Project Requirements

for

Habit Tracker

CS 157A - Team 11

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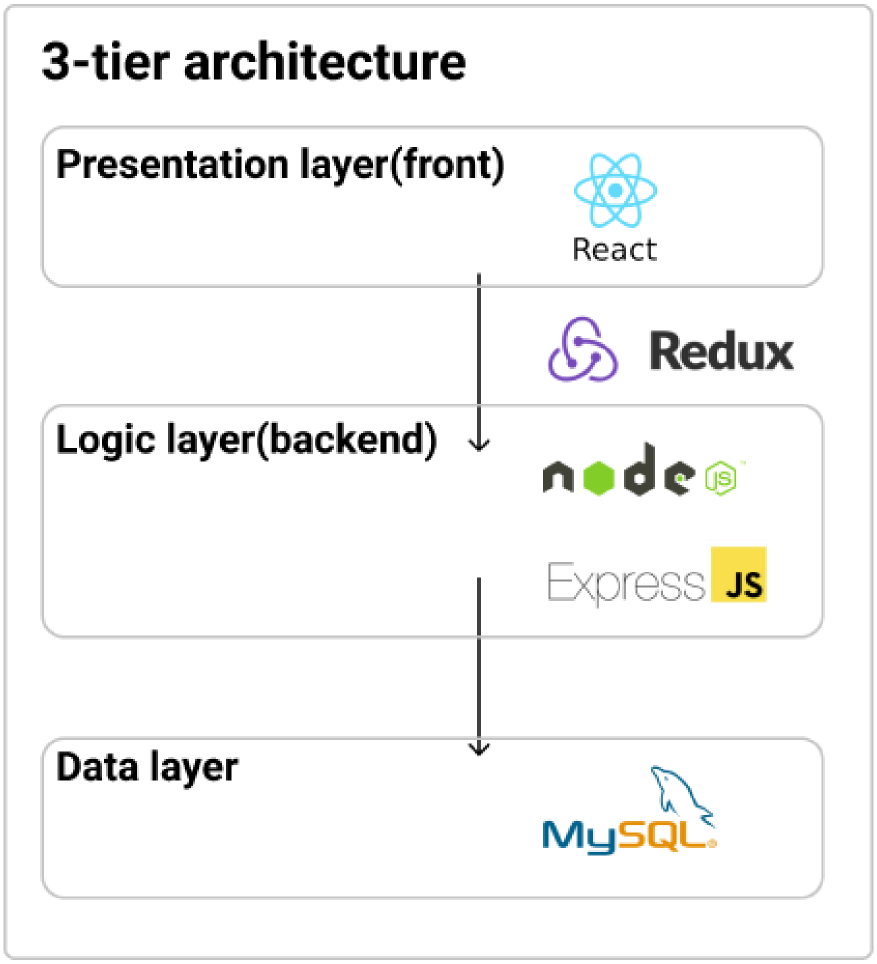
1. Project Description

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.