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# Industry User Experience Research: A Detailed Account at a Social Media Startup

A Thesis submitted in partial satisfaction of the requirements for the degree of Master of Science

in

Cognitive and Information Sciences

by

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## Abstract

Industry User Experience Research: A Detailed Account at a Social Media Startup

by Richard Jordan Ellks for the partial satisfaction of the requirements for the degree of Master of Science in Cognitive and Information Sciences, University of California, Merced, 2022
Dr. Rachel Ryskin, Chair

The field of industry User Experience (UX) Research is applied by large scale companies, small startups, and all in between. Companies rely on this research to understand their target audience and determine how to make their product successful in the hands of the consumer. The present work details the projects completed during a UX Research internship for a startup company developing a social media app and relates these experiences to both the coursework within UC Merced's Cognitive and Information Sciences' graduate program and cognitive science as a field. These projects include an analysis regarding a mood tracking feature and comparisons to competitor apps, literature reviews on conflict related to friend groups and teenager/young adult social environments, and beta testing of the app in development.

## Introduction

User Experience (UX) Research is an interdisciplinary field that encompasses many aspects of human-computer interaction (HCI), ergonomics, cognitive engineering, and cognitive science (Preece et al., 2015). The goals of UX Research are to "identify or uncover *valid* findings, fix them [if need be], and iterate the process to uncover more" engagement of real or potential users by executing the research plan (Barnum, 2019, p. 3). Valid refers to several factors, including ecological, concurrent, and construct validity (Norris & Tate, 2000). In industry, ecological validity refers to the judgement of whether or not the findings are sufficient and maintain relevance to a company's targeted demographic; concurrent validity refers to whether or not findings of consumer research correspond to previous findings in the same domain; construct validity refers to the extent to which identifying or uncovering findings is accurate in what is intended to be found.

When this research process is conducted in industry on a specific product belonging to a company, it is known as product research. Product research does not deviate far from traditional scientific research and is similarly rooted in questions that lead to a hypothesis, assumption, or knowledge gap, and spur essential research that builds or improves a product (Nunnally and Farkas, 2016). Industry and scientific research share methods like quantitative, qualitative, and exploratory research, but can differ in quality of research with time constraints being a key component in industry, particularly in smaller companies with limited resources.

With over 3.6 billion worldwide social media users today (Dossier, 2022), industry giants such as Meta (encompassing Facebook and Instagram), Snapchat, and Twitter have found the need for UX Researchers to conduct product research to develop and update design of their online social media applications to stay contemporary. These researchers explore questions about their company's apps such as popular trends, feature utilization metrics, the ease of use of the user interface (UI), and visual appeal of the aesthetics. These investigations are used to encapsulate current consumer behavior and track changes across generations of users.

Additionally, this research attempts to shape new features and predict their reception by target demographics. It investigates consumer behavior that is often uncharted and lacking in foundational company research. This includes exploring questions about whether similar features are already found in current mainstream apps and whether individuals would find the potential features to be useful. At this level of early research, UX Researchers must come to understand potential user behavior with no prior knowledge of that behavior.

While industry giants typically have enough funds to launch thorough investigations for these novel features, new feature development is not limited to these mainstream companies. There are many smaller, start-up companies attempting to create successful social media apps that diverge from the mainstream by offering unique and original features. Due to limited resources, these start-ups must rely on UX laws and design principles from cognitive engineering and HCI as well as findings from original but small scale or previously conducted consumer behavioral research built on psychological and cognitive science paradigms. These findings structure and inform early stages of research design and product in development.

