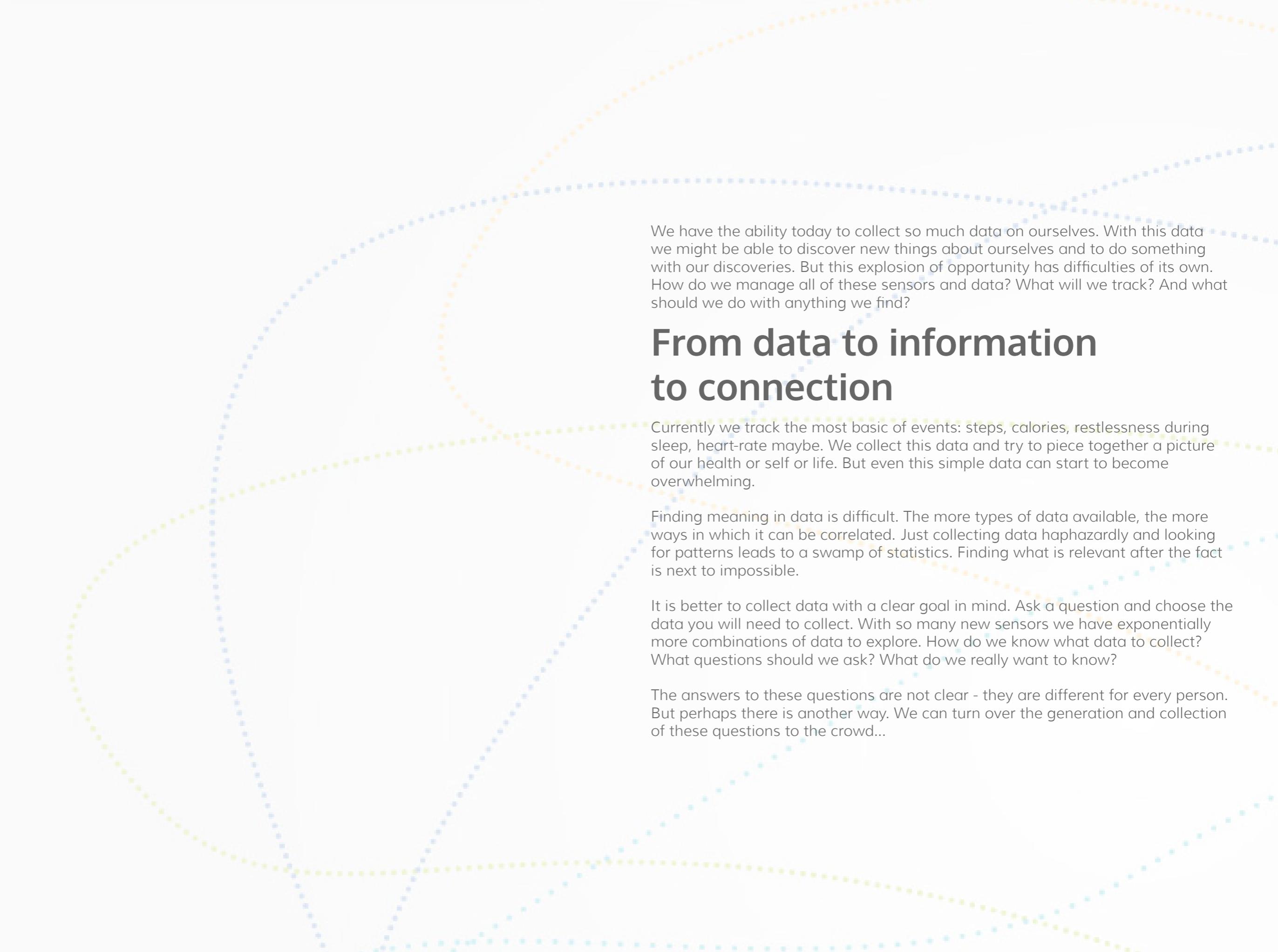
The background features several overlapping, curved dotted lines in shades of blue, orange, and green, creating a dynamic and abstract pattern. The lines are thin and composed of small dots, giving the background a textured, digital feel.

Explore the Quirky World of Self-tracking Experimenters



We have the ability today to collect so much data on ourselves. With this data we might be able to discover new things about ourselves and to do something with our discoveries. But this explosion of opportunity has difficulties of its own. How do we manage all of these sensors and data? What will we track? And what should we do with anything we find?

From data to information to connection

Currently we track the most basic of events: steps, calories, restlessness during sleep, heart-rate maybe. We collect this data and try to piece together a picture of our health or self or life. But even this simple data can start to become overwhelming.

Finding meaning in data is difficult. The more types of data available, the more ways in which it can be correlated. Just collecting data haphazardly and looking for patterns leads to a swamp of statistics. Finding what is relevant after the fact is next to impossible.

It is better to collect data with a clear goal in mind. Ask a question and choose the data you will need to collect. With so many new sensors we have exponentially more combinations of data to explore. How do we know what data to collect? What questions should we ask? What do we really want to know?

The answers to these questions are not clear - they are different for every person. But perhaps there is another way. We can turn over the generation and collection of these questions to the crowd...

What makes an Experimenter an Experimenter?

Rather than tracking themselves in hopes of creating a better life or higher performance, or motivating themselves by setting and meeting arbitrary goals, Experimenters are motivated to self-track because they are curious. They may want to answer some obscure questions about themselves or they may simply be curious to see if such questions are answerable. They believe in a better world through technology and want to be the first ones there. They don't want to miss an opportunity to take advantage of technology to make themselves better.

