

# User Research for Non-Researchers

Talking to Humans,  
It's Pretty Okay Sometimes

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Hi! I'm Jane Davis. I'm a user researcher at Dropbox, and I'm here to talk to you today about user research for non-researchers, because frankly I could use a vacation.



Image Source: Saatchi&Saatchi for the Sci-Fi Channel (<http://www.toxel.com/wp-content/uploads/2009/02/scih01.jpg>)

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User research doesn't have to be hard. It doesn't have to be time consuming. It doesn't have to involve a lab or fancy software. It requires two things: a good question, and real, live human beings. Today I'm going to give you a crash course in how to ask the right questions, how to find answers to those questions, and then we're going to bring it all together by walking through a research plan to evaluate how concurrency works in Python 2 versus Python 3. So let's get started!

Ask a bad question, get a useless answer

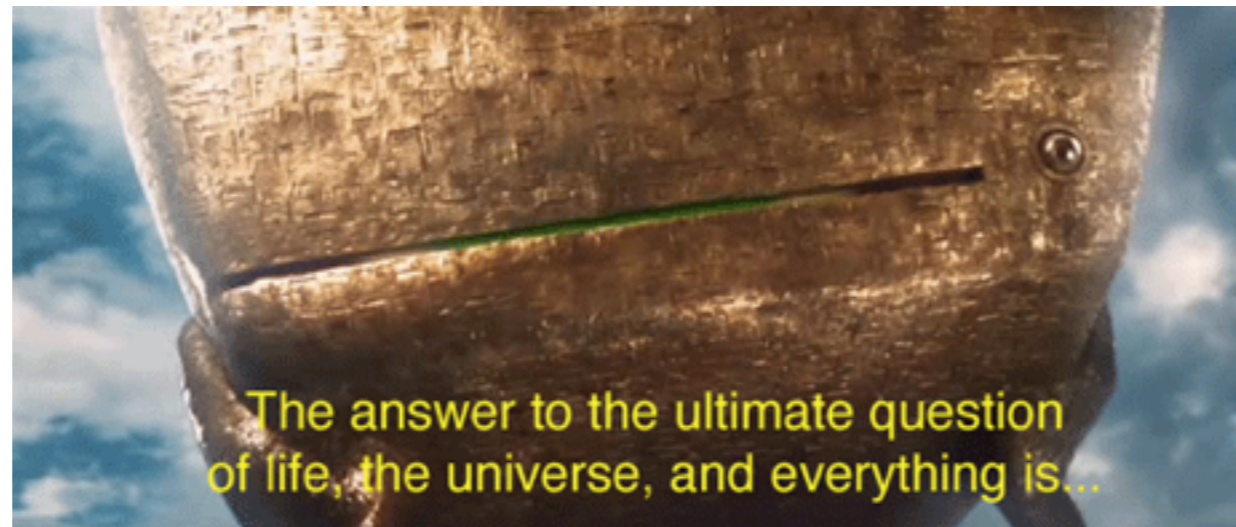


Image Source: Hitchhiker's Guide to the Galaxy, Touchstone Pictures

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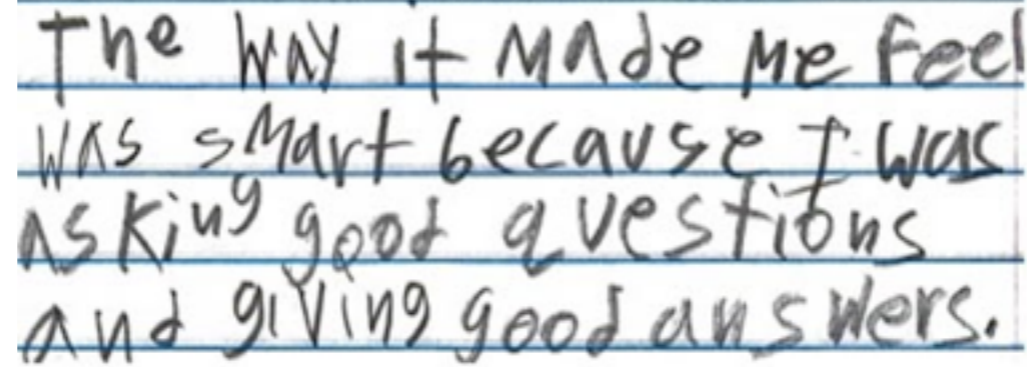
Let's start with the question. This is so, SO important. Before you even consider talking to human beings, you need to be able to state, in two lines or fewer, what your question actually IS. Until you have that research question nailed down, you aren't ready to do research.

