

# Merrimack College Well-Being Application

## Functional Specifications Document

Team: Y2K



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By: Brian Boyle

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# Introduction

By: Brian Boyle

Everyone has dealt with some sort of emotional, physical, mental, or social health factors that can affect their lives. This project aims to impact and help people who struggle with any wellbeing aspects in their life. This is to be created through a mobile application that would manage the mental health and wellbeing of its users. Upon opening the application, questions prompt the user in order to assess their wellbeing. Given the results of those questions, information would be provided to the user with wellness based activities. These activities include mainly videos that are linked with the app and other infographics about the topics. To help develop this application, Ray Lavoie from the Marketing and Sports Management Department will provide us with infographics, supplementary videos, and a list of questions about each topic of wellness. This software has great potential to effectively help people and we all look forward to the development process.

Here at Y2K, our mission is to develop a mobile application software that will help our client's manage and maintain their mental health. For any needed information that cannot be answered here or needs clarification, the members of Y2K can be reached with the following information:

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# Executive Summary

By: Kevin Sampson

The completed Wellbeing app will be used by Merrimack students, faculty, and staff so that they can assess, manage, and maintain their mental health. Users of the app will answer questions everyday and after the assessment they will be able to view videos, infographics, utilize a wellness tracker, and be able to journal down their thoughts and emotions. This app will be an iOS app, which means it will only be available on Apple phones and tablets.

# Scenarios

By: Kevin Sampson

## Questionnaire & Infographics Page Interaction

*In this scenario, a user will use certain features that are part of the application. We will show the subject, Alice, starting the application, interacting with the questionnaire page and infographics page.*

### Alice's Scenario

Alice is a student enrolled in a variety of courses, and is involved in many extracurriculars at her local university. She has found herself often overwhelmed by the busy schedule she has. In order to assist in her time management, Alice has been utilizing the *Wellbeing Application* for around a week.

Alice opens the application on her Apple phone device for the first time for the day. She is immediately presented with a pop-up window that asks five different questions, with a one through ten scale alongside each. Alice proceeds by rating herself a two under the emotional question. Next, she gives a score of five to herself under the accomplishments question. After, she rates the engagement and relationship questions with another two. Alice finishes off the questionnaire by rating the last question which is categorized under meaningful, giving it a three.

With the questionnaire finished, Alice can successfully access the rest of the application. She navigates to the *charts page* and takes a look at the visualization created from her past days utilizing the software. The data shown on Alice's screen shows a negative trend amongst her recent submissions. A message on the screen notifies Alice of this [negative trend](#), and provides a suggested video to watch. Alice

proceeds to watch the video and further looks into the recommended information on how to improve her positivity.

## **Journal & Profile Page Interaction**

*In this scenario, a user will use certain features that are part of the application. We will show the subject, Bob, starting the application, interacting with the journal page and profile page.*

### **Bob's Scenario**

Bob is a professor in the philosophy department of the local college he works at. He has been tracking his daily emotions through the Wellbeing Application, primarily through the journal section of the software.

Every morning for a month, Bob opens his Apple tablet device and launches the application. He begins by filling out the initial questionnaire, then proceeds to the journal page where he writes down his thoughts and notes about his well being that day.

When opening the journal page for the day, Bob sees all his previous entries he created over the month. He navigates to a button on screen to initiate a new journal entry. Bob writes about how his week has been, and how he is overall feeling. He mentions in his journal about how he is frustrated that his email is going to expire soon. Once he is completed, he taps the submission button. Now when observing his calendar of previous entries, Bob is able to see the entry he just created.

Next, Bob navigates to the profile page. He wants to change his account associated email address on the application to a different email. Bob clicks the button, and proceeds to verify his previous email and new email. Now when signing into the application, Bob is able to use his new email address as part of the requested credentials.

## Home & Mental Fitness Matrix Page Interaction

*In this scenario, a user will use certain features that are part of the application. We will show the subject, Charlie, starting the application, interacting with the home page and mental fitness matrix page.*

### Charlie's Scenario

Charlie is a locksmith maintenance worker of the local college he works at. He has been working tirelessly around the campus to have everything in order for when students begin moving in. Charlie was recommended to use the *Wellbeing Application* and is on his second day using it.

