

CS 147 Assignment #8: Final Report

Group Name: B-Sharp

Tagline: Get in Tune with Yourself.

Team Members:

Marilyn Harris

Thu Ngo

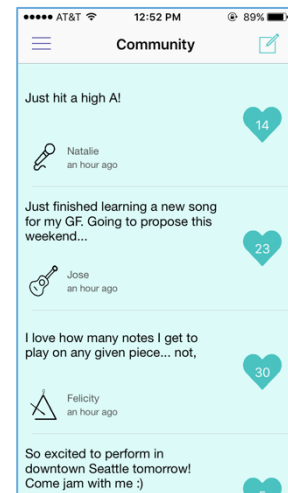
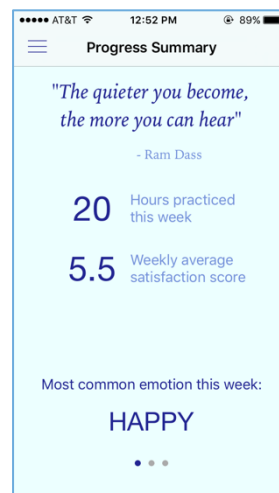
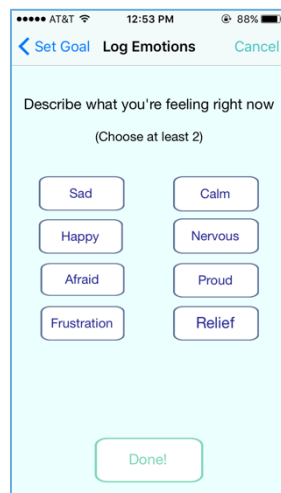
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Jamison Searles

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Problem and Solution Overview

In a career path that demands perfection, a musician can sometimes be her worst inner critic, letting perfection impede her growth. Mindfulness practices are known to increase self-awareness and help individuals develop a sense of perspective to life's challenges, allowing them to weather the ups and downs more easily. The goal of **"B-Sharp"** is to integrate such practices into a musician's regular rehearsal routine, helping musicians stress less about perceived failure and allowing them focus on learning about themselves and their craft.



Tasks & Final Interface Scenarios

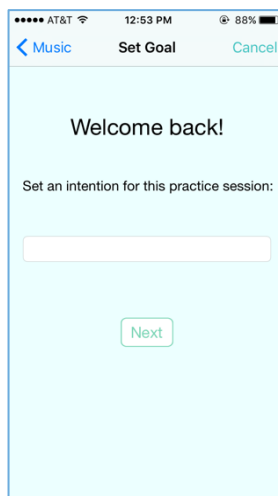
Task #1 Log Emotions (Medium Difficulty):

Logging emotions at the start of rehearsals to build a practice of personal check-ins and self-awareness

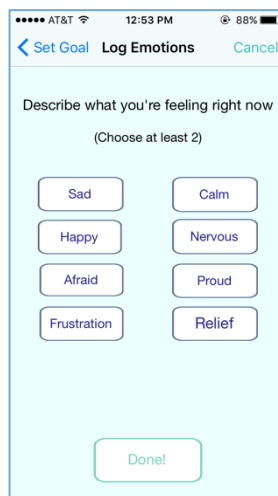
While the primary purpose of the application is to build mindfulness for musicians, we tried to make this process feel as native as possible to a musician's existing routines, so we designed our app as a sheet music viewer with these mindfulness components built around it. In the application, the user can enter Practice Mode by tapping "▶" from the taskbar at the top of the screen from any view in the application.



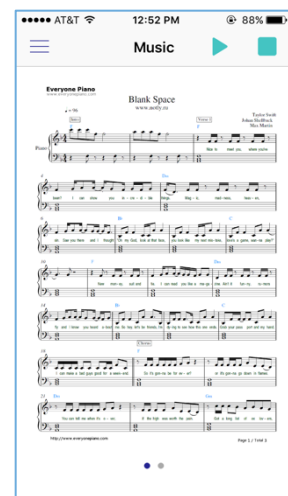
The user is prompted to start Task 1 every time they tap "▶".



The user is asked for an intention or goal for this practice session...



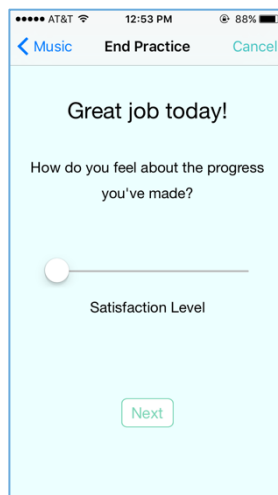
...as well as to select several emotions they are currently experiencing.