For my capstone project, I have secured a UX Research Internship with the social media start-up company SocialTech Labs (STL). STL seeks to provide an alternative to current online social media platforms that host toxic behavior with their various forms of communication such as direct messaging or making a public comment on what someone uploads. Zaheri et al. (2020, p. 2) define social media toxicity as comments or messaging with the intent to harass or cyberbully. Because it is highly difficult to track these toxic environments due to social media's "multi-dimensional, context sensitive nature," little has been done in terms of preventing these environments from developing or stopping existing ones (Sheth et al., 2022, p. 1). Here "multidimensional" refers to the social media users, which span generations, cultures, backgrounds, socioeconomic status, environments, upbringings, etc. The context sensitive aspect means that content uploaded to social media is up to interpretation and depends entirely on each individual user's background context. For instance, the context behind a post may be in relation to pop-culture, an inside joke, a trend, a specific group or organization, an advertisement, religious beliefs, or even just a simple self portrait of the user. This is what makes social media impossible to oversee and police.

To give a more specific example, suppose Sally commented on a post with the phrase "I hate you". This phrase can be seen as hurtful, contributing to a toxic environment, and many would consider this a form of cyberbullying. However, suppose the comment made by Sally was on a post made by Sally's best friend Jack who uploaded a silly picture of Sally for her birthday; then the context indicates the phrase "I hate you" is actually sarcastic or even playful and non-toxic (i.e., not an attempt to cyberbully). Creating an algorithm or having "cyber police" monitor all social media-based communication while taking into account every user "dimension" and the full context is infeasible.

This infeasibility was demonstrated in 2020 when Silva attempted to create this algorithm and fell short due to the massive amount of data needed to be collected and continually updated. A total of 3,026,270 tweets were collected over the course of one month in 4 countries to train this algorithm, and this was only for Twitter alone (Silva, 2020). A successful algorithm would need to consistently update its training data automatically with recent social media posts across multiple platforms and on a global scale. Although potentially foreseeable in the future, creating a successful algorithm or "cyber police" monitors today remains unattainable.

To avoid the pitfalls of mainstream social media apps (i.e., Facebook, Twitter, Instagram, etc.), SocialTech Labs is determined to build an app that a) seeks to prevent toxic environments from forming by being a closed-networking app and b) discourages harassment and bullying by encouraging the growth of friendships and mending arguments. The app, known as BestFriends, appeals to an international teenage and young adult audience, a demographic that the company has deemed to be the most impacted by cyberbullying and online toxicity. By being a closed-networking app, users only add people they personally know to their network. Strangers cannot see any posts, comments, messages, or content from the user in the app, therefore it is less likely for a toxic environment to develop. Furthermore, even users within one's own network are prevented from seeing anything the user does without consent. To discourage harassment, the app offers features that provide advice and steps to mend conflicts between users.

BestFriends also encourages users to be open and honest with those in their network of friends, sharing both struggles and successes with one another. As a result, BestFriends goes against mainstream social media by providing environments that make it difficult for toxicity to develop and promote social positivity.

The following report will detail my journey with industry user experience research involved in developing BestFriends. The format of this report will include separate sub-sections for different projects I worked on throughout the internship, with discussion sections focusing on what I learned, commentary on each project, and each project's relation to my academic experience in cognitive science at the University of California, Merced. Under my Non-Disclosure Agreement, I am prohibited from directly mentioning features built within the app under development, as well as specific research details in relation to the projects I worked on. Therefore, this report will focus on my experience throughout the internship and how it relates to the field of cognitive science rather than the content details of the research. Any specifics regarding names of other apps, titles and references to research papers or review articles, and interview questions will be withheld. At the time of writing this report, the application has not yet been released to the public.

## Project 1: Competitive Analysis on Mood Tracking and Meditation Feature

### *Background*

The goal of this project was to analyze apps that offer a competing mood tracking feature similar to the one in development for BestFriends. The feature in development was pitched by an intern and allowed users to track their mood throughout the day, week, and/or month then share that mood with their friend(s) within the app. While the UX Design and Programming teams constructed a prototype, the UX Research team began a competitive analysis on popular apps that were either solely mood trackers or contained mood tracking features. A UX competitive analysis consists of researching the strengths, weaknesses, and market standings of a product's competitors to develop effective strategies for that product and determine its potential standing (UX Planet, 2020). The research objectives for this project were to (1) analyze the top mood apps based on Apple's App Store ratings and downloads, (2) identify the gaps in the app marketplace, and (3) strategize how the app can be designed and tested to best serve and appeal to the target demographic. The results from this analysis informed UX Designers and Programmers how to proceed with the prototype based on what the team deemed as most appealing and functional to potential users.