This sounds a little weird, right? Like, the research is the question. The \*product\* is the question. How hard can it really be to come up with a good question?

Think of this like the ultimate question from Hitchhiker's Guide to the Galaxy. For those of you who are unfamiliar, two philosophers build a computer and ask it to tell them the answer to what they call "the ultimate question", which they define as, "Life, the universe, and everything". When they finally, millions of years later, get a response, it turns out to be "42". Because what, really, is the question in "Life, the universe, and everything"? This is why it's so important to ask good questions: otherwise you spend millions of years waiting for a giant computer to tell you something that's completely useless. That's kind of a worst case scenario, but it does illustrate the importance of coming up with questions that will give you answers you can DO SOMETHING ABOUT. I can't stress this enough: if you can't act on the information you're getting, there's no point to getting that information.

At base, the point of user research is to improve people's lives, even by just a little bit. We do research to find problems that we can solve for our users, whether it's something small, like making it easier to find a checkout button, or something big, like making it easier for people to get government assistance. When we solve problems for people, we're trying to take even just a little frustration out of their lives. At its very best, user research is the work we do to find out how we can increase the sum of human happiness. But in order to do that, first we have to learn to ask good questions.

## Asking Good Questions



The way it made me feel  
was smart because I was  
asking good questions  
and giving good answers.

- The scope is specific to the project
- Everyone understands what information we're trying to get from it
- It can easily be summed up in a sentence or two
- It takes into account what we already know
- **The information we get will be used to make decisions and changes**

Image Source: <http://media.rightquestion.org/pictures/asking-good-questions.jpg>

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Here are the marks of a good research question:

- The scope is specific to the project
- Everyone understands what information we're trying to get from it
- It can easily be summed up in a sentence or two
- It takes into account what we already know
- The information we get will be used to make decisions and changes

I can't stress that last one enough. Unless the research you're doing is going to be used for a practical, stated purpose, you should wait to do research! I am the first to admit that I love doing research for the sheer joy of doing research, but it's a waste of everyone's time and energy.

So that's how we create good research questions, but that's pretty abstract, so let's take the most common question I get when people come to me to conduct research, and walk through turning it into a research goal that meets the criteria I listed.

## What do users want?



Let's pretend this duck is your user. The duck thinks it's being chased by a shark, so it wants shark repellent. But the duck doesn't have all the information it needs about its problem. So the duck wants a solution to a problem it doesn't have, and doesn't realize it actually has a very different problem, which is that Roombas secretly crave duck blood. This is why we don't ask users what they want. What we want to know is what people do, what they're trying to do, and what's stopping them from doing that: their behaviors, goals, and pain points.

So instead of asking people "What do you want this product to do?", we ask users to tell us what they do already, and use that as a jumping-off point to understand what works and what doesn't.

Let's say that we're thinking about ways to improve how people send photos from their phones. Instead of asking, "What do people want?" we're going to phrase our research question as "How do people send photos from their phone, and are there opportunities to improve that process?"

So when we get in front of users, instead of asking them "How do you want to share photos from your phone?", we're going to say, "Walk me through the last time you used your phone to take a photo and send it to someone." This lets us understand the process as a whole, probe areas of specific interest, like the actual moment of sending, and identify follow-up questions. Once you get people started thinking specifically about a flow like this, they're going to have a much easier time telling you what parts of it work well and what parts of it give them a headache.