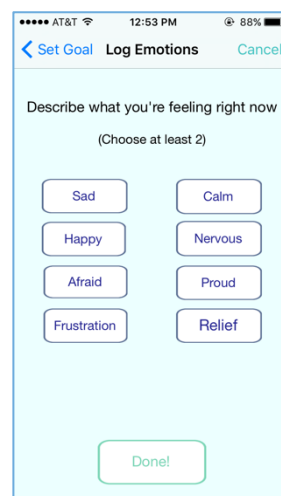
The user may now practice. She may continue on to access sheet music, view other screens in the application, and take any other action while in practice mode.



The user may close out her practice session when she is finished by



...which will prompt the user to rate her sense of satisfaction towards accomplishing the goal she set out to achieve at the

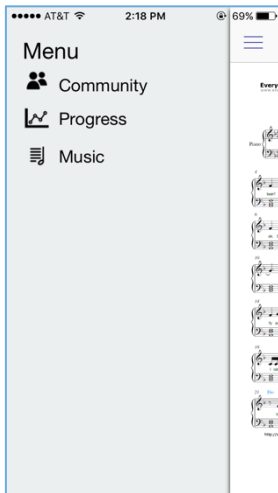


... as well as to complete another emotions check before ending her

#2: Track Progress (Low Difficulty):

Reviewing longitudinal data on these emotions through a dashboard to understand broader patterns about how inner state and mindset relates to musical development

In order to better understand his patterns of behavior and emotions as a person and a musician, the user may track his progress towards his goals and his emotions over time by using the progress tracking feature of the application. The user access this task by selecting the “Track Progress” screen from the sidebar menu.



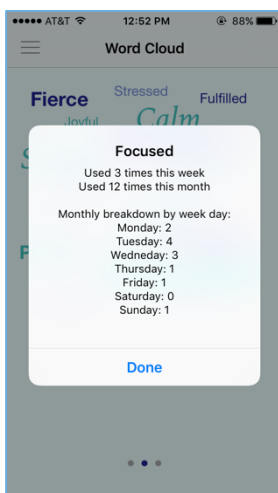
The user access this task by selecting the “Track Progress” screen from the sidebar menu.



The user is taken to a dashboard summary view of his practice history over the past week and month, with a motivational quote at the top of the screen and information on the top emotion he has been experiencing.



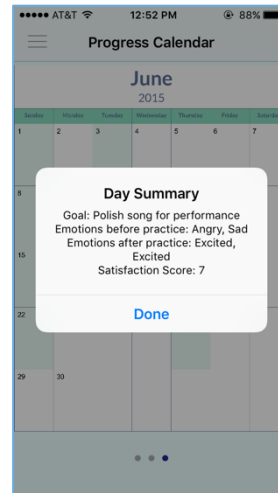
By swiping left, the user sees a word map visualizing the emotions he has commonly felt over the past month.



The user may select a given day to see a summary of his goal, emotions experience, and satisfaction score for



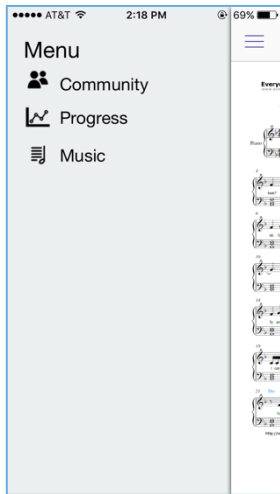
Swiping left again, the user sees a calendar of their past month of practice. Days that are darkened indicate that the user logged a



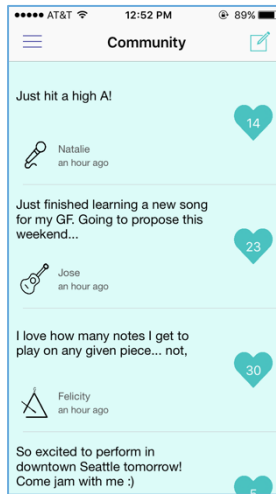
By tapping an emotion, the user may see how many unique times he has experienced this emotion in the past week or month, as well as the

Task #3: Engage with Community (High Difficulty):

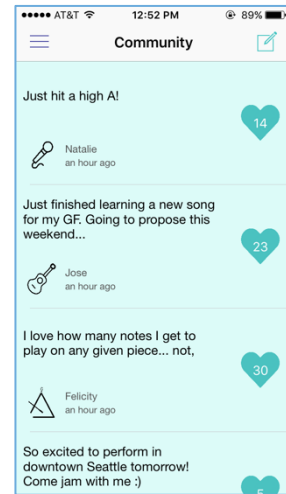
Sharing about musical successes and struggles anonymously through a Community Feed, meant to increase a sense of connectedness and shared experience in a profession that can be isolating.



