

BEE BALANCED

Design Review Presentation 3

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Client: Dr. Okim Kang



What's the Problem?

- 1 in 5 teens reports poor mental health (CDC, 2023)
- Youth physical activity remains low while screen time is up
- Teens need support across **mental, physical, and social wellness**

Current Solutions Fall Short:

 Apps often lose user interest quickly

 Feedback is often generic and uninspiring

 No integration of **all three health pillars**

 One-size-fits-all health apps lack personalization

Our client, Dr. Okim Kang, challenged us to design a fun, personalized wellness platform that helps teens stay engaged while improving their well-being over time.

SOLUTION OVERVIEW

Personalized Wellness Tracking

Users complete surveys on General, Mental, and Physical health.

Flexible Survey Progression

Users can choose between Mental and Physical sections after the General survey.

Engaging User Experience

Gamification to encourage participation and provide health advice.

Data-Driven Insights

Visual reports for user reflection on health trends.

KEY REQUIREMENTS



Modular Survey Structure

- General, Mental, Physical sections
- Branching logic for flexible user progression



Intuitive Input Design

- Sliding scale (1-10) for easy, clear input
- Centered UI



Engaging User Experience

- Virtual pet/mini-games for gamification
- Personalized health tips after survey



Data Driven Insights

- Plotly.js visual reports to track health trends
- Real-time feedback to encourage consistent use



Scalable and Secure Backend

- AWS-backed database for secure, reliable storage
- Scalable architecture for future growth

Architectural Overview



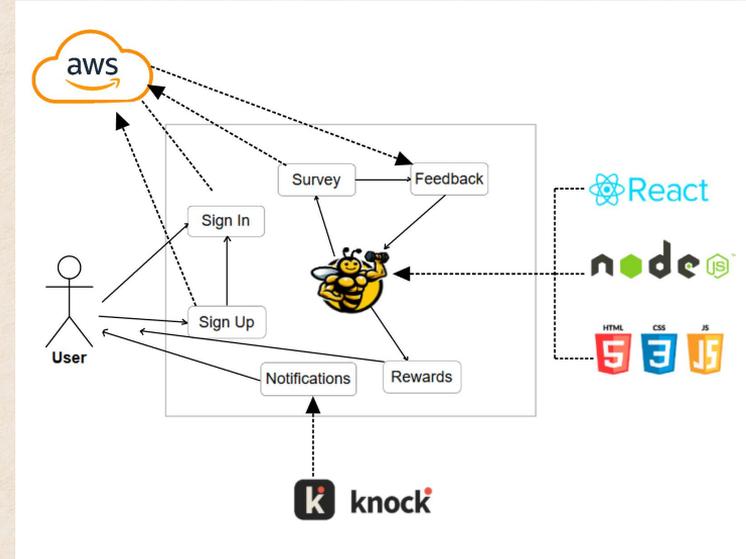
Frontend: HTML/CSS/JavaScript(Node JS)



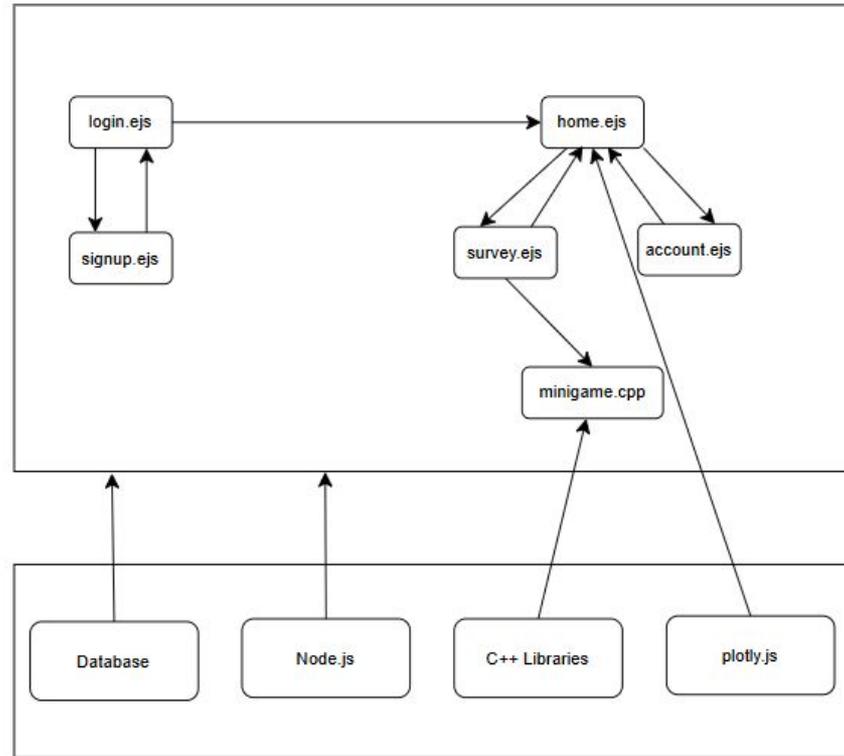
Database: MySQL & AWS



Backend: C++ & Plotly.js



Implementation Details



Prototype Review



Account Handling

Log in

Email

Password

Login

Don't have an account? [Sign Up](#)

