LifeChanger

A Website Project to Track Personal Life

Senior Design Project

Final Report

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1- Introduction

- LifeChanger is planned as a website idea that aims for the user profiles which would like to follow the changes of their personal life on a daily basis. The main purpose of this website is to keep track of and show users how their moods, psychology and their life change day by day. We aim that to help to prevent any mental disorders.
- Mental health is described by the World Health Organization (WHO) as "a condition of well-being in which each individual fulfills his or her own potential, can cope with normal life stresses, can work successfully and fruitfully, and can contribute to his or her community."
- Mood tracking apps has been studied as a way to help healthy people maintain healthy emotional states and to help people with mental illnesses like bipolar disorder and depression manage their health. The health-related data of the users in mood tracking apps allows users to learn more about their health, establish a link between the data and their health problems, and engage in proactive healthcare management. The fundamental of the app is to aid people in being more conscious of their emotional well-being and practicing proactive self-regulation.
- According to Statista, one of the most popular categories in smartphone apps is "health and lifestyle." Mood-tracking is one of the most popular tactics employed by health applications.

- Alongside these useful benefits of those apps, LifeChanger will offer users a chance to take their life-routines to the next level. Basically anyone that needs a better life, especially the ones that are depressed or people having hard times lately, would prefer this website to do something with their lives.
- The better life-routine comes with the better quality of life. This quality of life; can be considered in terms of health, psychology or a spiritiual way. What we want to do here is to give advice to the users according to the current situation they are in and to make their life better.

2- Survey

- Developers have begun to methodically study applications to discover features, opportunities, and obstacles for healthcare practices, since the usage of mobile apps for promoting health has expanded tremendously in recent years. There are currently almost 250 app on Mood Tracking on Android Google Play Store and almost 500 apps on iOS App Store. I have choosen 3 of them from Android and also 3 from iOS and made a comparison between them based on 5 different features. These features are the usage of pictures, the usage of emojis for emotions, the usage of reminders, the usage of graphs or charts and the usage of the calendar view. From this comparison, I have prepared a table that shows the comparison of these features.

Mood Tracking Apps

Apps	Pictures	Emojis	Reminders	Graphs or Charts	Calendar View
iMood Journal	✓			✓	✓
Mood Log		✓	✓	✓	✓
Mood Panda			✓	✓	✓
Moody		✓	✓	✓	
MoodMeter	✓		✓	✓	
Easy Mood				✓	

- As can be seen from the table, all of these applications have included graphic or chart objects. The graphic feature is very important in order to give the message to the user better and to follow the situation better.
- In addition, reminders play an important role in such applications. Since the purpose of the application is to follow up on a daily basis, the user needs to be reminded on a daily basis.

3. Method

- First of all, there will be, surely, login and register pages. We will get the basic information like name, surname, age and e-mail at the registration. However, on the top of that, we will have some kind of a short quiz after registration where the user will answer some critical questions about his or her life. The answers of the users to the questions will clearify the base mood of the user. The user will be redirected to the user page after completing this short quiz.
- In the user screen, there will be a lot of card components to track the process of the user's behaviour. These card components can be found easily in Material UI or other React Libraries.

- At the top of the user screen we will have a navbar. This navbar will contain the LifeChanger logo, logout button and a side-bar menu.

