**Sections**

* What is Peerdea?
* Specific Issues Worked On
* Skills Learned
* Overall Thoughts & Research in HCI

**What is Peerdea?**

With more people online than ever, creative small business owners and entrepreneurs are transitioning to social commerce– selling their products on social media platforms such as Instagram or TikTok. However, there are unique challenges that come with being an entrepreneur selling on social commerce, as they are often the sole proprietor of their business. One main challenge they may face is receiving feedback, which is especially important for creative small business owners, as many of them work alone and may not have the same support as larger corporations. Feedback can help entrepreneurs reflect on their work, thereby encouraging a growth mindset, as well as help improve their product. Though some entrepreneurs have tried receiving feedback on their work on large social media platforms, many of them post only late-stage work as they often feel insecure and uncomfortable sharing original ideas in fear of mockery and intellectual property concerns. However, early-stage feedback is crucial as it often results in higher quality work than when an idea receives feedback at later stages. Another common reason large social media platforms are not ideal for feedback is that the audience is too broad for more focused responses, which resulted in analyses that were not too helpful or relevant.

Thus, to alleviate this problem, Peerdea was developed as a native application that allows creative small business owners and entrepreneurs to remotely exchange feedback in the early stages of their idea development. Users are encouraged to create and join peer feedback groups, where they can feel safe to share their early-stage ideas and products with peers, who are also likely to be entrepreneurs undergoing similar struggles. User support features on Peerdea include sentence starters that scaffold to create high-quality feedback and capped group sizes to ensure small, safe, trustworthy spaces for entrepreneurs. Through Peerdea, entrepreneurs can seek, give, and receive feedback to better support and grow their creative business endeavors and entrepreneurship overall.

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**Specific Issues Worked On**

* Describe issue, talk about approach to solve problem, how problem solved, why is this important to solve

General UI Improvements

To familiarize myself with Peerdea, the codebase, version control with Git, React Native, and Expo, my first task for Peerdea was to improve a few general user interface elements. For example, in the user profile page, where the user can edit information such as their bio or goal, both the text box and text were originally quite small and difficult to access. To resolve these issues, I widened the size of the input area to make more space for typing, and increased the Text

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I also worked with logic regarding the different types of users in a Peerdea group. Each group has an admin, which is the person that created the group. In the “group members” screen, the admin can see a gold star next to their name, indicating their admin status, along with a red X next to each member should they want to remove somebody from the group. However, regular group members are not able to see who the admin is and instead see what the middle picture displays. Since it is useful to know who the admin of a group is, I changed the layout so that all users in a group can see who the admin is while ensuring they would not have access to the feature for removing other users.

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Feedback Prioritization

On the “Feedback” page, where users of a group can create various types of posts (plain text, with image, polls, or a combination of the three) to receive feedback, the posts were originally placed in reverse chronological order, with the newest post at the very top. Although this is an intuitive way to view feedback posts, if there are posts that have not yet received feedback, they will be further down on the page, and as time goes on, they will be unlikely to receive responses.

To tackle this issue and find how posts should be prioritized, I researched how other social media platforms prioritize certain posts to better understand the topic of social media feed algorithms. Although these algorithms accounted for many factors, Peerdea has relatively less posts in each group so it did not need as complicated of algorithms. Therefore, I started to brainstorm with Yasmine on how to prioritize posts and what it means for a post to be prioritized. The ideas for post prioritization were various combinations of factors such as the number of likes, comments, and time since the post was posted. In the end, we decided that regular posts between a week and three weeks old and have no comments should be prioritized and that if the post is a poll but has no poll responses in that timeframe, then it should also be prioritized.

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After:

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Accessibility in Peerdea

When I started working on Peerdea, most of the features were already implemented. Therefore, to prepare Peerdea for larger scale deployment, we wanted to make sure that Peerdea is accessible. To tackle this, I explored the w3 guidelines that native applications should follow to ensure accessibility for a wide range of users. Although there were many possible changes to make, I spoke with Yi-Hao Peng, a 2nd year PhD student, who has experience with visual accessibility. He informed us which parts of Peerdea were inaccessible, helping me discover which parts of Peerdea to focus on first, which included adding alt text to images and taking into consideration the gesture used for screen readers and how it might conflict with gestures used in the app.

**Skills Learned**

* Github/Git (Version Control)
* React/React Native
* Expo
* GraphQL

New Version:

Before working on Peerdea, my only experience with development was from in-class activities. While they were helpful, they could not satisfy my curiosity and interest with working on an actual native application. When I first began working on Peerdea, there was a steep learning curve as I had to become familiar with the frameworks and libraries being used on the project. I gradually built up my knowledge and abilities by completing tutorials, referencing documentation, and looking through the already existing Peerdea codebase. Working on Peerdea truly expands my skill set in areas such as version control, which is crucial in better organizing and keeping track of work done in a team on a single application, and developing an application with the users in mind.

**Overall Thoughts**

During the Fall 2021 semester at Carnegie Mellon University, I worked as a research assistant on Peerdea with Human-Computer Interaction PhD Candidate [Yasmine Kotturi](https://ykotturi.github.io/). I was originally drawn to the project because of my prior experience with small businesses owned by minorities as well as my interest in web development and Human-Computer Interaction. This project marked many firsts for me– the first time working on a larger-scaled development project, first time working with native applications, and my first experience with research.

During our peer programming sessions, we would have discussions related to the research aspect of Peerdea on topics such as goal setting and how that relates to a small business owner’s progress. Through these discussions, we also formulated research discussions, guiding future design and development considerations for Peerdea. Additionally, following human-centered design guidelines, I witnessed how research affects the decisions made towards Peerdea’s designs, leading me to think more about the user while implementing different features. I constantly asked myself questions such as, “If I were using this particular feature in this app, what would I like to see included?” However, besides considering the user’s point of view, I also found it essential to test new features and have different perspectives analyze any changes since every user is bound to have a different experience. Instead of coding with simply my class-based knowledge, I needed to consider more diverse groups of users and be ready for reiterating on particular features. Overall, working on Peerdea was a great experience for me, as I was able to develop my own skills and explore Human-Computer Interaction research, which proved to be incredibly engaging.