○ Experimenters are **optimists**

Experimenters believe that someday soon there will be a device or service that will help them make sense out of their data. Their data will be valuable then, at some future date, to answer an important, unasked question. For this reason experimenters hoard data. Collecting it for that later, as yet unknown, use.

○ Experimenters are **self-motivated**

When a typical Experimenter has a question, he is motivated to research it. When he has a question about himself, he will look to discover an answer to it. Sometimes these questions can be quite creative.

○ Experimenters are **technically savvy**

Experimenters are comfortable in the use of the latest technologies. They often have knowledge or experience in statistics, computer coding, or electronics. They are on the leading edge of the adoption curve. They are comfortable with messy data and interfaces, and are willing to work to create their own solutions.

○ Experimenters are **curious**

Experimenters are a quirky crew. They seek to measure anything. They don't always have a plan for the data. They just want to know. This curiosity shows some of the deeper motivations for their habits. The Experimenter is less concerned with whether he gains useful information about himself than with learning in general. Even if his experiment fails he wins, as long as he has learned something in the process.

"It'd be fantastic to bring in correlations of daily barometric pressure, phases of the moon. Who knows what's going to play into this, right?"

- Brian



Listen to Experimenters

Guided by our general characteristic outline, we found and interviewed five different people that we identified as experimenters. Each interview highlighted different aspects of the experimenter mentality.



"I heard about the quantified self movement and I thought this is made for me ... I thought it would be this little fringe group of unique individuals like myself."

-Scott

"I designed these eight-minute cognitive tests that I would take at the exact same time every day."

- Elizabeth



"I'm still starting out ... Coming to this [QS meetup] gives me more motivation."

- Ilan

"I had a bunch of different pictures on the screen, they were all of sad faces, and one was a happy face, and I would try to rapidly click the happy face."

-Adam



Three Types of Activities

We found that while the experimenters have shared general characteristics they also demonstrate a variety of needs and mental models within their group. Our insight is that there are three ways experimenters experiment: some *build* their own work, while others *search* out the work for their own use, and still others *branch* out from existing work.

Building

Creating a way to answer a question and then gathering and combining all of the pieces to make it possible to answer that question repeatedly. It involves selecting data sources, and deciding output method, among other things. It ends with the presentation of your findings.



Building

The "Recipe"

We define "Recipes" as the work experimenters share within the community.



Recipe



Branching

Branching

Customizing an existing recipe to make something custom to your needs. It begins with searching for and possibly using a recipe, and ends with building your own custom solution.



Seeking

Seeking

Either looking for recipes that can be modified for your needs, finding ways to mix and match your current data sets, or simply looking for a recipe to use for yourself.

Three Types of Activities

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Needs

- Reduce learning time
- Easy to iterate
- Reduce waste of data
- Easily find relevant methodology



Building

Share



Branching

Needs

- Ability and knowledge to design reasonable experiments
- Build on someone else's experiment
- Help to initiate experiments

Share



Seeking

Needs

- Find correlations and support
- Articulate needs through questions
- Make use of their data
- Expand tracking scope

Quantified Self Meetup

A model of our service can be seen in the Quantified Self meetup. A QS meetup is a gathering of trail-blazing self-trackers who make their own tracking experiments. At a meetup several people present their current activities and get feedback from the community. Everyone learns about new methods and gets ideas for data that they might collect.

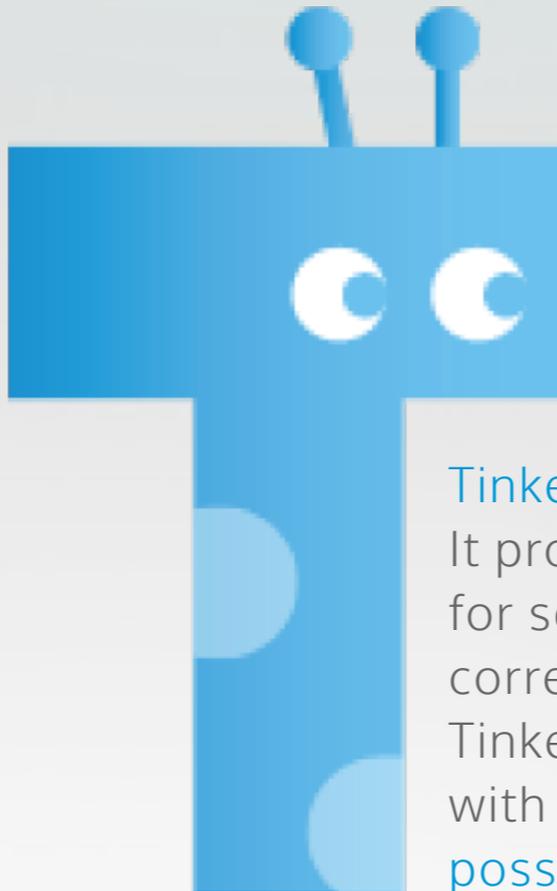




How might we support a community of
Experimenters **in creating and sharing
their recipes?**



Form a question, find an answer, share it.



[Tinker.it](#) is an online self-tracking data aggregator. It provides a platform for people to create services for self-tracking sensors. In addition to aggregating, correlating, and visualizing a user's tracked data, Tinker.it provides a community of like-minded people with whom you can [share and explore new tracking possibilities](#).