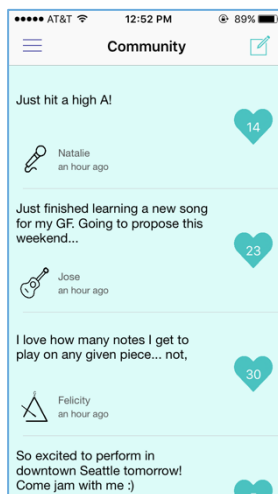
To share with the community, the user may select "Community" from the sidebar menu.



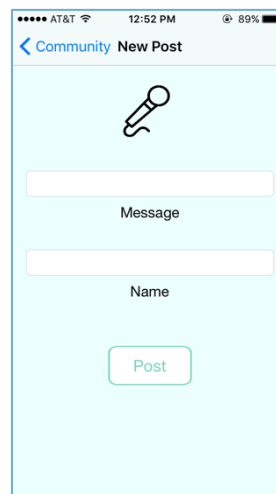
She will be taken to a feed of user posts with an icon to indicate that particular user's instrument and their first name only as identification.



She may tap the "♥" icon next to the post in order to "send Love" or up-vote the comment.



To writer her own post, the user may select the compose icon at the top right of the screen.



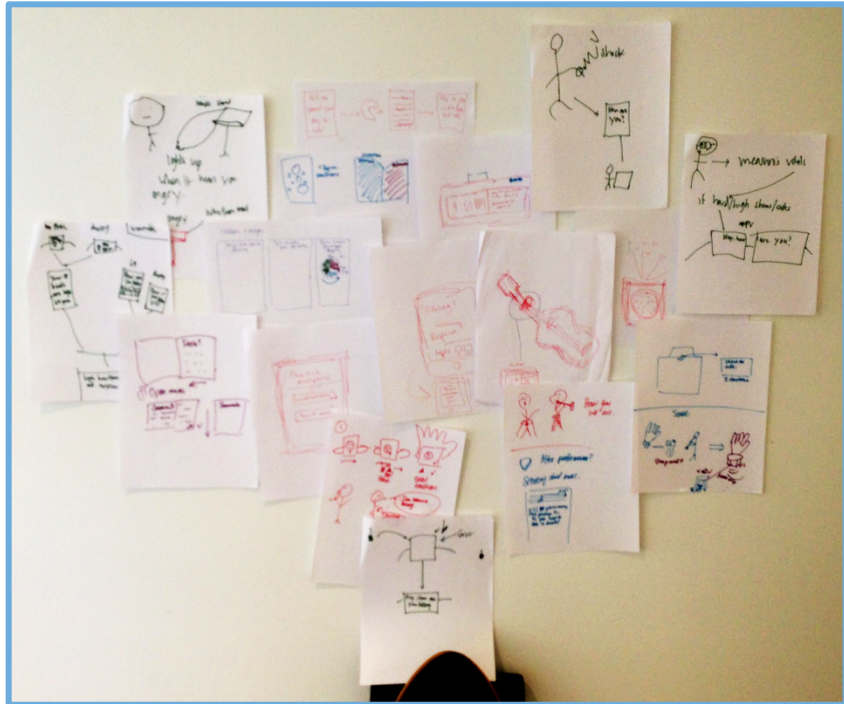
The user can enter her message and name, and selects "Post" to share with the community.

Design Evolution

Initial Steps:

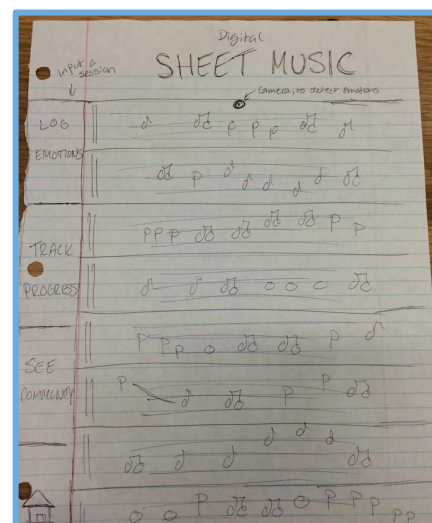
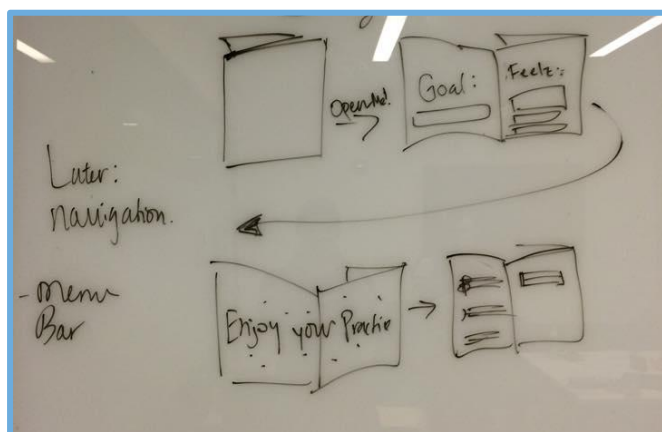
After several rounds of user interviews with musicians from a wide range of backgrounds and levels of expertise, we developed three user point-of-views and further realized these through several sessions of interface sketching.