After his shift ends, Charlie relaxes and opens his Apple phone. He navigates to the Wellbeing Application, opens it, and fills out his daily questionnaire. After doing so, Charlie proceeds to the Home page, where he finds his Gratitude Tree. Charlie types in what he is most grateful for that day, and presses the submit button. Now when viewing the Gratitude Tree, Charlie can see his entry from today and yesterday.

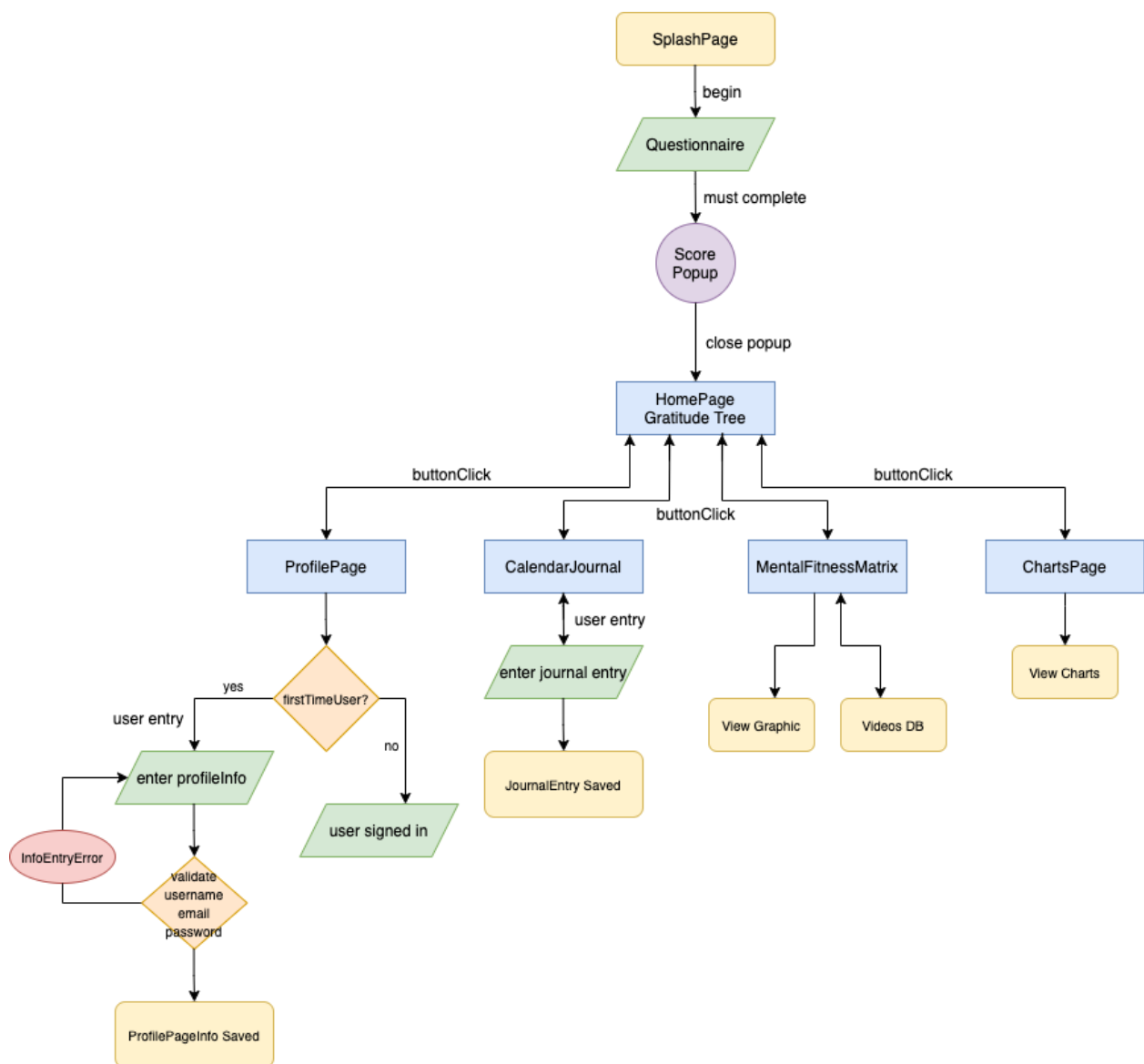
Charlie decides to further explore the application and opens the Mental Fitness Matrix page. He is presented with a pyramid graphic which is split into five categories, alongside an additional button. He clicks on the pyramid and notices that where he clicks presents him with videos upon the selected topic. He backs up and selects the additional button on the pyramid screen. Charlie can now see all available videos, filtered by category. He scrolls through and watches a couple videos that he finds may help him relieve stress.

