Bee Balanced: Personalized Healthy Lifestyle Coach

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Motivation

- The modern lifestyle can neglect daily **mental** and **physical** health practices, leading to long-term health issues.
- **Bee Balanced** was created to provide **accessible**, **customizable health guidance** that aligns with individual health goals.
- Instead of just tracking metrics, our app aims to **actively engage the user**, encouraging **consistency** and **mindfulness**.
- Bee Balanced offers **real-time feedback** to help users stay committed to **healthier routines** and encourage the development of **positive habits over time.**

Key Features

- **Personalized Survey Prompts:** Users will receive tailored prompts based on their preferences and stated health goals.
- **Notifications:** A reminder to users to keep track of their progress by consistently using the application.
- **Interactive Feedback:** Real-time responses and games will guide users towards positive adjustments.
- **User-Friendly Interface:** An intuitive design makes it easy for users to stay engaged without feeling bored or overwhelmed.

Architecture

- **Database (MySQL):** Handles structured data storage for users, goals, and progress tracking.

- **Backend (Node.js):** Processes requests, connects the frontend with the database, and manages server-side logic.

- **Frontend (HTML/CSS):** Creates a visually appealing, responsive layout and ensures user-friendly navigation
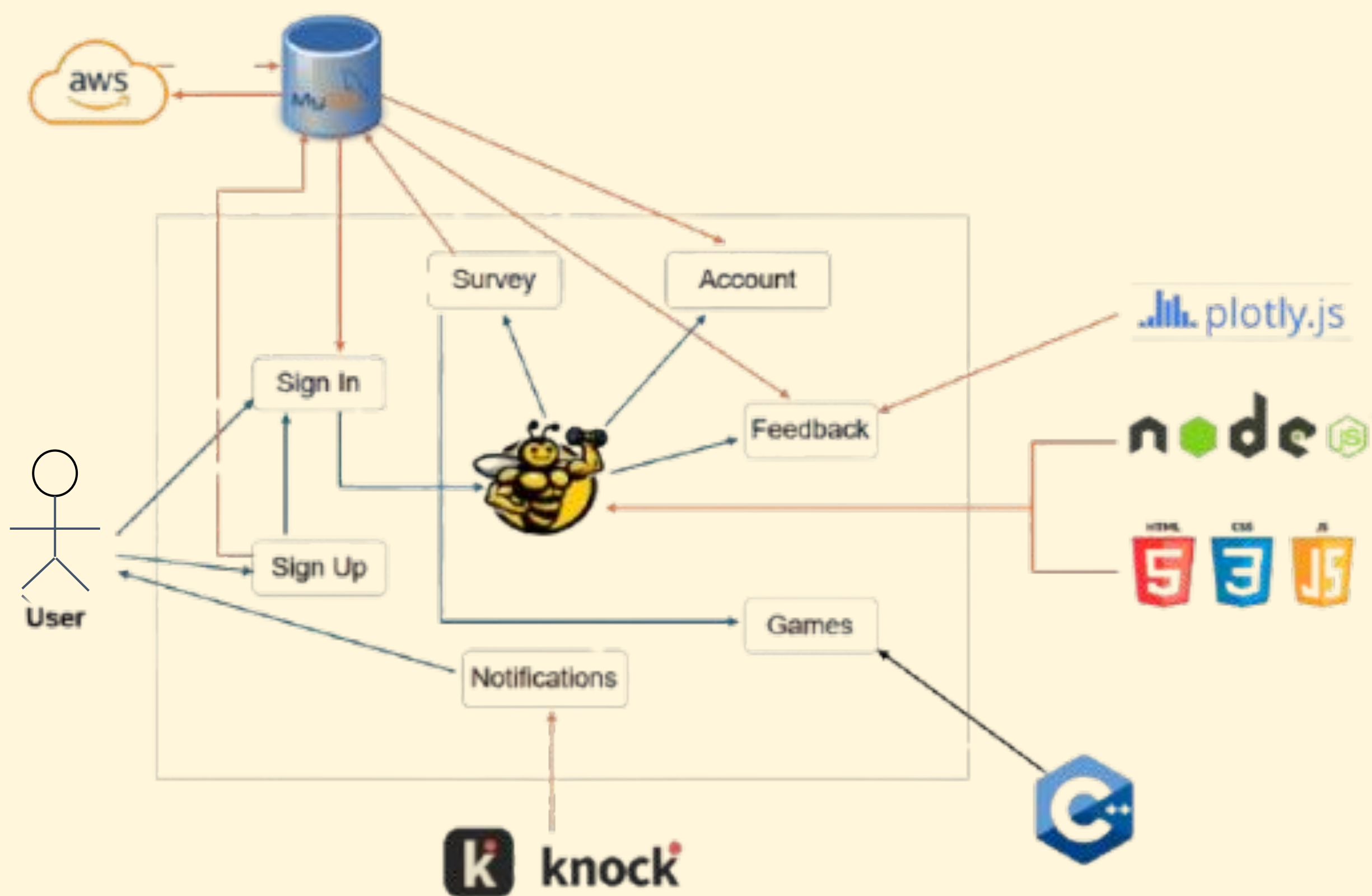
Solution Overview

Bee Balanced is a web app that promotes mental and physical wellness through fast, **engaging micro-surveys**. Users begin with 5 general questions, then choose to continue with either the Mental or Physical section. Once both are completed, the system displays a completion message.

To encourage continued engagement through **gamification**, Bee Balanced features a virtual pet and mini wellness games. These interactive elements provide users with **feedback** and rewards based on their input, turning healthy habits into a fun and motivating experience. Survey results are instantly visualized using Plotly.js, helping users spot trends and reflect over time. Bee Balanced is lightweight, scalable, and designed for consistent, positive habit-building.

Diagram

Testing

Our testing strategy focuses on making sure Bee Balanced works correctly, flows smoothly, and is easy to use.

- We perform **unit testing** across all the features of the app such as **signing up**, **taking surveys**, and **retrieving feedback.**
- We also check that everything **connects** and **shares data** properly between the **frontend**, **backend**, and **database**.
- Lastly, we test with **real users** to make sure the app is **clear**, **engaging**, and **works well for teens**.

Outcomes & Future Work

Currently, Bee Balanced has built the core features of the app, including user accounts, health surveys, feedback, and gamified elements like rewards. Initial testing confirms these systems work smoothly and are ready for further development.

Future steps include advancing the virtual pet to be an avatar feature, including checklist tasks to complete to improve survey outcomes, and creating more advanced and interactive games to enhance engagement and motivate users to return to the app over the long term.

Challenges

Every project will come with obstacles — and ours was no exception. We encountered several technical challenges through the development of Bee Balanced and worked to resolve each complication efficiently.

Development of Gamification

Challenge: Merging an HTML webpage with a working video game system

Resolution: Designed games as a web-based application and embedded in an HTML view

Survey Algorithm

Challenge: Making the survey understandable and translating the results accordingly

Resolution: Reworded questions to be consistent in a 1-10 scale, 1 negative and 10 positive

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beebalancedhealth.com