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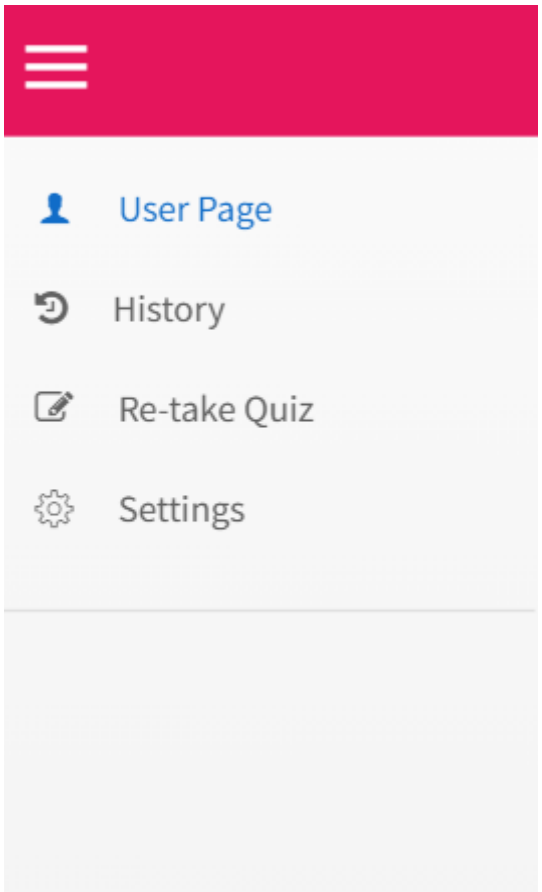
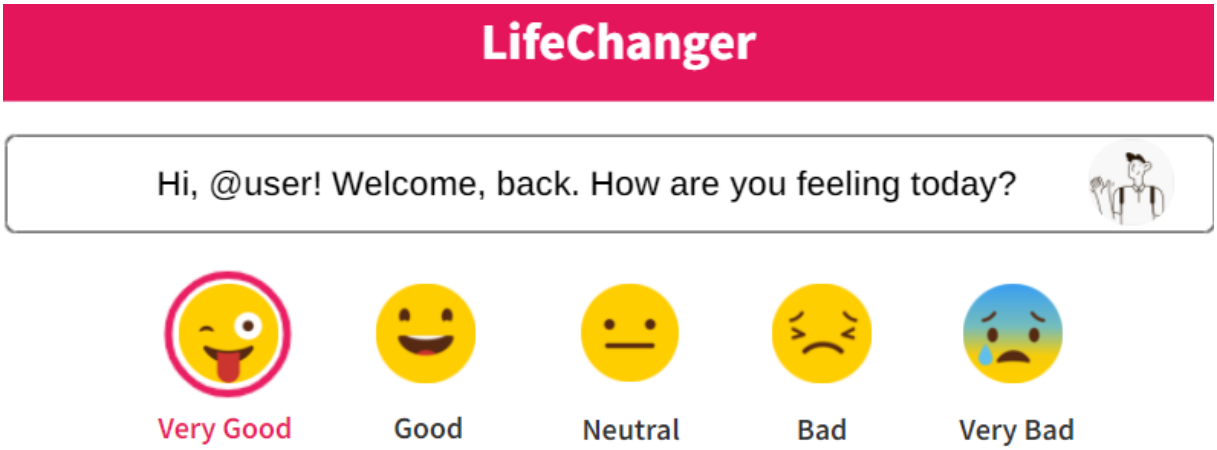
- When the user click the icon on the left, a menu will be opened on the left of the user page which navigates user to history page, settings page, quiz page and the other pages. Any other pages can be added later.



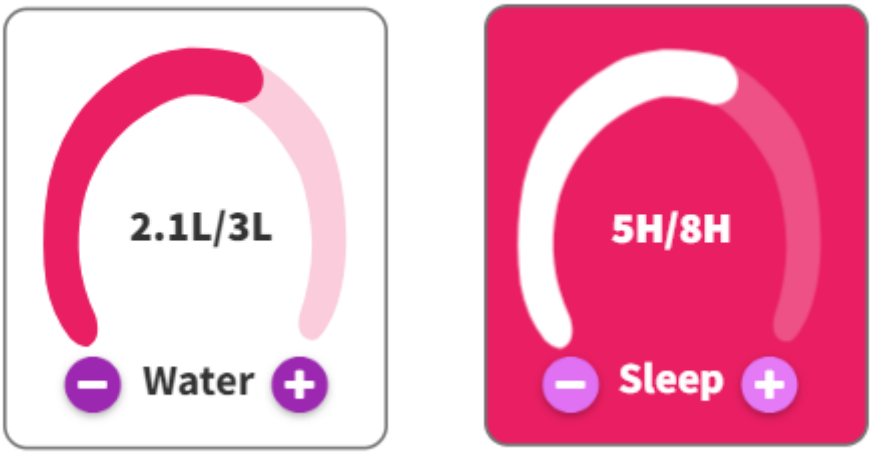
- Below the navigation bar at the top of the website, there will be a welcome text that welcomes the user and a question about how is he feeling. As an answer, 5 different options will be presented as very good, good, neutral, bad and very bad. The options will be represented as different emojis. This question can only be answered once a day and will be saved in the database as a daily status.