So now we've gone from "What do users want?" to "How do people send photos from their phone, and are there are opportunities to improve that process?" This research question is specific to our project, and we can all understand what we're going to be finding out through this research. We've summed it up in one sentence, and if we have any information from other sources, like previous research, we're building off of that. And when we know how people send things from their phones and whether there are pain points or opportunities for improvements, we're going to use that information to either make adjustments (if users are failing), or we're going to





Image Source: NBC Universal, Parks and Rec Image link at <http://data3.whicdn.com/images/38197574/large.png>

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So we know how to write our question, and now we need to find answers.

Before we jump into the methodology, let's pause for a quick aside about how to find people to talk to. There are a lot of ways to solve this problem, but before you solve it, you should know who you're looking for. If you want to talk to existing users, post a message in your forums, email a randomly selected segment of your list, announce on twitter that you're looking for feedback, or ask people who contact support if they're willing to talk to you or test a new version. If you have a specific segment of your users you're trying to talk to, you can do any of the above and then have them fill out a screener that you put together in Google Forms or Survey Monkey, and follow up with the people who meet your criteria. If you want to talk to potential users or people who fit a certain set of criteria, for \$49 a month, Ethnio (ethn.io) will recruit people for you. If you've got fifty bucks to spend, they offer a fantastic solution to recruiting. Otherwise, you can toss \$25 at Craigslist and find people in your area, and then direct them to fill out a screener on Google Forms or Survey Monkey. You can also always just walk out your door and start asking people if they'll talk to you. This method can be terrifying to those of us who are not always excited about human interaction, but also extremely effective. It also builds character, which my parents have assured me is a good thing. It can even be kind of fun.



Image Source: 21st Century Fox, The Simpsons Image link at <https://media.giphy.com/media/Zl8rba0dlhLqU/giphy.gif>

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For all of your participants, you should be paying them! Even if you don't have much to offer, a 5 or 10 dollar gift card for coffee, or 20 bucks on Amazon are great ways to compensate. If you're asking people to spend more than half an hour testing your product or talking to you, you should try to offer them \$50 a session, or if you absolutely can't manage that, \$25. And while we're on the subject, never offer access to your project or product or service as an incentive for research participants. For one, it means you're introducing bias for those who would be most interested in that incentive, and for two, it may make people more reluctant to say negative things about what's being tested.

So let's assume we've got our participants. Hooray! Let's talk to some humans!



Image Source, 21st Century Fox, Image Link: <https://honchemistry.wikispaces.com/file/view/homer.jpg/141626819/homer.jpg>

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We've formed our research question and found our participants, so let's talk about our methods.

There are dozens of methodologies out there, and they each have their own strengths and weaknesses. If you're confronting these for the first time, it's easy to get frozen by your options. For this session, we're going to concentrate on the fastest, highest-impact methods of doing research. I'll provide a slide at the end with links to resources that offer more detail on research methodologies.

Your research question is going to be the number one determinant of which method you use. If your question is distinctly exploratory, like trying to find out whether there's actually a market for an idea you have, or if you just want to find out more about your users, the best option is ethnography. If you want to know if your project has major design and usability problems, usability testing is your friend. These are the two big jumping-off points for an assortment of other methods, but most of the research you'll wind up doing will broadly fall into these categories: exploratory or evaluative.



## Ethnography



Image Link: <http://i.imgur.com/qjJVbf.jpg>

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Ethnography is a great way to find out a whole lot in a very short span of time. It consists of one main question: “Tell me what you did yesterday.” From there, you just need to listen carefully and follow up on things that are of particular interest to you. Having specific goals for the kinds of things you want to find out (like whether or not people subscribe to streaming services, or if they brush their teeth after lunch, or whether they stand or sit at their desk) can help turn ethnographies into an incredibly efficient way to find out more about general user behavior and still capture specific information. This is a great way to find out broad information about how people behave, what kinds of devices and products and technology they use, and how they exist in the world. It can help you better understand your users, or simply get a better sense for the day-to-day lives of the people who might be interested in what you’re building. It’s specifically designed to tell you more about broad questions and generate information, so it’s usually referred to as either generative or exploratory (pretty interchangeably).