[Forgot your password?](#)

Sign Up

Enter your full name

Email

Password

Confirm Password

Age (Optional)

Input Gender

Sign Up

Already have an account? [Log in](#)

Edit Your Account

Full Name:

Meaghan Freund

Email:

meaghanfreund66@gmail.com

New Password (leave blank to keep current password):

Age:

21

Gender:

Female

Save Changes

[Back to Home](#)

Prototype Review



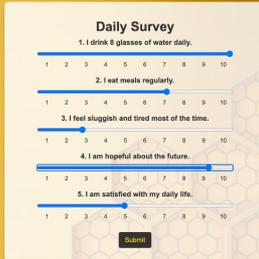
Survey System

Welcome to Bee Balanced

Your daily well-being tracker.

Take Today's Survey

Logout



Daily Survey

1. I have trouble concentrating.



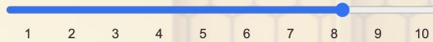
2. I feel disconnected from everyone.



3. I feel like I'm the only one struggling.



4. I don't feel I'm as good as everyone.



5. I'm sad and unhappy all the time.



Submit

Daily Survey

1. I use electronic devices after midnight.



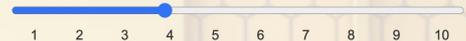
2. I exercise for 30 minutes or more every day.



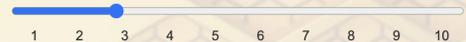
3. I go outside for the sun at least 10 minutes a day.



4. I sleep for 7 to 8 hours.



5. I drink caffeinated drinks excessively.



Submit

Next Steps

You have completed the General survey. Choose the next section:

Mental

Physical

Home

Next Steps

You have completed one section. Would you like to continue?

Physical

Home

Daily Survey

All surveys completed for today!

Home

Prototype Review



Progress and Feedback

Welcome to Bee Balanced

Your daily well-being tracker.

Take Today's Survey

Overall Health



Mental Health



Physical Health



Overall Health

I drink 8 glasses of water daily. ▾

Drinking 8 cups of water daily improves brain function, boosts energy, and supports digestion. Try carrying a water bottle with you to stay on track.

Mental Health

I feel disconnected from everyone. ▾

Connection boosts happiness—try reaching out or joining small groups. Take the initiative to schedule time with friends or family.

Physical Health

I use electronic devices after midnight. ▾

Late screen time affects sleep—power down early to rest better. Try a digital detox 30 minutes before bed to relax and prepare for sleep.

