan in a more practical and realistic way and with higher chances to be complied by everybody.

Once the implementation group is formed, the overall program's Declaration of Intentions is taken as the basis for the following discussions. Taking the format of a workshop and taking the process as a collective ideation, the group follows an iterative series of prototyping, evaluation and reformulation considering the most important aspects of the implementation:

•   Description of the actions needed to accomplish the overall goals.

•   Evaluation of the actions and assessment of priority level for each action

•   Assessment of present capabilities

•   Considering possibilities given present expertise

•   Assessment of resources

In order to describe and communicate how to apply these actions over time, prototyping and visualization tools are provided to plot the implementation:

•   PERT chart and similar techniques to display dependencies between actions and plot them along the time line as they are used in project management projects.

Properties
- A protocol
- An assessment method
- A document summarizing a road map for change
- A group of planners, faculty, researchers, administrative staff and public relations people

Features
- Transforms a declaration of intentions into a workable road map for the program
- Sets the priorities and establishes how the changes will be implemented
- Aims to be used as a guide for all aspects of the program
- Appoints people to be responsible for each step
- Places the changes along timeline

Program Adaptation

- Evaluation Frameworks which weight the criteria

Strategic Roadmap

The collection of documents describing the implementation plan will be compiled in the "strategic road map".
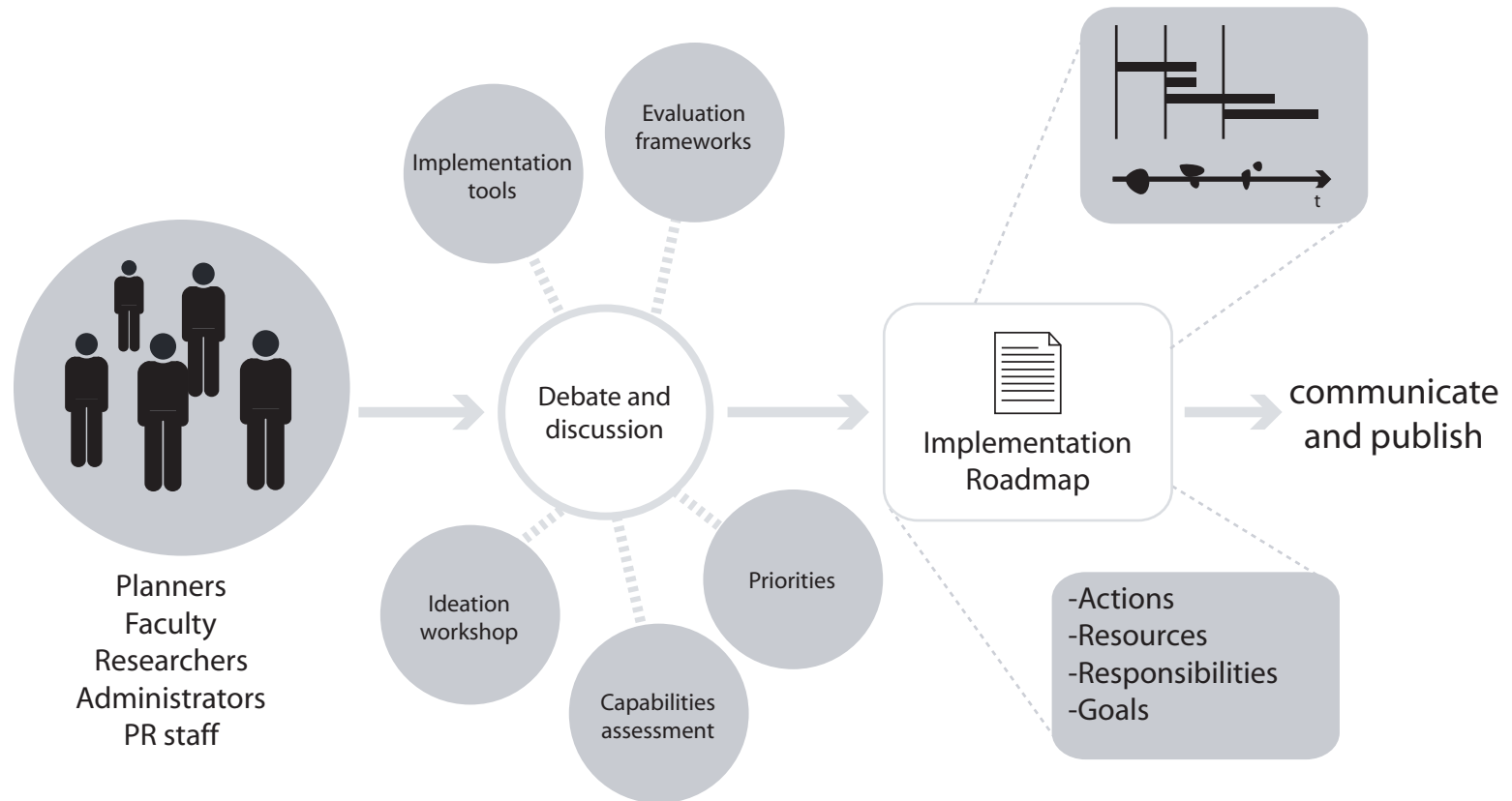
This set of documents describes the following points:

- A time based implementation map, describing all the dependencies between actions and how they will be executed

- Assignment of responsibilities and goals for each action to the appropriate departments

- Specifies the allocation of resources for each stage and, if needed, suggests the action for extra funding to accomplish certain actions

The Strategic roadmap is to be used as shared guideline across departments within the institution and will be used as a reference point for all the actions that affect the strategy of the program. Its publishing and release to the community ensures the coordination of efforts and reinforces identity of the program.