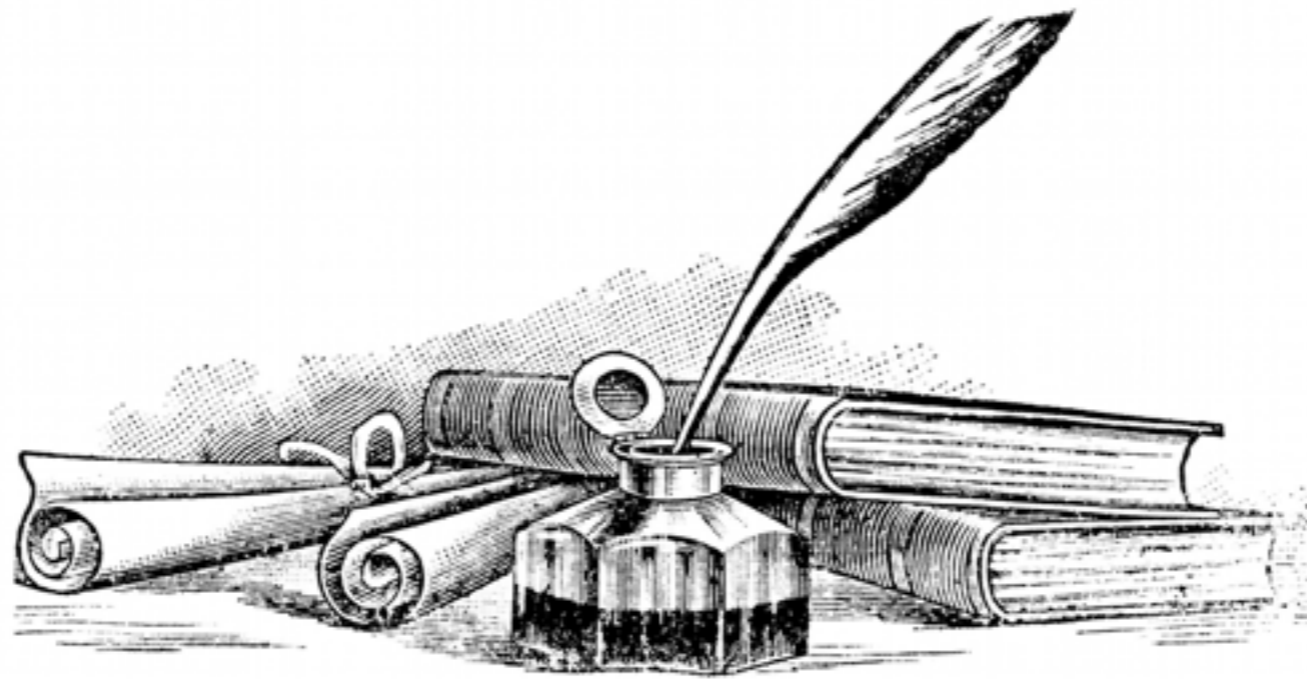
## Usability Testing



Image Source: <https://shreevatsa.files.wordpress.com/2010/06/yswv.jpg?w=700>

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If you've got a more concrete problem, like trying to discover where users are struggling, or what's working well, usability testing is your best option. Pick five or six people who fit what you're looking for, and set aside some time to sit down with them and watch them use your stuff. Give them a few simple tasks that focus on the key things users are supposed to do, and then just watch quietly as they go about them. This will often be far more difficult than I made it sound here. Users will try to ask you questions. They'll get stuck and ask for guidance. They'll fail at a task and get frustrated. And throughout it all, you have to sit there and watch them struggle. This can be incredibly difficult, especially if it's your work that's being tested. But in the end, it's the most effective way to find problems and frustrations with your software, and in order to do that, you can't offer your participants any help.



We use only the most up-to-date tools in user research

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Image Source: <http://www.fromoldbooks.org/Jefferis-SearchlightsOnHealth/pages/036-letter-writing-correspondence/036-letter-writing-correspondence-q90-1974x1052.jpg>

When you're talking to people, whether it's in a usability test or a user interview or an ethnography, there are some simple ways you can get better feedback. I've included a link to a great article on this topic on my resources slide, so I won't go into too much detail here, but there are a few things I want to hammer home.

