Savvy

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Neighborly

PROBLEM AND SOLUTION OVERVIEW

In today's world, developing valuable skills is essential for finding success. Many of us go through schooling but never pick up certain skills we're interested in, whether it's cooking, gardening, or playing music. Resources are available online, but these can only go so far. Sometimes you really just want to get in touch with someone else familiar with the craft. Classes may be available on the subject, but this barrier to entry may be enough to halt your curiosity. Fortunately, there may be someone within your very own community already well acquainted with the skill you seek. This presents a great opportunity for members of a community to develop skills while bonding over mutual fascinations. The aim would be to engage communities through their passions and interests, connecting individuals and picking up new skills along the way. The problem is, it can be tough to know who nearby is capable of this sort of collaboration. Our team sought an effective method of making these connections. We ultimately settled on a social networking app with game-like elements. The main view is a virtual room filled with your neighbors' avatars, clearly displaying their names and interests. Users will be able to interact with their neighbors, discuss their passions, and seek out those with similar interests for direction and collaboration. The solution provides a fun way to get people talking and sharing their talents.

CONTEXTUAL INQUIRY TARGET, STAKEHOLDERS, AND PARTICIPANTS

We did three interviews to explore how people are currently finding the resources for acquiring new skills. We spoke with a private tutor, a self-taught musician, and a sewing student/instructor. Because our user group involves both teachers and students, we wanted to interview a teacher, a student, and a teacher/student. Furthermore, since we wanted to discover the problems with current methods of learning and teaching, we sought a variety of techniques such as one-on-one instruction, self-learning, and taking classes. Our interviewees proved to be seasoned individuals who were able to provide us with this information and more!

Our first interviewee was **Wanda**, a private tutor and educator at Adams Elementary School with 10 years of teaching experience. She tutors 5th to 8th grade material to students in the neighborhood, whom she met at the school or through references from teachers and

past or current students. We interviewed Wanda in person at a local coffee shop. Something interesting we learned from Wanda is that establishing trust with her students was not a problem, because she had already met many of them at the school, or was referenced by contacts. This allowed people to know a little about the person their students would potentially be tutored by. However, the case would be different in our design. This brought up the issue of how arranging meetings between people would need to feel safe, and what people would want to know about the instructors beforehand. For example, people might want to be informed about the teachers' level of expertise as well as be able to see comments from their previous employers. Also, because Wanda is already an established tutor who expects compensation, this made us think about what would things be like for people who are nonprofessional or would want to volunteer their services rather than get paid.

Our second participant was **Amanda**, an undergrad at UW. We observed her playing songs on her guitar and singing along in her room, using her desktop to look for tabs. She has been learning to play guitar for almost two years and has used only online resources and occasional tips from a friend. She wanted to learn how to sing and play songs that she enjoyed, so she began searching "how to play [song title]" on YouTube. It is interesting that she would first watch and write down the chords shown and the lyrics. Then she would watch it multiple times to play and follow along. She wanted to have it all laid out with lyrics and chords to match because videos only showed one chord at a time. Her friend told her about *tabs.ultimate-guitar.com*, and now she mostly uses this website because it has a layout she likes: the lyrics and corresponding chords are right above them. If she does not like the tabs the website has for a certain song, she will look on YouTube or other websites for different tabs. It is important to note that Amanda has specific goals: to play a particular song, so these online resources are generally sufficient in meeting her needs. Although she recognizes that there are some drawbacks, including not being able to find tabs she likes and when websites do have good tabs, they may not teach strumming or rhythm and she "makes them up" to how she thinks sounds best.

For our third interview we talked to **Mabel**, who started learning sewing when she was six years old. Over the past 50 years or so she has continued to acquire sewing techniques from a variety of sources as a hobby. Due to her location, the interview took place on Skype. Mabel takes sewing classes in her free time and considers the social experience in the class important. She is willing to try out courses without personal recommendations but needs to see evidence of the instructor's skills before she will trust them. Mabel likes to share tips and tricks with her peers and instructor if she has knowledge they want to know, and has also recently taught a student about freestyle quilting. As her career pays higher than any sewing class would reasonably cost and she sews for the fun of it, Mabel considers monetary compensation for her help unimportant, socializing and helping others is enough for her.