○ Search

Find useful recipes or new knowledge on how to make them.

○ Make

Make the service that you wish you had for your self-tracking sensors.

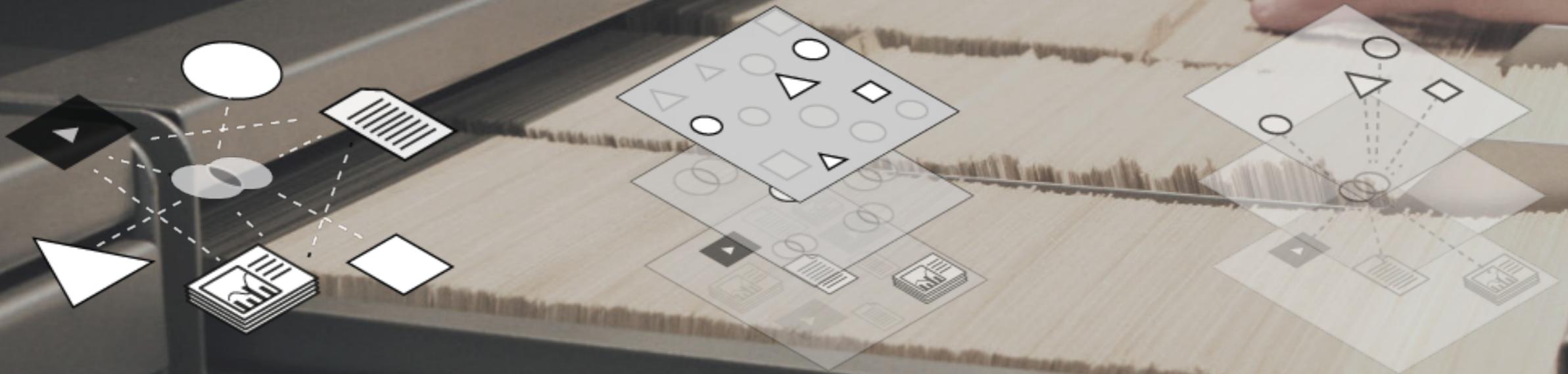
○ Journal

Share knowledge by answering questions or creating presentations about your recipes.

Core Feature: Searching

With the search feature you can seek out existing recipes, find devices or data types that feed into recipes, or discover methods and knowledge from the community's prior work on creating recipes.

How does it work?



Search is an interdependent activity.

Search between different layers of information.

Related components in different layers are also showed.

Core Feature: Making

You are provided with tools for creating your own recipes. Choose devices or data, collect and compare them, and create appropriate information output -- all in the purpose of answering your question. Digging deeper, you can code visualizations, run statistical analysis, or connect your recipes to the internet of things.

How does it work?



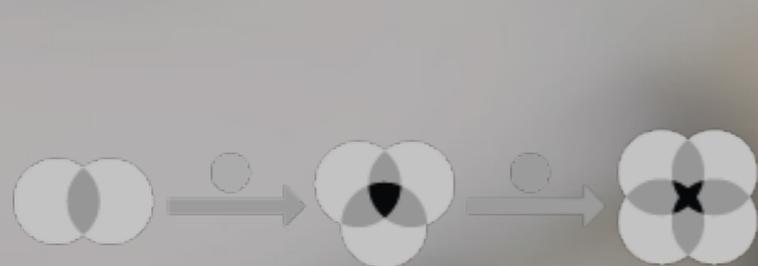
Building recipes

Branching out from recipes

Core Feature: Journaling

All of your activities are recorded on a personal time line. This includes: recipes used, questions and comments to the community, and your own recipes. Your progression made in experiments is automatically recorded and can be used to create a presentation for sharing or publishing purpose.

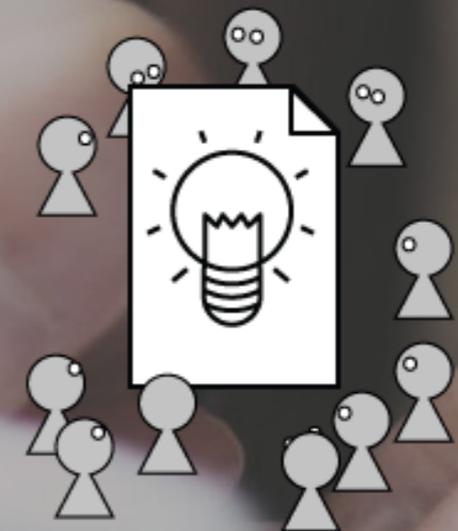
How does it work?



The experiment history helps keep track of iterations.



Results can be exported as presentation.



Experiment ideas can be made public for comment and feedback.

Dave's story

Based on a true story



Dave is a [self-tracker](#), who has been tracking and storing his running data for five years. He is also tracking other data like sleep patterns.