#### 1) Focus on your participant

Beyond the basics like, "Don't check your phone during research sessions", this also means that you shouldn't be taking notes while conducting a research session, unless you absolutely can't avoid it. If you can't get someone else to sit in and take notes for you, try to record the session and go back afterwards to review it and make notes then. Of course, there will be times when taking notes as you go is unavoidable. If you know you're going to need to be writing notes during the session, have a written copy of your questions with lots of space between each one to record answers. And take notes by hand.

I know. Your handwriting is terrible. You write more slowly than you type. Hand cramps are terrible. But putting a computer between you and your participant creates a barrier and inhibits the conversation. The less comfortable your participants, the less likely they are to share information with you.



Image Source: [http://41.media.tumblr.com/4afdcf78802845b27d6f28bf971e0c88/tumblr\\_mg1srao5Rp1qf47bgo1\\_500.jpg](http://41.media.tumblr.com/4afdcf78802845b27d6f28bf971e0c88/tumblr_mg1srao5Rp1qf47bgo1_500.jpg)

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Be friendly, but not leading

Pretend this goat is your research participant. Do not herd your participants into telling you what you want to hear. Let them lead you.

You should do everything you can to put your users at ease, but if you help them when they get stuck or coach them through the test, you won't be finding out anything useful. Start your sessions by reminding your participants that you're testing the project, not them, and thanking them in advance for their help. Then let them know that because you're trying to find issues with your project, you won't be able to help them if they get stuck, or answer their questions about the project until after the session is over. And always, always let them know that if they feel uncomfortable for any reason, the session will be stopped immediately. When talking to participants, I like to only use the word "session", never "test", to really reinforce that you're not testing the participant.





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Maintain a neutral, slightly positive affect

This one is actually much harder than most people think. Practice keeping a slight smile on your face. Now practice keeping a slight smile on your face for an hour at a time. You're gonna do great.



Image Source [http://40\\_media.tumblr.com/502f017d72fa57525bb4e5c84364b98d/tumblr\\_n8iquiP11z1s0hjinjo1\\_500.png](http://40_media.tumblr.com/502f017d72fa57525bb4e5c84364b98d/tumblr_n8iquiP11z1s0hjinjo1_500.png)

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## Talk less

I am a very talkative person! I love the sound of my own voice. In retrospect, I could have picked a field that's a better fit for this particular trait, but here we are. So, here is a good general rule: if you are doing more than 20% of the talking, you're talking too much. The main things you should be saying during a research session are, "Talk to me about what you're seeing here" and "Tell me a little more about that". Talking about yourself can be a good way to build rapport in social settings, but here, we want to make it all about our research participants.

Okay, so let's say we've conducted our research. Now what?

One of the biggest obstacles I encounter as a professional researcher is communicating my findings to other people in a way that's quick, easy to understand, and easy to act on.

