Project Requirements

for

Habit Tracker

CS 157A - Team 11

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1. Project Description

Our team will be creating a database application that is based on the habit tracker. A habit tracker is commonly used in bullet journals. *Habit tracking* is a general term used to describe the task of keeping yourself accountable for tasks or goals each day throughout the week or month. These tasks and goals are completely personal to your overall goals and priorities. *Figure 1* shows an example of a habit tracker from a bullet journal.

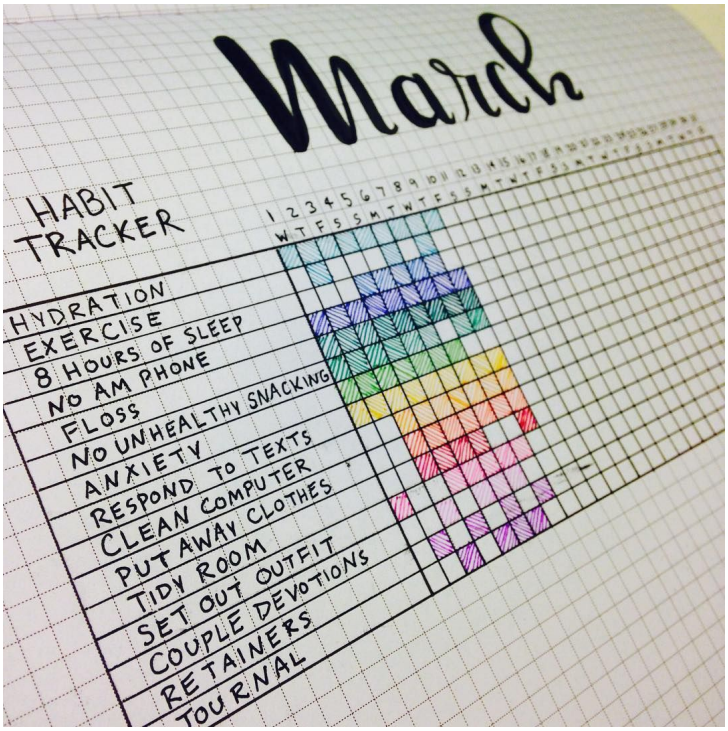


***Figure 1*:** *Habit Tracker from Bullet Journal*

For our web application, we will have basic tasks ready for the user to select such as “meditate, exercise, 7-9 hours of sleep, study, ” along with personalized ones that a user can set themselves. There will also be another space for a user to type how many hours they slept, what time they went to sleep, what time they woke up, how long they studied that day, and possibly more. Each day the user can click on a square (see figure 1) corresponding to the task they fulfilled and the app will fill in the square for them. An important part of our web application is that each day, the user has to specify what their mood was (i.e. happy, sad, neutral, stressed).

At the end of each week and/or day, the app will generate a report based on their habits and mood and find patterns. For example, if the user’s mood was stressed and they also weren’t getting enough sleep, the report will display this and suggest that the user improves their sleep habits, along with a resource for better sleep hygiene.

1.1 Goal

The goal of the application is to help users get inspired to change their habits after seeing the effect certain habits are on their overall mood and wellbeing. We hope to help users with their self-development and inspiration through our weekly reports. This would be done by providing resources on how to change certain habits (i.e. getting better sleep) as well as providing affirmations in our weekly report.

1.2 Motivation

The motivation for this app stems from college students or working professionals with busy schedules. People with busy schedules are more likely to have fluctuating moods due to them possibly neglecting important routines in their life, such as getting enough sleep or exercising. This can result in a significant drop in their wellbeing, especially if they don't know why their mood is off. By having users keep track of their habits, they'll immediately know what exactly is causing issues in their mental health and will be able to take immediate action.

1.3 Stakeholders

The stakeholders of the application could be anyone. This application is for anyone who wants to keep themselves accountable for tasks or goals each day. It is especially helpful for college students with busy schedules who could also be having trouble with motivation.

1.4 Application Domain

Our user interface will be simple and intuitive. The user will just have to enter in which habits they want to track and our application will generate a habit tracker with their associated habits. The habit tracker will be in a table format with boxes for the user to select when they complete a task for the day. The title will name the current month. Above each box at the top of the habit tracker will list the days of the month (1, 2, 3, 4…) one by one. Next to each box on the side will list the habits one by one. The user will select the box for the habit they fulfilled on a corresponding day.