### *Methods*

The competitive analysis conducted consisted of:

- a comprehensive analysis of competitor apps used as references for BestFriends,
- recommendations of key strategies for product differentiation, feature concepts, audience, suggestions, UI/UX, messaging, and marketing,
- an affinity table showcasing relevant information related to UI including observed designs, screenshots, ads, and quotes as shown in Figure 1,
- a mind map detailing where products fell on an XY-plane based on information spectrums of interest (brand positioning) as shown in Figure 2, and
- post-Minimally Viable Product (MVP) feature ideas.

The analysis reviewed three meditation applications, two diary/journal applications, one health and wellness application, and two actual mood tracking applications. Information for each app was sourced from the app's website, user reviews from blogs or other companies, Apple's App Store and Google's Play Store descriptions, third party trackers that monitor downloads and company revenue, and research literature that used the app in a study.


*Figure 1:* An example of part of an affinity table from SocialTech Lab's UX Research presentation on mood tracking and meditation app features, representing basic aesthetics and designs of a couple of the apps being reviewed, as well as screenshots and advertisements. This affinity table was color coordinated to indicate which apps to reference closely and which apps to avoid in terms of that specific category of design. Information was redacted for confidentiality of company research data.

*Results*

The completion of this analysis was marked by a presentation delivered to the rest of SocialTech Labs on the team's findings and recommendations. The findings first focused on the functionality of the mood feature, then on the UI recommendations. The analysis indicated that multiple highly ranked apps include the use of sharing moods or goals with other friends. Furthermore, the investigation revealed that users improved their moods or achieved certain goals through shared accountability, competition with other users, or encouragement. This finding aligned with results from a study by Liu et al. (2019) in which a positive association was found between the online sharing of moods and the relief of negative moods, thereby supporting the idea that mood sharing should be included within the mood tracking feature.

Furthermore, the findings revealed that meditation using some of the analyzed apps is practiced in many US classrooms. Studies have shown that meditation enhances self-regulation, emotion regulation, self-awareness, and even attention and learning (Tang et al., 2015; Zenner et al., 2014). Teachers or professors would utilize these meditation apps to hold shared meditation sessions with their classes, either in-person or through online learning platforms. Considering the target demographic of teenagers and young adults, this finding supported the addition of a shared meditation feature in the app. Moreover, one of the analyzed apps included the ability to send mindful messages to a

friend and participate in shared meditations together, referred to as the “buddy feature.” The “buddy feature” influenced the design of the mood sharing within BestFriends and further encouraged the idea of implementing meditation sharing.

In addition to analyzing each app’s features, the UI choices were also catalogued and served as a basis for design recommendations for BestFriends. An affinity table was created to summarize all information about each app specific to UI/UX Design. This included the look/tone of each app such as minimalist designs, dark themes, layouts, colors, and typeface. The design team could then reference aesthetics of other successful apps or avoid being too similar. In addition to having this reference, the UX Research team surveyed all company interns to see which app’s aesthetics were liked best in order to point the UX Design team in the direction the company wished to proceed in. The affinity table also included the types of emojis each app utilized and whether or not the emojis were used as identifiers of moods for mood tracking features. Lastly, the table included how each app appealed to diversity and inclusion. UX Designers referenced this affinity table to design the current mood tracking feature.

