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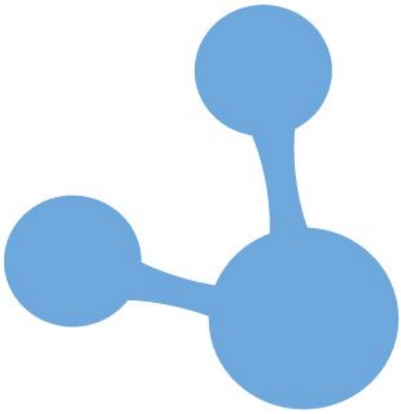

Gratify

smarter tips

Final Report

Needs and Usability Assessment

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Alexander **Jones**

Richa **Prajapati**

David **Eicke**

Aditya **Mishra**

Abstract

This report describes how to apply user research methods to identify and resolve the various pain points and inefficiencies that exist in restaurant tip distribution processes. The primary user research methods involved in this case study were the user interview, survey, competitive analysis, and usability test. The responses from interviews and the survey complemented each other to identify server and restaurant manager priorities, concerns, and pain points. The competitive analysis helped in prioritizing and selecting the pain point which was currently unresolved by existing applications and software in the market – providing servers a convenient way to track their tip earnings and performance. Inputs from interviews and competitive analysis were used to design a mobile app prototype that would help servers log their earnings quickly at the end of the night and analyze them over the time. The usability test of the prototype helped in verifying whether the mobile app actually solved the problem it set out to resolve and how it could be improved further. This report shows how various user research methods can be combined to diagnose underlying problems, identify the best way to deal with those problem, and validate whether the solution is effective in fixing the problem.

Assets

Final Presentation Slides

Interview Materials

Survey Materials

Competitive Analysis Materials

Usability Test Materials

Team Contributions

Alex worked on the research study design, interview guide design, recruiting, front-of-house and back-office interviewing, transcribing, interview analyses, prototype designs, usability test designs & implementation, usability test analyses, and report writing.

Aditya helped with designing and conducting interviews. He also worked on prototyping and gathered feedback from social media, app-store reviews that informed competitive analysis and usability tests.

David worked on recruiting for interviews and user tests, back-office interviewing, prototyping, competitive analysis, interview transcription, usability test analyses, and report writing.

Richa worked on competitive analysis which helped in making critical design choices in the mobile app prototype. She also helped in conducting interviews, recruitment, prototype review, creation of server survey and usability tests, analysis of survey survey and usability test results and report writing.

Executive Summary

This report covers the research our team did in preparation for the development of an application to help restaurants and restaurant employees with their tip-distribution process. Our goals were to discover pain points and inefficiencies with how restaurants are currently handling this process in order to properly guide feature selection and create our product's roadmap. Many of our most important insights came from studying

the landscape of existing solutions in the market and what needs were still left unmet. We found that, while solutions on the management end were fairly sophisticated, the market lacks a cleanly designed, simple, and useful application for servers to keep track of their own tips and help with their checkouts. Through conducting several interviews with both front-of-house and back-office employees, we were able to discover that what servers most needed was simplicity and convenience at the end of a night of hard work. They also liked to be able to track their performance. From managers, we found that most were fairly happy with their current systems. Therefore, while we set out to design a user-centered, cloud-based system that would simplify the tip out process for all affected parties (servers, bartenders, managers, bookkeepers, and support staff), we finally focused our efforts on creating a mobile prototype for servers. Results of usability testing were very positive. In the long run, we'd like to continue designing a comprehensive system for both restaurant front-of-house and back-office employees to increase transparency, regulatory compliance, safety, and efficiency.

Project Background

A 'typical' restaurant journey is supported by a number of staff. There are servers who help you at your table, Hosts who greet you as you come in, bartenders who conjure your drinks, and the bussers who keep your tables clean. Customers interact directly with a subset of these players. Servers and bartenders are the staff members who receive direct gratuity from you, but the other players who have worked hard to give you a great dining experience also earn a share of your direct gratuity. There are no specific industry guidelines around what portion of your gratuity these support staff should receive, but there are normative ranges. For example, the pool of bussers usually get

about two percent of the total sales from the servers and bartenders. The bussers then split up this two percent amongst themselves based on the amount of time they worked in that shift.