April

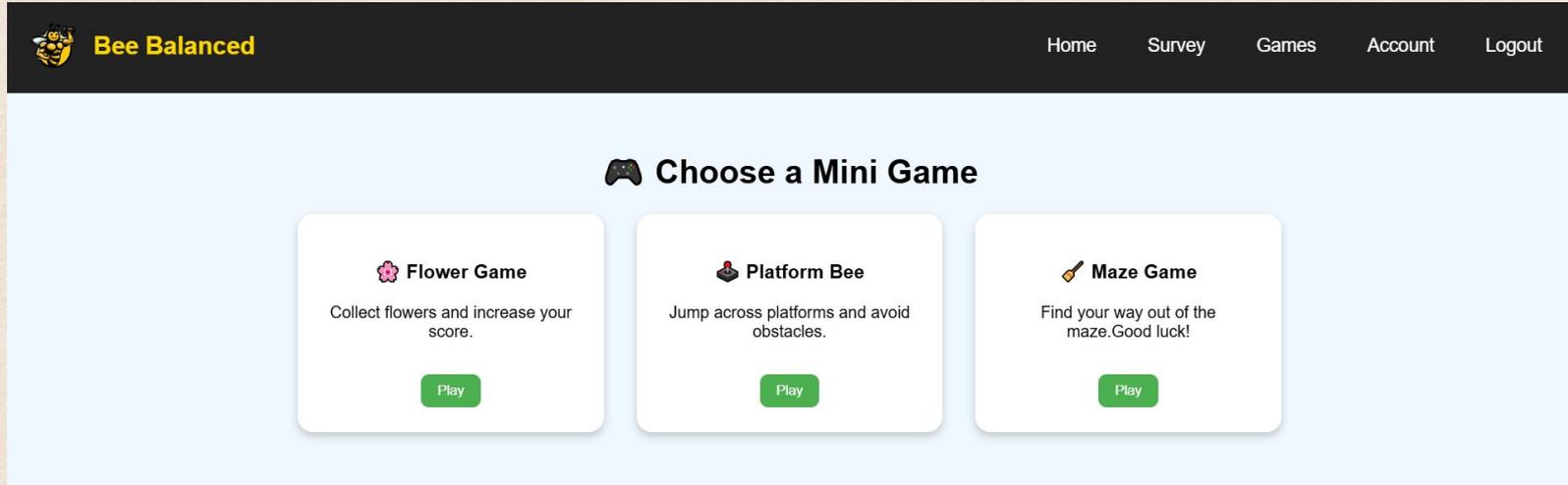
← Physical Health →

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

Prototype Review



Gamification



The screenshot shows the main interface of the 'Bee Balanced' website. At the top left is the logo and name 'Bee Balanced'. To the right are navigation links: Home, Survey, Games, Account, and Logout. The main heading is 'Choose a Mini Game' with a game controller icon. Below this are three game cards:

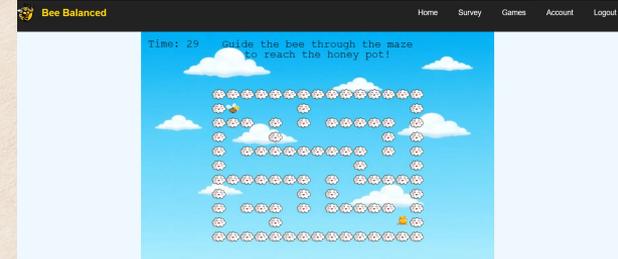
- Flower Game**: Collect flowers and increase your score. Includes a 'Play' button.
- Platform Bee**: Jump across platforms and avoid obstacles. Includes a 'Play' button.
- Maze Game**: Find your way out of the maze. Good luck! Includes a 'Play' button.



The screenshot shows the 'Flower Game' interface. It features a blue sky background with white clouds. A bee is at the bottom, and a flower is in the center. Text on the screen includes: 'Score: 0', 'Level 1', 'Catch the falling flowers!', 'Move the tree with your mouse.', 'You have 30 seconds!', and 'Reach 100 points to advance to next level!'. There are three hearts in the top right and a large number '1' in the center.



The screenshot shows the 'Platform Bee' game interface. It features a blue sky background with white clouds. A bee is at the bottom left, and a series of platforms (represented by clouds) lead to a honey pot at the top right. Text on the screen includes: 'Time: 25' and 'Level 1'.



The screenshot shows the 'Maze Game' interface. It features a blue sky background with white clouds. A maze is formed by a grid of flowers. A bee is at the start of the maze, and a honey pot is at the end. Text on the screen includes: 'Time: 29' and 'Guide the bee through the maze to reach the honey pot!'.

Challenges and Resolutions



Challenges

- **Express Deployment Issue**
- **Virtual Pet Compatibility**
- **Feedback Errors**
- **Survey Data Synchronization**
- **UI Confusion**
- **All games scenes were loaded at once**



Resolutions

- Fixed by setting up a custom server environment on AWS.
- Rebuilt using HTML/CSS/JS for better integration.
- Debugged backend logic and added validation for accuracy.
- Improved data flow to update progress charts in real time.
- Redesigned layout based on user testing feedback.
- Replaced it with a dynamic scene map