The analysis also contained a mind map, as shown in Figure 2, which visualized the standings of each app corresponding to ease of UI and target demographic. This map was used to determine which apps to give more influence to in design recommendations. It plotted all of the apps on a graph where the x-axis represented how teen-focused or adult-focused the app was and the y-axis represented the difficulty of the UX. This informed UX Designers and Programmers on the apps that were taken into consideration most as they attempted to reference apps in the top right quadrant (high teen focus and easy UX) of the mind map more than apps in any other quadrants.

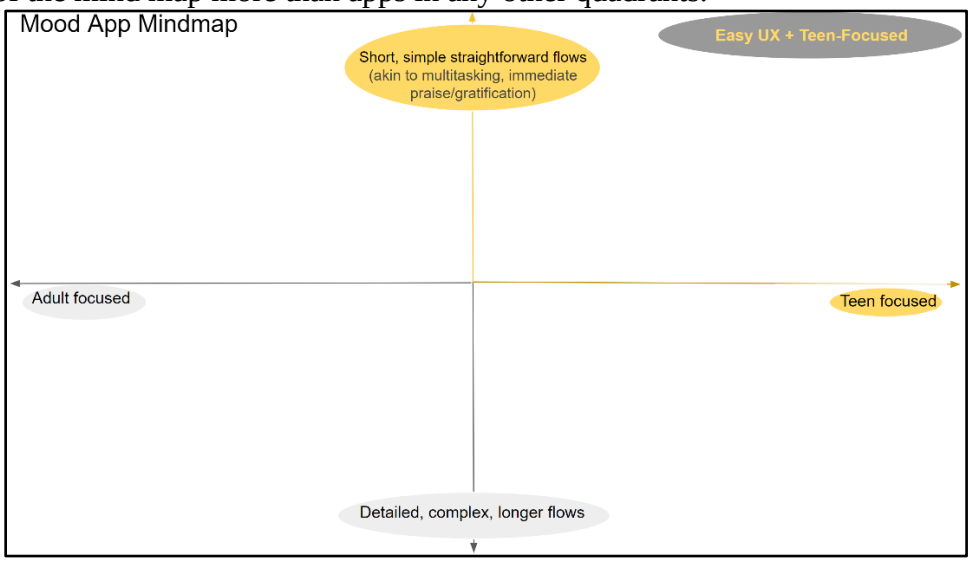


*Figure 2:* An example of the mindmap utilized in SocialTech Lab’s UX Research presentation on mood tracking and meditation app features. The x-axis represented how teen focused or adult focused an app was, and the y-axis represented the difficulty of the UX. The apps placed on this graph were removed for confidentiality purposes.

Based on the overall analysis, recommendations were provided for integrating designs found across multiple apps into BestFriends. These recommendations included incorporating diversity, inclusion, and accessibility by considering our target audience’s

diverse cultural and socioeconomic backgrounds throughout the product's development, especially when considering what moods are available for selection within our mood tracking feature. This also involved promoting an accepting space for people of color, the LGBTQ+ community, and users of all abilities by using inclusive language within the feature, particularly in the text based aspects such as example messages to send to friends or informational sections of the app. In addition, it was recommended that the language utilized not just within the mood tracking feature, but throughout the app in general, should appeal to the targeted, younger audience. Examples of such language use might include using relevant slang or informal tone. The last recommendation consisted of including in-app rewards, such as receiving stickers or trophies, for making specific goal accomplishments or maintaining mood sharing streaks with friends.

*Discussion*

The overall results of the competitive analysis were successful in accomplishing all initial research objectives. The analysis reviewed top apps offering mood tracking features. For identifying gaps in the mood app marketplace, the analysis revealed that only one app allowed users to share mindful messages and participate in joint meditation sessions. The lack of available apps that allow for shared mindful messages and joint meditation resulted in the inclusion of a shared meditation feature within BestFriends. Lastly, the affinity table provided a framework to strategically design and test the mood tracking and sharing feature in attempt to best serve the target demographic.