The ‘checkout process’ is when employees at the end of their shift distribute their accumulated tips to other employees who worked with them throughout the day. While most restaurants have guidelines or house rules for tip out percentages, many restaurants leave the nightly calculations up to the servers and bartenders, which creates a margin of error and potential for inequitable tip out distribution. While managers and bookkeepers can sort through the calculations to look for discrepancies, most managers and bookkeepers do not have the time to do this regularly in detail. Such policies also open the door for tip under-reporting, putting the establishment in a precarious tax-reporting position, increasing the likelihood of a dreaded IRS audit. If a restaurant is audited, both restaurant and employee can be fined for any tax violations discovered. While some restaurants may be able to afford the hefty fines and back payments, most employees cannot.

Methodologies

Overview

Alex had experience with the restaurant industry going into the project and this gave the team a baseline to start research. We started with interviews and observations to get a feel of the industry and get accustomed to terminologies or practices that were commonly used. The goal was to increase our self-awareness about the daily life of restaurant employees, get insights, and build empathy towards them. We supplemented interviews and observations by joining social groups on Facebook and Reddit. These groups were created by the restaurant community and they had high levels of activity

every day. People would share activities from their workplace - for example getting new silverware, stories of annoying customers, big tips, and paid time off. Joining these groups helped us a lot in understanding their daily workplace lives -- what are the lows or the highs in their day, and what are the things that are important to them? Supplementing our interviews and observations with these communities, and app store reviews helped us identifying small nuances towards our prototype (for example, why adding notes was an important feature)

Research

Coming into this research project, our hypothesis was: With a user-centered design approach, we can streamline some of the inefficiencies of the restaurant checkout process. In order to test this hypothesis, we needed to talk to servers and bartenders to validate that there actually were inefficiencies, and from there, to build a prototype and test its efficacy as an efficient solution. Our research goal, then, was to discover the biggest inefficiencies and pain points with the checkout process. Achieving this goal would help us both validate our hypothesis and inform the design of our prototype. In order to support our goal, we originally planned to do a series of user interviews, contextual inquiries, and usability tests of our prototypes. For each of these methods, we wanted to have dual tracks for both front-of-house and back-office perspectives.

We planned to use the interviews to confirm our hypothesis that there are, in fact, inefficiencies in the checkout process. We also planned to use the interviews to develop empathy for the end users and gain insight into their workflow in order to help shape requirements for our solution. As Weiss describes in *Learning from Strangers*, “Qualitative interviewing enables us to learn about perceptions and reactions known only to those to whom they occurred” (Weiss, 9).

We originally wanted to deploy contextual inquiries to gain a thorough understanding of the back-office checkout processing. It proved difficult to recruit participants for this method because of both the timing and sensitivity of this activity. Managers often processed checkouts very late at night after the restaurant closed, and there was often a lot of cash handling and sensitive business information exposed during this process. We shifted to using a survey in order to supplement our qualitative interview findings with quantitative backing. We only received 17 qualified survey results, which was not enough to be statistically significant. However, in the results we did receive, there were some excellent quotes and insights that we used to supplement our qualitative interview findings. Finally, we settled on doing a competitive analysis as our second research method. Our goal for the competitive analysis was to discover weaknesses in competitor products and opportunities that our product could take advantage of. We used the competitive analysis to further define the requirements for our solution.

The goal of our usability tests was to make sure the prototype for our solution satisfied the basic requirements we defined from the first two methods. Specifically, we wanted to estimate the ease of basic interactions and workflow. We also wanted to use the usability tests as a gauge for the overall usefulness of our solution -- did real servers and bartenders find that it would be useful?

Interviews - Recruiting

For our front-of-house recruiting, the selection criteria were 1) the employee must have worked in a restaurant in the last year as a server or bartender, 2) the restaurant is full-service (has bussers, a host, bartenders, etc.), and 3) the restaurant is mid-to-upscale, defined as having an average entree price of at least $12. For back of

house recruiting, the selection criteria were the same except the interviewee must have been a back-office manager who processed nightly checkouts.

We started fairly early with our interview recruiting. We began with back-office manager recruiting by reaching out to a few people within our own networks. We also cold-contacted restaurants in the East Bay area that met our criteria. We ended up with four back-office interviews -- two from our personal networks and two from cold-contacting. Two interviews were in person, and two were over the phone.

For front-of-house employees, we were originally going to recruit by asking the back-office managers to round up some of their employees for us. However, on the advice of Steve, we decided against this approach because our answers would almost certainly be biased given that it would be a forced interview while at work. Instead, we again leveraged our personal networks to find willing interviewees. In the end, we had three interviews, all of which were conducted over the phone. There were originally four interviews scheduled, but one fell through at the last minute. We decided not to pursue a replacement interview because, at that point, we had collected the 17 survey responses to supplement the existing interviews.