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Program Adaptation

Planners
Faculty
Researchers
Administrators
PR staff

Implementation tools

Evaluation frameworks

Debate and discussion

Ideation workshop

Capabilities assessment

Priorities

Implementation Roadmap

communicate and publish

-Actions
-Resources
-Responsibilities
-Goals

Illustration: Implementation Protocol

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Assessment Program

Assessment Program is a tool that focuses on how to improve the quality of program. One way that assists the development of the program is an approach that assesses students, faculty, staff and the curriculum.

Assessment Program is a tool and process that helps to monitor the program among students, faculty, and staff in order to evaluate overall process and quality. Also, it is important data gathered for developing the program and people.

Assessment Program keeps a history of assessment related documents. It classifies what to focus on in each category and makes improvements in each specific field more effectively. It also contributes to the other parts of the program in terms of leveraging the program's quality. **Polyzign** can be aggregated information for the Assessment Program that can look at a particular course and the balance or appropriateness of the program.

Assessment Tool is an archive monitoring tool and method database used for evaluation. It contains evaluation forms, integrated-assessment activities and procedures for assessments. Assessment tools are applied for the purposes of evaluation of groups of people in the program. First, Evaluation Test will be used for assessing students' progress for final presentations, projects or writing examinations. Evaluation Forms are then filled out to evaluate students, instructors, and the course itself. Clusters of evaluation information are then used to analyze and assess the program. Moreover, the analysis result will be used to improve the next course in terms of revising the course structure, means of learning, or even the content of the course in the Report.

Report is the software program used for keeping assessment records and analysis information. Faculty must write a Report record after completing a course. To fill out Report, the staff and faculty must gather all data and fill out the data in format form, and analyze the progress. In addition, faculty and staff must write and suggest what to improve for the next course. Staff members must write a Report about their co-workers in order to evaluate the work environment.

Properties

- The database containing the evaluation process
- The electronic source to provide evaluation tool
- Method to evaluate students, faculty, and system
- Record of evaluation from past and present
- Questionnaires
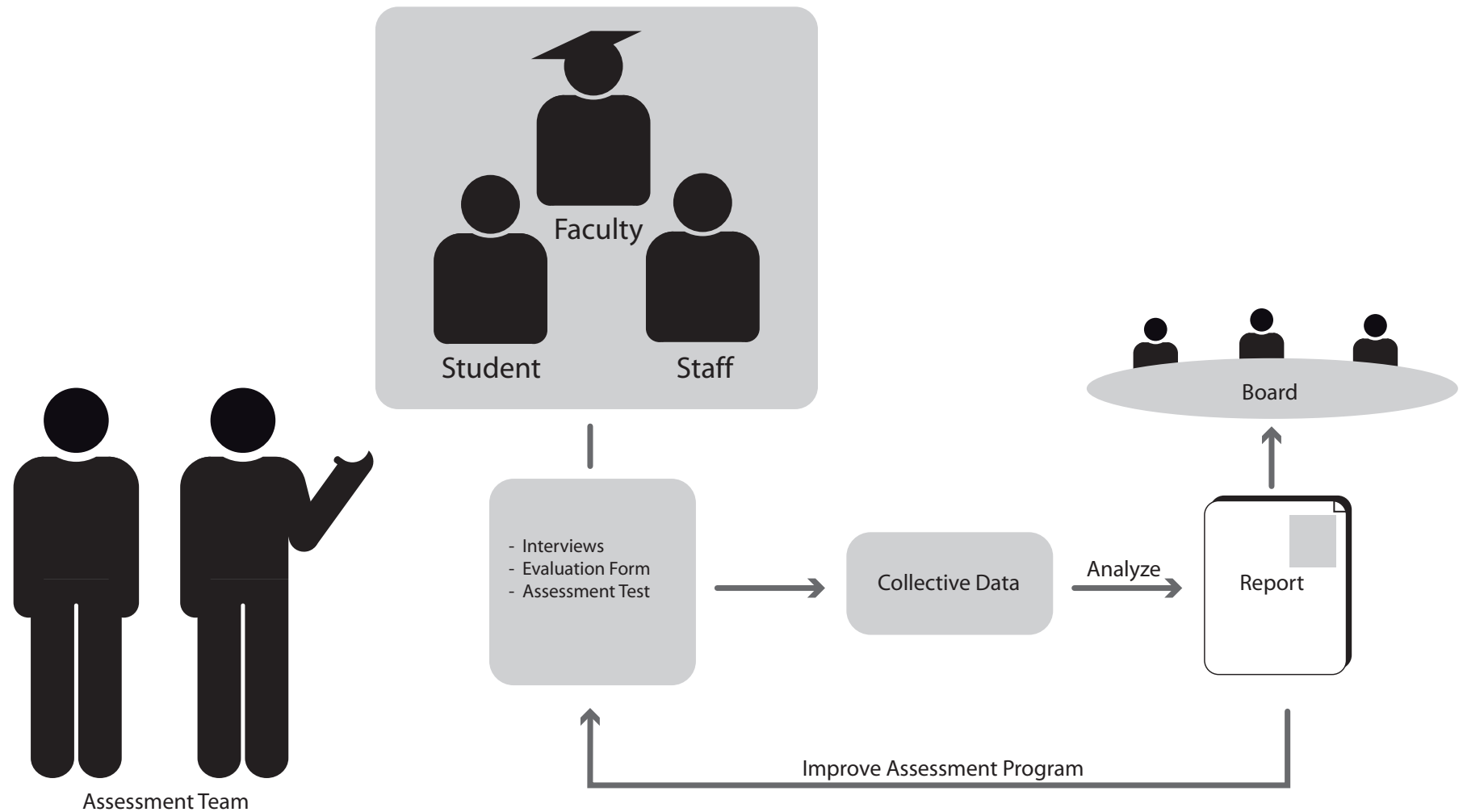- Evaluation forms
- Evaluation tests