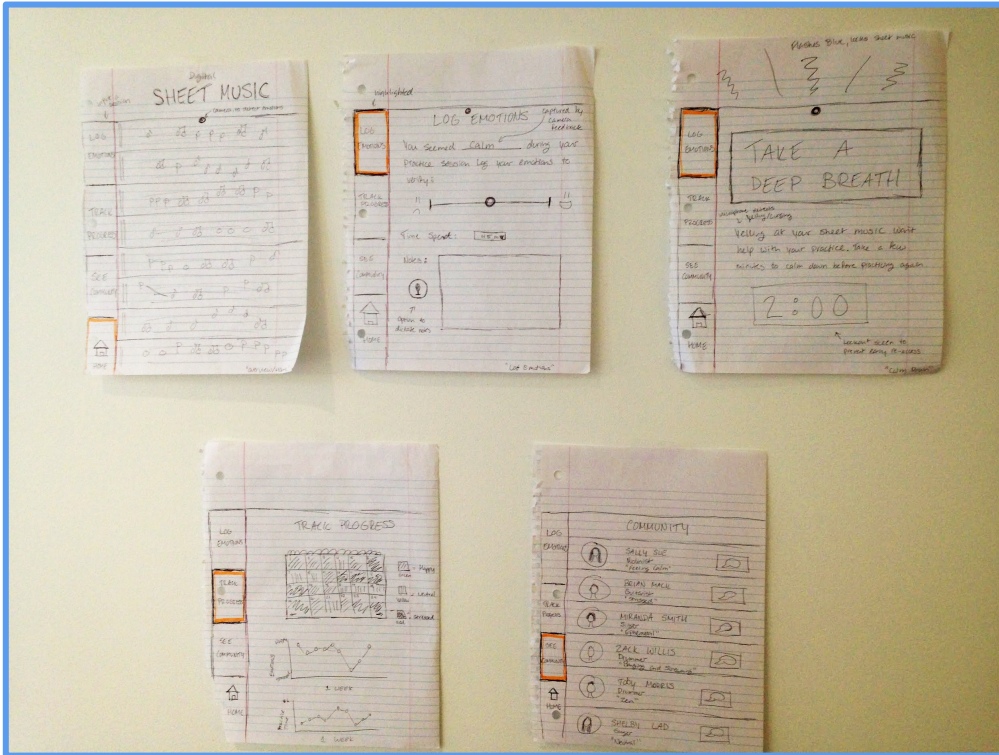
We began with 15-20 initial interface sketches (left).



Design Deepening: Detailed UI Sketch

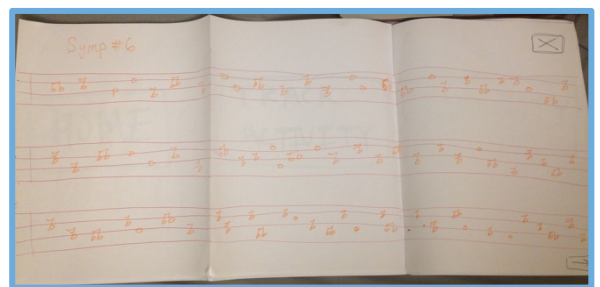
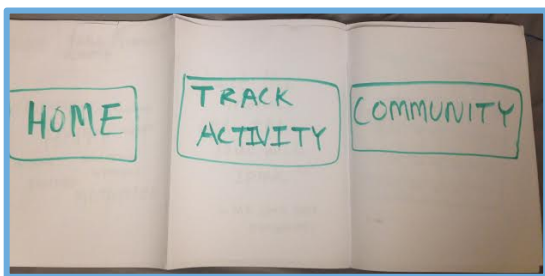
After narrowing down to two different designs, we decided to expand further on designing this mindfulness experience on **digital sheet music**, a hardware that while not yet literally realized was both a highly creative way to address our user's needs and one that was better integrated into habits, such as viewing and practicing with sheet music, that were already familiar to our users.