Interviews - Findings

Although we ultimately focused only on creating a solution for front-of-house employees, we still did uncover some valuable insights from back-office managers that we plan to use in future work. First, there are dozens, if not hundreds, of ways that a restaurant's checkout and tip out system can be organized. If we were to create a solution for back-office management, it would need to start by being focused on a small segment of the most common systems. Second, most of the managers we spoke with thought they already had a fairly efficient system in place. However, in hearing them

describe the system, it seemed to us that there were actually a few areas of inefficiency, especially in duplicate data entry and distributing cash tips, that we felt could be improved. This split between perception and reality seemed to us like a classic example of what users say versus how they act. Finally, many of the managers with whom we spoke expressed that they would find value in having a digital record of tip outs. The value of such records would be double in nature; it would provide a record against which the restaurant could verify that servers and bartenders tipped out support staff correctly, and it would also provide a record against which the IRS could verify that the restaurant declared enough tips at year's end.

From our front-of-house interviews, we discovered the main workflow of the server and bartender checkout process mostly involves calculating the various support staff tip outs, usually as a percentage of food and alcohol sales. These calculations are done by hand, often using the employee's smartphone calculator. We found that servers and bartenders often work long, physically-demanding shifts. At the end of these shifts they are both physically and mentally fatigued and simply want to finish their checkout and go home (or out for a drink). In short, the last thing they want to do is math. As one server aptly put it, "You're tired and you've been on your feet the whole time and you just wanna go home." As we gained empathy for these employees and began to understand their workflow better, we realized that our solution would need offer the overarching value of reducing cognitive load. We decided to achieve this value by automating as many calculations as possible, and by minimizing and simplifying the interactions on each screen.

Another important insight we learned from our front-of-house interviews is that many servers and bartenders kept a shift log. These logs often contained a combination of

what the employee earned that shift and notes from that shift. The log of earnings seemed to serve multiple purposes, depending on the employee. One purpose was to help employees verify their earnings against what the restaurant paid them, while another purpose was to help manage personal finances. The log of shift notes, on the other hand, was used to record both positive and negative occurrences of each shift, such as if the employee got a particularly generous tip or, conversely, had a rough night. From this insight of employee log-keeping, we decided that another requirement for our solution would be to provide a basic dashboard of earnings metrics, as well as a way to quickly enter notes for each shift.

Interviews - Lessons

We learned some important lessons throughout the interview process. First, recruiting takes time, so start early and over-recruit. As we found out, plans change and things fall through, often at the last-minute, so it's best to have backup options. Second, always try to do interviews in person, if possible. While we felt like we were able to glean many insights over the phone, we could only imagine the subtle, nonverbal cues we missed out on. It is also seemed easier to establish rapport and keep both the interviewer and interviewee focused when face-to-face. Third, transcribing interviews is quite time-consuming. By the end, we found it best to paraphrase most parts of the interview to extract key ideas and themes while only doing literal transcription of pull quotes to be used later in presentations or other deliverables.

Competitive Analysis

Competitive Analysis - Process

Because the initial focus of the project included a mobile app for servers as well as tip management software for restaurant managers, we used a two-pronged approach for competitive analysis research. One part was to identify the existing mobile apps that are used by servers to track and analyze tips for the front-of-house mobile app. Next was to identify existing tip out/employee management software as well as Point of Sales systems that are used by restaurant managers to monitor and record the tip income of restaurant employees.

Alex's pre-existing experience from restaurant consulting as well as information gathered from interviews, surveys, and simple Google searches helped us identify the tip out/employee management software as well as Point of Sales systems that were most commonly used by restaurants. For tip out/employee management software, we visited the software's website and understood a particular software's features by reading the description and watching any associated videos on the website. Unfortunately, the websites of POS systems weren't as descriptive, so we sought the required information by visiting various review sites for POS systems such as merchantmaverick.com and softwareinsider.com. This not only gave good insights into various pros and cons of each software but also what critics and users thought about them.

