JRNY

Begin Your Journey to a New Career

Our Team

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Problem and Solution Overview

America is currently home to over eight million[1] unemployed adults, 27.6%[2] of which are considered "long-term unemployed". People who are part of this category struggle to find jobs for different reasons such as lack of education or a deficiency in marketable skills. Statistics show that 2.8%[3] of people with Bachelor's degrees still find themselves without a job. For those who are stuck in a perpetual cycle of unemployment and rejection, we believe pursuing a trade skill is a viable alternative. With the Baby Boomer generation (the population that comprises the majority of skilled trade positions) rapidly retiring, as many as 62% of firms are struggling to fill open positions. In fact, 31 million positions are expected to open by 2020 as a result of projected retirement trends[4]. However, society does not emphasize the importance and benefits of learning trades as much as it does higher education and white-collar jobs, as seen by the fact that in a study conducted, only 16% of high school students were planning on taking vocational classes. The focus of our design is to provide members of a community with a mobile app that is centered on both interpersonal and personal development in the trade world. If a user wants to search for trade opportunities, they are walked through a questionnaire that narrows down their search to a field that would best match their personality, interests, and more. At the end, they are shown nearby mentors to begin chatting with them, and hopefully, begin an apprenticeship with one of them. If a user wants to focus on personal growth in their area of trade, they can view the number of "experience points" they have earned from learning/practicing certain skills, and recommended skills to tackle next. They can gain points by doing in-app exercises that help reinforce basic concepts of certain skills and by achieving skills that are approved by their mentor.

[1] "Unemployment Situation Summary" United States Dept. of Labor. March, 2016. Web.
http://www.bls.gov/news.release/empsit.nr0.htm 01 Apr. 2016.
[2] http://www.bls.gov/news.release/pdf/empsit.pdf
[3] https://research.stlouisfed.org/fred2/series/LNU04027662
[4] http://www.adeccousa.com/employers/resources/Pages/skilled-trades-in-demand.aspx
[5] www.popularmechanics.com/home/how-to/a3972/4305487/

Contextual Inquiry Participants

Unfortunately, as a result of time constraints and availability, we were unable to conduct pure contextual inquiries. Instead, we interviewed three individuals, two of which worked in a trade field. We chose these two participants from two very different trades in order to gain insight on the difference between working in a variety of trades since one trade experience doesn't describe all of them. For our third participant we chose to interview an unemployed individual to gain insight on the true barriers in getting a conventional office job so we can better cater our solution design to this user group.

FareStart

We interviewed an employee, "Brian", at FareStart. FareStart is a company that teaches culinary arts to unemployed and impoverished people, so that they can get a job working at FareStart's restaurants. We asked the organization questions about the process of people finding out about the organization and starting in the program, as well as what types of candidates and interested individuals they usually get. What we found was FareStart attracts a lot of people with no experience. One unique aspect is that they having openings most of the time so people who want to start a trade skill can start soon and get the training. However, most of the people that come in hear about them by word of mouth, which means that there could be people that would love to work there but don't know about it.

Husky Bike Shop

For this contextual inquiry we met with "John", who is the manager of the ASUW Bike Shop on The University of Washington (UW) Campus, and has been working in the bike shop for over two years.

We learned about the skills required to be a bike technician. We uncovered a lot about the sharing of technical trade skills with our initial inquiry. Because the ASUW Bike Shop is funded through the ASUW, the bike shop can continue to teach its customers instead of charging for services, which is a unique business strategy that provides a benefit to the local biking community. In this specific context the masters of the trade are excited to share their knowledge with others, with no expectation of payment or reward. We also learned about the time requirements of truly mastering a skill, the bike shop offers repair lessons on a case by case basis, and unless you work as a volunteer of the shop, the skills taught only apply to the specific repair you are working to complete.

Also, a person named "Bob" who previously worked at ASUW Bike shop told us that the hiring process was not very selective. He just had very basic bike repair skills when he was hired, and he became more skillful and efficient on common bike problems later on. Occasionally, people had some rare problems, in which case he had to learn new skills from more experienced employees of the bike shop.