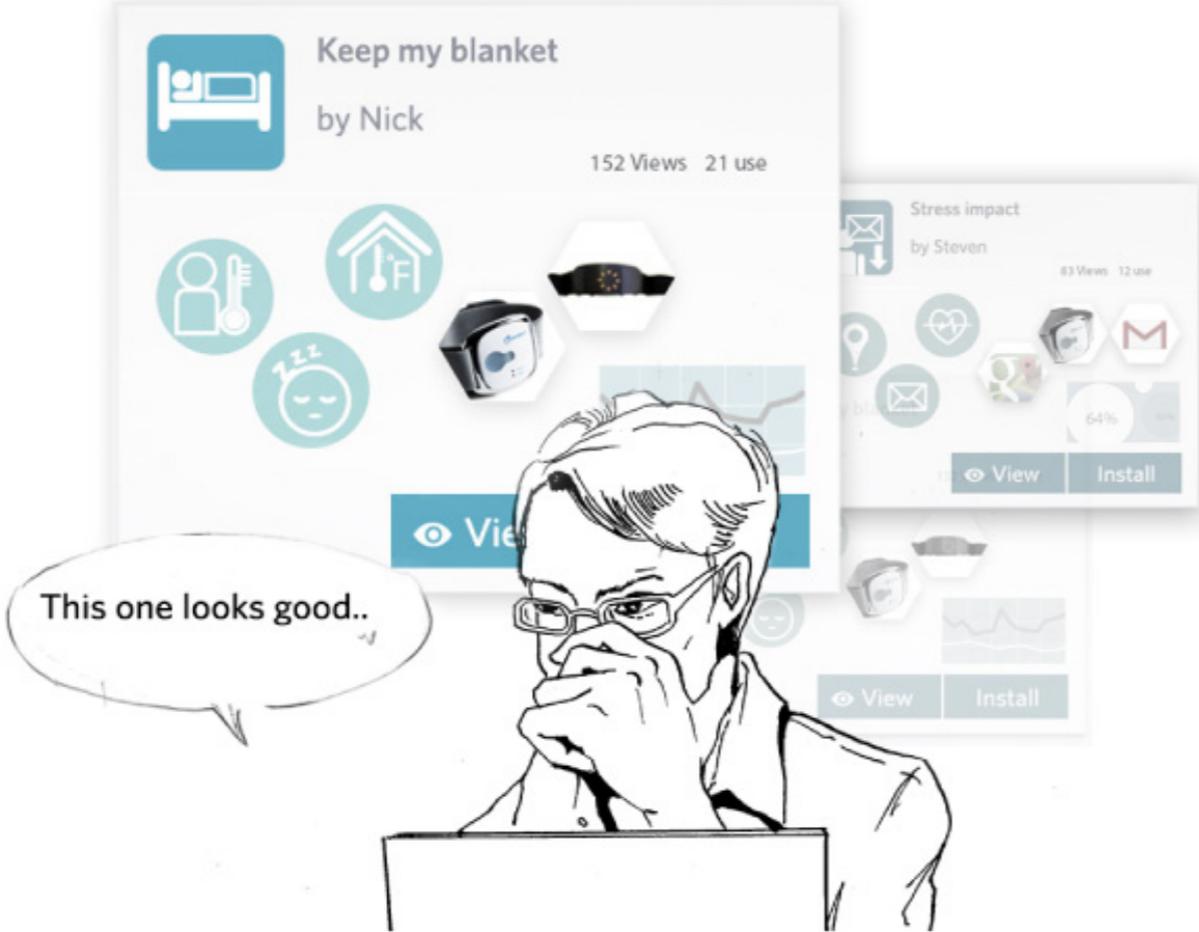


Dave has found that he has been kicking his blankets off at night.

As a self-tracker, he is wondering what he could do about it. He would like to know ["Why do I kick-off my blankets?"](#) and ["Can I find a way to show me why?"](#)

Dave's story

Based on a true story



He visits Tinker.it to see if there are recipes and ideas. He is eager to have a try at his "blanket puzzle."



He searches for an already crowd-sourced solution. He filters them by rank, devices, and time. Finally he finds one which was developed by Nick one year ago.

