Lab Task 02

Lab Title: Project Team selection & requirements gathering

1. Selected Project Title: **Feelio**
2. Team Description:

Sl. no	Roll	Name	Role
1	20245103408	Shadman Shahriar	Team Leader
2	20245103009	Amrin Jahan	Documentation
3	20245103010	Munasib Maria Oyshi	System Tester
4	20245103154	Kaniz Fatema	UI/UX Engineer
5	20245103199	Md Sajidul Islam	Unit Tester

3. Project Scope selection:

(a) Problem Statement

Currently, in our country mental health is an alarming problem. However, due to unawareness and ignorance, this problem goes untreated. About ~80% of the youth population, especially the students, are depressed and show symptoms of distress, anger issues, and mood swings. This usually occurs because there are not many ways to keep a track of our emotional well-being. Current solutions that are available on the market involve a learning curve or include paywalled features, effectively alienating most of its user base. In contrast, our project attempts to minimize this problem by offering an user-friendly, interactive and easy to use interface.

(b) Motivation

Our project **"Feelio"** offers a simple, stream-lined access to mood tracking, journaling, and companionship. We plan to build **"Feelio"** because most of the current solutions felt short in one way or another. Our aim is to build a project that -

- Does not involve a complex learning curve
- Helps its users to track and visualize their emotional wellbeing in different sections (weekly, monthly, yearly) and statistical ways
- Export a document consisting of user data that can be shared with their therapists (if any) for necessary medical attention.

- Provides companionship using an AI-powered chatbot interface where users can express how they feel.

(c) Who will use this software?

- Teens/youths especially students,
- Anyone who is seeking medical help through therapy or consultation.

4. My Role: **Developer**

Questionnaire

– **Company name:** Headspace, Daylio, Moodfit

– **Date:** January 14, 2025

– **Person completing the questionnaire:** Shadman Shahriar

– **Department/Division:**

Questions	Answers
1. What is the name of the system you are analyzing?	Feelio
2. Briefly describe the purpose of this system. What problem does it aim to solve?	There are not many ways to keep a track of our emotional well-being. Current solutions that are available on the market involve a learning curve or include paywalled features, effectively alienating most of its user base. In contrast, our project attempts to minimize this problem by offering an user-friendly, interactive and easy to use interface.
3. Who are the primary users of this system?	● Teens/youths especially students, ● Anyone who is seeking medical help through therapy or consultation.
4. What are the main functionalities or features provided by the system?	● Daily mood tracking and visualizing them in a calendar, (weekly, monthly, or yearly) ● Offering a text-based journaling system, ● Integrating AI-powered chat interface to provoke mindful and positive conversations.

5. Identify the key components or modules of the system. Describe the role of each component.	**1. Calendar Component** This component offers a calendar interface consisting of dates and markers where each marker denotes the user's mood of that specific date. There is a button to switch calendar views to weekly, monthly or yearly, so users can easily visualize their mood improvement over time. **2. Text Input Component** This component is used to provide the user with a textarea/textfield where users can write their daily entry of the mood journal. **3. Chatbot Component** This component features a chat interface where users can interact with a chatbot which is specifically modeled to provoke mindful conversations. **4. API Component** This component powers the chatbot component as it fetches the responses from the Gemini end-point and shows that in the front-end part.
6. What are the system's inputs and outputs?	● **Input:** ○ Daily mood check-in ○ Text-based journal ○ Conversational text (chat messages) ● **Output:** ○ Graphical representation of user's mood check-ins and text-based journals ○ AI responses fetched from the

	Gemini API
7. Which databases or data storage methods does the system use? How is data structured?	We are using SQLite3, which is a relational database. The data is structured in three tables namely: 1. Mood Entry, 2. Journal Text, 3. Chat History
8. What design methodologies or principles were followed in creating this system?	We are using the **Agile methodology** and hoping to provide incremental updates. We will hopefully tackle the high risk feature (AI-integration) in the 2nd incremental update.
9. How does the system ensure security? Mention any specific techniques or protocols used.	The SQLite3 database is encrypted with hashing. The data is stored solely in the user's hardware (PC/laptop/mobile devices)
10. Where do you see opportunities for improvement?	The chat experience can be refined using sophisticated models trained to guide mindful thoughts and amplify them.
11. Are there any areas where you feel more efficiency could be gained?	Yes. We can improve response times in the chat interface if we host the AI models locally. But it will come with a trade-off of a large file size of the end product.
12. What are the major challenges your system faces?	The only challenge we face is to ensure the availability of the chat API since the Google Gemini models and their usage is subject to change rapidly.
13. What are some features that are unavailable in the currently available solutions but this project is aiming to provide?	1. The currently available solutions paywall most of their core features, alienating a sizable chunk of their user base. Since a large portion of the user base are students,

	they often feel disappointed not being able to participate in the full experience. 2. Apps that are currently free either lack essential features or have a terrible user experience, discouraging their usage in the long run.

SRS Document

Table of Contents

System Features

Description and Priority

✔ **Daily Mood Tracking**

A calendar interface consisting of dates and markers.

Priority: HIGH (9)

Benefit: HIGH (9)

Risk: LOW (3)

Cost Penalty: MEDIUM (5)

✔ **Journaling**

A collection of user-generated text contents.

Priority: MEDIUM (9)

Benefit: MEDIUM (6)

Risk: MEDIUM (5)

Cost Penalty: MEDIUM (5)

✔ **Chat Interface**

Fetches the responses from the Gemini end-point and shows that in the front-end part.

Priority: LOW (3)

Benefit: HIGH (7)

Risk: HIGH (8)

Cost Penalty: HIGH (8)

Functional Requirements

REQ-1: Date/Time component

REQ-2: Textarea, text field, buttons

REQ-3: Message interface

REQ-4: Searchbox

Other Non-functional Requirements

- Performance Requirements

- At least 4 GB of RAM is required to develop this project.
- Having graphics memory is optional.

- Safety Requirements

- Gemini API should be prompted to refrain from its output being suggestive and explicit. A model protocol can be set up before initializing the API.

- Security Requirements

- No authentication is required since the software solely operates in the end-user's hardware.

- Software Quality Attributes

- Each cumulative update should be tested and verified by an authorized developer or tester.
- Each release should be thoroughly tested by a system tester, preferably using an automated service.
- End-users can act as beta testers and suggest feedback through the in-app feedback mechanism.
- Crucial updates and bug fixes can be provided over the air or using the in-app updater.

- Other Requirements

- Database systems are subject to change but a relational model is preferred.
- Software's language file is separated into language modules (.lang files) to ensure internationalization.
- The software may use open-source codes usually licensed under MIT, GNU GPL 3, or CreativeCommons CC rev 4.