For the mobile app, we visited Google App Store, Apple's iTunes, as well as Facebook groups to identify the top four apps (on the basis of number of downloads) currently used by servers to keep a log of their tip income. The app stores gave us both

qualitative and quantitative data points in terms of reviews and number of downloads respectively for each app. The user reviews helped us determine not only the features that were important to the users but also when and how the servers used these apps and their pain points. We further verified our findings by installing the four apps on our mobile phones and doing a cognitive walkthrough of each.

Once the various important features or metrics were identified, the next task was to find out how each of the top-four mobile apps fared on each of these metrics. In order to do this, we further broke down most of the metrics into three components. An app would score a 3 on a metric if it encompassed all the three components, 2 if it had only two of the three listed components and so on. For example, “Just the Tips” was awarded 3 for having “clean interface” because it offered information in an “uncluttered and well-balanced” way, because it did not cause any “cognitive overload,” and because it harbored no ads that caused distraction. On the other hand, “Tip See” scored a 1 on the “clean interface” metric because the only thing it offered was presenting information in an “uncluttered and well-balanced” way; “Tip See” had a very weak visual design and user interface full of distracting images and ads. The “Price” metric differed from such metrics in the sense that a “free app” scored higher than an app with a “one time fee” which in turn scored higher than an app with “monthly subscription”.

Finally, in order to quickly ascertain opportunity areas, we decided to represent our competitive analysis in a visual format. Going by (Hawley, 2013), we overlaid radar charts of every app (specifying its rating on each metric axis) on top of each other and compared how the different apps performed on each metric.

The competitive analysis gave us many useful insights into the existing market conditions for mobile apps for servers – some of them confirmed our initial assumptions and some surprised us. One of the biggest confirmations was that none of the existing apps facilitated automated tip out calculations; most of them relied on servers to manually calculate the tips outs to and from others and only then enter their individual earnings in the app. Also, none of them were “easy for adding tips” – they either involved a complicated process to enter the tips, did not reflect the restaurant tipping policy or did not auto-populate tip earnings or tip outs from POS system – thus increasing the effort required by servers at the end of their shifts.

We especially focused on understanding what made “Tip See” so popular, or in other words, score high on “usefulness”. Despite having a very weak visual design, “Tip See” outranked its nearest competitor in terms of hundreds of thousands of downloads. The competitive analysis showed that this was because of a threefold reason. First, “Tip See” involved a two-step intuitive and easy process to enter the tips – just the number of hours worked and amount of tips earned in a day. Second, “Tip See” offered no visualizations in terms of graphs for “tracking the tips” either; it just showed the average earnings per day on a quickly accessible and “intuitive” calendar format that seemed to appeal to a majority of users. Finally, “Tip See” was a free app and thus attracted a large number of users.

Competitors of “Tip See” fell short on at least one of these three components. For example, “Tip Sheet” demanded a monthly subscription that caused a big resistance in downloading the app despite scoring high on other metrics. “Tip Bucket” scored low on almost all the metrics – especially in “intuitiveness” and “tracking the tips” because it

listed the average earnings of a day with lots of other information and without any visual aids like a calendar that made tracking tips a difficult task. Finally, “Just The Tips” was not very intuitive in terms of accessing (the dashboard for tracking tips) or analyzing tips as it did not list the average earnings per day.

The competitive analysis also showed that apart from basic “easy” logging and “intuitive” tip tracking features, users would like the ability to add tip earnings from multiple jobs and shifts. Many of them also expressed the desire to be able to take data backups when they switch phones or when the app crashes. Since these are secondary requirements, we will incorporate them in future iterations.

Prototyping

Our third research method was user testing. We started prototyping our app after we had completed the interviews, so we had the transcripts to inform our design decisions. We split the prototyping into a front-of-house mobile app and a back-office desktop/web application.

The first decision we had to make was about the level of fidelity. The case for high-fidelity prototyping was that we may not have *time* to do both lo-fi and hi-fi prototypes, and also, perhaps more importantly, part of the competitive advantage we expected to have over the leading tip-calculation app was a clean visual design. However, we ended up going with low-fidelity prototypes because we didn’t want users that we tested reacting to colors or spacing or fonts. We wanted feedback primarily about whether or not it worked for their goals, and whether or not it was intuitive. Also, the conventional wisdom is that, if the prototype appears as if not a lot of work went into its creation, the feedback is more likely to be critically honest. For this type of

interactive, lo-fi prototype, we combined mockups made in Balsamiq with interactivity engine, Marvel.