# Database Diagrams

By: Vikku Ponnaganti

We will be using [Google Firebase](#) for our database storage. When a user inputs their credentials, it will be automatically encrypted by Firebase.

- The user's email and password must match with reference in Firebase.
- A pop up is presented when inputting false information.





# Screen-by-Screen Breakdown

[Figma Link](#)

By: Brian Boyle

This following section will show you what each screen should look like and how each should function. What is going to be displayed to you will be made up data to show functionality and flow of the UI. Each screen will most likely change aesthetically due to input from the client and other factors.

## Splash Screen

Splash screens are typically used to notify the user that the program is in the process of loading. They provide feedback that a lengthy process is underway.



## Sign in/out Page

Within these screens you will be able to directly log in from the main page or if you don't have an account you can create an account. If you try to login without creating an account first, you will be prompted to create one. In Figure 1, you will have to click on sign up, and then you will be sent to a screen where you have to enter your full name, an email address, and a password (Figure 2). After this the process is completed and you will be able to go to the next screen which is the home page.

Figure 1

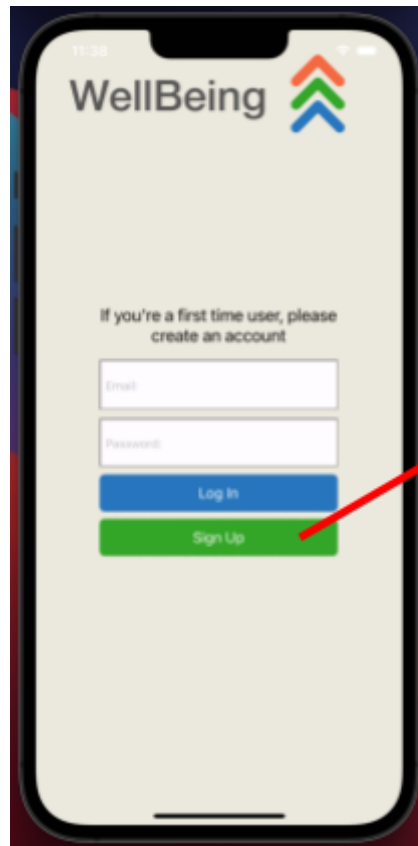
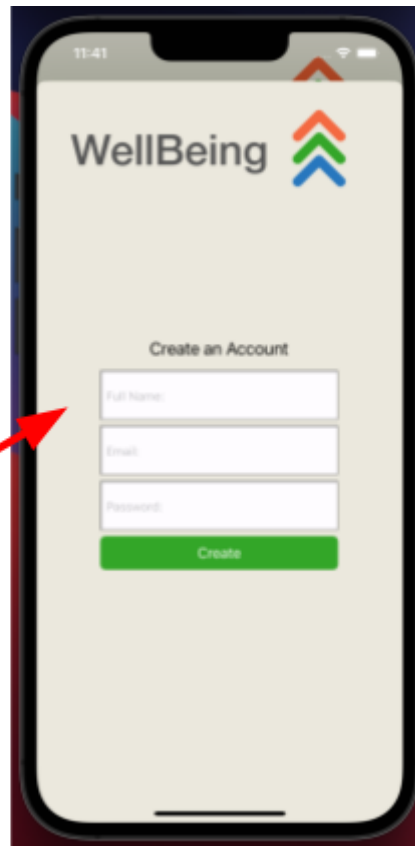


