Chapter 16. Feature Flow Analysis: Collaborate More Deliberately with Your Users

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Abstract. Feature flow analysis is a method for collaborating with users to improve designs. It is a quick and easy way to get feedback on specific features of your designs. This method can be used early in the design process to get feedback on ideas, or later in the process to validate designs. Feature Flow Analysis helps UX teams work more closely with SMEs and expert users to facilitate co-design and creation processes.

Our UX team works on various projects with external customers to help improve the workflows, navigation, and ultimately the complex interfaces of the software and hardware we develop for them. To accomplish many of these tasks, we rely on users to provide quality feedback through multisite and multi-user usability testing. Below we describe how Feature Flow Analysis began as a result of a set of unique circumstances and then describe a use case for the method.

It began in January of 2020.

Upon return from a user touchpoint, extensive usability testing on our software application revealed a number of issues that would need to be addressed in an upcoming software redesign. Users were struggling with the navigation and terminology, as well as understanding some of the feature workflows. The team concluded that improvements were needed to streamline a number of workflows, improve major systems information architecture, and clarify navigation, labeling, and system feedback. As one user commented "A user would have to know what they are looking for" in order to use the new software.

Our site visit provided a long list of issues. Given the limited time needed for the redesign (nine months) a series of site visits were planned. Site visits were to begin in March and occur approximately every six weeks and would include four site visits. Each visit would help our team to verify application redesigns which we would use to inform development. Our next site visit was planned for late March 2020.

We began by ordering the issues from most-to-least important and most-to-least troublesome for the user, as well as areas that affected the largest

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proportion of our users. With input from project's project owner and visibility into the backlog, we were able to prioritize 19 items that would need to be addressed across the next few incremental releases leading up to the beta release in November 2020. With our plans in hand, we began with the highest priority item: navigation.

Users of the earlier version of the software were used to adding layers of information onto a map using a series of modal boxes. In the test version of the software (shown to users during usability testing at our first site visit), we had already modernized the navigation using a navigation rail with a retractable tray. In the redesigned version, the old layers were represented as cards. As a user added data to the map, a card representing a layer would collect in the tray. To make the navigation easier to use, we wanted to introduce a favorite's tray that would include the users' most used layers. We needed to know if this new navigation feature, the grouping of the users' most frequently used layers—would resonate with users.

As March neared, it was clear that our jobs and site visits were in jeopardy due to Covid-19. In late March, our entire team, and the majority of our 70,000+ company, was sent to work from home. All travel was canceled. Without user site visits, we were in the dark.

We needed a new plan. How could we answer our questions? How did we proceed without visiting our users? We thought back to our resources. Our user touchpoint was a wealth of resources in many ways. It provided an extensive list of issues to address and priorities to consider, but it also provided us with a long list of power users eager to assist us with this redesign. More than one power user commented that we could contact them anytime for ideas and opinions, and they would be willing and ready to assist.

That week after our travel was canceled, and we were set up at home, we made our first conference call. We contacted User1,[2] our power user, at a prearranged time. The day before the meeting, we had emailed her our design ideas (our facilities didn't at that time permit screen sharing via video conferencing). During the meeting, we walked through the designs page-by-page asking about her impressions of the new favorite's tray. We asked and answered questions along the way, collaborating on the best ways to make the workflow, well . . . work for her. She understood the concept, had reviewed the designs, and thought it might work well.

Two days later, we were on conference call with User2. She had similar feedback; we collaborated to make a few tweaks here and there. Add another layer to the favorites. Add a button to clear all layers. We used checkboxes to turn on and off the layers (indicate which layers were added to the tray). We used options and the eye icon to toggle the visibility of the layers. The resulting changes were

2. The identification of the participants have been altered to protect the privacy of the participants.

reviewed and worked well for the power users. We collaborated with a few more power users. By the end of the week, we were ready to demo the finalized designs and have them added to the backlog for future development.

From there, we were off to the next feature, and the next, and so on. And yes, there were snags along the way. The emailing of designs was a major issue. It was very difficult to collaborate without being able to control the flow of the visuals, ask and answer questions about them while remaining in sync. Sometimes, the files never arrived, taking up much of our power users' precious time waiting for tardy files to show up. Finally, by June we had resolved the majority of our connectivity issues between us and the users' community and were able to use video conferencing effectively.

After that, we established a cadence of meeting with users two or more times per week to collaborate on complex workflow designs. Using this process which was later named—Feature Flow Analysis, we were able to systematically source guidance and input from our expert user community to help improve our designs, saving hundreds of wasted hours. From there, we verified and completed hi-fi designs with remote usability testing among a myriad of user groups.