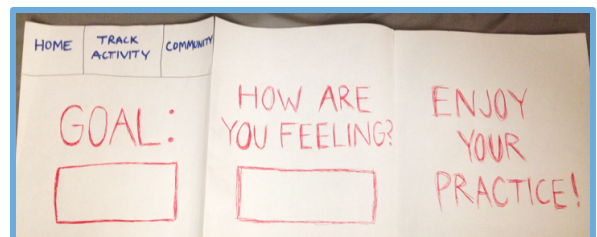
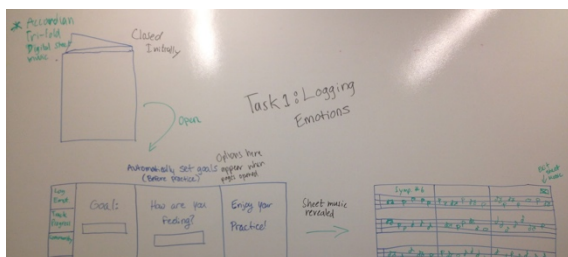


Lo-Fidelity Prototype

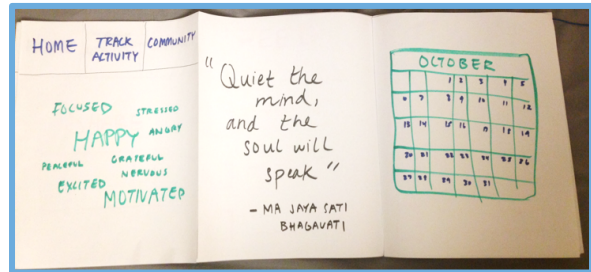
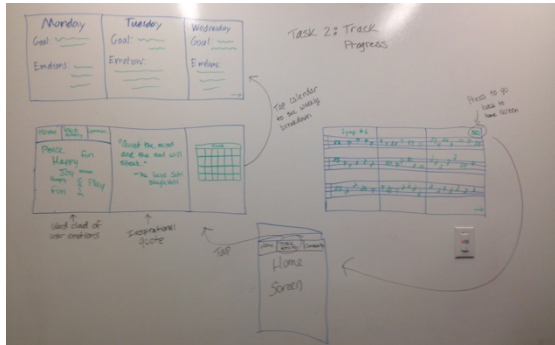
From these sketches, we created a paper prototype composed of three paper pages taped together to emulate the “accordion style” assembly of sheet music many musicians use to look at long pieces when they play. This gave a more continuous flow to the user experience, especially while practicing, and was more aesthetically engaging when the user wanted to track their progress using graphs or other visualizations.



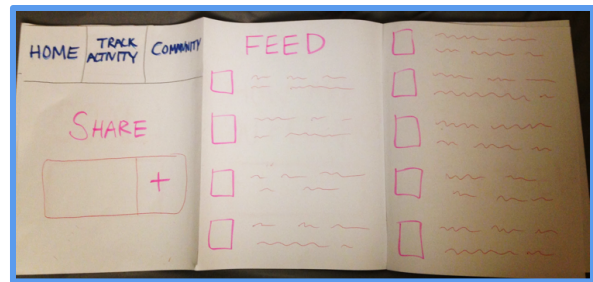
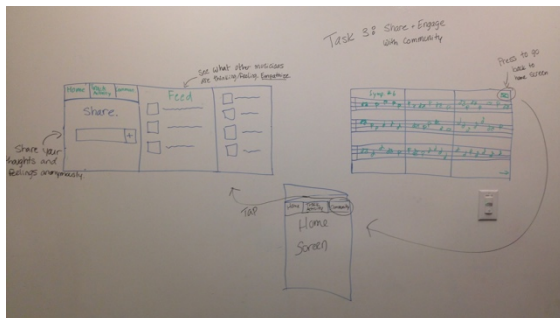
Task 1:



Task 2:



Task 3:

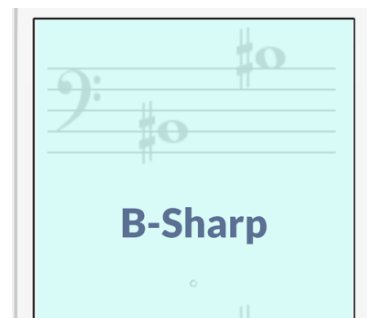
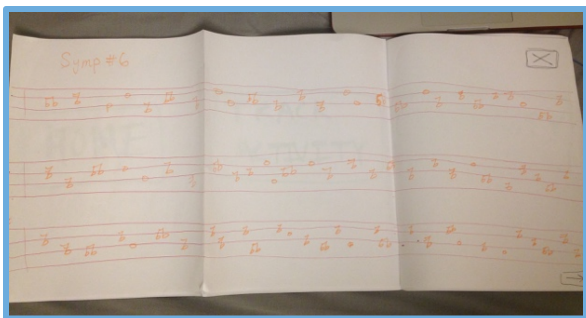