Unemployed individual

We spoke with a man, "Tyler", who was unemployed for a long time before recently acquiring a job. We had him recount his experience job hunting, what it was like starting the job, and generally how these experiences could have been improved. The unique aspect from this inquiry was that we got the perspective from the unemployed job seeker's side of the process of looking for a job. He had a lot of good insight into what kinds of ways he looked for jobs and what info he would have liked to be able to access before his employment. Additionally, he gave information about the other people he worked with and what their experiences were like coming into a job that offered training on the job.

Mainly the info we got from him was that people look for jobs mostly through word of mouth. He wanted to work at places that his friends had experience so that he would know the environment. One important thing he found useful was knowing what the training and expectations were going to be. He got the info from his friend before he started, but a lot of other people got this info after they started and did not want to go through with the program once they figured out what the expectations were. He tried Craigslist for a while, but he did not get very descriptive information. He would have liked more about what the job was going to involve and what the training was like. He didn't know anything about the training program until he went to start the job.

Contextual Inquiry Results and Themes

Results

From our interviews, we found out that a lot of unemployed people lack the information about potential jobs. First of all, oftentimes, people learn about job openings by word of mouth, thus leading to a lot of unfilled openings where people could be training for a job. Even though there are a lot of social media that try to connect people with potential jobs, very few of them focus on the market of trade skills. Even when they do, they are neither very informative nor helpful. Furthermore, sometimes people think it is hard to get a job related to a trade skill that they do not have, however there are many jobs where training is provided at the beginning and do not require previous experience,

Second, people don't always know what is expected of them before they start training. The job descriptions of trade skills are sometimes not very descriptive, and might be hard to understand for people who do not have previous experience. This can lead them towards not wanting to continue the training, or being apprehensive and uncomfortable. Third, people like having a connection to the organization, like a friend that has worked there, so they can be more prepared. However they don't always have access to these types of connections. This leads to them missing out on good jobs, or ending up in a job that is not what they expected.

Finally, some experienced tradesmen are looking forward to teaching people. This might be because the organization they belong to pays them to teach other people, or it might be that they would also benefit from teaching others since they get more familiar with the skills during the teaching process. In retrospect, we gained a lot of insight into both the unemployed side and the employer side. The employer needs a way to tell people about job openings and details about the jobs, and the unemployed people need a way to know what job openings are out there and what is expected of them. So it would be beneficial to both sides if we can effectively connect those two parties together.

Themes

Through the themes gathered from our interviews, we have identified the important tasks that will influence our design. The most common problem that was found is the lack of information, and our design must emphasize the requirements needed to learn a trade. The design must also be able to match mentors and students in a more efficient manner. Most of these opportunities are filled through word of mouth communication, which often leaves positions vacant. Also, many of our participants felt apprehensive about learning a new trade. They cite having connections currently in the field as the most effective way to learn about a new job. The design must give the prospective employees the time/monetary cost of training they need before signing up. Lastly, giving both mentors and students a way to communicate with each other will drastically improve the success of the relationship, in turn strengthening the community.

When considering our interview results during the design process, we realized that a theme we failed to mention originally was location. When debating between designs that seemed to emphasize location of opportunities versus learning about a trade outside of the context of a specific opportunity, we realized that both Brian and John had found the positions they were in because of locality. They would not have heard of these positions if they were not near the area or in touch with people near the area. This theme expands on the lack of information in a more concrete manner, as the primary reason for lack of information is because word-of-mouth methods of spreading information is limited to proximity.

Another theme we failed to explicitly mention was confusion about where to begin. Tyler had searched through Craigslist, but with the wealth of information available, he had to sift through many different positions and fields. Bob applied to the Husky Bike Shop because he already had basic bike repair skills. However, many individuals looking to enter a trade may not have any prior experience with a trade, and thus won't know even where to begin in terms of finding out what trade would be a good fit.

Task Analysis

Who is going to use the design?

Unemployed individuals (who are either chronically unemployed or want to find an alternate career path) will most likely use this design to explore their options in the trade world, as well as trade professionals who primarily want to find apprentices to train to fill open positions as they retire or simply want more help.