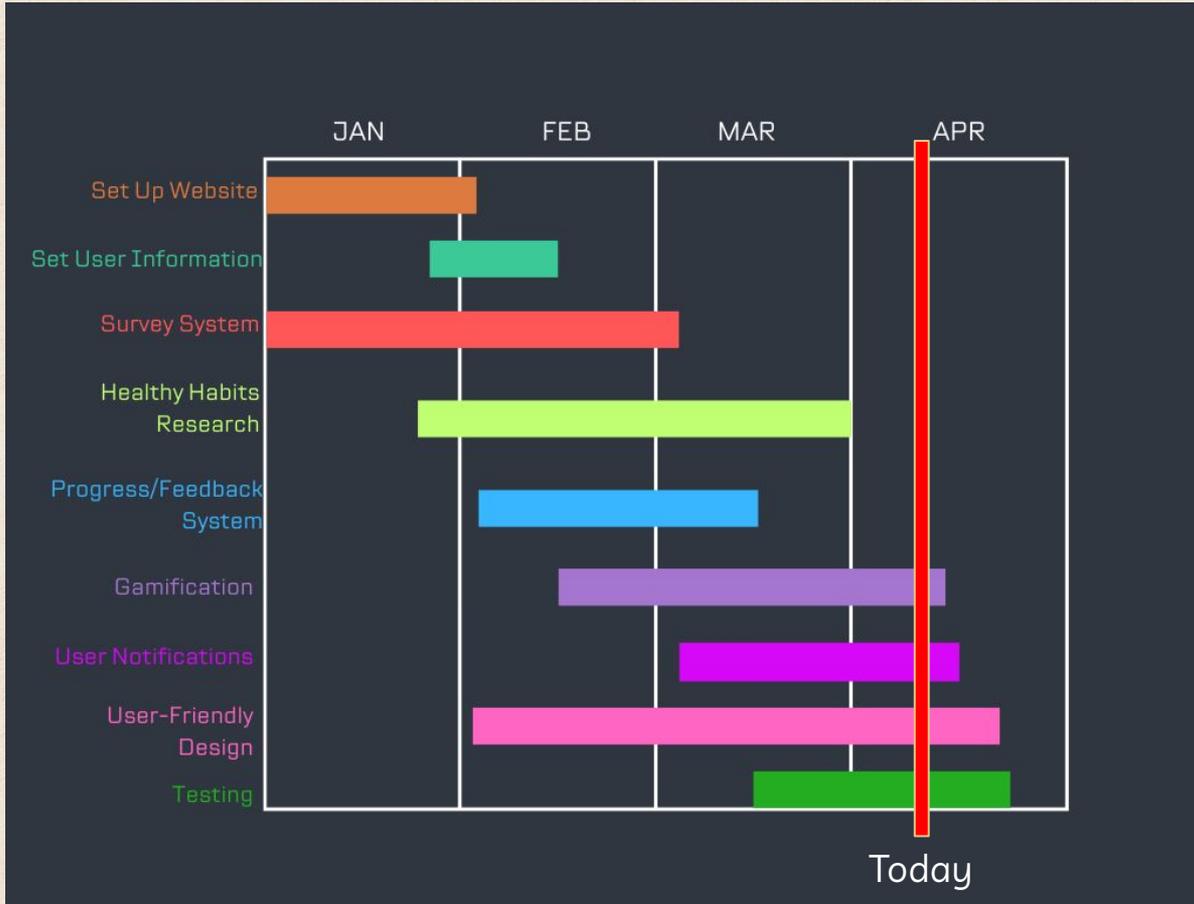
Testing Plan

We've deployed our **prototype** and are currently testing it using a structured plan that includes:

- **Unit Testing:** We used Mocha and Chai to test key functions like login, user profile management, and API calls. This helps us catch bugs in individual components early.
- **Integration Testing:** We verified the connections between major components, like ensuring survey results properly update the database, trigger feedback, and reflect in the progress charts.
- **Usability Testing:** We're running user walkthroughs, and acceptance tests with real users. This focuses on UI clarity, survey flow, and the gamification experience.



SCHEDULE



CONCLUSION

Teens need a personalized and engaging way to improve their physical, mental, and social wellness.

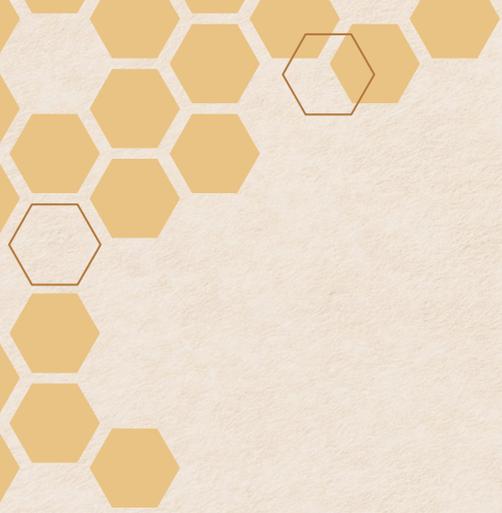
Our Solution:

- ✓ Personalized habit tracking
- ✓ Gamified mini-games and rewards
- ✓ Real-time, relevant feedback
- ✓ A supportive, accessible web experience



Currently, we have our functional beta prototype deployed with the implementation of all core features and our testing is in progress. Our next steps are to finalize user testing, make enhancements to the UI and feedback system, and prepare for the final deployment.

“Bee Balanced isn’t just a web app, it’s a wellness companion. One that adapts, encourages, and empowers teens to grow healthier, happier, and more connected every single day.”



THANK YOU!