CONTEXTUAL INQUIRY RESULTS AND THEMES

Trust

Trust was brought up in all of our inquiries and interviews and appeared to be a very important issue. It appeared both the tutor and self-taught student have concerns over meeting strangers for private lessons. It is likely people will hesitate to use our design if there are no ways to check the credentials of the person they will meet in-person. This is a legitimate concern and will require careful implementation in our design to improve the trust between the users.

This issue of trust could be mitigated if a user could access more information about other users. Ideally, users will be much more comfortable with meeting others when they have more information about the person. This task needs to be carefully implemented so that it will not cause many, if any, privacy issues.

One interviewee brought up that it might be helpful to have a consultation with an instructor or student before confirming an official class. Another option we could use is narrowing the scope of the technology and allowing users to filter their search results to within their local neighborhood. By limiting the scope in this way, interactions between users are narrowed down to only people nearby, which should ideally improve users' trust.

Instructors' capabilities

Another common theme that appeared during our inquiries was the issue of instructors' skill level and capability. Some people may not feel confident about their skills and will hesitate to teach other people. This could potentially lead to the situation of too many students and not enough teachers. This issue also affects the student as well. It is only natural that prospective students would seek out only the best available instructor when looking for advice or lessons. If students have no knowledge about the instructor's skill level, they could lack confidence that the lessons they may receive are worthwhile.

Whether or not an instructor is capable of teaching others or not will largely depend on each individual instructor. A technology cannot tell if a person is skilled enough to teach others, so such issues are best handled by the individual. However, a recommendation system could potentially mitigate some of this. If a student could recommend the instructor or simply post a review, the instructor could use this information to self-evaluate and other students could gain knowledge about the instructor's skill level.

Another approach to mitigate this issue is a skill level comparison system. That is, an instructor could compare their knowledge level with others and have more or less confidence in their teaching capability. This design will also prove useful to student users as well. Students can compare the skill level of different instructors and be able to choose the appropriate instructor to assist them.

Compensation

Finally, compensation was another prevalent issue. During our interviews, it appeared different instructors had varying expectations for compensation. One instructor expected monetary compensation, while the other would teach simply for the joy of the activity. It then

became clear to us that there is no single form of compensation that works for every instructor.

 We saw a wide variety of interests when it came to the forms of payment accepted. For those who have actually made a career out of their skills, it is common for monetary compensation to be involved. This makes sense for activities that tend to be less like hobbies and more like professional skills. The same concept did not apply to the hobbies though. Activities that tend to be more inherently rewarding do not necessarily need associated compensation. The enjoyment of the experience can at times be its own reward for passionate masters of a skill.

 We even saw some interest in alternative forms of compensation. For example, one of the individuals we spoke with specifically expressed interest in teaching some of the skills she had as a form of payment for lessons she had received. This all goes to show that we should be ready to accommodate for any form of compensation the instructors are interested in. Few will be willing to teach others their skills if they are not satisfied with the benefits they receive out of the exchange.

ANSWERS TO TASK ANALYSIS QUESTIONS

Task Analysis
 1. **Who is going to use the design?**
   - People who…
     - Are looking to learn a new skill
     - Need a quick tip on particular task
     - Want to share knowledge, i.e. by teaching others a skill
     - Want to meet others or socialize with others in their community with similar interests to them
     - Want to make some extra cash, i.e. by teaching others a skill they already know
 2. **What tasks do they now perform?**
   - Finding students/instructors through personal connections
   - Searching online (e.g., Google) for local workshops or classes in the topics of interest
   - Finding videos online (e.g., YouTube) about the topic
   - Joining clubs or organizations to find people interested in the same topic
   - Finding discussion forums online on the topic of interest
   - Going to the library for articles/books on particular topic
 3. **What tasks are desired?**
   - Easily find people within the local area who have the same interests
   - Find someone who is knowledgeable in the area of interest
     - Personal references
     - Trusting the instructor/student
       - Instructor does a good job
       - That it's safe to work with them
   - Find people interested in learning about a passion of theirs
   - Getting hands on instruction in a specific skill

- Making cash by teaching skills to others
- Being able to communicate with an instructor/student easily and effectively
- Convenience
  - Location, time, availability (is it offered?)