Dave's story

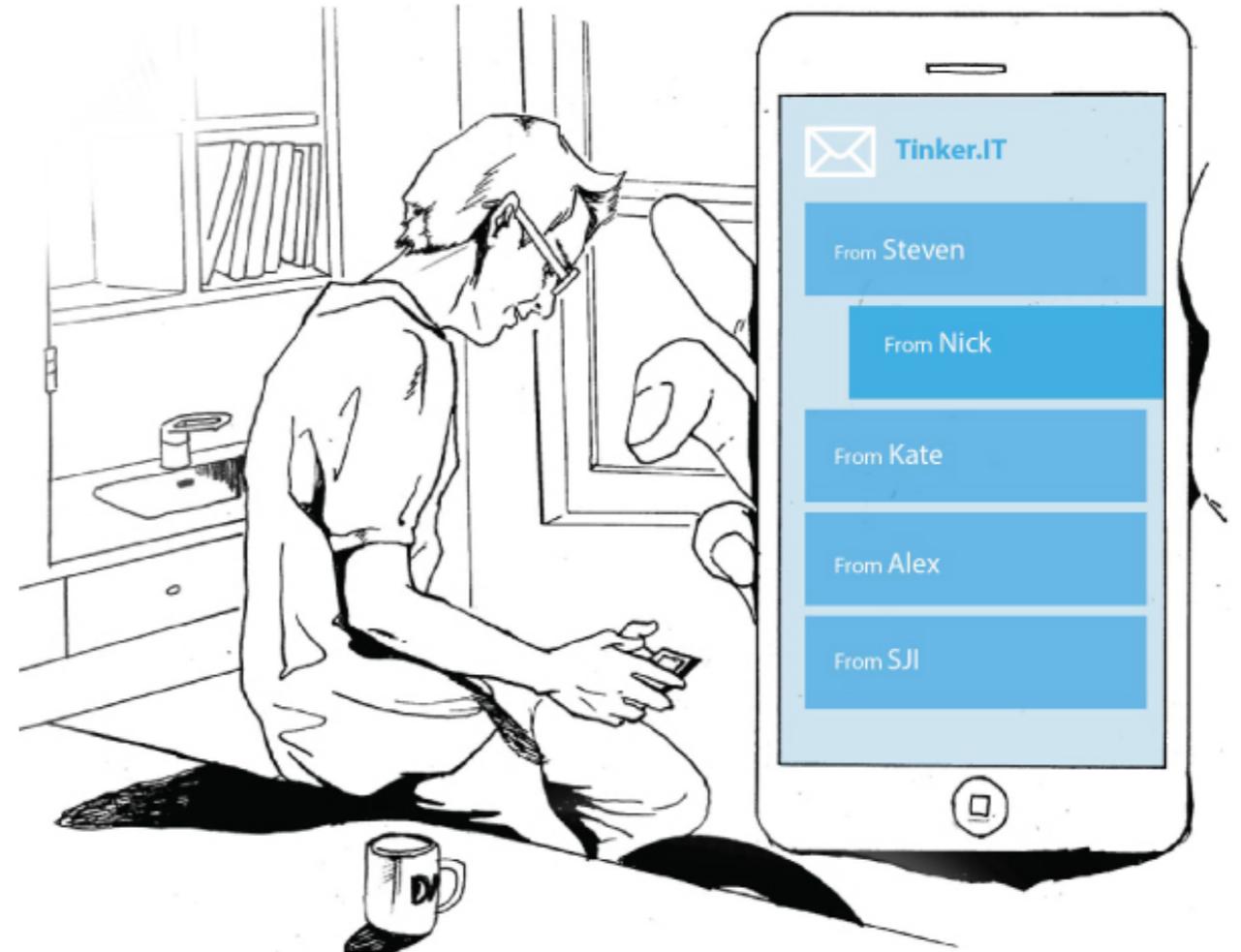
Based on a true story



Keep my blanket
by Nick



On Nick's profile page, he reads about Nick's reasons for creating the [Keep my Blanket](#) recipe, and his methods. Dave reads about Nick's other recipes and his general interests.



He connects his current sleep pattern tracking device to this recipe. For the body temperature, since Nick wrote his experiment several years ago, [could there be a better sensor to use today?](#)

He posts this question.

Dave's story

Based on a true story

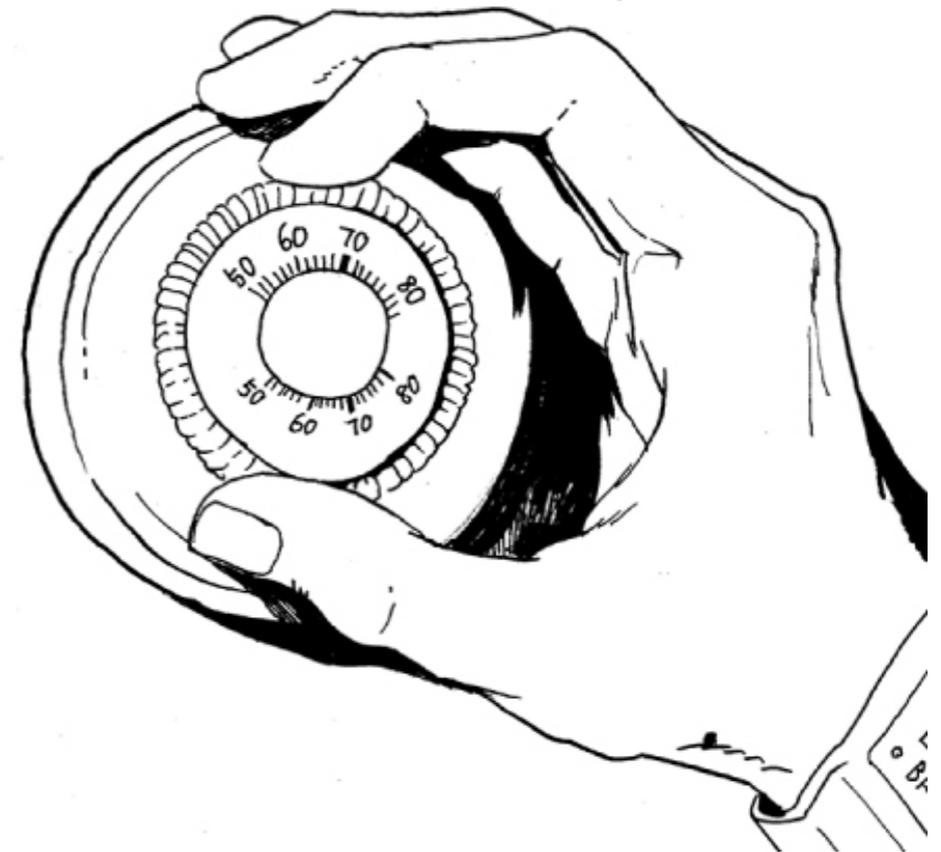


Keep my blanket



The next day several people have replied, including Nick himself! Nick suggests two options - buy an updated version of the first sensor he used, or buy a new device that tracks both sleep and body temperature together.

He finds a correlation between his room temperature and his body temperature.