What tasks do they now perform?

For unemployed individuals, the tasks they now perform include:

- Learning more about a trade
- Learning about what jobs require what trade skills
- Seeking nearby trade schools
- Seeking an apprenticeship

For trade professionals, the tasks they now perform include:

- Seeking potential apprentices to train then employ through advertisement
- Spreading the word about open positions by word of mouth
- Training apprentices on the job

What tasks are desired?

We want to enable the following tasks:

- Filtering down the many trade skills to particular ones that match an individual's personality/work habits
- Obtaining more information about the training process of learning a new trade skill
- Connecting and forming relationships with mentors before signing up to learn a trade
- Sharing apprenticeship experiences at specific places to help inform others
- Reading about other people's experiences learning a specific trade skill
- Tracking personal progress so one can see how much they have learned/what is left to tackle
- Sharing professional experiences to help aid others looking into the trade world and fight stigma
- Posting opportunities for people to learn a new trade skill so that they can fill a position
- Learning about how a candidate behaves in a working environment before offering an apprenticeship

How are the tasks learned?

People learn by looking through the Internet, local bulletins, and newspapers for job postings. They visit/call unemployment and career centers for guidance. They learn about opportunities by word of mouth and networking. Employers in a trade profession need to learn how to appropriately train someone new in order to train an apprentice effectively.

Where are the tasks performed?

These tasks are performed anywhere someone can access information, either remotely (Internet, newspaper, word-of-mouth) or physically (at a library, local community center, career center, trade school). The location is usually in a local footprint as the unemployed individual since not many people are able to spend the time/money to move far away. For employers, they usually try to employ people around the area since they might not have the resources to extend their search elsewhere.

What is the relationship between the person and data?

An unemployed individual may not want to (or cannot) apprentice for multiple professionals at the same time, nor may a professional want to train multiple apprentices at once. Common data is thus an issue, since if everyone has access to the professionals and unemployed trade-seekers in a community, there may be synchronization issues.

If an unemployed individual or a professional has a bad experience with the other party (or they may simply want to describe a neutral experience), we need to decide if this data should be private or public. On one hand, privacy is a big issue when handling personal data about someone, but on the other, reviews of working with someone can be beneficial in helping others decide whom to work with.

What other tools does the person have?

Other tools include:
- Library
- Local career center
- Internet
- Local trade schools (brochures, information packets)
- Word of mouth
- Government programs like Apprenticeship USA
- Advertisements

How do people communicate with each other?

Most communication is bidirectional either indirectly (via phone, video chat, email, instant message) or in person. Indirect communication will primarily be about the details of the training program, such as the exact skills they will learn, the time commitment needed to learn the skill, the location of the training, if there is any payment, etc. In-person communication will occur when a mentor and an apprentice are working together.

How often are the tasks performed?

An unemployed individual may perform a variety of information seeking many times throughout the process, but may only perform the act of pairing with a mentor a couple of times (as there is a constraint on how many mentors are available within a community at one time.) However, they may contact multiple mentors to ask questions, and these conversations may span a decent amount of time. A trade professional probably does not seek apprentices that often, but may engage in conversation with candidates many times.

What are the time constraints on the tasks?

An unemployed individual has to invest a time in learning about trade skills that would be a good fit, contacting mentors, and has to eventually invest a lot of time in training for a specific trade skill. A trade professional looking to seek an apprentice may need to find an apprentice quickly so that a position can be filled as soon as possible. A trade professional also needs to invest a lot of time into training one or multiple apprentices.

What happens when things go wrong?

An unemployed individual may decide to forego a mentor (or a mentor may decide to discontinue training of an apprentice) in favor of another one because of a bad relationship/mismatch in personalities and work ethic. This can lead to awkwardness and a soured relationship. In this case, allowing reviews of one another could help others avoid this situation for future apprentices/mentors.

An unemployed individual may not find a mentor in their community for a particular skill they are interested in. In this case, we can suggest similar trade skills that are feasible that match the individual's interests.