Figure 2



## Questionnaire

Once the user is in the app, they will need to go to the Charts page and click the questionnaire button. They will be sent to a screen with five different questions from five different categories, as seen in Figure 3. The user will use a scrolling line to let the app know how well they are feeling about that question that was asked. When the user answers the questions it will then be stored in the google firebase so that the information will be displayed later in time in the charts section of the application. On the following screen you will start to see a navigation bar at the bottom of the screen. There are Home, Matrix, Charts, Journal, and Profile buttons at the bottom that will take you to the desired screen once clicked on the icon.

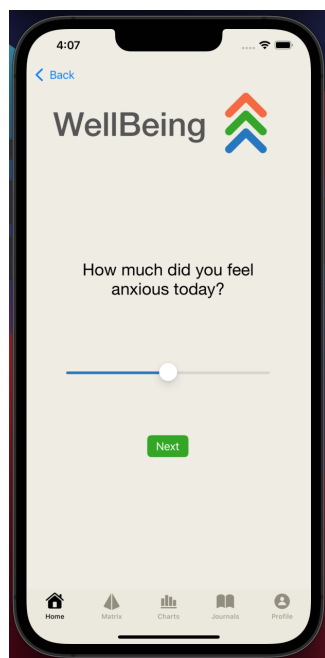


Figure 3



Figure 4

## Home Screen Page

The home screen will display to the user a [gratitude tree](#). This gratitude tree will show the user how they are feeling throughout the week by entering what they are

grateful for and it will populate the tree. The tree will reset after each week so that the tree won't get too cluttered and it will be easier to read. This tree will also be interactive because the user will be able to click on each leaf and it will be able to tell you what each leaf means as seen in Figure 4.

## Mental Fitness Matrix Page

On this page the [Mental Fitness Matrix](#) describes each category that is on the Questionnaire page. This page is important because it is one of the main ways to browse all of the videos and organize all of the categories within the application. The way to browse videos is to click on the browse all button in Figure 7, and then you will be redirected to the “All Videos” page in Figure 6.

## Charts Page

As you can see in Figure 8, you will be presented with a bar chart where you can see how well you scored on the mental health questionnaire. It will also have the

Figure 6

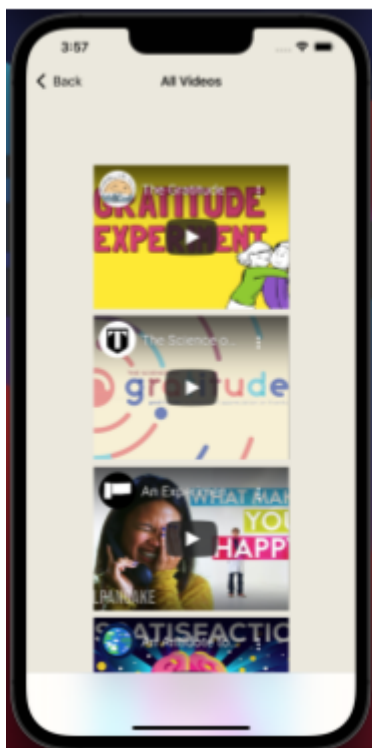
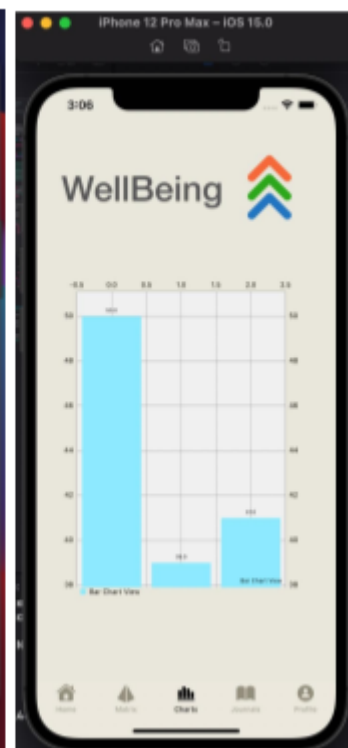