Recruiting

Fortunately, we'd had the foresight to ask our interviewees in the previous step if we could reach out to them again for testing, and we had several agree. We were able to send the prototype and a set of tasks using an online tool called Validate.ly, which asks your recipients to download a screen recorder and go through a set of tasks. While we did get a few participants to do this, it took them some time. I anticipate there was some hesitation in downloading a program from an unknown source. We also eventually found a way to do some screening on UserTesting.com to ensure proper participants, and once that test was up, we got responses right away.

What was missing from these usability tests, however, was a debriefing. Because we were never in the same room as the testers, we were never able to ask any follow-up questions in response to actions users took. According to Rubin and Chisnell's *Handbook of Usability Testing*, "[w[hile the performance of the usability test uncovers and exposes problems, it is often the debriefing session that sheds light on why these problems occurred and how to fix them...it is often not until the debriefing session that one understands motive, rationale, and very subtle points of confusion" (229).

Responses

Responses came in the form of videos, with users speaking aloud as they went through their assigned tasks. Two users had trouble completing the test due to technical glitches: one accidentally double tapped on the first screen and ended up lost in the

menu navigation unable to click back to the first screen. The other tester's prototype simply failed to load completely, perhaps due to a server error in Marvel.

The other tests went well. Participants were able to complete all assigned tasks, and most tasks were completed without any sign of hesitation.

User Testing - Findings:

- The only task that made users struggle a bit was the final task, which required going into the hamburger menu to find Settings, and then changing one of the items in settings. Two users seemed hesitant that "Settings" would be the place to make that adjustment. We may want to look into surfacing that adjustment affordance elsewhere (i.e. not just in the menu). On the other hand, they did complete the task in a reasonable amount of time for a first-time user.
- Also, for one user, "Finish Checkout" didn't necessarily imply "saving" it, so we may want to reexamine the phrasing of that element or provide some descriptive feedback after submission.
- The most important finding, though, was that the design was overall very successful. Testers commented that they found it easy, one even writing in follow-up questions that it was "very intuitive and simple" and that the interface was free of distractions.

Next Steps

Taking this project forward, we plan to continue focusing on the front-of-house prototype. Because our first round of usability testing validated our initial product design choices and workflow, we want to conduct a second round of prototyping that focuses

more on visual styling. The new prototype would be hi-fidelity, although not yet fully interactive, so it would most likely be built with a combination of tools like Photoshop, Illustrator, and inVision. The only other features we would want to test at this point would be the note-taking and multiple jobs features.

Our business strategy is to take a bottom-up approach. As mentioned previously, we decided to focus solely on the front-of-house product because we felt that the need was most prominent for this segment at this time. We would want to eventually continue working on a back-office product, but we think that such work fits into our business strategy after we've launched the front-of-house product. If we can get traction amongst front-of-house staff, it will be a much easier sell to back-office management if many of their employees are already using our product and can attest to its merits.

Personal Reflections

Reflections - Aditya

A year back I would have flinched at the mention of ideas such as emotions or empathy when it came to designing products. This class and especially Steve helped me understand the importance of these things for anyone involved in the product lifecycle, and especially those who are responsible for making engineering or design decisions. Could you design for people without being able to wear their shoes and see the world through their eyes? Maybe yes, but as Steve had pointed out early on, empathy and contextual awareness help you understand how your product appears in actual people's lives, and not just in a lab.

One of the most important lessons the project taught was the importance of tactically approaching user research. We realized early on that we could not design a product for an industry we did not know a lot about. Early conversations with bartenders and managers introduced us to vocabulary that baffled us. What terms were they using to describe certain activities. How did these activities make them feel? Which were the important parts in their work, and what were their dynamics with each other. We had to quickly get accustomed to these questions. Interviewing people could have been a good way to do it, but we had scarce resources because of limited availability of servers or managers for interviews. So we had to extract the most value out of our interviews, or any research activity we were doing. Reading up about the industry, about existing products, joining social communities were great techniques we leveraged to supplement our research activities. I read about all sorts of stories, how people felt when they would start their day, what were the things that meant a lot to them, what were nuances of certain customers that annoyed them. One of the things I realized was that 'tips' were

not just a financial incentive for staff. Tips were sort of a positive reinforcement about the staff's efforts to make a customer's experience delightful, and employees were really sensitive to tip amounts. Notes left behind on bills were really important too, and I regularly found people sharing notes left behind by happy, or even angry customers at times. When we were designing our prototype, simply creating an add-notes feature for the day was grounded in the fact that we saw so many people capturing these moments from their day. These subtle nuances would have been tough to capture in interviews especially with an audience so elusive and difficult to get hold of. I learnt that these nuggets of empathy and contextual awareness make a great and usable application jump to become an app that becomes an integral part of your life.

