



Feeling Lavender

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Capstone Project

Se-au-nz-ft-13FEB23 Cohort

Introduction / Purpose

What is the problem or the opportunity that the project is investigating?

Working on a mood tracker application for my capstone project. I believe the problem or opportunity that my project is investigating is the lack of accessible and user-friendly tools for individuals to track and monitor their mental health. With the increasing prevalence of mental health concerns worldwide, it is becoming more important than ever to prioritize mental well-being and find effective ways to manage stress, anxiety, depression, and other related issues.

Why is this problem valuable to address?

The goal of my mood tracker application is to provide a convenient and intuitive platform for individuals to track their moods, emotions, and mental health symptoms over time. By logging their daily experiences and identifying patterns and triggers, users can gain valuable insights into their mental health and make informed decisions about self-care and treatment. Additionally, the app will allow users to set reminders and goals, connect with mental health professionals, and access helpful resources to support their mental well-being.

Overall, my project aims to address the growing need for accessible and effective mental health tools and resources, and empower individuals to take control of their mental health and well-being.

What is the current state (e.g. unsatisfied users, lost revenue)?

Based on general trends and research in the mental health tech space, there are several potential areas where the current state may be unsatisfactory:

1. Limited features and functionality: Many existing mood tracker apps may lack comprehensive features and functionality, making them less effective for individuals seeking to monitor their mental health over time.
2. Poor user experience: Some mood tracker apps may be difficult to use or have a poor user interface, leading to frustration and low engagement among users.
3. Limited access to resources: Many individuals seeking to track and monitor their mental health may also require access to resources such as mental health professionals, support groups, or self-care resources, which may not be readily available within existing mood tracker apps.

4. Limited personalisation: Many existing mood tracker apps may not provide personalized recommendations or support, which may limit their effectiveness for individuals with unique mental health needs.

What is the desired state?

The desired state for the mood tracker is one that effectively and efficiently supports individuals in monitoring and managing their mental health. Giving the users the ability to set goals for themselves. Providing them with a space to write down notes, journal or keep a diary log about their progress which they can use, to later show to a mental health professional or just keep it to themselves. I want to create a customizable application so that the users can use it however way that fits them best. As well as building a community where users can communicate with each other and to share their thoughts and experiences in a safe environment.

Has this problem been addressed by other projects? What were the outcomes?

There have been many mood tracker applications developed over the years, and their outcomes vary depending on the design, functionality, and user feedback.

Industry / Domain

The industry/domain of the mood tracker application would be the mental health and wellness industry. This industry includes various products and services related to mental health, such as therapy, counseling, self-help books, and mental health apps. The mood tracker application would fall under the category of mental health apps, which has seen significant growth and investment in recent years. According to a report by Allied Market Research, the mental health apps market is projected to reach \$3.91 billion by 2027, indicating the increasing demand for digital tools to support mental health and wellness.

What is the current state of this industry? (e.g. challenges from startups)

The mental health app industry has been growing rapidly in recent years, with an increasing number of startups entering the space. However, the industry also faces several challenges, including:

1. Regulatory compliance: Mental health apps must comply with regulations related to data privacy and security, as well as regulations related to medical devices and

software. Ensuring compliance with these regulations can be costly and time-consuming for startups in the industry.

2. Effectiveness and evidence-based practices: Many mental health apps claim to provide evidence-based practices and effective treatments, but there is limited research to support these claims. Startups in the industry must invest in research and development to ensure that their apps are effective and based on sound clinical principles.
3. Market saturation: With an increasing number of mental health apps available, startups may struggle to differentiate their products and gain traction in a crowded market. Startups must invest in marketing and user acquisition strategies to stand out in the industry.
4. User engagement and retention: Mental health apps may struggle to engage users over the long-term, leading to low retention rates. Startups must invest in user engagement strategies, such as gamification or personalized content, to keep users engaged and using the app over time.

What are the key concepts in the industry?

I. Mental health and wellness:

This is the overarching concept that the industry aims to address. Mental health and wellness refer to the state of a person's emotional, psychological, and social well-being.