Features

- Gathers all evaluation tools for the program
- Plans and implements the evaluation tools
- Determines and records data from the past and present
- Monitors the progress of students, faculty, and program
- Reviews the curriculum
- Gathers input from students and faculty on course success
- Analyzes all input data, compares each period, compares students with others, students with other institution's students

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Program Adaptation

Faculty

Student   **Staff**

Board

Assessment Team

- Interviews
- Evaluation Form
- Assessment Test

Collective Data

Analyze

Report

Improve Assessment Program

Illustration: Assessment Program

Promotion & Relationships

Good promotion and strong relationships are fundamental building blocks in a program's reputation and credibility. Promulgator is set of systems that promulgates information about the program and builds its through several media. Contact Tracker retains records of useful media and press contacts. Liaisons is a human organization inside the program that serves as a link between external individuals and institutions and internal human resources. The Communication Strategy Builder helps build media campaign programs and promote the program to the public. Polyzign Drinks is a monthly networking and educational event for people interested in policy design that is open to students, alumni, professionals, and the public.

System Elements

Communication Strategy Builder

Contact Tracker

Liaisons

Promulgator

Polizign Drinks

Promotion & Relationships

Communication Strategy Builder

EPDS should take the program to the public once all compelling features are established. It takes a lot of effort to be most effective in terms of introducing and communicating the EPDS program to the public and for students to grasp their first intent and impression. There should be a strategic communication plan for preparing, developing and managing the entire regime of promoting the system to ensure the program's success.

Communication Strategy Builder (CSB) is the system that helps to plan, implement and manage the communication system of program in order implement the initial program to the public. Also, **CSB** comprises of three components: **Communication Protocol**, **Timeline**, and **Buzz Builder**.

Communication Protocol is the communication platform for **CSB** to determine how to implement the communication campaign to the public. The protocol allows **Buzz Builder** to work with the protocol. The protocol will provide the plan from the introduction stage through the implementation stage.

Communication Protocol will guide what to do after creating compelling features in the planning steps. The protocol will provide a communication blueprint in order to promote the program to the public, and give instructions as to what Buzz Builder has to accomplish during the early stages, what promotion channels and material should be utilized, and what partnerships with government departments and organizations should be developed.

A timeline will be included in the Communication Protocol Plan in order to set short term and long term goals of the communication strategy.

Buzz Builder is a team of people who draw attention to the program by communicating messages to public and media. **Buzz Builder** will utilize the Strategy Builder Tool for building reputation and spreading the messages about the program.

Properties
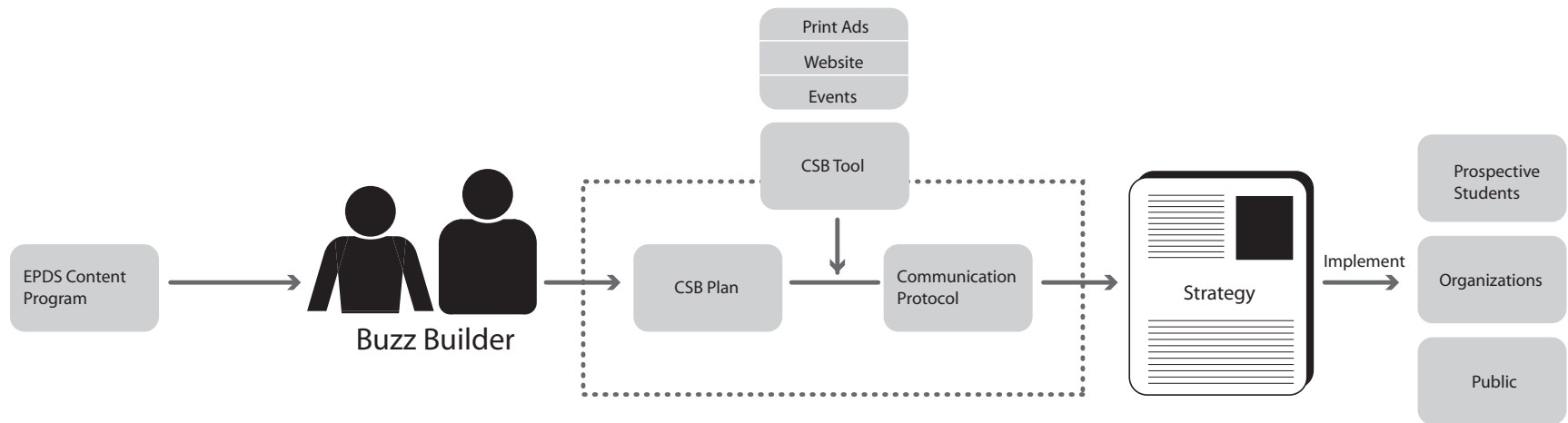- Database protocol
- Promotion tools
- Teamwork