Figure 7



Figure 8



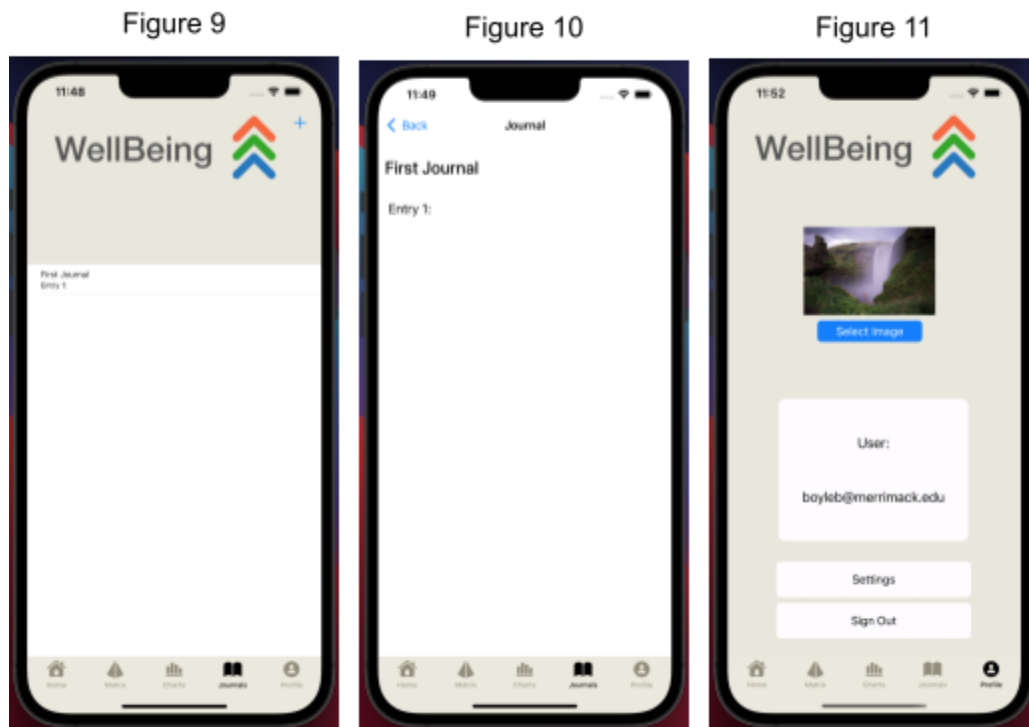
questionnaire button so the user can fill it out. The bar graph displays the scores that you got on every instance you fill out the questionnaire and will serve as a guide where you have some room for improvement.

## Journal Page

Referencing Figure 9, the user will be brought to this page first where they will be able to add a new journal by clicking the plus in the top right corner. Then you will be directed to Figure 10. This is where you will write down their thoughts during the day and this allows the user to let out any emotions or feelings that they are having at the time so they can monitor it during the day or even the week. They will be able to edit any post that they may have done and it will keep track of when you update posts as you can see in Figure 9.