II. Evidence-based practices:

Evidence-based practices refer to treatments and interventions that are backed by scientific research and clinical trials. Many mental health apps claim to provide evidence-based practices, but there is limited research to support these claims.

III. User engagement:

Evidence-based practices refer to treatments and interventions that are backed by scientific research and clinical trials. Many mental health apps claim to provide evidence-based practices, but there is limited research to support these claims.

IV. Data privacy and security:

Evidence-based practices refer to treatments and interventions that are backed by scientific research and clinical trials. Many mental health apps claim to provide evidence-based practices, but there is limited research to support these claims.

V. Personalization:

Personalization: Many mental health apps aim to provide personalized experiences for users, tailoring the app's content and features to meet the individual's specific needs and preferences.

Is the project relevant to other industries?

Yes, the project could be relevant to other industries beyond mental health and wellness. The concept of tracking and monitoring mood could be applied in other industries where there is a need for self-monitoring and self-awareness, such as fitness and nutrition, productivity and time management, and even financial management.

For example, a fitness app could incorporate a mood tracking feature to help users understand how exercise affects their mood and overall well-being. A productivity app could use mood tracking to help users identify patterns in their work habits and optimize their productivity. A financial management app could incorporate mood tracking to help users understand how their financial habits and decisions affect their mental health.

While the focus of the project is on mental health and wellness, the concept of mood tracking could be applied in other industries to support self-awareness and self-improvement.

Stakeholders

Who are the stakeholders?

1. Users: The primary stakeholders for the mood tracking application would be the users themselves. These would be individuals who are looking to track and monitor their mood over time to gain insights into their mental health and well-being.
2. Mental health professionals: Mental health professionals, such as therapists and counselors, could also be stakeholders in the mood tracking application. They may use the app to monitor their clients' moods and identify patterns in their mental health.
3. Researchers: Researchers studying mental health and wellness may also be stakeholders in the mood tracking application. The data collected through the app could be used for research purposes to better understand mental health and inform the development of new treatments and interventions.
4. Investors: Investors who have invested in the development and growth of the app would also be stakeholders, as they have a financial interest in the success of the project.
5. Data analysts and developers: The data analysts and developers working on the project would also be stakeholders, as they are responsible for ensuring the app

functions properly and the data collected is analyzed and presented in a meaningful way.

6. App store operators: Finally, the operators of the app stores, such as the Apple App Store and Google Play Store, would also be stakeholders, as they are responsible for reviewing and approving the app for distribution to users.

Why do they care about this software?

1. Users care about the mood tracking software because it helps them to monitor their mood, identify patterns in their mental health, and gain insights into their overall well-being. With this information, they can make informed decisions about their mental health and wellness, such as seeking professional help or making lifestyle changes.
2. Mental health professionals care about the mood tracking software because it can help them to monitor their clients' mental health and identify changes in mood and behavior over time. This information can be used to guide treatment decisions and interventions.
3. Researchers care about the mood tracking software because it provides them with a source of data to study mental health and wellness. This information can be used to identify trends and patterns in mental health and inform the development of new treatments and interventions.
4. Investors care about the mood tracking software because it has the potential to generate revenue and profits for their investment. If the app is successful and widely adopted, investors can expect to see returns on their investment.
5. Data analysts and developers care about the mood tracking software because they are responsible for ensuring the app functions properly and the data collected is analyzed and presented in a meaningful way. They care about providing users with a high-quality experience and ensuring that the app meets the needs of its stakeholders.
6. App store operators care about the mood tracking software because they are responsible for reviewing and approving the app for distribution to users. They care about ensuring that the app meets their guidelines and is safe and secure for users to use.

Why do they care about this software?

1. Users: Users would expect the mood tracking software to be easy to use, secure, and provide them with valuable insights into their mental health and well-being. They may also expect the app to be regularly updated with new features and improvements based on user feedback.
2. Mental health professionals: Mental health professionals would expect the mood tracking software to provide them with accurate and reliable data on their clients'

mental health. They may also expect the app to be user-friendly and easy to integrate into their practice.