When an individual makes progress in their training and a mentor does not approve their progress, this can lead to animosity. To assuage this, we can allow a mentor to give a description about why the progress disapproved to the apprentice can see what else they need to work on before formally achieving a skill.

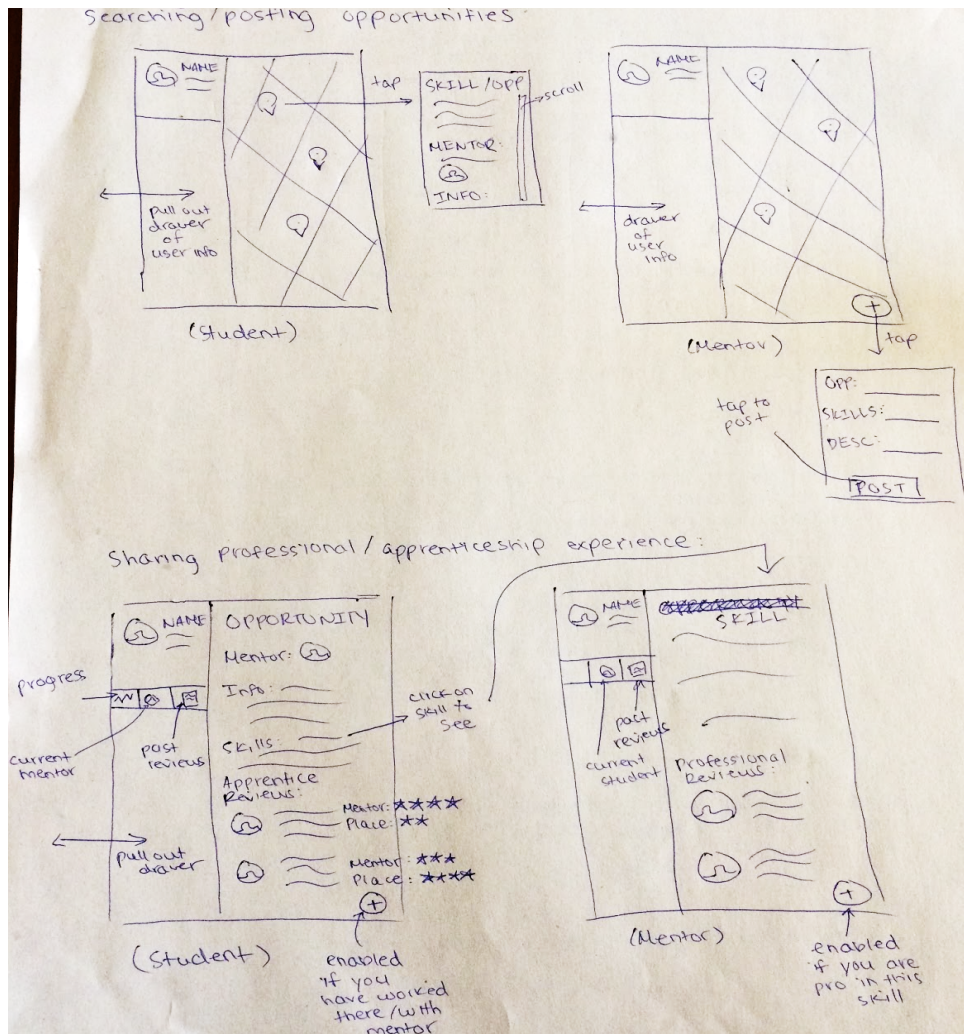# Proposed Design Sketches

Design 1

Figure 1

Our first design utilizes a map to highlight the different opportunities for a potential student to apply to and for mentors to post to. The map makes it easy to find opportunities within a given location. From the map view it is easy to pull up the details to see the skills and reviews of that opportunity. There is also a form where the mentors are able to share their experiences on a particular skill. To search for opportunities [Fig. 1 Top Left], there are pin drops that show the location of each opportunity. When the pin is tapped, detailed information on that opportunity is shown. Information like the types of skill, who the mentor is and how