4. **How are the tasks learned?**
   - Trial and error
   - Using a computer
   - Reading
   - Previous experiences
   - Personal connections

5. **Where are the tasks performed?**
   - Places with Internet
   - Workplace
   - Library
   - Social gatherings

6. **What is the relationship between the person and data?**
   - General location
   - Contact information
   - Recommendations/ratings through word of mouth (references)

7. **What other tools does the person have?**
   - Books on specific topic
   - Access to Internet
     - YouTube, Websites, Articles
   - Family, friends, and other contacts
   - Local workshops/classes posted online or on physical signs in the community

8. **How do people communicate with each other?**
   - In person
   - Over the phone
     - Calls, Texting
   - Through email
   - Messaging services
     - LINE

9. **How often are the tasks performed?**
   - Weekly
   - Sporadically/On a whim

10. **What are the time constraints on the tasks?**
    - If learning a skill that takes multiple sessions, people probably want to constrain the time period
    - People who want to learn a skill within a time period would probably have a deadline
    - People who want a quick tip would probably want an answer as soon as possible
    - Schedule conflicts between instructor and student
    - Can take a lot of time to find a compatible resource for learning a topic
      - Google Search can give you thousands of results
      - Library may not have the right book
      - Have to ask many friends/family to find someone knowledgeable in topic of interest

  ○ May take time to trust instructor
11. What happens when things go wrong?
  ● A teacher or a student may not show up to a scheduled meeting
  ● Student may not feel like the compensation was not worth what was learned/the experience
  ● Student still hasn't learned what they wanted
  ● A teacher may be inadequate for teaching a subject at an appropriate level
    ○ Bad experience for student
  ● The student may have been troublesome
    ○ Bad experience for teacher
  ● May not find anyone locally with mutual topic of interest

PROPOSED DESIGN SKETCHES

Design 1: Phone Application

Our first design is an application for smart phones that allows you to express which hobbies you're interested in and interact with other individuals of varying skill levels. The first task it addresses is *sharing skill level and qualifications* (Figure 1). A new user can select interests and their proficiency in each. Additionally, the design allows users to *learn from and get to know neighbors* (Figure 2). Users can filter by mentors, non-mentors, skill level, and types of compensation. Users can view who in their neighborhood also has the same interests as them. They can see the neighbors' profiles, including their proficiency levels. The third and fourth tasks are *sharing knowledge of some skill with others* and *seeking local enthusiast for general questions* (Figure 3). Once you've reached an individual user's profile, you can access most of the direct interaction the app provides. The user will provide a short bio concerning their interests and capabilities. The three buttons allow users to message others, request to meet with others, and view their work history and recommendations. Specific locations are only given when the receiving user accepts the meetup request.

Figure 1. Sharing Skill Level & Qualifications.

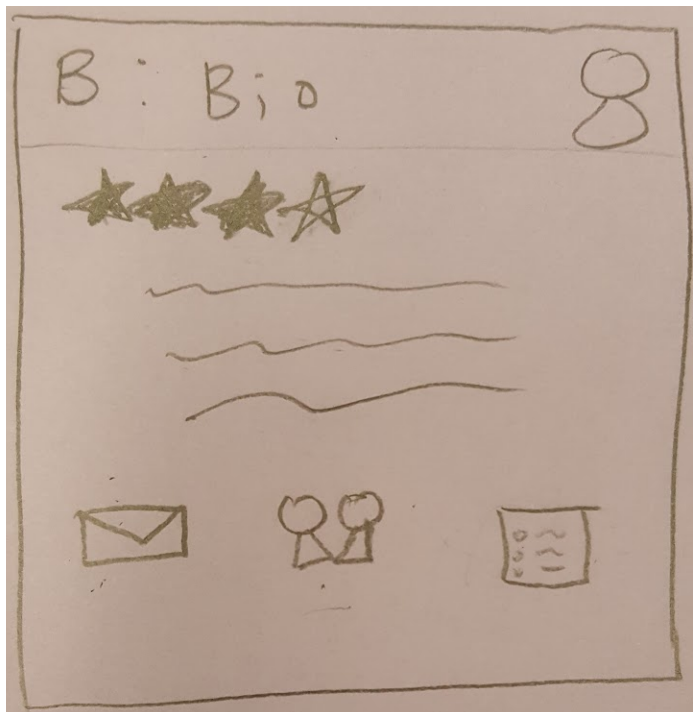Figure 2. Learning From and Getting to Know Neighbors