Figure 16.1 shows a general review of this process enveloped in a traditional UX workflow.

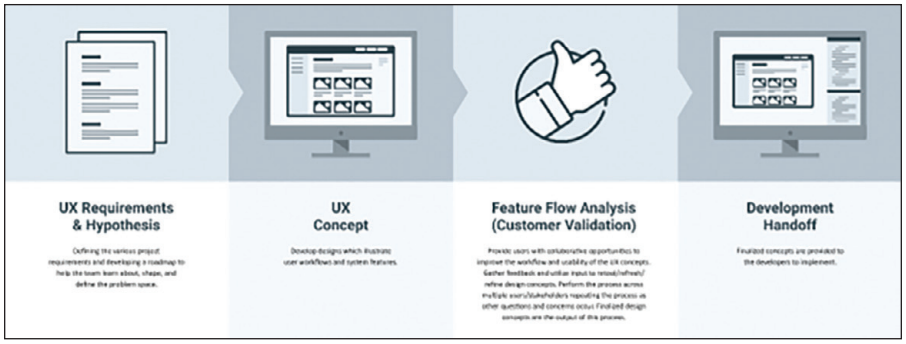

Figure 16.1. Traditional UX workflow.

Benefits

Feature Flow Analysis gives a team the ability to quickly collaborate with users to improve designs. The process enables a feature-by-feature review and validation of a design. Unlike a cognitive walkthrough or usability testing, where larger parts of the system or process are often considered, Feature Flow Analysis doesn't require a specific research question or a part of the system to be ready for evaluation. Instead, it is a collaborative process where the user, for a brief part of time, is a part of the design team, helping to source ideas, consider, and select them. Leveraging the knowledge of SMEs for the expertise they possess can help improve the quality of experiences for all levels of users.

Cons

Users must be intermediate to expert users. Beginners can't help with complex design questions. The collaboration efforts would collapse. Additionally, the process calls for reasonable fidelity in the designs requiring either developers or designers or both to spend time creating mid-fi designs that can communicate workflow options well enough for conversation. Finally, some projects might necessitate obtaining expert users from multiple user groups in order to equality balanced design input—a process that might be time consuming and potentially costly.

Feature Flow Analysis: A Simple Idea

While Feature Flow Analysis began as a simple idea, it grew into something much more powerful. In a nutshell, we would, for one feature/idea, brainstorm and build designs demonstrating potential workflows. From there, we would meet with power users (familiar with the specific features/areas of the app) for as little as 20 minutes via phone or video conference. At the meeting, we would exchange ideas about the designs: collaborate on what needs to change, discuss what workflows were working, figure out which ones need more work, decide which ones we needed to toss. For that brief period of time, we would collaborate as a design team.

Conclusion

At the time of writing this chapter, we have been using the Feature Flow Analysis method for most of the year. There is a vaccine being distributed and the future looks a bit brighter. Our small team of four have completed over 20 feature designs using this method and accumulated 35+ hours of talking with users in doing so. A colleague commented just after we wrote this chapter, "Calling up users and talking to them about a design, that's not a method." To which I said, a method is simply a process that someone follows in the same way each time so that it may yield similar results. Yes, I replied, this method is one possibly many teams may have practiced. But my research showed no articles about a similar method among the short history of UX, HCI or related areas. Yes, there is likely a similar method in another field, but that doesn't stop our field from discussing, naming, and benefiting from it. UX, meet Feature Flow Analysis.

Overview of Feature Flow Analysis (TL;DR)

What

An evaluation method in which people review a design of a feature/workflow and collaborate about the efficacy of the new design as they consider it.

Why

To get quick feedback on whether or not a workflow will be workable/suitable for a specific user group who is familiar with the system. This method is suitable for improving user experience at any stage in the production process, but it is predicated on using real users or SMEs.

Frequency

Consider obtaining at least two to three SMEs input depending on the feature/project/user groups.

Process

1. Identify specific features of concern for specific categories of users of a design solution.
2. Develop a set of workflow designs that solve the specific issues identified by the user groups. Transfer the workflows to a form that can be reviewed by users.
3. Source Subject Matter Expert (SME) users and set up the meeting. (Remote meetings work well if the system is software.)
4. Before the meeting send the SMEs the designs and any questions you have.
5. During the meeting, discuss the designs with SMEs and record the interaction.
6. Ask questions as objectively as possible. Allow SMEs to provide their opinions freely
7. As they go, ask what they would attempt to do next or how they might modify the workflow to suit their needs. Ask participants, if your assumptions are incorrect or anything we need to reevaluate?
8. After the meeting, review the results and make changes to the designs using the SME input. Make more workflow choices if required.
9. Move to the next SME. Rinse. Repeat.