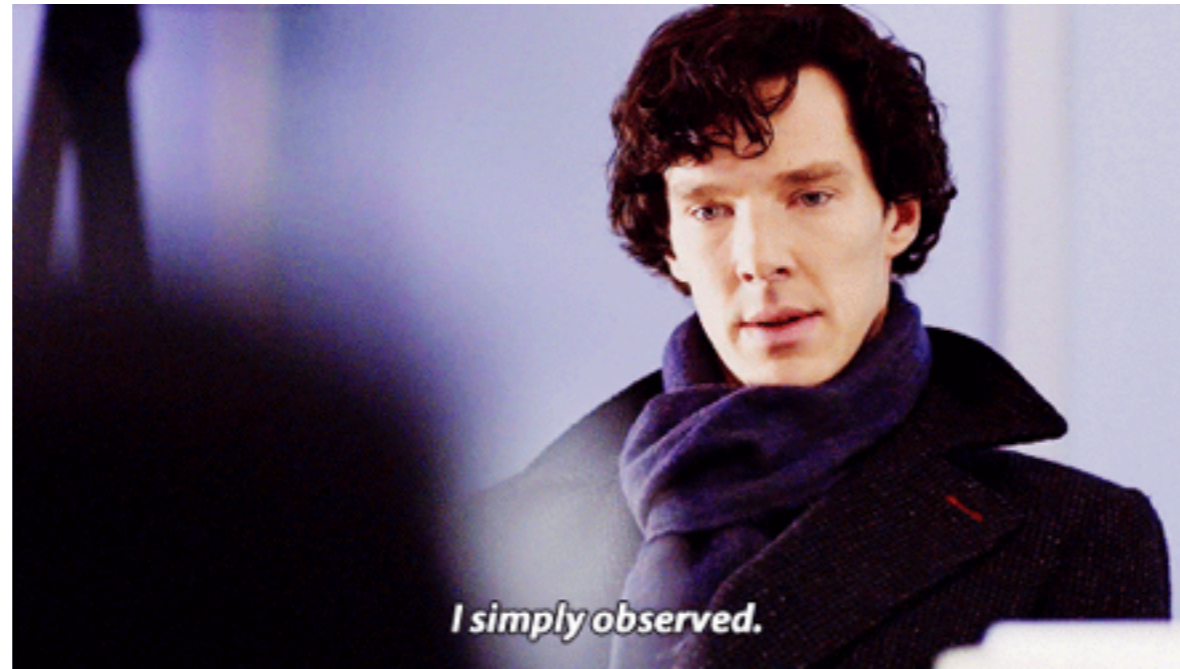


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Before you do anything, anything at all, go through your notes and separate observations from conclusions or design ideas. This is a pitfall everyone falls into at one point or another during research. We watch someone struggle with a feature and then we think of the perfect solution. STOP. Breathe. Throw your design ideas onto a post-it and set them aside. Notes from research sessions should be observations. This may seem unnecessarily stringent, but it will save you a great number of headaches in the long run. If you present a research skeptic with notes that are full of conclusions, rather than observations, you're opening up a debate about the research itself. Maybe they agree with your idea, but maybe they don't. Record what you see, and then you can figure out what it means and what to do about it.



Image Source <http://bloximages.chicago2.vip.townnews.com/tucson.com/content/tncms/assets/v3/editorial/5/d5/5d5207ce-b9af-11e2-a98e-0019bb2963f4/518d57121e7a5.preview-620.jpg> jane@dropbox.com @janedavis

Think of your research like a tree you just cut down. Your job is to whittle this tree (our observations) into a majestic chainsaw carving (our conclusions).

If you've got other people helping you conduct your research, try to have a quick 5-minute debrief after each research session, and then set aside an hour or so at the end of the day to go over what you saw. If you're flying solo, gather the top three to five observations (and only the observations!) and condense them into bullet point form. This seems extremely reductive, does it not? All that work! For bullet points! Yes. Exactly. You want to present the observations that will be of greatest value to the other people involved. You'll have pages and pages of notes, but the best way to ensure that your research is actually used is to put it out into the world in easily digestible chunks that can be used or acted upon in the immediate future. I've known researchers who spend weeks writing formal reports, and you know what? By the time they're done, the product team has already made a decision and moved on. Bullet points are your friend. We're here to move fast.





Image Source <https://s-media-cache-ak0.pinimg.com/236x/b3/42/be/b342becf47175669dddad1f32515e7c8.jpg>

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When it comes to actually communicating this stuff to others, I've had the greatest success with face-to-face conversations. Sitting down with everyone who's got a stake in the project and telling them what you saw during your research spurs conversation and ensures that, at the very least, everyone actually hears what you have to say. It's also the best way to start a conversation about next steps and what to do with your findings. However, if you absolutely can't get everyone in a room together, sending out an email with your three bullet points gives your findings at least a shot (haaaaa) at being used.

## Step 1: Writing our research question



Comparing the user experience of concurrency workflows in Python 2 versus Python 3

Image Source: <https://s-media-cache-ak0.pinimg.com/736x/f0/ee/1c/f0ee1cf2070787f46044c8029097d746.jpg>

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Okay. Let's review what we've talked about here by tying it together with an actual research plan. Let's say we're interested in looking at what changed between Python 2 and Python 3. That's a really broad problem, so first we're going to narrow our scope and say we want to look at concurrency, specifically.