Figure 3. Sharing knowledge of some skill with others; seeking local enthusiast for general questions

Design 2: Interactive Map

The second design uses an interactive map showing the houses and buildings within a local area. Figures 4 and 5 show how the design will address the following three tasks: *learning from and getting to know neighbors, seeking local enthusiast for general questions,* and *sharing skill levels and qualifications.* The overview map shows information about people in your area and their primary skills. This lets you learn more about your neighbors, helps you find people with interests similar to yours, and may provide opportunities for you to learn about hobbies you haven't considered in the past. We include a menu allowing the user to select the information display on the map such as skill, rating and credentials. Figure 6 demonstrates the fourth task, *sharing some knowledge of skill with others.* If the user clicks on a house, an enlarged bubble will show more information such as skill description, contact information, and availability. There are also links to skill history and reviews from neighbors. There are options to message, request to meet with, and call the neighbor.

Figure 4 & 5. Learning from and getting to know neighbors; Seeking local enthusiast for general questions; Sharing skill levels and qualifications.

Figure 6. Sharing knowledge of some skill with others

Design 3: Role-Playing Game

This third design is a role-playing game where you can explore a guild room and chat with your neighbors. You can create an avatar of yourself and identify your interests and share your skills. Figure 7 addresses the task of *learning from and getting to know neighbors*. In the neighborhood guild room, players can meet other players in their area. Players can potentially talk about a skill or their experience with it, and even arrange meetings, online or in-person, to learn skills from each other. They can also connect with each other to make it easier to get in touch later! Figure 8 shows the task of *sharing knowledge of some skill with others*. On a player's profile, they can share information like their name, short biography, and skills. When a player adds a skill, they are asked to describe it, show a picture of it, and choose a proficiency level as well as talk about their experience. Then when another player looks at their profile, they can see this information and potentially contact them for further elaboration of a skill. Figure 9 shows how users can *seek local enthusiast to ask general questions* or *seek tips or ask a quick question*. There is an area in the game where you can view the skills that people in your neighborhood have shared. A player can scroll through these skills and click on the ones that interest them. Once a player has selected a certain skill, they will be redirected to a page that shows other locals with the same skill. You can post a quick question forum-style or ask someone a question through a private message.
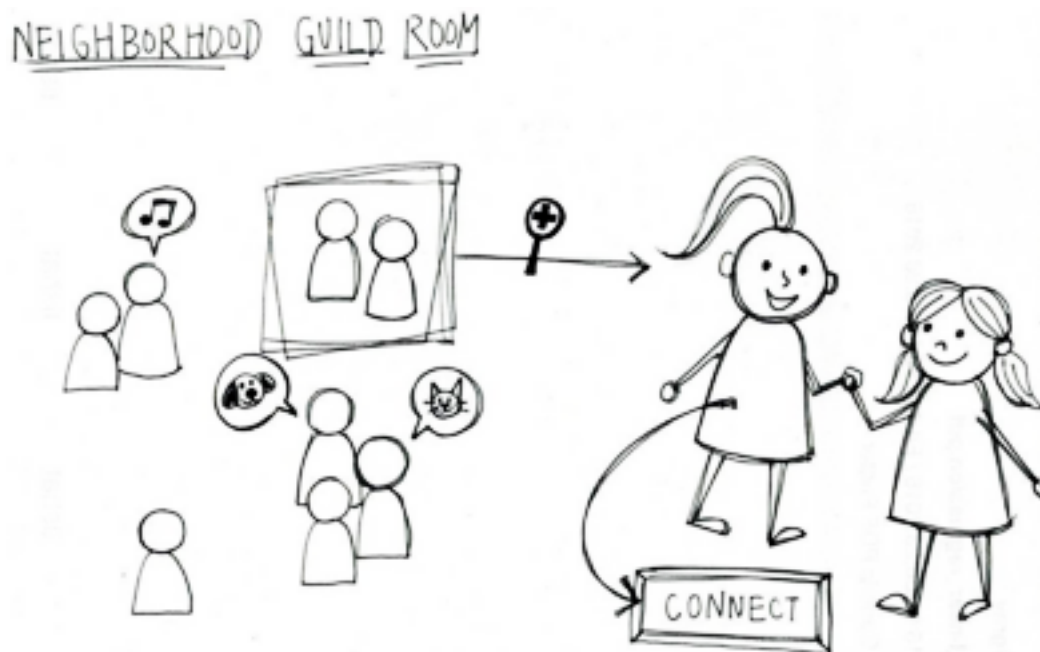