Features
- Identify promotion tools to propaganda
- Plan short and long term goal of promotion program
- Schedule time to implement the campaign program
- Implement campaign program to public
- Evaluate the campaign success
- Record the history of campaign program

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Promotion & Relationships

Print Ads

Website

Events

CSB Tool

EPDS Content Program

Buzz Builder

CSB Plan

Communication Protocol

Strategy

Implement

Prospective Students

Organizations

Public

Illustration: Communication Strategy Builder

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Promotion & Relationships

Contact Tracker

Contact Tracker is a contact team helping to keep records of people and an information management system to record past and present contacts. This software prevents the loss of key information whenever the person who works in that role leaves. The software can be accessed via The Brain.

Contact History is the software database that records past history of each person in Contact Tracker, describing when they contacted the program, for what purpose, who was in charge of it, and includes former address and companies.

Another component is Contact Information. This software tool allows people to search for any address and organization relating to the EPDS program: current students, alumni, faculty, staff, business contact and emergency information. This software allows people to edit and update their personal information. They can select either to show their detail profile for public or keep only private. Also, they can send and receive mail by a software called Contact Mail.

Students are able to search for alumni, current students, faculty, staff, and personal information and emergency contact information. Faculty are able to search in a business context, such as project partnerships and sponsored companies. Staff are able to search and edit all data in contact information and business contact detail sections.

The other component is Tracker, a team who works on keeping contact data, personal and business information of people who cooperate with the EPDS program.

In order to track personal information, Tracker can check each contact from the contact lists; they can send mail and request further information.
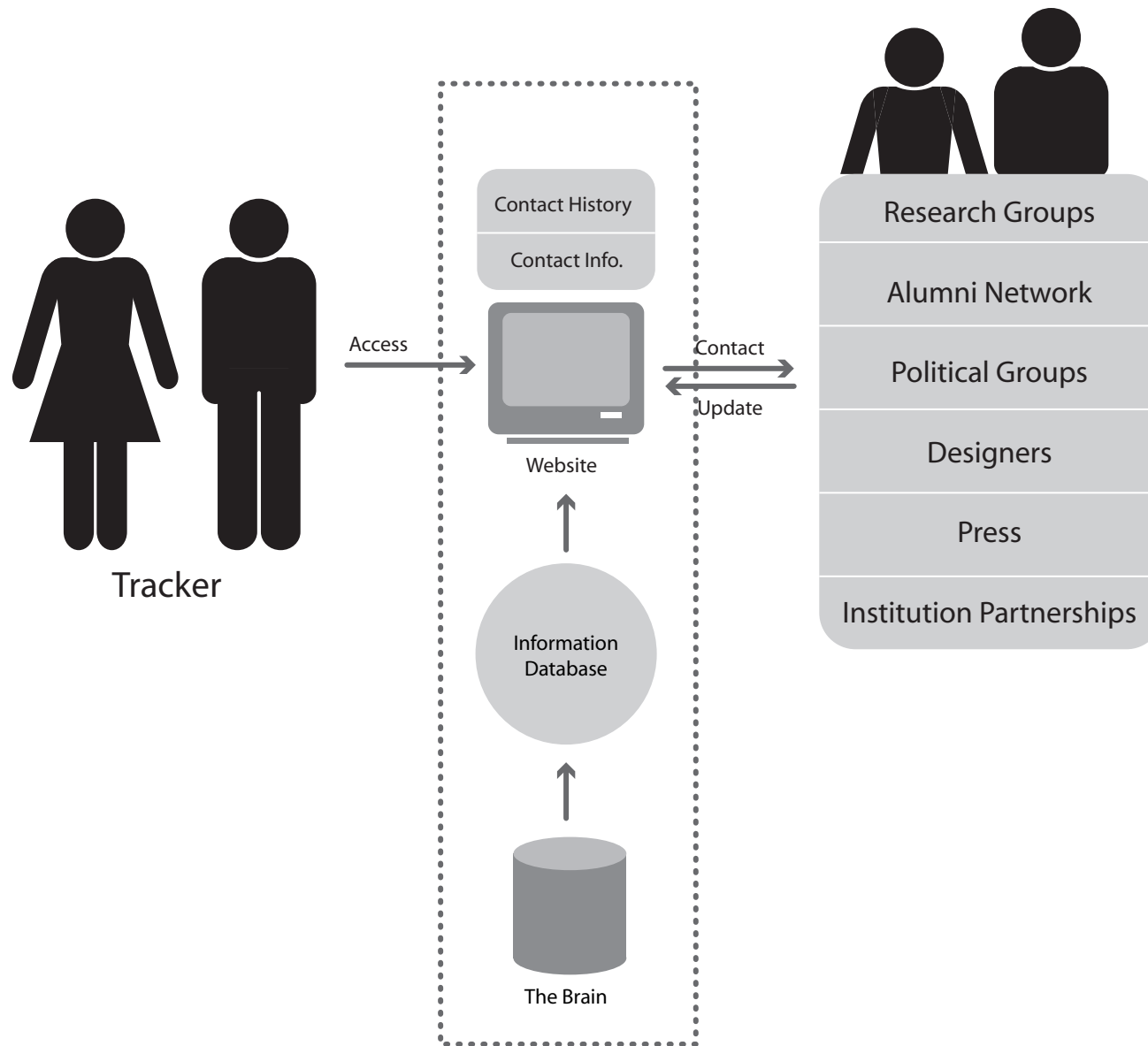
Properties
- A web-based database
- A database to keep record of old contact history
- A database to keep record of current information, status, involvement
- A database of potential future contact lists