The first thing we're going to need is a research question. It's not enough to say "we're looking at concurrency in Python 2 versus Python 3". That doesn't give any indication of what we want our OUTCOME to be, or what kind of information we need to get from this research. So let's narrow it down. For this project, we're going to compare the user experience of concurrency workflows in Python 2 versus Python 3, in order to identify what works well and what needs improvement and use that information to iterate on how concurrency functions in the next version of Python. This sounds super fancy, yes? But really all it means is that we're trying to figure out the best parts of each so that we can use that information for future versions. We're just saying it in a way that will impress our product manager.

## Step 2: Creating our research plan



Image Credit: Dresden Codak (<http://dresdencodak.com/>)

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So we've got a research question, and now we need to figure out how we're going to answer it. We might be tempted to try to do something like A/B testing, because at first it sounds like we're doing a 1:1 comparison, but that won't tell us what we need. What we need is to understand what works and what doesn't, and to do that we need to talk to people. We don't need to worry about trying to show both versions to people, we need to get qualitative feedback on each one to identify strengths and weaknesses. Remember: it's about behaviors, goals, and pain points, and we don't get those from A/B testing. We're trying to discover what works well and what needs improvement in each one. Once we know that, we can use that information to iterate (or decide not to iterate - there's no reason to change something if it meets our users' needs).

To do this, we need to evaluate the UX of the concurrency flow for each version of Python we're interested in (in this case 2.7 and 3) so we get a better picture of where they're succeeding and failing.



Image Source: <https://janeaustenrunsmylife.files.wordpress.com/2014/06/eb10d1d0e41d4f2980a8c84c403ae6cb3783136e79562904762ae08ad5fac841.jpg>

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In order to do this, we're going to give our users a task that requires them to use concurrency so we can see them go through the process. We'll pick something like, "Walk me through how you would write a program to send an email during a web request". We'll give one set of our users this task in Python 2.7, and one set will be asked to do it in Python 3. As each user goes through the task, we'll be asking them to think out loud, walking us through what they're doing and the choices they're making and why. This can be as simple as setting the stage by saying "I'd like you to do X (in this case, write a program to send an email during a web request), and as you do it, talk me through what you're doing," and then gently reminding them as they go through to think out loud.

Once we've sat down and conducted our research sessions, that's when we start making sense of our information.





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It's time to make our chainsaw carving, which if you will recall is a set of bullet points we come up with after we go through all our observations. Now is when you get together with everyone else who was observing the sessions, and start identifying the things that are coming up over and over again. You'll probably have 4 or 5 things that you saw or heard from most, if not all, of your participants for both versions of the test.

For synthesizing, we'll pull out things we saw happen at least a few times - we want to identify patterns and trends, not just interesting things we only saw once. We'll look at our lists of patterns and trends from both versions, and we'll start our comparison. This is when you're looking for things that worked well for each version, and areas where people had problems. There won't be a 1:1 correspondence between the two versions, and that's completely fine. Going back to our goal, we aren't trying to figure out which one is BETTER, we're trying to identify the parts of each one that work well and that could use improvement. This builds our understanding of user needs around concurrency, and gives us information we can use to iterate if we're planning on making changes in the next version. Which we should be, because otherwise we wouldn't be doing research!



Image Source, Broad City, Image Link:<http://giphy.com/gifs/KQDoI4zOGXVm/html5>

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We did it! We've figured out the UX issues with concurrency in our versions of Python, we've synthesized our findings, and we're ready to spread them far and wide using our three to five bullet points. Like Lincoln, we have officially crushed it.

## Resources

- Erika Hall, Just Enough Research (book)
- Erika Hall, Minimum Viable Ethnography (article) <https://medium.com/research-things/minimum-viable-ethnography-a047e9358df0>
- Elizabeth Goodman and Mike Kuniavsky, Observing the User Experience (book)
- Ethnio (recruiting service) [ethn.io](http://ethn.io)
- Michael Margolis, How to hack your body language for better interviews (article) <http://www.gv.com/lib/how-to-hack-your-body-language-for-better-interviews>
- Christian Rohrer, When to Use Which UX Research Methods (article) <http://www.nngroup.com/articles/which-ux-research-methods/>

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