That night he adjusts his room temperature.

Dave's story

Based on a true story



But now he feels cold in the early morning.



So he decides to add a real-time adapting function, linking his body sensor directly to his thermostat.

Dave's story

Based on a true story



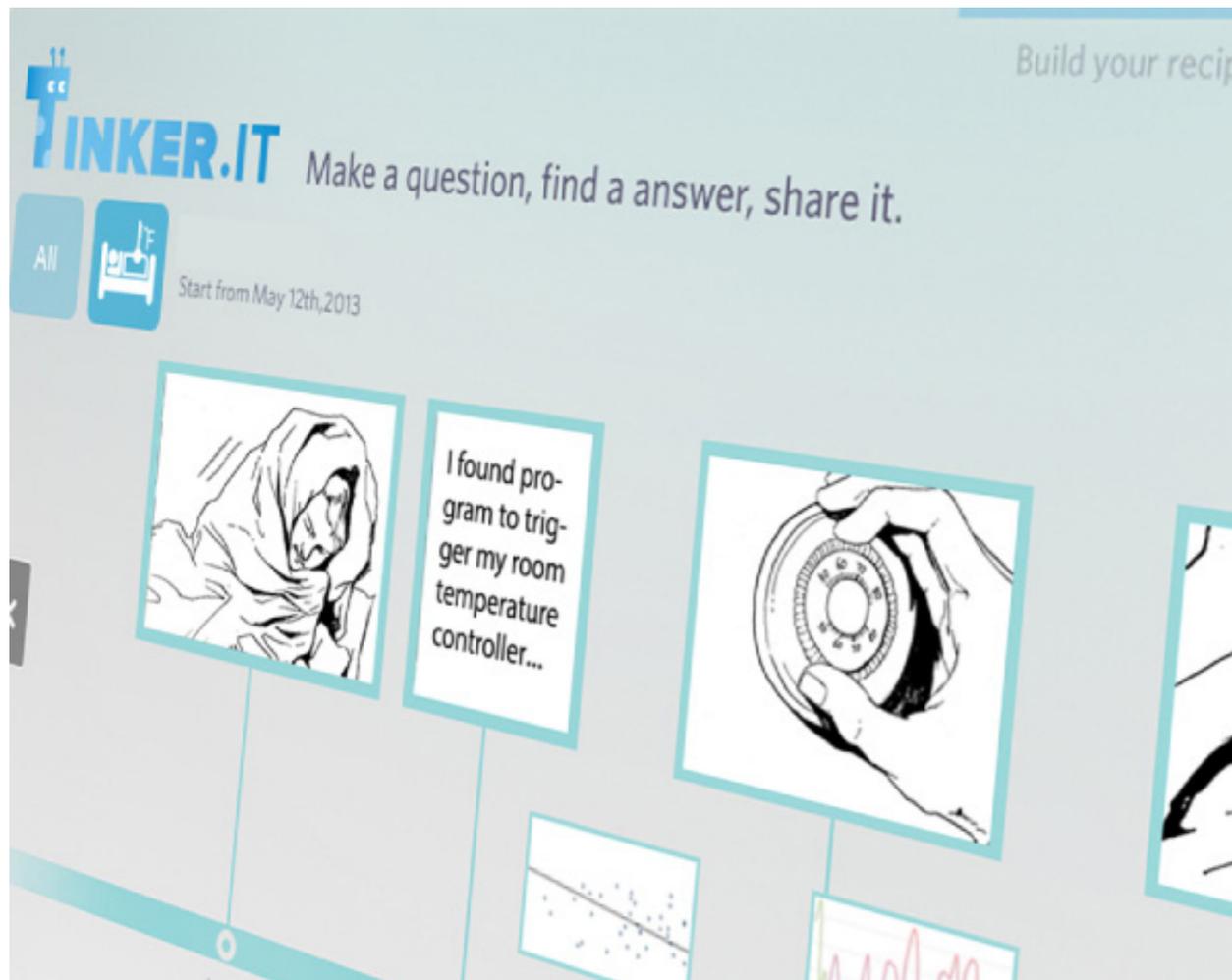
He starts by trying a different combinations. Then he looks into multiple techniques. [He adjusts his new recipe several times.](#)



Soon [his home thermostat adjusts to his body temperature and sleep patterns](#) and Dave is getting the best sleep of his life.

Dave's story

Based on a true story



He reviews his [time line](#), picks out some key moments to build a presentation on the next Quantified Self meetup. Other users who have the similar issues now can build on the result of his work: his new recipe - [Peaceful Sleep](#).