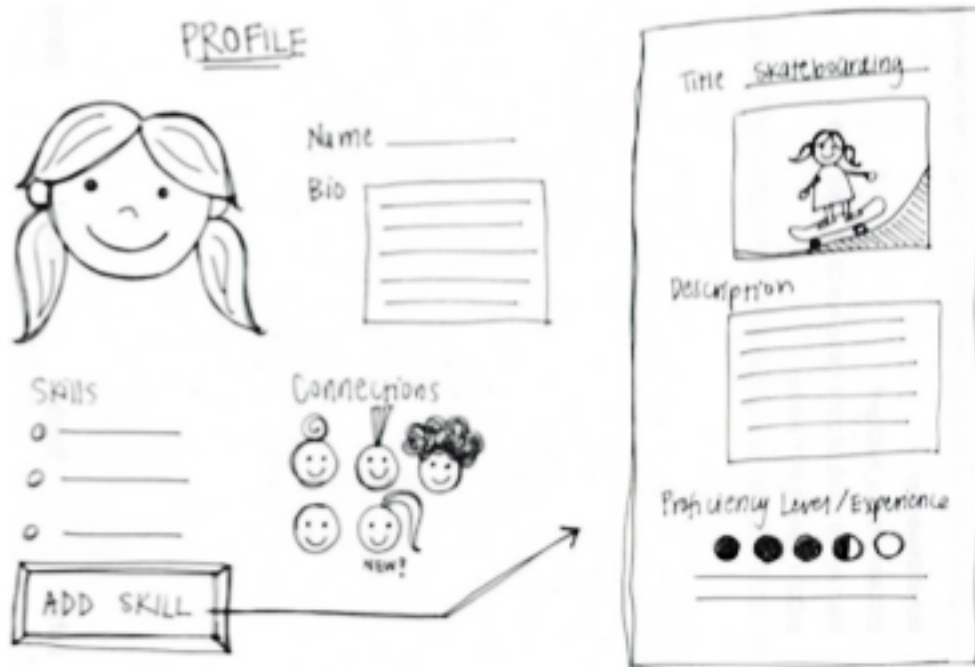Figure 7. Learning from and getting to know neighbors.

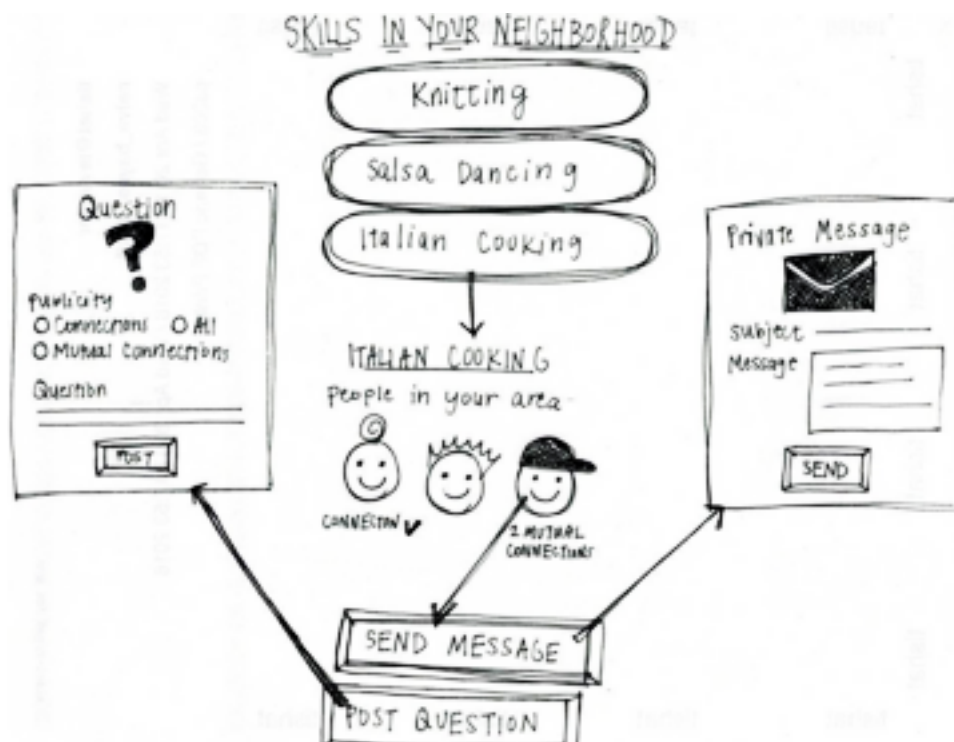Figure 8. Sharing knowledge of some skill with others