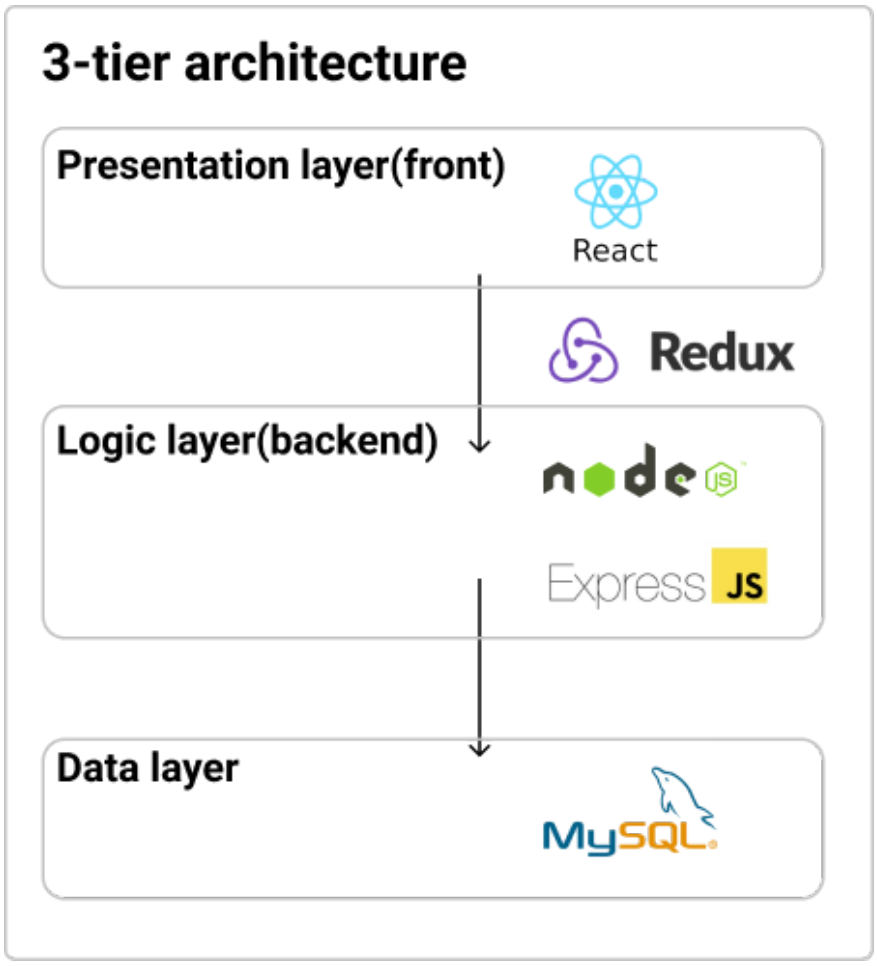
1.5 Benefits to Users

This app is beneficial to users because it helps the user identify patterns in their life. For example, the app can correlate productivity with the user's sleep patterns. Or another example could be that over a few months, the user will be able to get an average of how many days they exercised each week, which can help explain weight gain, loss, or lack of. Many correlations can be made which can help the user with self-development. Our habit tracker web application is more useful than creating a habit tracker in a bullet journal because the app generates a report of the patterns for the user. This saves time rather than people identifying patterns on their own. The app is also important because tracking habits on a daily basis gives people a sense of accomplishment. Users will likely start to have more motivation to keep them going the next day and so forth.

2. System Environment

2.1 Structure of the System

<Graph based on 3-tiered architecture>
The following Diagram shows the technology we mainly used for 3-tier architecture:



2.2 Hardware and Software Used

- VSCode (a source-code editor)
- Github
- Git
- React (Javascript framework for building user interfaces)
- Redux (JavaScript framework for managing application state)
- Node.js (JavaScript environment for building a server)

- Express.js (Node.js framework for creating API)
- npm / yarn (package manager)

2.3 RDBMS Used

- MySQL

2.4 Application Languages

- HTML
- CSS
- JavaScript
- SQL

3. Functional Requirements

3.1 Description of Users

The two different users of this application include the consumer, who will be able to log their daily data into the habit tracker, and administrators, who will manage the entire system and be able to create new themes or launch updates.

The consumer is the primary stakeholder for this application since they will interact with the interface the most. This includes many different individuals with similar goals of improving their lives by tracking their habits and correlated moods. Due to these broad specifications, this application is available to people of all ages and of all backgrounds as long as the user registers.

The administrator, on the other hand, has the ability to update the application by making changes to the tracking themes, suggested categories, and other features on the application.

3.2 User Interactions with Application

Firstly, since users must create a profile to create a Habit Tracker, they will be able to manage their profile and associated email and password. Users will be able to directly choose their Habit Tracker themes and color schemes. Additionally, they will be able to select the options listed in their Habit Tracker and fill in the daily columns.

3.3 Individual function/features

To access the system, the user must create a personal account on the website and verify it based on the email confirmation. After, they can initiate a new Habit Tracker and personalize it. After that, a screen will appear with the following list of suggested categories that the user can select:

1. Health & Fitness
2. Productivity
3. Money
4. Education & Goals
5. Chores
6. Relationships

Each of these categories will suggest specific options that the user can add to their personalized habit tracker. For example, in the Health & Fitness category, there will be a list of options such as Meditation, Exercise, Drink Water, Sleep, Flossing, No Junk Food, etc. The Money category can include Budgeting and Savings goals. The user can select these options and add descriptions to each hour, such as how much water or sleep they want to complete every day.

The only category that gets automatically added to every new habit tracker is the Mood row, which allows the user to input their mood every single day based on a list of emotions. Our habit tracker

will analyze the daily moods compared to other categories, ranked both positive and negative, to help deduce patterns in the user's daily life. Additionally, users can create their own habits not listed above to make this habit tracker as personal and effective as possible.

3.4 Functional Process

Users will access the system through the Internet. To create and personalize a Habit Tracker, registered users must follow the process of naming a new one and then choosing a theme. After that, they will be able to browse the suggested categories and select options or create their own. This will generate a monthly Habit Tracker with days on the top and their goals along the side of the graph. Users will be able to hover their mouse on a square based on the day and category and fill it in if they completed their goal. Once it is filled in, they must also describe their mood at the end. At the end of the week, an automatic report is generated correlating the completion of certain habits with the user's mood.

3.5 I/O

To access the application, users will input the URL and login, so the output will produce a visual representation of their month based on days and habits in a calendar format, just like the image in the Project Description. Every day, the users will fill in the squares associating the day and habit that they achieved, as well as ranking their mood. Based on this input, a weekly report will be generated based on their met goals and mood, attempting to display patterns in the users' behavior.

4. Non-functional Issues

4.1 Graphical User Interface

To build the interface, we plan on using JavaScript with the React framework, as well as HTML for structuring and CSS for styling. This interface will include typing text when creating or describing habits, as well as maneuverability with the mouse to track those habits.

4.2 Security / Access Control

To ensure that the user's information is protected, the user will make a personal account with an encrypted password. Authentication of the user will be determined by sending an email confirmation to the user's given address.