3. Researchers: Researchers would expect the mood tracking software to provide them with a large and diverse dataset to study mental health and wellness. They may also expect the app to collect data in a standardized and consistent manner to ensure the accuracy and reliability of the data.
4. Investors: Investors would expect the mood tracking software to generate revenue and profits for their investment. They may also expect the app to have a strong user base and a clear path to growth and expansion.
5. Data analysts and developers: Data analysts and developers would expect the mood tracking software to be technically sound and free of bugs and errors. They may also expect the app to be flexible and scalable to accommodate future growth and changes.
6. App store operators: App store operators would expect the mood tracking software to meet their guidelines and standards for quality, safety, and security. They may also expect the app to have a strong user base and positive reviews.

What makes my mood tracker stand out compared to the other mood tracker out there?

- **Personalization:**

Allow users to personalize their experience with the app, such as choosing their own mood categories, adding custom notes and tags, and setting reminders for self-care activities.

- **Community support:**

Build a community within the app where users can connect with each other, share their experiences, and receive support and encouragement from others who are going through similar struggles.

- **Professional support:**

Provide users with access to mental health professionals and resources through the app, such as online counseling and therapy, crisis hotlines, and mental health assessments.

User Stories	Descriptions	Priority
Track my moods	As a user I want to be able to see and track my moods on a weekly basis to help me improve my mental health.	#1
Rating my moods	As a user I want to have the option to select which moods I am feeling on that day.	#1
Journal / Notes	As a user I find it useful to have a place where I can write or log anything that comes to mind so I can reflect and analyze my thoughts.	#1
Community	As a user I sometimes feel like I'm the only one who is going through what I am feeling. I want to be able to communicate to others to tell them about my story and to listen to theirs.	#3
Mental health professionals	As a user I want to be able to add patients and keep a track of their development so I can better help them.	#3

User Stories	Descriptions	Priority
Goals	As a user, having to be able to create goals can help feel motivated and seeing them being achieved is a rewarding feeling that can boost my confidence in myself.	#2

ARCHITECTURE Diagram, user flow, wireframes and database

(Can be viewed in my trello under the 'ideation' board)

<https://trello.com/invite/b/wDOBtpNI/ATTIf918cc10b58c0343eb2af5fd036c96e9B0E81EAE/iodcapstone>

In Scope

- Users are able to create an account and log in/log out.
- Users are able to rate they're moods and later change them on the same day.
- Users are able to view they're the moods they had on that week on a chart and will update/display new moods for the new mood at the start of the week (which will on sunday)
- Users have a space and freedom to write notes or keep a diary log of they're thoughts or they're progress on they're mental health journey
- Users are able to set goals and see the dates of when they started and when they have completed it .

Open Questions/Out of Scope

- Currently not all of the website is responsive and would collapse and overlap on each other when scaled down on mobile devices. Would like to change that in a future update on the site to make it more accessible .

- I did want to have a chat room, where users are able to freely communicate with others and share the stories/experiences in a safe space. For security, the users will not be able to add friends or get any other user details beside the user name which they can create when they enter the chat room. Unfortunately I didn't have time and still have little experience to pull this off.
- Having a reminder notification to rate they're moods, which potentially help them stay consistent and to get the best results.
- I would also want my application to be customizable in the future where users can set how and what to display on they're dashboard.
- Being able to send emails to users, like a weekly advice/tips or any article on mental health and well-being for users to read and learn from.
- Admin account for mental health professionals to help keep track of their patients progress
- Deploying into the cloud, had run out of time.

Non-functional Requirements

What are the key security requirements? (e.g. login, storage of personal details, inactivity timeout, data encryption)

- Password encryption using bcrypt.
- User information such as name, email and password stored in the database as well as in a cookie, for security.
- Availability, users would be able to write their thoughts down at any time.
- Providing a user-friendly and clean structure for usability.
- It should be compatible with any device that the users would be using.

How many transactions should be enabled at peak time?

There could be upwards to 100+ people accessing the web application at the same time.