to contact them are displayed. To post opportunities [Fig. 1 Top Right], a corner "+" allows a mentor to easily add a new opportunity and add specific details on the skills and working environment. A pin is automatically added to the map where the opportunity is. To share apprenticeship experience [Fig. 1 bottom left], a student's profile contains the type of opportunity they are currently on, their mentor and skills they are learning, with a post review button to help the student share their experience. They will have a chance to write a detailed review as well as rate their mentor. To share professional experience [Fig. 1 bottom right], each skill will have a page that explains that particular skill in detail. Within this, a "+" is added so that a mentor can add their own experiences with that skill. These experiences are added to the skill page so that anyone can read them.
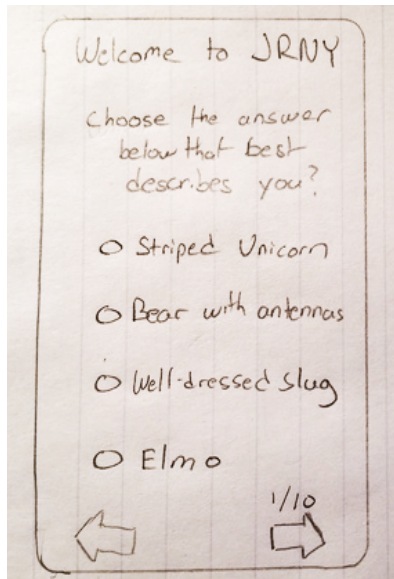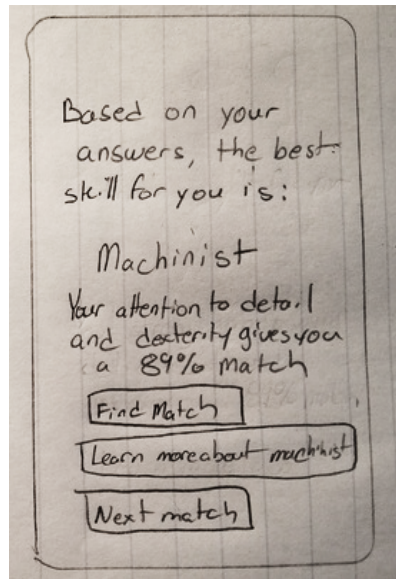
Design 2
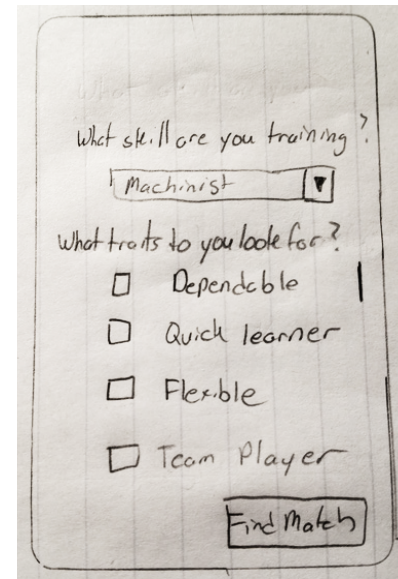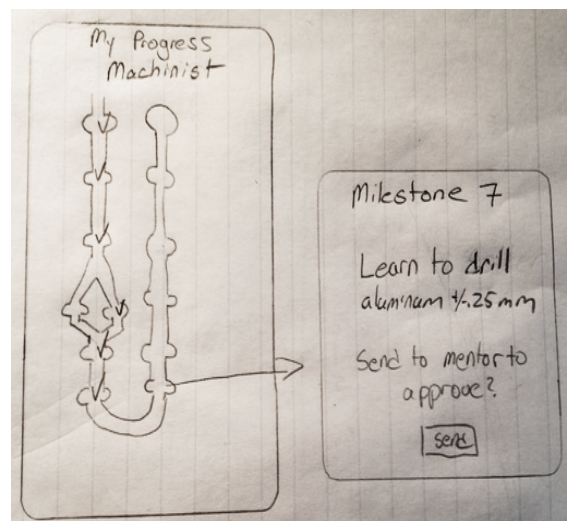