Considering this two-month project was the first I was assigned to work on, I learned a great deal about the app creation process. This competitive analysis was my first look into all the marketing and research that goes into developing an app, and revealed numerous potential areas of improvement within BestFriends. On a more specific note, I gained more insight into what a competitive analysis is and how examining competitors can further a company. This is a beneficial tool for UX Researchers, and this competitive analysis specifically was helpful in moving BestFriends in the best direction.

The research conducted in the competitive analysis, mainly internet search and company surveying, revealed the difficulties start-up companies face in terms of lack of funding and a participant pool to test on. My UX mentor within the company shared with me from their experience that the scope of early UX Research in general is comparable to the work that was completed for this analysis. Considering the course of BestFriends' development was based on findings from this analysis, which was only rooted in internet search and preliminary surveys, it was surprising at first to learn this is somewhat standard. However, this is understandable when considering startups having minimal-to-no funding and the accelerated environment of industry. From start to finish, this analysis was completed in two months, faster than any academic-based research I have ever done. This included developing sound research objectives, selecting all apps to evaluate, gathering all necessary information, launching a small survey, creating a presentation, and presenting the findings to the company.

Throughout this project, I implemented relevant course knowledge from UC Merced's Master's program in Cognitive and Information Sciences. Specifically, using insight from Cognitive Science and Emotion (COGS 278), I voiced my concerns about taking into consideration different cultural backgrounds of targeted users. In

understanding and recognizing different emotions, "people are generally more accurate at judging emotions when the emotions are expressed by members of their own cultural group rather than by members of a different cultural group" (Elfenbein & Ambady, 2003). This means that the emoticons and emotions available to select as well as language used throughout the app should be broadly appealing to many cultural groups. In other words, BestFriends must branch out to appeal not just to teenagers and young adults in the US, but individuals on an international level. This concern was highlighted in the presentation to the company while providing recommendations to incorporate diversity, inclusion, and accessibility throughout the app.

Additionally, the knowledge from Foundations of Cognitive Science II (COGS 202) allowed me to better recognize and understand design choices recommended by the research team and implemented by the design team. Specific UX laws taught in COGS 202 shaped recommendations made by the research team. For example the Aesthetic-Usability Effect influenced design choices to make them aesthetically pleasing, Fitts's Law influenced button layouts, shapes, and sizes, and the Law of Proximity influenced the grouping of functions and buttons that held relation to one another within a single feature. Overall, these two courses were a huge influence to my role on this project, not only in the recommendations I contributed to the team, but also in allowing for better understanding of why certain design or research choices were made and how they worked towards making BestFriends better for the intended audience.

**Project 2: Industry Literature Review on Conflict Resolution Strategies**

*Background*

One challenge BestFriends attempts to address is how to resolve teen and young adult "drama". Marwick and Boyd (2014) define drama as "the language that teens – most notably girls – use to describe a host of activities and practices ranging from gossip, flirting, arguing, and joking to more serious issues of jealousy, ostracization, and name-calling." According to consumer research conducted by SocialTech Labs (prior to my start with the company), 83% of surveyed and interviewed participants agreed that they do not know how to approach resolutions when they are facing direct conflict with one of their friends or when conflict arises within their friend group. These findings demonstrated a need for a feature within the app to assist teens and young adults in addressing conflict within their friend groups. Although I cannot specify the details of the resulting feature, in the following subsections I will describe the process of the industry literature review used to develop this conflict resolution feature.

*Methods*

This industry literature review took place over the course of two months and consisted of a sequence of small reviews each with a specific topic. The results of each review spurred a series of questions addressed by the topic of the next review. Within the two-month timeframe, the UX Research team completed six literature reviews on topics relating to: preventing conflicts, 1-on-1 conflicts, group conflicts, conflicts with parents, conflicts between parents, and understanding cultural and socioeconomical backgrounds. The literature under review consisted of articles, blogs containing anecdotal data from psychologists and therapists about their professional experiences, and research literature if it was available for that topic. All the reviews focused on the target demographic of teens and young adults.