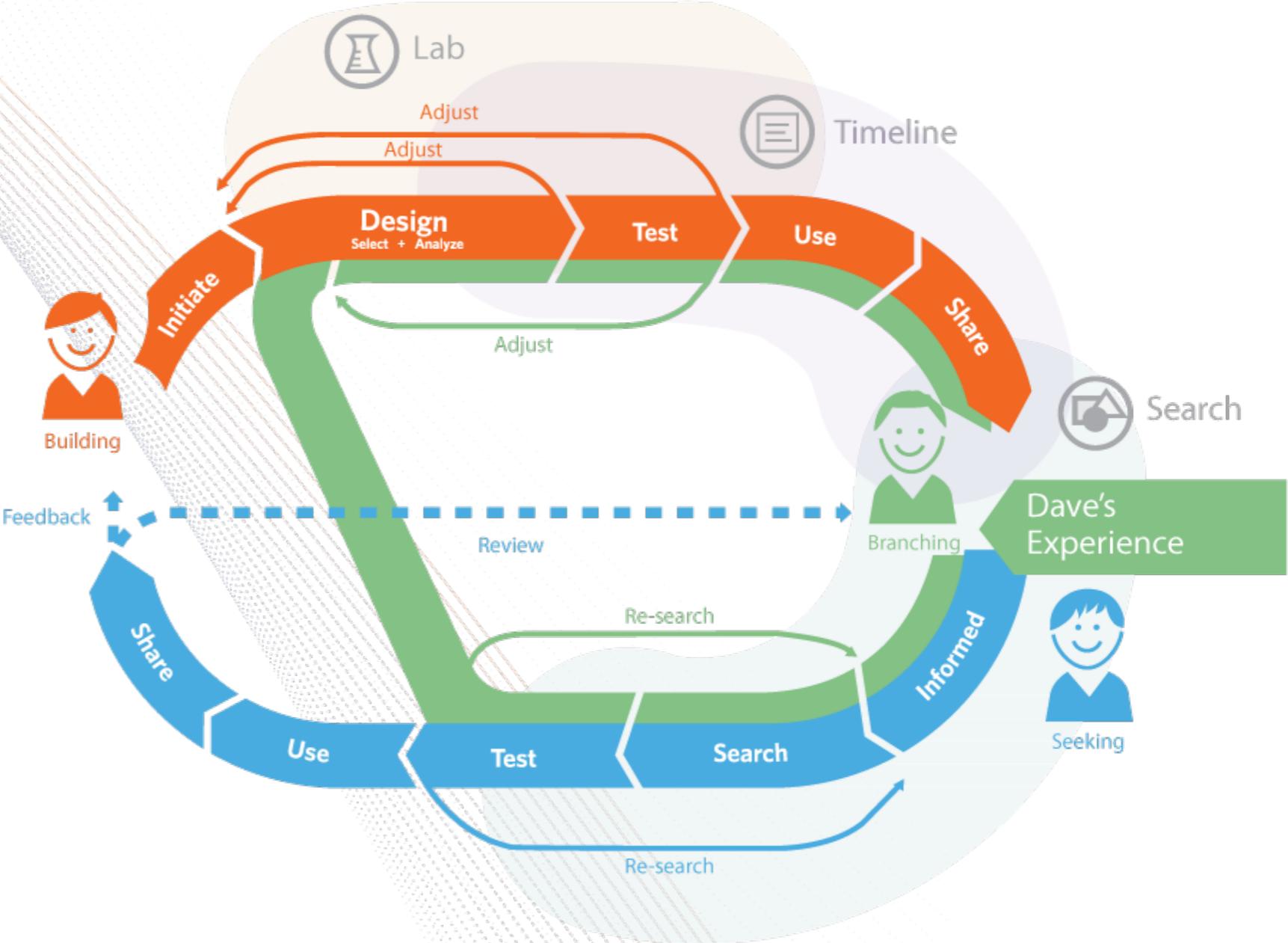
Later..

[Kate](#) has a similar issue. She kicks her blankets off at night. She finds [Dave's Peaceful Sleep recipe](#) and would like to improve it. She too is planning other applications as she gains experience.

The Tinker.it Experience

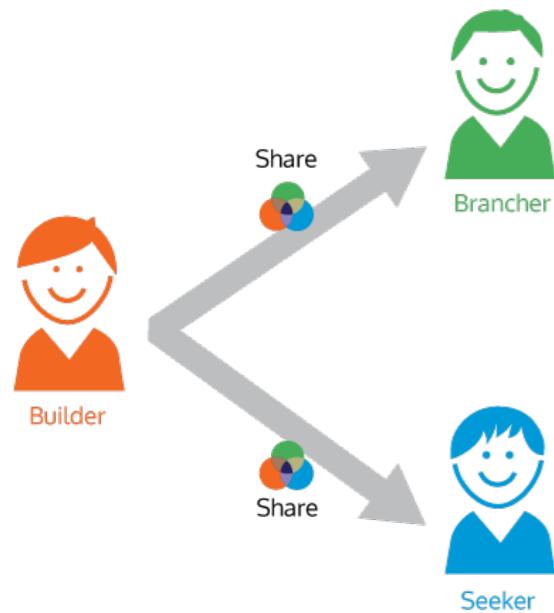
Through interviews and research with real QS experimenters, we identified key paths for different user scenarios. An experimenter might build his own experiment from scratch, or seek an existing solution from the community, or he may branch an existing design, modifying it to his needs.

As Dave's story shows, Tinker.it users can build a productive and engaging journey as they pursue their curiosity and questions. Tinker.it allows them to search for an existing solution or pose their question to the Tinker.it community. If a solution exists, they can copy or modify it to fit their own needs or tracking devices. Through use, testing and iteration, the designs constantly improve. And by sharing with the community, users build a collection of designs that grows to cover all unique needs.