How easy to use does the software need to be?

Needs to be easy to use and have an understandable/smooth user flow.

How quickly should the application respond to user requests?

It should take max 2 seconds for the application to respond, we don't want our users to feel anxious or upset with our slow application response.

How reliable must the application be? (e.g. mean time between failures)

Should be very reliable with saving and retrieving users data, since we are dealing with users information about their mental state which is considered sensitive.

Does the software conform to any technical standards to ease maintainability?

- For the backend having a MVC structure would keep it easy to navigate and manage.
- Having a Component-based structure for the frontend, would make reusable components that can be combined to form larger applications

Testing Strategy

Backend: Testing is mainly done with Postman and WorkBench, to insure that the database is active and is able to perform the four basic operations CRUD (Create, Read, Update, and Delete)

Frontend: `useEffect`, `.then` and `.catches` were used as tests.

Test case

- **Logging In:** User enters email and password, if "successful" user will be sent to the rating page before they can enter their dashboard. If the user's password is incorrect, they will be getting an "unsuccessful" login message with the number of tries they have attempted.
- **Tracking of moods for the week:** User's select moods and this information will be stored in the database. If "successful", the information will be displayed on a chart which the user can view on their dashboard. If "unsuccessful", it will set the users mood rate for that day to "0".
- **Creating a goal and writing notes:** When users click the 'save' for the notes and the 'add' for the goals buttons. This information will be stored in the database, if "successful" they will be able to see it displayed on the goals and journal pages or on their dashboard.
- **Sign up:** User enters name, email and password, if successful user will be sent to the rating page. If "unsuccessful", user will not be sent through the rating page
- **Updating Goals:** User clicks on the goal that has completed, if "successful", the goal table will update and display the date and time of that day to the table. If "unsuccessful" no changes will be made to the table.

Implementation

Pre-requisites: Installation

(download the package that is suited for your device eg: mac or windows)

Node.js & NPM :

<https://docs.npmjs.com/downloading-and-installing-node-js-and-npm>

MySQL & Workbench: *(if you don't already have one make sure to the create a MySQL account)*

<https://dev.mysql.com/doc/workbench/en/wb-installing.html>

Setting up the Application:

Cloning: *Front and Backend will be available on a github repository*

<https://github.com/AlannieDecena/capstone>

- Backend: Install the Backend: cd backend & then npm install
- Frontend: cd frontend & then npm install

Once installation is complete move on to setting up the database

Setting up the Database:

1. In VS code create a ".env file" in the "backend" folder
containing this information:

```
DB_NAME=moodTracker  
  
DB_USER=*your mysql username  
  
DB_PASSWORD=*your mysql password  
  
DB_HOST=127.0.0.1  
  
DB_PORT=3306  
  
PORT=8001
```

2. In mySQL workbench, create a new schema called 'moodTracker'
3. Execute the SQL query in the 'moodTracker' file in this repository file to set up your database table.
4. In your backend terminal enter "npm start" and for the frontend enter "npm run dev". *Now your moodTracker is ready to go!*

What were the considerations for deploying the software?

- In the future I would like to deploy this on to the cloud, would most likely be using AWS EC2 (Amazon Web Services Elastic Computer Cloud) since it provides a flexible, scalable, and cost-effective platform It also integrates well with other AWS services as well.

End-to-end solution

How well did the software meet its objectives?

The objective of this project was to create an application to help users track their mental health as well as having features that they can customize and use in whatever way best suits them in their needs, and help them make progress in they're journey.

There were a few features that fell out of scope, due limited time. Which would have been a great benefit for the user experience, but would have to add in a later update.

Overall I would say that my software met its objectives which were, documenting the emotion/moods of the user and displaying the results for the week. Giving them the ability to make a list of goals. And having a space where they can take notes or keep a journal log of their progress. And there is still room for improvement.

References

Libraries:

- Bootstrap
- Node.js
- Express
- Bcrypt
- Chart.js

Databases:

- My local API
- MySQL

Tools:

- WorkBench
- Postman
- Vite VS