Each intern reviewed between 1 and 3 sources depending on the turnaround time and was responsible for sharing their findings. At each deadline, the results from the current literature review were either delivered via a formal presentation or verbally shared at a companywide meeting. Formal presentations were given for the topic of group conflicts and an overall summary of findings from all reviews. Results for the other topics were shared verbally during meetings by sharing the source, 3-5 key points, how these key points relate to the research question, and how the information could be applied to a new or existing feature.

Reviews formally presented consisted of each intern contributing to the slide presentation and then sharing the information from their own slides. The information on the slides followed the format of the verbally presented results, except recommendations for applying the findings to the app were shared at the end of the presentation. The final presentation which included an overview of all the literature review findings consisted of a short summary of information from each topic and a list of all the recommended implementations to conclude. With the information found, the company moved forward with creating individual features for most of the specified topics.

*Results*

One of the major results of this literature review was the decision to split the conflict resolution feature into smaller strategies for specific demographics. Error management theory (EMT) suggests that under uncertainty, individuals would be biased to the least costly error over time (Haselton & Galperin, 2012). From Elfenbein and Ambady (2003), it is known that individuals are more accurate with interpreting emotions expressed by other individuals of the same cultural group. Combining these two findings, I recommended that with the information found in the six literature reviews, the company should create a feature offering multiple strategies for different target demographics instead of seeking to create a universal feature to resolve all conflicts. Teens and young adults will act differently in conflicts depending on their background, thus, the provided conflict resolution strategies suggested through the app can be interpreted differently. It is possible for the same strategy that helped to resolve a conflict within in a friendship to also potentially worsen a dispute in another. If the person on the receiving side of someone implementing a strategy from the app actually finds it to be offensive, then that person may seek to dissolve the friendship in accordance with EMT to minimize overall cost to their social wellbeing. As a result, updated versions of this feature in BestFriends will take this into consideration when revising the information and features.

*Discussion*

The deliverables of the six industry literature reviews accomplished the goals of providing relevant information necessary to develop a feature that strived to provide strategies for users to resolve conflicts. Throughout this project, I gained many insights into the research conducted in a start-up company and realized that reported findings can be potentially flawed. The speed at which these literature reviews were conducted and the lack of peer review on the results delivered was surprising. Although it is understandable that shorter deadlines are necessary to keep the company afloat and moving forward, it is evident from my experience in research that literature reviews conducted in an academic setting hold much higher standards.

To elaborate more on the contrast between industry and academic literature reviews, a major difference would be the quality of the review. In academia, literature reviews take on average six months to complete, requiring multiple revisions (Willyard, 2012). The literature reviews completed in this internship were often assigned with the deadline being one or two weeks out. During the push for creating a prototype for the conflict resolution feature, the team was asked to produce a presentation on the results of a literature review two days after it was assigned. While academia is more concerned with the quality of the literature review, industry is far more concerned with the turnaround time and gives more leeway with the quality.

Another major concern was the sources/citations of the literature review. Academic literature reviews consist mostly of published research literature, often including dozens of papers to qualify as a thorough review of the literature (Willyard, 2012). In industry, topics being reviewed often do not have existing research, or do not consist of the information the company is trying to gather. For the many literature reviews conducted for varying questions of conflict resolution strategies in teens and young adults, many of the citations consisted of blog posts, advice articles, and app reviews as opposed to published research literature.

While the methods themselves utilized in these literature reviews did not particularly reflect knowledge from relevant coursework, the content under review did. During these literature reviews, I was able to pull knowledge from COGS 278 on understanding differing cultural and socioeconomic backgrounds and how these backgrounds can shape the perception of emotions. Additionally, from COGS 278, I was able to voice my concern about potentially creating more conflict or even ending friendships if the conflict resolving feature provided costly interpreted information, as suggested by EMT research.