## Profile Page

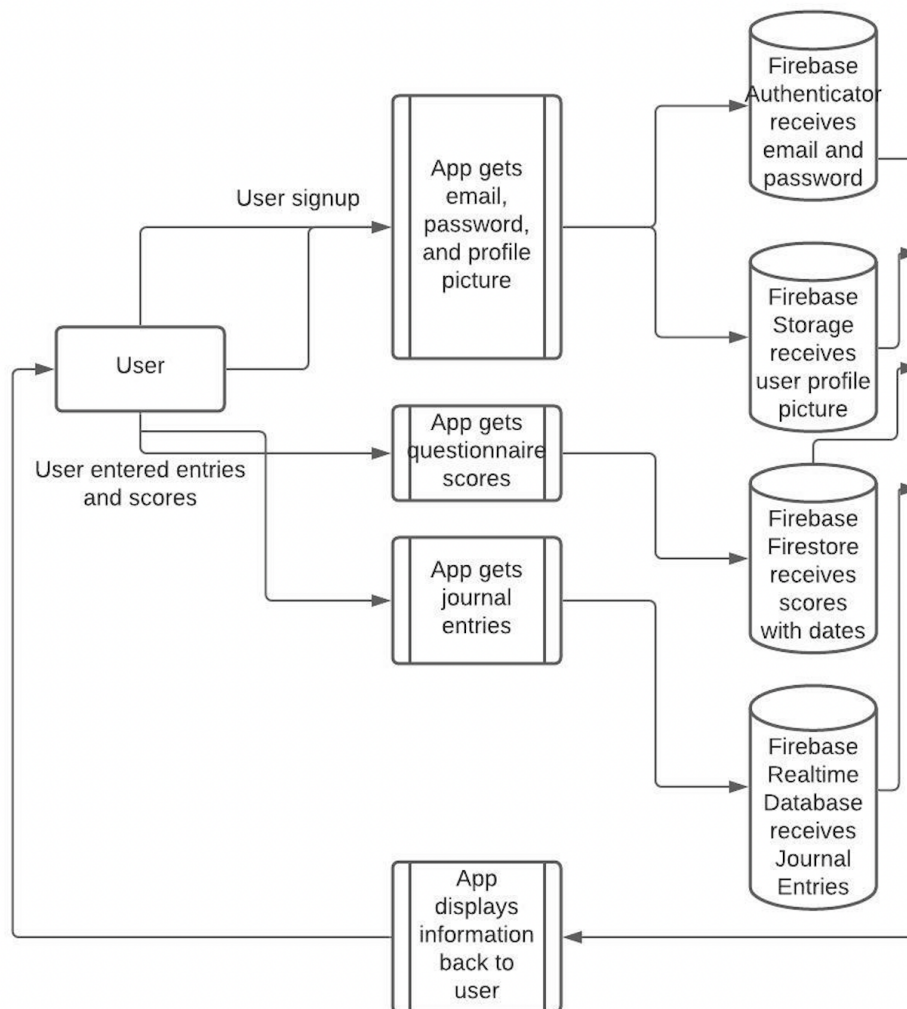
This page will allow the user to select a profile photo from preset images, direct you to our user manual, and allow the user to sign out of the app (Figure 11).



# Database Design and Information Storage Plan

By: Vikku Ponnaganti

There are several types of databases consolidated into one console called the Firebase console. The authentication database is for the email and [encrypted](#) password. The Firestore database is for the users' questionnaire scores. The Realtime database is for the users' journal entries. Lastly, the Firebase storage is for the users' profile pictures. The videos are stored via local URLs and so are the gratitude tree leaves.



# Glossary

By: Brian Boyle

- **Firestore Database**
  - The Firestore Realtime Database is a cloud-hosted database. Data is stored as JSON(file format) and synchronized in realtime to every connected client. When you build cross-platform apps with our iOS, Android, and JavaScript SDKs, all of your clients share one Realtime Database instance and automatically receive updates with the newest data.
- **Gratitude Tree**
  - In this specific instance our Gratitude Tree will show the user what they are most grateful for using colored leaves. Each category of wellness will correspond to a color and that color then will be shown on a tree in the home page as a reminder of how well you are doing for that particular week.
- **Mental Fitness Matrix**
  - This graphic is in the form of a triangle and it shows you the importance of each part of your wellness.
- **Negative Trend**
  - A trend where both the X-axis and Y-axis are going down.
- **Infographics**
  - A visual image such as a chart or diagram used to represent information or data.
- **Encrypted**
  - Convert (information or data) into a code or cipher, thus preventing unauthorized access to personal data.

- Special Character
  - Is a character that is not an alphabetical or numerical character  
(~!@#\$%^&\*()-\_+={}[]\<>./?'";:).
- Interactive
  - Allowing a two-way flow of information between a computer and a computer-user; responding to a user's input.