Another thing I took away from the exercise was the importance of smart learning, always try to maximize your takeaways by minimizing the amount of effort. For example, we could have created a prototype solely based on our research and interviews, or even a high level competitive analysis. However we would not have learnt from our users - a hundred thousand of them who were already using similar apps, and were experienced users. We went through hundreds of app store reviews, a very fun yet rewarding exercise. It helped us catch up with the market, and helped us not having to learn things on our own from scratch.

Reflections - Alex

This course, especially the final project, was a great opportunity for me to more fully understand user experience research. As an aspiring product manager, understanding user research is a key part of my job. I need to be able to have a sense of which research methods are appropriate at which stages of development and for which types of questions, as well as how to interpret user research properly, in order to make the

best use of it. I also have a newfound respect for the complexity and nuance that goes into quality user research.

Heading into the final project, I had already started to realize how doing proper user research was a lot more difficult than I had originally imagined. It is an art as much as a science, and preparing the right interview guide or survey, or designing the most effective usability test, takes time, practice, and multiple iterations. Starting with a focused research question is the key starting point in having a successful research study. In the context of our final project, I think we did a good job of establishing a research question upfront, although in retrospect, we probably should have focused on just one area - front of house or back office - to start. We ended up shifting our efforts solely to front of house upon realizing there was a bigger need in this area. In the future, I would deliberately whittle down the research focus to just one product or feature.

Another thing that stands out to me is the importance of getting everyone on the team the right background information and context for the project. I can imagine that in most real-world scenarios, a research team within a company already has a good understanding of the problem space. In our project, however, I was the only one who had a deep understanding of the problem and the restaurant context. What I would do differently next time is provide both high-level and detailed outlines of the problem space to bring everyone up to speed. Eventually, everyone gained a solid understanding of the problem space, but I could see that the team spent much of the first few interviews not fully understanding the context of some of the answers. I think the team would have gotten more out of the first few interviews had they been provided better background reference.

Finally, another important point I learned from my teammates is the importance of getting your hands dirty and going beyond the traditional research methods in order to gain deeper insight into users and competitors. For instance, Aditya spent hours scouring various Facebook and other online communities trying to learn more about the ways servers and bartenders think and feel about their jobs. Additionally, both Aditya and Richa went through hundreds of app store reviews for a few different competing products. Both of these efforts gave our team a more thorough understanding of our user's needs and how we should prioritize features.

In summary, some of the most important lessons I learned about user research from this project are the importance of 1) deciding on a specific feature when coming up with a focused research question, 2) bringing everyone on the team up to speed with the proper subject matter context, and 3) digging deep into online communities and product reviews to help supplement traditional research methods.

Reflections - Richa

The past 2 months on Gratuity project posed as a great learning curve for me as a user researcher. As an aspiring product manager, I think it is crucial to take into account user needs – which can best be sought from user research. With this project, I got a first hand experience working with the most common user research methods – interviews, surve, competitive analysis as well as the usability testing – as my team and I sought to solve a very tricky yet real world problem.

One of my biggest takeaways from this project was developing empathy with our users – something that was demonstrated by our guest lecturer Lucy Greco. The checkout process at a restaurant is invisible to many of us as customers when we visit any restaurant. As such, though our research goals were very clear and concrete, I didn't

have any idea about the what a checkout process really was. Hence, it was important for me to first understand the “why’s” and “how’s” of checkout process even before we started conducting interviews. Having this domain knowledge played a crucial role in developing the right questions and getting the most relevant answers from our interviews and surveys. Personally, being a part of as many interviews as possible helped me step into the shoes of my users and visualize their pains, concerns and reasoning as they walked us through their individual experience. Similar to (Fadden, April 2016 Slide#6), I preferred being part of interviews over reading transcripts of interviews because it helped me understand the nuances in the user’s tone and also provided me the ability to clarify any doubts that I had right away. This empathy helped me in subsequent research methods as well like competitive analysis, cognitive walkthroughs, refining prototype and analyzing the usability tests because I could view things from my users perspective

My next biggest challenge was trying to be objective – especially in competitive analysis. The 4 mobiles apps that we analyzed were very different from each other and hence difficult to compare. For example, coming from a user-centric design school, I initially thought that having a clean/simple/well-balanced interface implied intuitiveness; however, “Tip See” challenged this assumption of mine. Splitting every metric into 3 components prevented my opinion from translating into a bias; it simply became a check box of whether a particular app possessed that component or not. But then, I also had to make a conscious effort to ensure that the 3 components themselves were unbiased and relevant to each metric. I ensured this by deriving the components from values raised frequently in the user reviews on Google/Apple App Store and in our interviews/survey.