Figure 2.1

Figure 2.2

Figure 2.3

Figure 2.4

The second design focuses on personalizing the student's experience with the design. There will be a survey that will personalize the skill you would be best suited for by asking some questions. From these answers a recommended skill will come up with an option to learn more about that skill. The mentors will be answering some more detailed questions to help match them to students. Lastly, there also will be a personalized profile page that will help keep track of the individual student's progress as they go through the process of learning a skill. To search for opportunities [Fig. 2.1], the student will answer multiple questions that will help narrow the focus to a recommended skill. Multiple options will also be presented so the student has multiple choices. To learn about a skill [Fig. 2.2], after the survey, each recommended skill will have a button that will allow the student to learn more about that particular skill. This page will also have information from various mentors talking about the day-to-day responsibilities of the profession. To post opportunities [Fig. 2.3], the mentors will have a survey of their own to answer. These questions will pertain to what type of apprentice they would like and from these answers the app will match them with a student that has those types of traits. To track progress [Fig. 2.4], a simple visual will show the major milestones that need to be met to complete the training program. Each milestone has to be approved by the mentor before moving on to the next step.
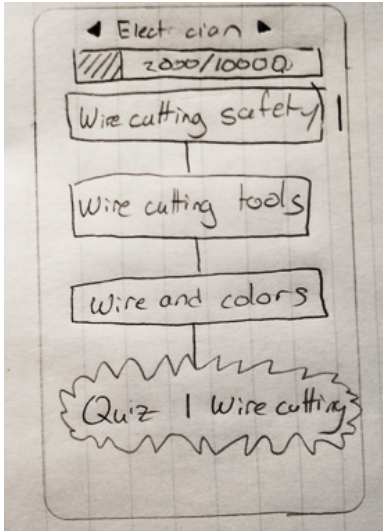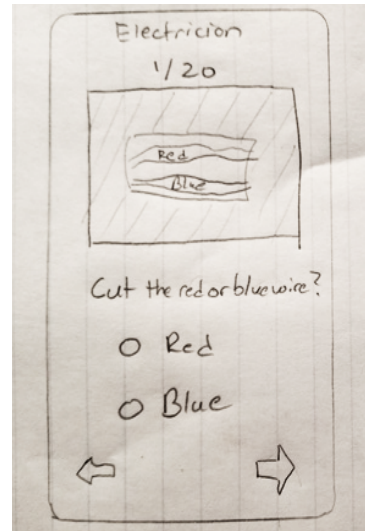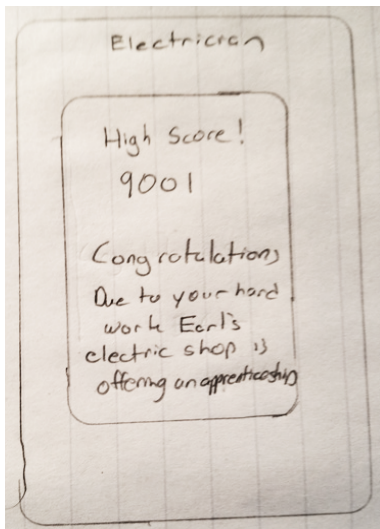
Design 3