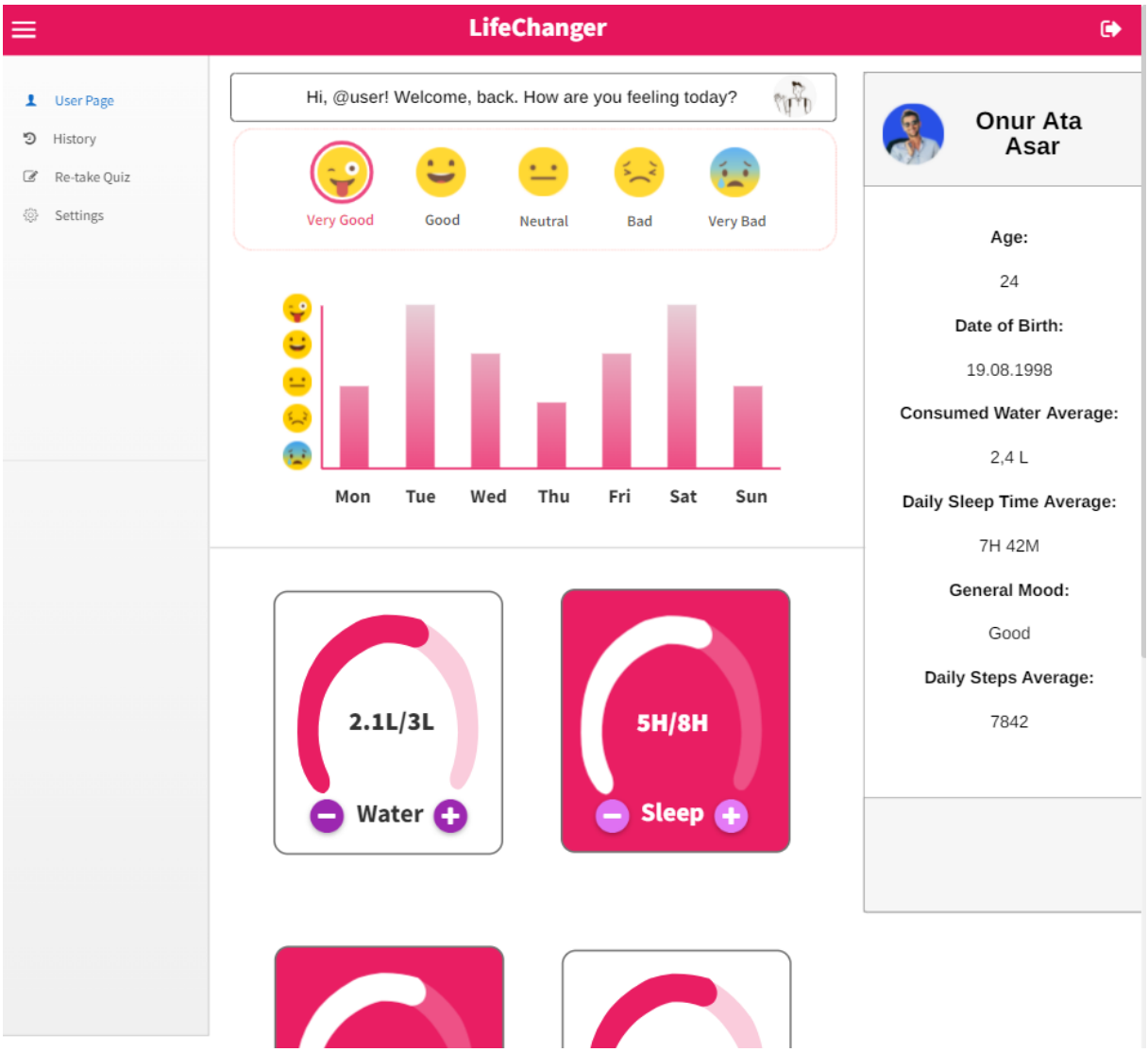
- On the right side of the user screen, there will be a card showing the user's profile and information. At the top of this card, the user's first and last name will be located along with their profile picture. At the bottom, information such as age, date of birth, average daily water consumption, average daily sleep time, general mode status, average daily step count will be given. (These information can be changed later.) These data will be calculated according to the daily feedback of the user.

- Below the question containing 5 emojis, there will be a bar graph showing the weekly mode change, prepared according to the answers we received from this question. All seven days of the week will be indicated separately on this chart.

- Last but not least, we have different radial graphs for user to follow every different feature. The water consumption, the sleep time and the steps taken can be followed with these graphs daily. Also, the user will adjust the amounts of features of that day with the plus and the minus buttons. The user will also decide a goal for every future and be able to how successful he is for every one of them.



- For now, the Lifechanger prototype consists of these components. However, I would like to point out that this prototype is not the final version of the website.