Finally, the whole exercise made me realize that it is extremely important to communicating our findings (especially challenging ones) in an efficient, convincing and actionable manner with our team members so that everyone is on the same page (Kuniavsky, M., 2003, page#317) and (Fadden, March 2016# Slide 20). For example, Aditya's and my brief on app store reviews helped prioritize design features in our prototypes before it went for usability testing. But had we not shared these findings in a timely or convincing manner, the prototype design might have failed to address user's true needs. Also as shown in our student feedback, representing our findings in an easily digestible format such as radar charts also can also help getting a buy-in from investors or product design/development teams.

Reflections - David

Having never worked in the food industry, I had a lot of learning to do when first taking on this project. The food industry has its own vocabulary, acronyms, and hidden processes. I had no idea, for example, that servers were giving money to their support staff, which is the basis for our entire project. So suffice it to say, this was a learning experience. In conducting the interviews, I was able to absorb a significant chunk of what I needed to know, but it wasn't until the prototyping that it really sunk in. It was tempting to ask interviewees to explain everything as if talking to a novice, but I remembered a detail from Wood's "Semi-Structured Interviewing" warning against this: "The more an expert translates for the convenience of an investigator, the more the researcher's view becomes oversimplified and distorted compared to that of the expert" (51). Picking up the vocabulary was helpful in designing the prototype. Otherwise we wouldn't have known to use something like LBW, which is, by my estimation, an acronym known only to restaurant workers.

Despite not knowing much about the industry, I do know myself, and I knew going in that, for me, recruiting would be the toughest part of the project. I have a paralyzing fear of asking people I don't know for things, especially their time. I took two approaches to counteracting this fear. The first was getting a partner. I had Richa come with me when we were going door-to-door asking for manager interviews. Having someone else there made me less shy and I think made me seem more credible. The second was using my network where I could. I sent out a social media blast asking for friends of friends in the restaurant industry, and I got several responses. Having a context and an introduction made asking for something much easier. There are, of course, dangers to using one's own network in that the pool of interviewees may end up too homogenous. However, it seemed like an acceptable risk given the circumstances.

The most difficult part of this project from a psychological perspective was the decision to move forward with only the front-of-house half of the application. Alex and I had spent several hours prototyping the back of house app, so at first, I was resistant to the decision to set it aside. After hearing the very well thought-out reasoning behind the decision, however, I was able to accept it. It just made a ton of sense to put the back-of-house side of the project on the back burner, and I remembered that I'd just gotten some great practice in prototyping, which is something I enjoy and could see myself doing professionally.

I was lucky to have such a great, hard-working, and communicative team on this project. It made the experience really enjoyable.

Works Cited

1. Fadden, S. (2016, April 14). *Accessibility and Universal Usability* [Info214-2016-April14-part3.pdf]. Retrieved from Lecture Notes Online Web site: https://bcourses.berkeley.edu/courses/1409114/files/folder/Lectures?preview=68217077
2. Fadden, S. (2016, March 10). *Usability Test Reporting* [Info214-2016-March10-part2.pdf]. Retrieved from Lecture Notes Online Web site: https://bcourses.berkeley.edu/courses/1409114/files/folder/Lectures?preview=66971101
3. Hawley, M. (2013, December 13). A Visual Approach to Competitive Reviews | Mad*Pow. Retrieved May 05, 2016, from http://madpow.com/insights/2013/12/a-visual-approach-to-competitive-reviews
4. Kuniavsky, M. (2003). *Observing the user experience: A practitioner's guide to user research* (2nd ed.). San Francisco, CA: Morgan Kaufmann.
5. Rubin, J. & Chisnell, D. (2008), Handbook of Usability Testing, chapter 7: “Find and Select Participants” (pp. 115152).
6. Weiss, R. S. (1994), *Learning from Strangers – The Art and Method of Qualitative Interview Studies* , chapter 4: “Interviewing” pp. 61119. New York: The Free Press.