Features
- Keeps records of current and former contacts
- Records the current contacts: partnerships, organization, people, alumni
- List all the names of potential contacts

Promotion & Relationships

Tracker

Access

Contact History

Contact Info.

Website

Contact

Update

Information
Database

The Brain

Research Groups

Alumni Network

Political Groups

Designers

Press

Institution Partnerships

Illustration: Contact Tracker

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Promotion & Relationships

Liaisons

The state of relationships between the program and its partners is often attributed to the people who manage those relationships. A person or team must be designated or dedicated to ensure clear lines of communication and control of these relationships.

Liaisons is a human structure that seeks to ensure a smooth interconnection between the program and the external resources in a variety of collaboration formats.

Its main tasks are:

•   Professional matchmaking. Liaisons possess the knowledge and understand EPDS as well as an understanding of how potential partners can provide a mutually beneficial relationship. A capabilities assessment of both parties and the evaluation of ways of working results in better collaborations.

•   Relationship management. Ensure the fluent communication and tracking of projects, keeping the project on track and ensuring the accomplishment of goals that were described on its constitution.

•   Communication facilitator. Serve as a reliable point of contact between the program and partners.

•   Relationship evaluation. Liaisons serve as relationship evaluators relationships because they see them firsthand.

The characteristics of people working inside the "Liaisons" are high interpersonal skills, project management, and academic expertise.

Properties

- A group of people with excellent interpersonal skills
- Has an understanding of both internal members and external players
- Knowledgeable about contact persons in policy-related organizations
- A team with combined expertise of public relations, project management and academic expertise

Features

- Facilitates the connection between inner community and organizations
- Considers best matches for working in interinstitutional projects (internal - external)
- Manages inter-institutional projects
- Evaluates relationships

Promotion & Relationships

Education for
Policy Design
Synthesis

Liasions

Organizations,
Institutions,
Companies
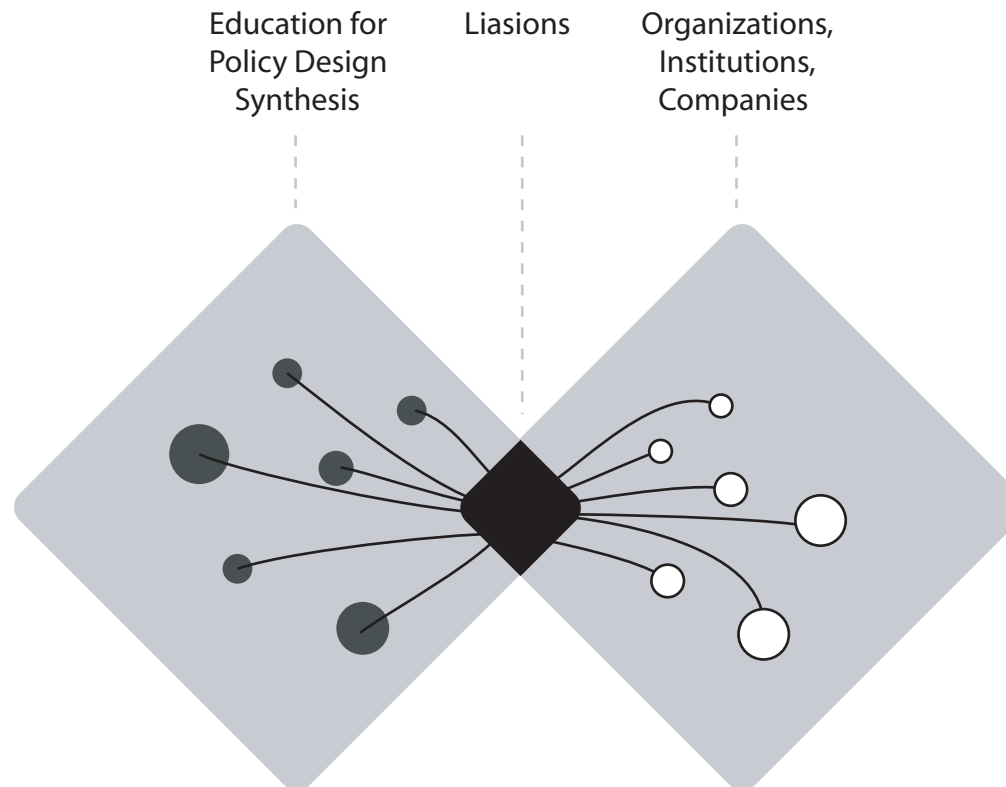
Illustration: Liaisons