Figure 3.1
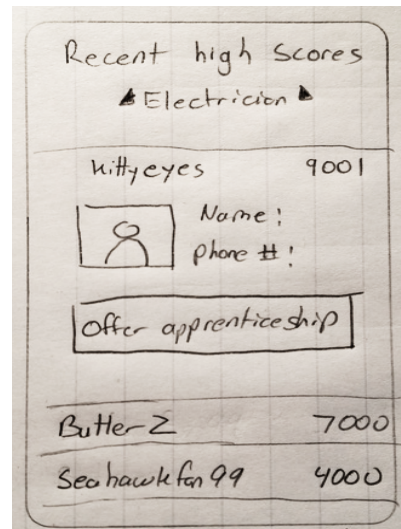

Figure 3.2

Figure 3.3

Figure 3.4

The final design focuses on making the experience interactive by using techniques like game-ification as well as compounding features into single interfaces. The design will utilize learning games that will train students in the basics of the various skills. From the performance of the game, the mentors are able to contact the top scorers to offer them an apprenticeship. This design includes features for tracking a student's progress, both searching and posting opportunities, and information pages about the trade skill in question. This design falls within a mobile application setting, similar to our other solutions. To track progress [Fig. 3.1], a student has access to the 'Progress' page through their settings where the student can view a 'skills tree' with various training classes and quizzes. There also is a progress bar showing the how far in the training the student has gone. To learn more about a trade [Fig. 3.2] each game will teach the student the basics of the trade. By playing the various games for the different trade skills, it is easy to understand the type of work that each skill does. The quizzes help reinforce the learning and ensure that the student is progressing through the training. To search for opportunities [Fig. 3.3], when playing the game each score can be displayed to the surrounding mentors. By ensuring that you have a high score in the training games, mentors can offer new apprenticeships to the students who have a high score. To post opportunities [Fig. 3.4], the mentors can see the high scores for each skill. From the high scores the mentors can decide to offer an apprenticeship to these students.

Choice of Design and Tasks

Our group chose to focus on searching for trade opportunities and tracking progress, as these two tasks are the most focused on the area of interpersonal/personal development for our target user group, the unemployed. Since we want to address the problem of unemployment, we chose to focus our narrative on the unemployed side of the story to help us refine our design with this target user group in mind. Our final design was a combination of all three designs, in the form of a mobile app (which was our chosen medium because our target user might want to continually engage in learning and searching when they are on-the-go.) When a user wants to search for trade opportunities, they are walked through a questionnaire (see Design 2) that helps them find what trade might the best fit for them depending on their answers to questions related to interests, personality, etc. This tackles the issue that came up in our interviews where people didn't know where to start looking. When they get to the end of the survey and click "find my match", a map view will pop up (see Design 1) that shows them mentors nearby who would be a good partner with info about their trade, their workplace, and reviews about the mentor and the workplace. This will help candidates feel more comfortable with joining a workplace if they can read reviews about it (which was a desire an interviewee mentioned). Alternatively, when the user wants to focus on their personal progress, they can view the milestones they have surpassed and upcoming skills that are suggested to tackle (see Design 3) in the style of a game with "experience points" to encourage engagement. They can gain more points by doing in-app exercises that help reinforce basic concepts of certain skills. This helps outline for a user what they need to work on next in their development of a trade skill, which addresses the fact that a major theme of our CI was unawareness of the expectations involved in a trade skill. To make the progress more credible and accurate, their current mentor must approve each achievement.

Written Scenarios

Task 1 (Storyboard 1)

Dan has just graduated from university with a degree in English Literature. He has been actively searching for jobs, but is facing constant rejection, as not many opportunities are available in the current job market for his degree. He is discouraged because he has spent money and time getting his degree, but can't find a job. He has heard about trade jobs, but has no idea where to start since it is such a foreign field. He downloads JRNY and walks through the Trade Match questionnaire, and is presented with Electrician and Locksmith due to his meticulous and scrutinizing nature, which had helped him in his college degree as well. He thinks this is a good fit so far, and taps the option to search for a mentor nearby. After reading a review about a mentor (a Locksmith) that was shown on the map, he begins chatting with the mentor to find out more about being a locksmith and the requirements involved. He is not yet set on being a Locksmith and wants to find out more information, but he now has a starting place to begin exploring options.

Task 2 (Storyboard 2)

Alice is in her mid-30s and has been training with her mentor, Bill, in the construction trade, for two months. While she is eating dinner at home, she wants to check on her progress so far and mentally prepare for what skills she should tackle next in the upcoming months. She pulls out her phone and opens JRNY, and taps on the option to view her progress. She currently has 100 experience points, and has surpassed two milestones on her visual chart. She reflects that she has recently been learning a new skill (interpreting drawings and blueprints) and thinks she has a good handle on this skill. She submits this skill as an achievement. The next morning, she opens her phone and she has a notification that says Bill approved the achievement! She then opens JRNY and sees that Bill valued the skill at 50 experience points, so she is now at 150 points. She is pleased with this tangible measure of her progress.

Storyboards of the Selected Design

Storyboard 1: Searching for Trade Opportunities