Figure 9. Seeking local enthusiast for general questions; Seeking tips or asking a quick question

Design & Tasks Choices
We chose a combination of the best aspects of all three designs. Our design is a social networking app focused on neighbors broadcasting their interests and skills. The main view in

the app is a virtual room filled with each neighbor's avatar. This room shows your neighbors and indicates one of their favorite interests while providing profiles in case you'd like to interact directly with someone you meet. We considered several interfaces to interact with your neighbors. Compared to our other designs, the avatar-based design has a more social experience and engaging interface. People may be more likely to interact with fun personas than when selecting a random person from a list. We also gain the added benefit of being free to hide exact locations, increasing the safety of our users. In addition, a user can adjust the privacy level of his or her profile, limiting what information can be seen and by who. Our design addresses the task of *getting to know neighbors through their hobbies and interests*. People have a variety of skills and interests, but often, neighbors don't spend enough time with one another to really figure out what they're passionate about. Residents will learn about neighbors by seeing who has what skills. This design will promote community engagement among neighbors through mutual interests. For the second task, *seeking local enthusiasts for questions and collaboration*, people may find themselves faced with a task or project where they want an experienced opinion or assistance. With filtering options within our community room, neighbors will be able to identify and reach out to people with the desired skill. The task captures the widest range of potential uses, whether you intend to connect with individuals of similar skill levels or you wish to engage in a learning experience.

WRITTEN SCENARIOS

Task 1: Getting to know neighbors through their hobbies and interests

Laurence very recently finished moving into a new neighborhood. He knows nobody in the area and his loneliness is emphasized when he sees his next door neighbors having a get together in their yard. Laurence wants to start up a relationship with his neighbors and so he pulls out the Neighborly phone app. He chooses his new neighborhood, Ballard, from the map and looks around the neighborhood's room. He notices that a neighbor of his, Sally B., is interested in singing, just like him, and so he selects her avatar. From Sally's page, Laurence adds her as a connection, and sends her a private message. He expresses that he is new to the neighborhood and looking to connect with the community. The two of them set up an in-person meeting. With music as a common topic, Sally and Laurence have a great conversation. Sally, who found she enjoyed Laurence's company and thought her friends in the neighborhood would as well, invites Laurence over to her next barbeque.

Task 2: Seeking local enthusiasts for questions and collaboration

Shawn wanders into his kitchen to eat a few tomatoes as he usually does and it occurs to him that he could do something more with them. He has very little experience with cooking, especially with fruits or vegetables, so he feels reluctant to suddenly jump in and cook alone. Shawn pulls up the Neighborly app on his phone to look for someone nearby who could give him some direction. He filters the people in his neighborhood's room to emphasize those who listed cooking as a skill. He then selects an avatar and reads the profile of Annie R. He likes her

previous experience and she seems like she would be a pretty cool person to talk to. He sends her a message asking for her help learning how to cook recipes with tomatoes. She gives a favorable reply and they meet up so she can show him new ways to cook with tomatoes. Shawn is able to make himself a nice cooked meal and gained a pleasant sense of accomplishment from it. He keeps up cooking and stays in touch with Annie to chat and occasionally ask for advice.

STORYBOARDS OF THE SELECTED DESIGN