Promotion & Relationships

Promulgator

After implementing the program to the public, Education for Policy Design Synthesis should make the official announcement of the program in order to promote the program's value and build prestige of the program worldwide. This activity is essential in terms of reflecting the program's progress. To grow prestige, the EPDS has to execute a campaign continuously and efficaciously. Coordination with the Campaign for Policy Design Synthesis can also increase awareness and prestige.

Promulgator is the toolset designed to help build the reputation of the program. Objectives of promulgation are both short and long term.

The **Promulgating Team** is a group of people working on a promulgation program from the beginning to the completion of a set of procedures. They have to be involved in sharing information and coordinating with Buzz Builders who work in or with the Communication Strategy Builder Team.

The **Promulgating Team** has to set the plan for both the short and long term to accomplish the promulgation process. To set the plan, the team has to identify contact lists, people from governments, partnership, and other institutions. They can use the lists from **Contact Tracker**, that provides all contacts. To host events, the team members have to coordinate teams and provide place, manage the events and find a facility for guests. Team Members have to select channels of publication and distribution works for students and faculty. In addition, members have to evaluate the success of the team and events.

Promulgator provides tools called Beneficial Partnership Tool. Found in the Promulgator database, this software identifies how to build prestige through developing and maintaining strong relationships with partners. The software covers partnership building, planning timelines, managing promulgation program, hosting events such as conferences and exhibitions, and selecting publications of student and faculty work.
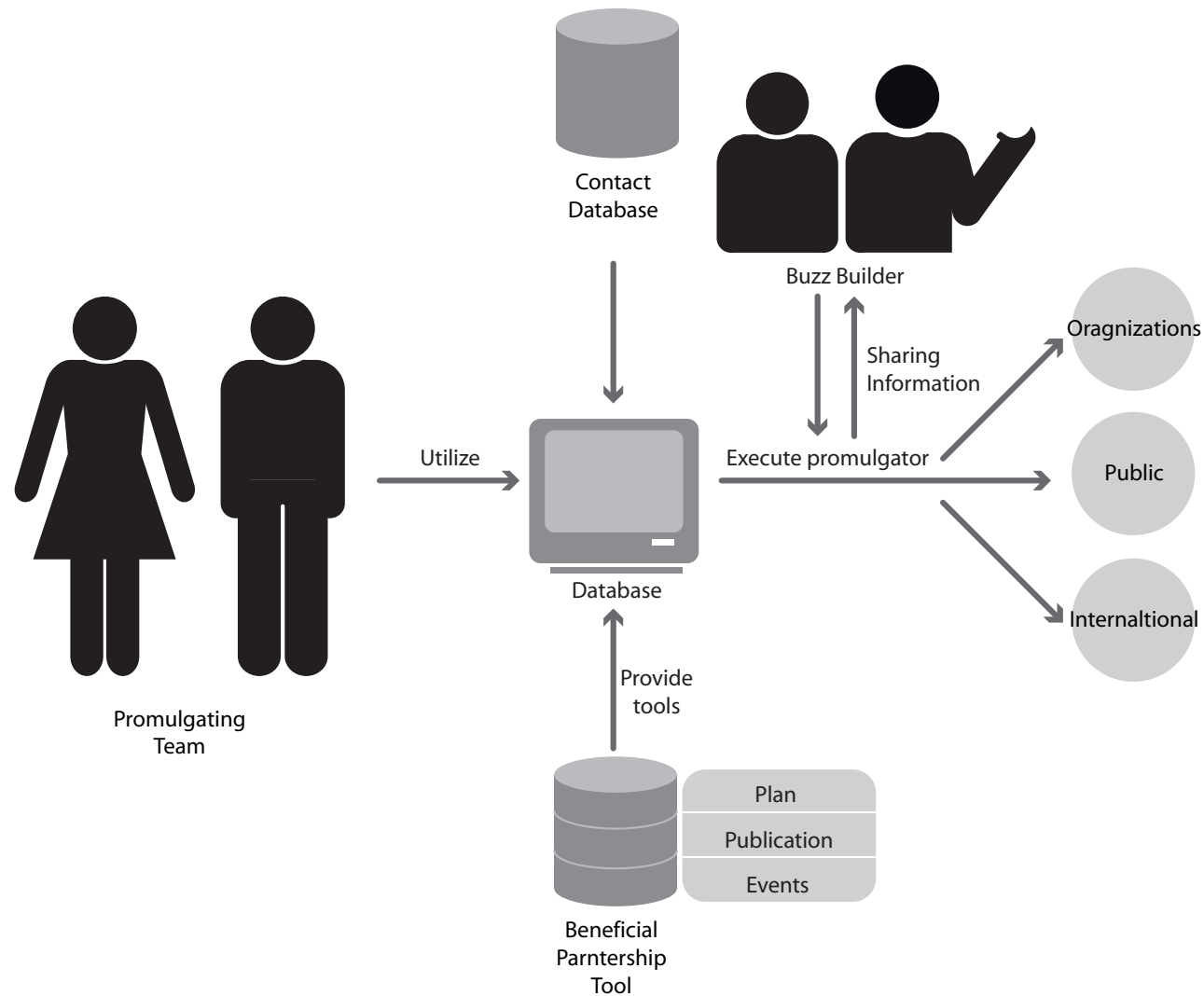
Properties
- A database to plan, manage, and implement promulgation program
- A team of people who work on continuous promulgation
- A tool to collect all datas and record of partnerships and success