**Project 3: BestFriends MVP Beta Testing**

*Background*

Beta testing is a tool UX Researchers use that allows a company to obtain user feedback for a product, requiring only a small percentage of users to identify bugs and improve overall design and functionality of the product before it becomes public (Anderson, 2019). With BestFriends, beta testing began once the state of the app met all the requirements of the company's Minimally Viable Product (MVP). These requirements included having certain features of the app completed, having easy navigation between the different pages and features of the app, and having design aesthetics closely match the envisioned designs created during the prototyping phase. During the time of writing this report, beta testing for the MVP is still in progress and the app has not yet been released to the public. Once the beta testing phase is complete and updates to BestFriends are implemented according to the feedback, the company will begin working to satisfy a new set of requirements from Apple to release the app in the official Apple Store. These requirements mainly apply to the backend and thus were not necessary to meet in the MVP for the UX Research team to begin beta testing.

*Methods*

Beta testing BestFriends began by recruiting participants of the target demographic (teens and young adults) to try out the app through Apple's TestFlight. TestFlight allows app developers to release their app to users on iOS devices for the

purpose of beta testing. Participants were instructed to download the TestFlight app off of Apple's App Store, download the BestFriends MVP through TestFlight, and then participate in the UX Research team's beta test interview using the unreleased app. A major benefit of TestFlight is that it automatically sends performance reports to the app developer such as the app crashing or user reported errors. This, along with the beta testing interview questions, allows for the UX Research team to provide useful feedback to the company's UX Designers and Programmers to make improvements to create an application the target demographic would use and enjoy.

For the beta testing interview, participants were first asked simple demographic questions and then instructed to freely use the app with no restrictions while the research team observed. In doing so, the team was able to ascertain whether instructions in the application were clear and navigation throughout the application was intuitive. Participants were encouraged to talk through their thought process when freely using the app for themselves, noting any confusion or commenting on features and aesthetics. Once participants felt like they had explored enough of the app and were more comfortable with it, a series of questions were asked to gain more feedback on their opinions of the app and what they thought the intended purpose of the app was. Afterwards, participants were instructed to look at specific features within the app as a researcher walked them through key details and functions. More feedback questions on the specific features were asked including questions about whether participants could see themselves using the features. Lastly, participants answered overall recommendation questions such as the likelihood of using the app with their own friends or recommending the app to their friends. To conclude the interview, participants were asked if they had any additional comments, questions, concerns, or ideas they wished to share. Consent forms were collected for all participants and parental consent was collected for any participants under 18 years of age.

*Results*

As of writing this report, a total of 10 beta tests have been completed. The beta testers have included 8 female and 2 male participants ranging from 17 to 23 years of age. A majority of the feedback so far has been mostly positive, with ratings for recommending the app to friends once the app launches ranging from 6 to 10 with an average of 8. Since I cannot disclose answers that would directly reveal the functionality of the existing features, I will discuss general feedback the app received.

A majority of the participants stated they thought the app overall targeted a younger demographic of middle to high school aged individuals as opposed to the company's intended high school to college aged individuals. When asked why participants thought that, answers revolved around the aesthetics of the design being too childish and/or the features of the app appealing to more immature audiences. The company is responding to this feedback by changing the aesthetics to a more color neutral design and adding additional features that would appeal to a more mature audience.

Another common response from participants was that the app doesn't necessarily conform to what has been deemed as the typical social media platform when compared to social media apps like Instagram, Twitter, or Facebook, deviating from industry standards and consistency (Nielson, 2020). Instead, participants have referred to BestFriends as a mental health platform, allowing its users to improve their mental health with their best

friends. This has resulted in the company beginning to think about rebranding as a mental health and wellness app as opposed to a social media app, meaning BestFriends would no longer be competing with social media giants. In addition to bug fixes and these changes mentioned above, further changes have been made to specific app features based on participants' feedback.