Medium-Fidelity Prototype

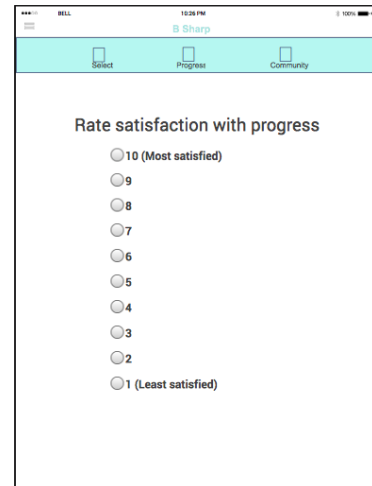
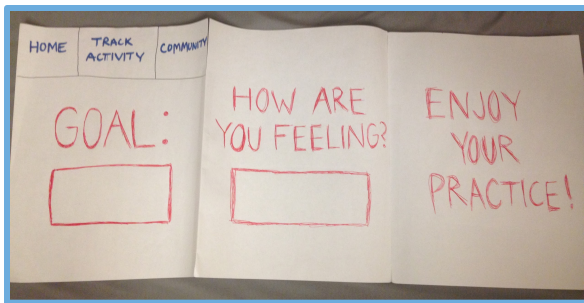
To construct our Medium-Fi prototype, we tested our application with several different users and made adjustments to our design based on their feedback.

Changes Included:

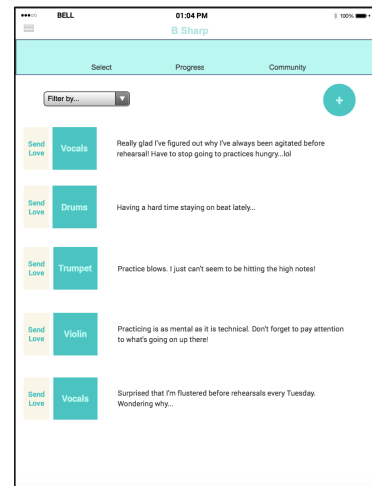
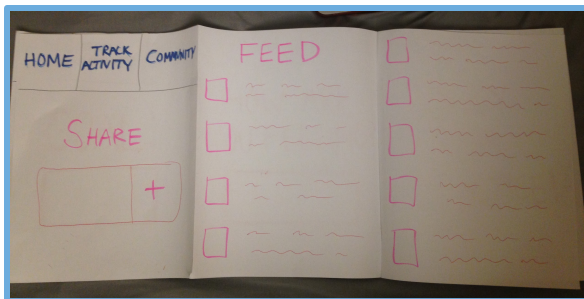
1. Digital Sheet Music to iPad as platform for feasibility purposes



2. Log Emotions/goals: We included some metric of evaluation to rate a user's satisfaction with rehearsal, not merely their emotions.

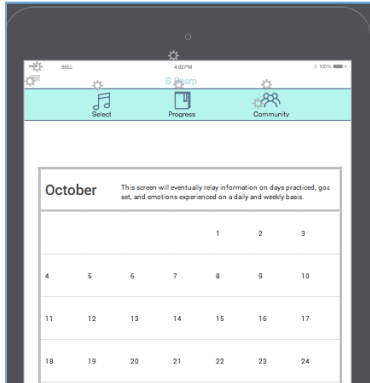


3. Community: We simplified this task to focus on empathy and shared experience. Users can only create simple posts and upvote them, with a filter by type of musician.



Major Usability Problems Addressed

1. [H2-4: Consistency and Standards][Severity 4][Found by: A, B]

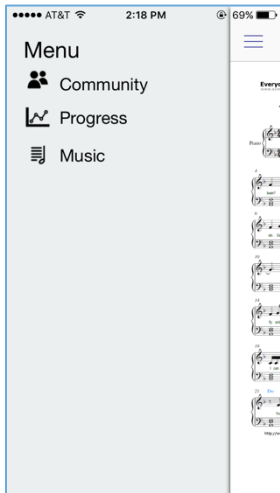


A confusing and inconsistent menu bar

Feedback: The menu at the top of the screen resembles a typical tab bar controller in form, but not in position or usage, which makes it rather confusing. Tab bars are typically at the bottom of the screen and do not get removed or added with a hamburger menu button (as you have in the top left). Further, you can typically only select a tab once, which would bring you to the most recently viewed screen on that tab, or, if there isn't one, to the root screen. Here though, the tabs work as buttons, so pressing the "Select" tab will bring you to the Set Goals/Log Emotions screen, even if you are already further down the flow of that tab. Solution: This one can be fixed in two ways. One option is to keep the tab bar design, but move it to the bottom of the screen and

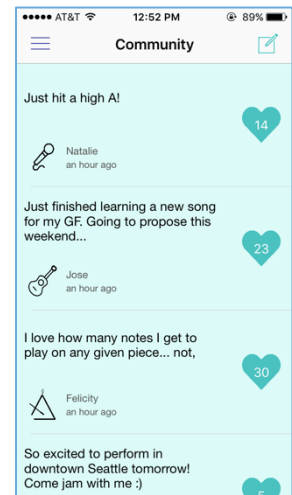
have it function as a normal tab bar with the separate navigation stacks. The

other is to modify the design to be more menu-esque (perhaps a side drawer) so that the functionality of the buttons more closely matches their design.