Features
- Determines how to promulgate
- Creates plan of short and long term promulgation goals
- Implements the plan through campaign program
- Hosts events
- Qualifies and checks speakers
- Determines program schedule
- Evaluates progress

Promotion & Relationships

Contact Database

Buzz Builder

Promulgating Team

Utilize

Sharing Information

Database

Execute promulgator

Oragnizations

Public

Internaltional

Provide tools

Beneficial Parntership Tool

Plan

Publication

Events

Illustration: Promulgator

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Promotion & Relationships

Polyzign Drinks

Polyzign Drinks is a forum for designers, policy makers, and other related professions such as students, alumni, and faculty to get together every month at a venue, such as a restaurant or bar, to socialize, network with professionals in their field, and learn about the current events of the policy and design community. Organized by student volunteers in the EPDS Program who belong to the **Polyzign Network**, these outings would occur during the week or after work hours so that professionals and students can both attend.

The cost of **Polyzign Network** events would be nominal to help pay for the space and some of the food. A brief cocktail hour and snacks would be followed by a short presentation or panel discussion regarding a topic of interest or in the recent news. Experts can be invited to participate in these panel discussions. Members of this group have access to resources and connections within the **Polyzign Network** to ask questions or pose interesting working topics that could continue on a forum online at **Polyzign Online Resource**.

An information table at the event may include a calendar of future events, white papers on interesting new topics, a newsletter, a signup sheet for new members, as well as brochures from members' organizations. An email listserv and a website would be the primary communication tools to inform members of upcoming events and news, which are pulled from the **Contact Tracker** and **Alumni Network**. The website would be kept up to date to inform people of upcoming events, store an archive of previous discussions and presentations, and provide a forum for questions and feedback. Since the organization is made up of mostly volunteers, funding-raising would be required and may include sources such as sponsorships, advertisements, and donations.

Before and after the event's presentation or panel discussion, there will be an opportunity for people to network and make new contacts with people in their fields. Lively discussion and interaction with people that share the same interests build relationships that increase learning and understanding among those in this industry. Contacts made during these events can lead to future collaboration opportunities or potential new business. Extending the network of contacts beyond those who work in policy design can help those outside the community learn more about the field.

Properties
- Networking event for those looking for the policy and design communities
- Repository of business cards for attendance tracking
- Bulletin email service
- Information table for display of events, news, and brochures
- Informative panel discussion with experts from a variety of policy design related fields
- Open discussion of topics of interest
- Website with information about events and contacts

Features
- Enables socializing in an educational setting
- Facilitates resource locating and matching
- Shares information for upcoming events and news
- Promotes continued education regarding current issues in design and policy
- Creates a community for people in the field

Promotion & Relationships

Promotion & Relationships

Anyone from the public can attend Polyzign Drinks if they are interested in the topics discussed. Those not in the policy design field may learn new things from the Polyzign Drinks that they may be interested in incorporating it into their work.

Polyzign Online Resource

Polyzign Online Resource is a website that contains event listings, contacts within the Polyzign Network, recap of events, discussion areas, and articles and information on current issues related to policy design.

Scenario. Michelle had just moved to Chicago to take a position with a startup design consulting firm that focuses on providing its services to the public sector. She was somewhat nervous about taking this job because it was far from her family and friends, and she did not know anyone in the city. After one month at the new job, Michelle was exhausted. She knew that working for a startup would be hard, but she did not realize that a startup in the field of policy design would be exponentially more difficult.