*Discussion*

Overall progress of the beta tests have been very beneficial to the company in correcting any bugs in BestFriends, adjusting overall aesthetics and design to better fit the target demographic, and making adjustments to some of the app's features to better fit the functionality of the beta testers' recommendations. Beta testing within industry, however, is very different from what I expected. I had the mindset of treating beta testing similar to research experiments in terms of data collection and analysis: beta testing would begin and the UX Research team would compile notes on the observations and recommendations based on the interviews and feedback received, the findings would be presented to the company, and changes would be implemented based on the feedback and the rest of the company's input. Although I was informed by my UX mentor that this was one way of conducting beta testing in industry, this method did not fit the time constraints and company resources (or lack thereof). Because of SocialTech Labs' lack of funding, participants were on a volunteer basis. Additionally, the target demographic made it much harder to recruit a large number of participants, especially given that these beta tests took place over summer vacation and schools could not be contacted for recruitment. The company was also constrained by time as the push to launch the app was underway. Thus, notes on observations and recommendations from participant feedback was delivered to the programming team as soon as a beta test was completed, without consulting the remainder of the company. Changes to app features including their aesthetics and functionality were made after one participant's feedback. If future participants disagreed with the changes made, the modifications would simply be tweaked. Although this was not the most effective form of beta testing, it did, and hopefully continues to, move the company in the right direction with the intended users.

Throughout beta testing I was able to utilize basic observational skills I learned from Introduction to EEG (COGS 235). In COGS 235, I learned how to observe cues from participants in EEG studies such as movements or behaviors that may interfere with EEG data collection and I was able to apply these observational skills in beta testing BestFriends. While observing participants, I noted clicking and navigation behaviors participants made, as well as specific comments they would make that traversed different pages or even different features of the app. These observational skills learned in COGS 235 ended up being quite useful in improving observational skills in a research setting. Through making these observations, I was then able to apply more UX laws learned from COGS 202 to recommend changes that would better improve the app and make sense of the feedback and observations noted from the beta tests. These recommendations included applying the Law of Proximity to better group certain buttons of a feature so that users would know they belonged to different groups, or the Law of Uniform Connectedness to visualize to users a step-by-step process within another feature (Yablonski, 2022). These observations and recommendations provided other interns

useful methods of conducting these beta tests which will hopefully continue to be carried out after my internship has ended.

**Discussion**

My experience with SocialTech Labs as a UX Research Intern was rewarding in expanding my knowledge of the field through hands-on experience and collaborative efforts. Reading about UX Research versus being in the industry with fast approaching deadlines and copious amounts of work being assigned the day before it is needed to be done are two very different experiences. The contrasts between academic research and industry research were also very eye-opening. While academia focuses more on the quality of research, industry research seems to focus more on the speed. Although I spent six months interning with this start-up company, I know there is still much more to learn in this field. The knowledge I gained from UC Merced's CIS program aided me in accomplishing a great deal within the time I had at STL. The coursework prepared me for the fast-paced, work intensive environment of UX Research, which I would have otherwise been overwhelmed by. The research methods I gained from my own advisor and other professors also greatly helped me to excel in UX Research, allowing for better quality research in a limited timeframe.

Throughout this experience, I was able to observe how heavily UX Research relies on cognitive science in general: understanding the behaviors of potential users, how users would offload information from their working memory (i.e., cognitive load) onto the app's interface, how users would interact with the app (HCI), and the language utilized within specific features just to name a few relative to this internship (Sweller, 1988). Barrett (2020) acknowledges that while the major aim of cognitive science is to understand human cognition, many of the conclusions are rooted in unrepresentative samples of the world's population. I believe that UX Research is one method worth pursuing in providing cognitive science a more representative sample of understanding human cognition in real world applications, such as social media apps or other international products. It is not just that UX Research relies heavily on cognitive science, but rather they go hand-in-hand in market and consumer-based research. For future directions, I am looking to pursue a career in UX Research with more emphasis on conducting quality research using my knowledge of cognitive science gained from both this experience at SocialTech Labs and my time as a student in UC Merced's CIS program.

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