Sidebar Menu Implemented

Implementation: Fixing this navigation and consistency issue was our top priority during development. We decided to have a consistent menu bar at the top of the screen, allowing the user to access the sidebar menu via a hamburger menu icon at any time, and offering the user another specific set of icons depending on what part of the application they had navigated into. We unified the function and form of our menu items by clarifying labels and icons for each view (Community, Progress, and Music).

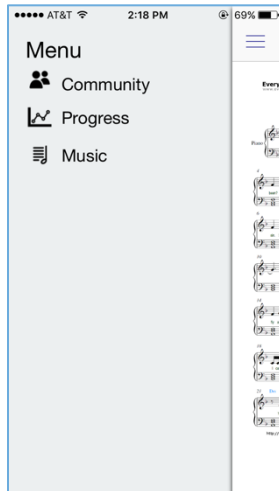


Top Menu Bar is Simplified

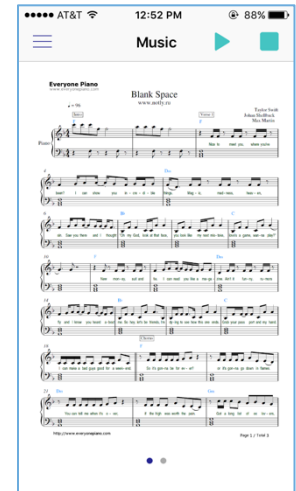
2. [H2-3: User Control and Freedom][Severity 4][Found by: A, B, C]

Feedback: If the user selects one set of sheet music and either changes their mind or wishes to practice something else within the same session, there is no easy way for them to go back and make that change. The user will have to simply end that session and start a new. The current rigid, unidirectional design

restricts the user from performing what I believe would be a common task. Solution: Either just having a generic back button or a “change sheet music” button within the sheet music view.

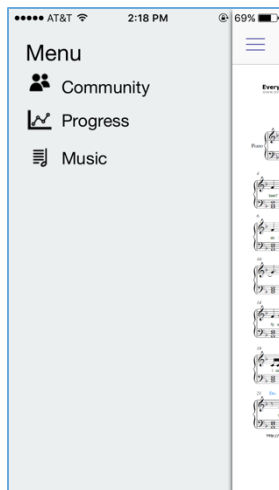


Implementation: In our final prototype, we scoped out the ability to choose multiple pieces of sheet music and implemented a flexible practice mode that would have no bearing on the ability to navigate between music and other areas of the application. To access sheet music, the user may select “Music” from the sidebar menu. They do not lose their practice session data or start and end a practice session in doing so because the practice mode is controlled through the “Play” and “Stop” buttons on the menu bar, accessible to the user from any sheet music they view.

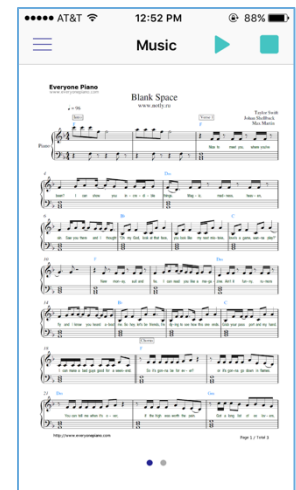


3. [H2-2: Match System and Real World][Severity 3][Found by: A, B, C]

Feedback: In the menu, the term “Select” did not have a clear meaning. Given it is paired with a musical note, I would think it would take me to the page to select a song to play, but instead it brings me to the set goals and log emotions page. This labeling creates a disconnect between what I believe the button will do and what it actually does. Solution: Choose a term like, “Practice” or “Log Emotions”, which may be more indicative of the button’s function and aligns with the user’s overarching goals.



Implementation: We clarified the names of our menu bar items, clearly identifying that “Music” will navigate to music, etc (left). Entering Practice Mode to log emotions and begin a practice session is now initiated and ended through the “Play” and “Stop” icons at the righthand top of the menu screen (right).



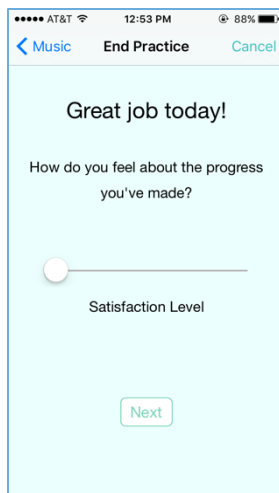
4. [H2-5: Error Prevention][Severity 3][Found by: B]

Feedback: *If the user doesn't enter anything into the "set goal" or "log emotions" text fields, the system will continue without getting confirmation from the user that they indeed intended not to enter anything. Since goal setting and emotion logging are perhaps the main points of the the app, it seems prudent to at least check with the user to ensure that they really meant not to log this data. Perhaps they were a confused novice, or just needed a friendly nudge to get them to make the time investment. Solution: I would include a confirmation popup that ensures this was the indented action of the user or allows them to easily correct it if not.*

Implementation: We did not have sufficient time or ability to implement these error confirmation checks, and found it more important that we addressed the Severity 4-level issues with the app and clarified the user flow and process of practicing. This would be a top priority to address in in later implementations of the application.