One day, Craig, a coworker, forwarded her an email regarding an event being held the following evening at a neighborhood pub right around the corner from her office. Craig was a graduate of this new policy design program in Chicago. The email he forwarded was from the school's alumni office. The event, **Polyzign Drinks**, was a monthly get-together for people interested in design and policy. There was a panel discussion planned for tomorrow night with a few professionals talking

about design and education policy, something that was related to a project that Michelle was working on right now. Michelle decided to stop by the next night.
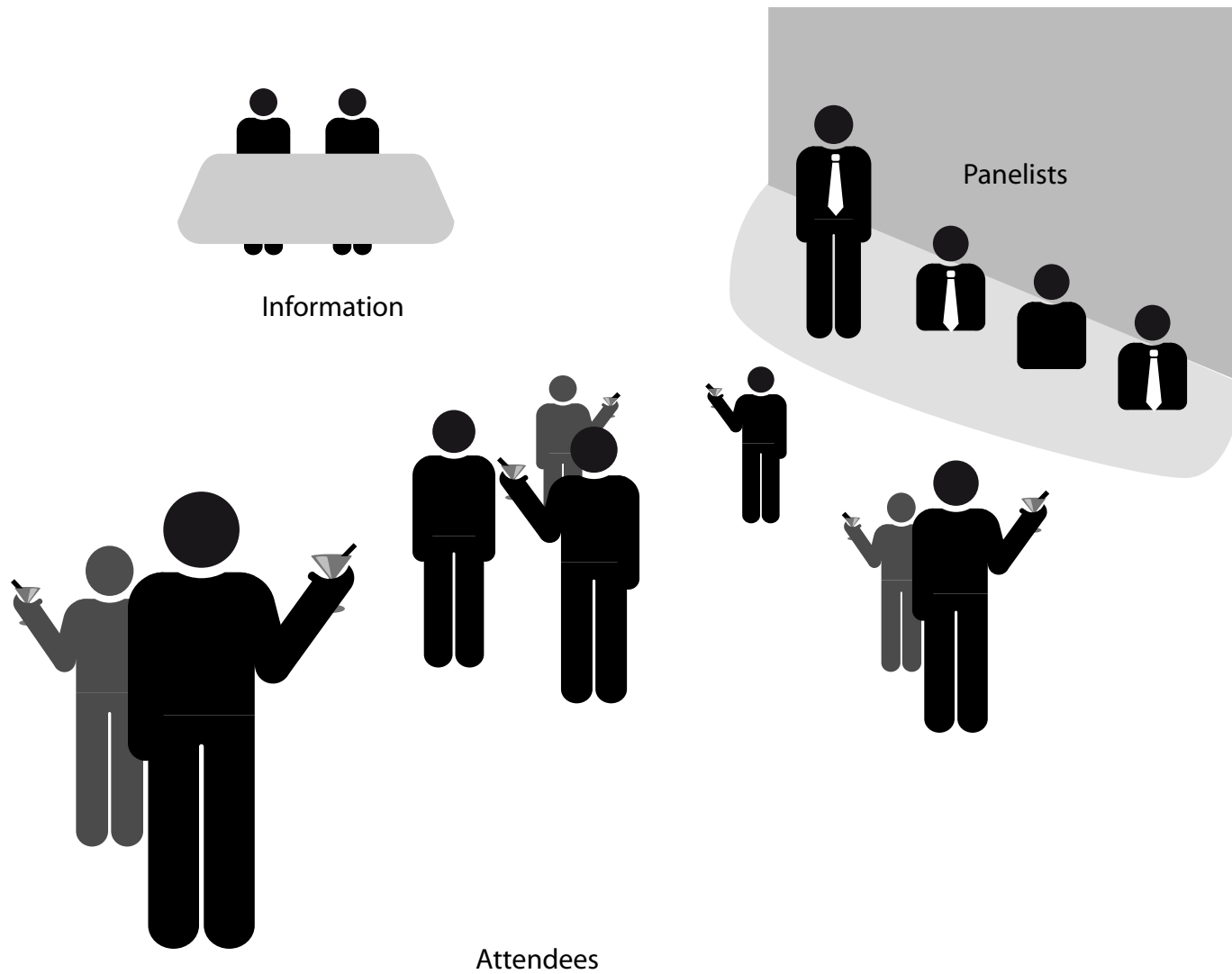
After work, Michelle and Craig walked over to the bar for **Polyzign Drinks**. They walked in around 6pm and met Tom, the organizer of **Polyzign Drinks**. He introduced himself to Michelle, put her business card in the business contact box, and had her fill out a form with her email and contact information so that she could be contacted directly about future **Polyzign Drinks** and other events. While, Michelle and Craig grabbed a beer and some snacks, they met Mark and Brian. Mark was a designer who worked for a sustainable product design company. Brian was a policy consultant working for the City of Chicago. They were talking about the city's new recycling program.

At 7pm, the panel discussion began. On the panel was an executive from a well-known design policy consultant firm in Washington DC, a professor from the design policy firm, and the superintendent of schools for Chicago. Michelle listened to the discussion intently and came away with more knowledge and a few more insights about the project she was working on. She was extremely happy to have found out about Polyzign Drinks.

After the panel was over, Michelle walked over to the professor and the superintendent and asked a few questions regarding the topic. She also met a few other young professionals her age that lived in her neighborhood. They agreed to meet up for drinks the following weekend. Michelle finally began to feel like she was settling down in her new city and meeting people who were interested in similar things.

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Promotion & Relationships

Information

Panelists

Attendees

Illustration: Polyzign Drinks

Conclusion

Policy and design skills can be learned through professional experience. However, the structured, comprehensive approach of the Education for Policy Design Synthesis program will provide students with skills, knowledge and techniques to become confident policy design professionals. As ambassadors of design thinking, EPDS graduates may go on to work in a variety of government agencies, non-governmental organizations, consultancies, and the private sector to create better, more effective policy.