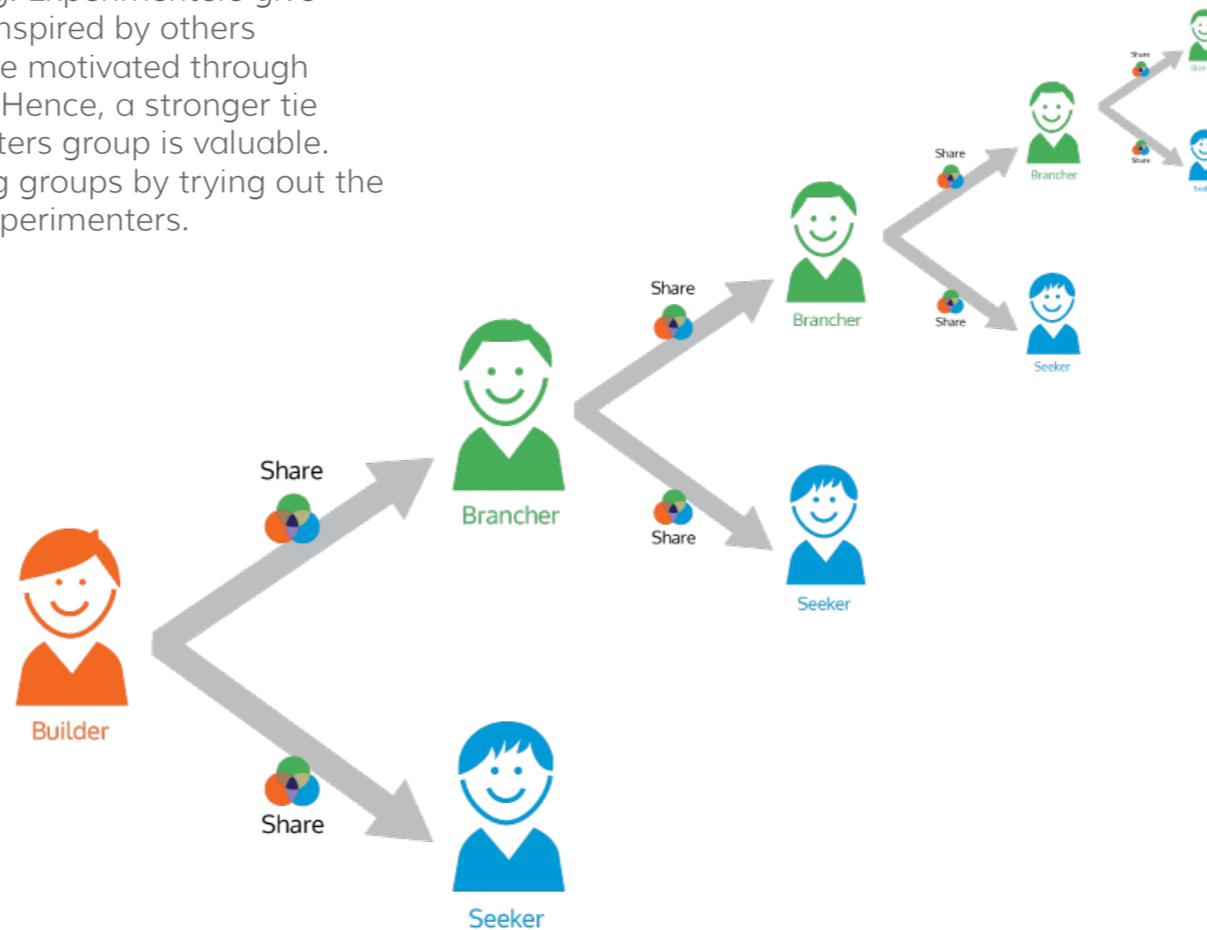
Value Proposition

Sharing plays a huge role in the process of experimenting. Experimenters give feedback to each other for improvements, and they get inspired by others presenting their work. Furthermore, the experimenters are motivated through accomplishments and reputations of what they've done. Hence, a stronger tie between the self-tracking community and the experimenters group is valuable. Experimenters better the experience of other self-tracking groups by trying out the novel solutions created by the innovative minds of the experimenters.



○ The Seed

The branching model is an important idea. It provides a structure for sharing between different using types.



○ The Extension

One recipe can be extended exponentially. Generating shared knowledge and providing for many.

Experimenters are the creative engine of the future self-tracking ecosystem



○ Tinker.it helps Experimenters by...

Tinker.it helps the self-trackers fulfil their curiosity by providing a flexible, easy to use environment for setting up and iterating on experiments. Our service ties deeply into the sharing mechanism of community such as gathering information, searching for innovative ideas, and presenting to the public.

○ Why is it important?

We created this platform for experimenters to play with their quirky ideas. What they develop and build will inform the future direction of the self-tracking device and service industry. And thus there are possibilities to benefit more groups beyond this small group, like consumer products and service, health care, scientific research, and so on.

Experimenters are the creative engine of the future self-tracking ecosystem



Individual

For the individual, Tinker.it reduces the work involved by creating a place to build on other's work and knowledge.

Industry

For industry, Tinker.it provides a place where future thinkers congregate, showing what the leading edge consumers want and generating ideas for new things.

Society

Tinker.it supports a community of people continuously experimenting on themselves and refining their experiments. The data generated here will be valuable to researchers. They can see trends in the aggregated data, revealing novel methods and successful results.

Tinker.it attracts Experimenters - with the kind of sharing community that they love. It is a place to better store and communicate knowledge, with better tools for creating their experiments. As a platform that grows with the contributions of its users, Tinker.it also provides value to everyone.

Explore the Quirky World of Self-tracking Experimenters

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Darren Gene Peterson, Hsin-Cheng Lin, Shiyi Li, Kim Erwin
January . 13 . 2014

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