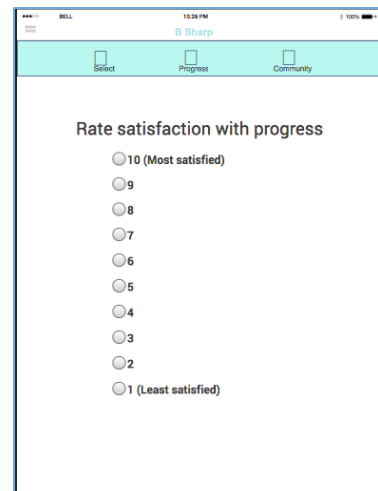
5. [H2-7 Flexibility and Efficiency of Use][Severity 3][Found by: A, B]

Feedback: *In the "rate satisfaction" window, the user is presented with radio buttons from 10 to 1 that is labeled "Most Satisfied" to "Least Satisfied," respectively. This reading step requires the user to take a moment processes what exactly the scale represents before entering in their feelings. Furthermore the radio buttons for selection of satisfaction ratings don't seem to fit the rest of your design in color or style, especially since the rest of the app focuses on qualitative evaluation. I would suggest finding a way to collect the same data through a more intuitive apparatus. Solution: use a sliding scale.*



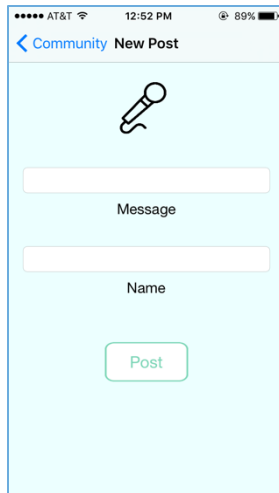
Solution: use a sliding scale.

Implementation: For our final prototype, we implemented a sliding satisfaction scale per recommendation.

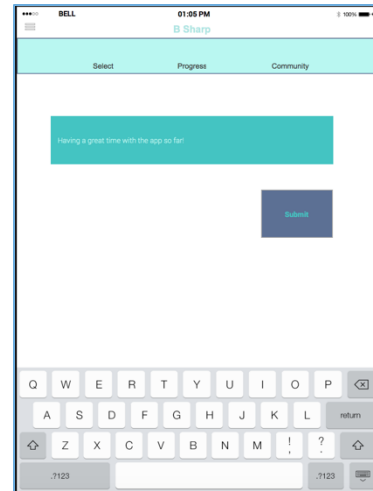


6. [H2-3: User Control][Severity 3][Found by: B, C]

Feedback: *It's unclear what a user can or should do if they play multiple instruments and wish to submit a message about one in particular. The user should have a clear means of adjusting the instrument they are posting about. I suggest adding such an option in the "add" screen.*



Implementation: While we modeled different users with different instrument icons, due to a lack of time and a priority focus on Severity 4-level fixes, we did not implement the ability to choose an icon in this prototype. However, this would be a priority feature fix for the next version of this application.



Prototype Implementation

We implemented our prototype as an iOS application using XCode and Swift. As a popular platform, there were many tutorials available to help us quickly learn what was necessary to implement this application, and XCode's storyboard features were very helpful in supporting development and UI choices despite our inexperience with the language. However, although every member of our team has technical experience, it proved very difficult to ramp up on Swift quickly enough to realize our vision for this application in the time allotted. We had early successes implementing a sidebar menu, but struggled with modal views and creating the dashboard for Task 2 that we had envisioned in brainstorming and design sessions after building our Medium-Fidelity prototype. We scoped out features such as adding and selecting multiple sets of sheet music and filtering community feed posts for the sake of core functionality. We also hard-coded both our community feed and the information presented in the word cloud. For the information offered to the viewer in the calendar section of the "Progress" view, the goal and statistics displayed to the viewer are randomly chosen from an array each time.

Project Summary

B-Sharp is an application designed to help build mindfulness into the practice routines and lives of musicians through emotional check-ins, the ability to track their practice progress alongside a record of

how they personally experience each day, and by connecting them to a broader community of musicians who experience many of the same successes and setbacks as they do. This project was a valuable learning experience in terms of building user empathy and understanding the challenges that come from taking an interface design and realizing it through implementation. While we did not manage to reach all of our implementation goals, we successfully finished all three tasks we set out to build and can take the lessons learned through this process into the future as designers and developers.