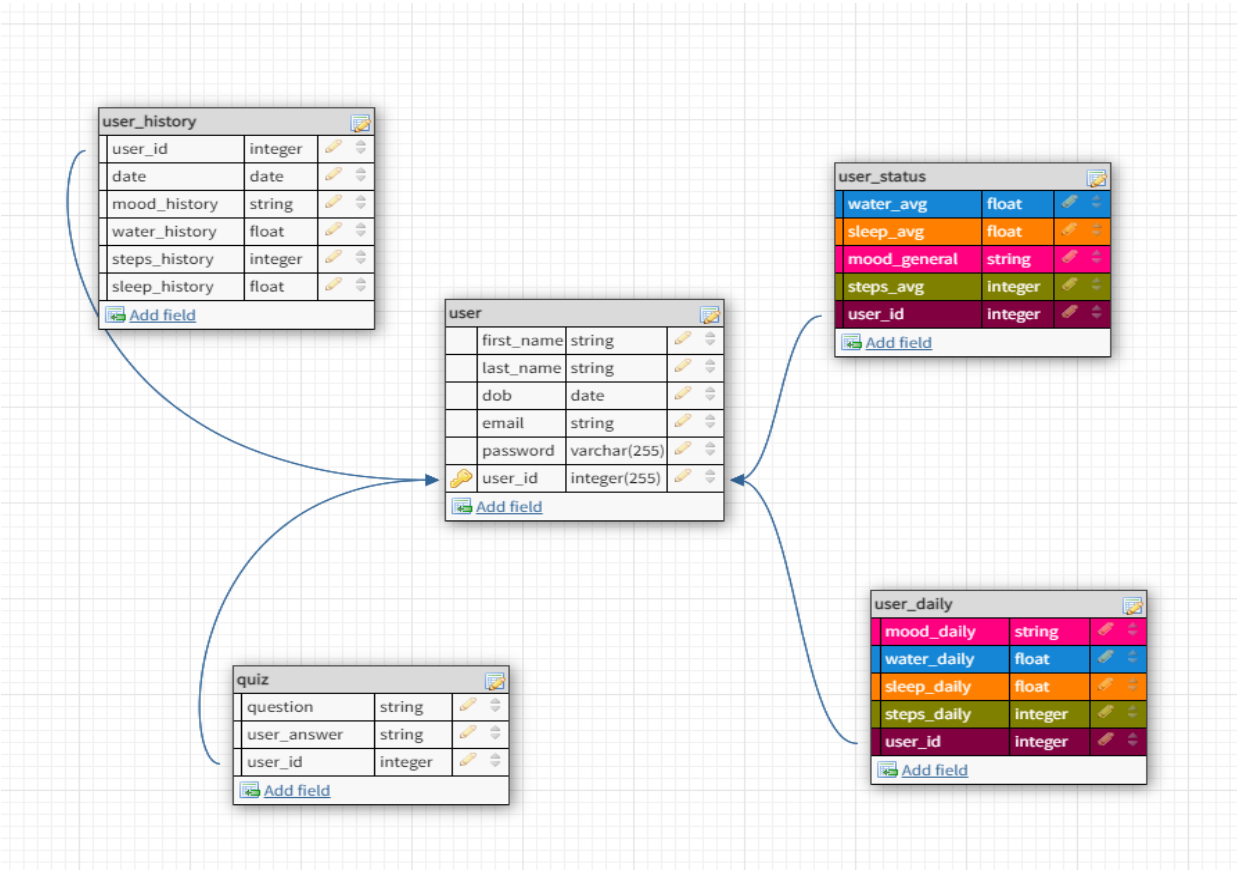


4. Database

- For the database part, I am planning to use MongoDB. We will have one user table for the fundamental information. This table will include attributes like user_id, first_name, last_name, e-mail, password and date_of_birth. The user id will be our primary key here.
- Another table will be user_status. This table will include much more detailed information about the user and the progress that he or she follows. The attributes here will be updated consistently unlike the first user table, since the information

changes dynamically everyday. The attributes like, daily average water, daily average sleep, daily average steps, general mood will be included in this table alongside with the foreign key user id.

- User_daily table will be also updated everyday according to answers of the user. Similar to the user_status table, we have mood_daily, water_daily, sleep_daily, steps_daily and user_id attributes.
- In the user_history table we will hold the data of the previous days. We have a date attribute eventually which shows the day of the data and the remaining attributes are all the same.
- Finally we have a small quiz table which includes the questions and the user's answers.
- Of course, this will not be the final version of the database. A prototype was prepared just to give an idea. There will be many tables and attributes that will be added, removed and changed.



5. Platforms for Implementation

- For the user-interface part of this project, React will be used. The veriaty of the metarials and components is the reason why I choose it. Since I will be using a lot of card components alongside with the other ones as I mentioned earlier, the help of the libraries like Material UI, Fluent UI, React Motion will be huge for me. As React is a component-based platform, it will make my work much easier.
- Another reason why I choose React is that it can be easily converted to a mobile application (Android or IOS) with React Native. If I want to make a mobile app version of this website LifeChanger in the future, React will make my job much easier, again.
- As the database part of the LifeChanger project, I have decided to use MongoDB, for now. I haven't used MongoDB before, to be honest. However, the positive comments I read as a result of my research pushed me to use this platform. In their website, they say that they are more flexible and they have horizontal scability compared to MySQL. Another reason for me to choose it is that the features about the security part. MongoDB offers various features like authentication, access control and encryption.
- For the back-end part I will use NodeJS since I'm more familiar with it. It has highly compatible features with ReactJS since both of them uses the same JavaScript language. Also its scalability, speed, flexibility are the other reasons that makes me prefer NodeJS. Just like React, NodeJS has also cross platform support for Android and iOS. So, I have thought that it is the best one amongst the other options.