MICHIGAN STATE UNIVERSITY

Project Plan Presentation

Money Moves

The Capstone Experience

Team Ally

Blake Morris
Tim Moran
Odon Mulambo
Jack Patton
Bohan Zhang

Department of Computer Science and Engineering
Michigan State University

Fall 2023

From Students…
…to Professionals

Project Sponsor Overview

- Company that specializes in financial assistance and improving financial literacy
- Based in Detroit, MI
- Provide banking services such as mortgage lending, deposits, online saving, etc.

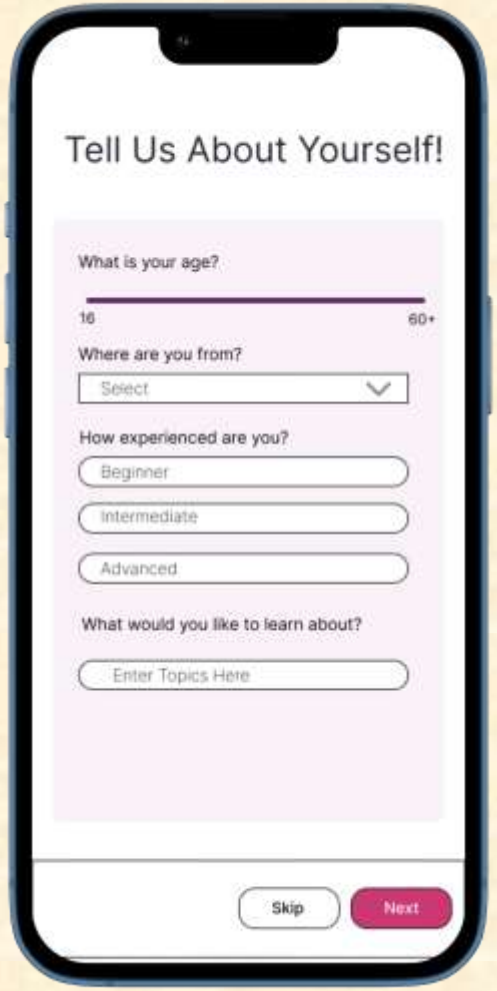
Project Functional Specifications

- Our project Money Moves focuses on improving user financial literacy
- Using interactive lessons and tests to teach fundamental financial topics
- Variety of mediums used to give information
- (Multiple choice, videos, text, etc.)

Project Design Specifications

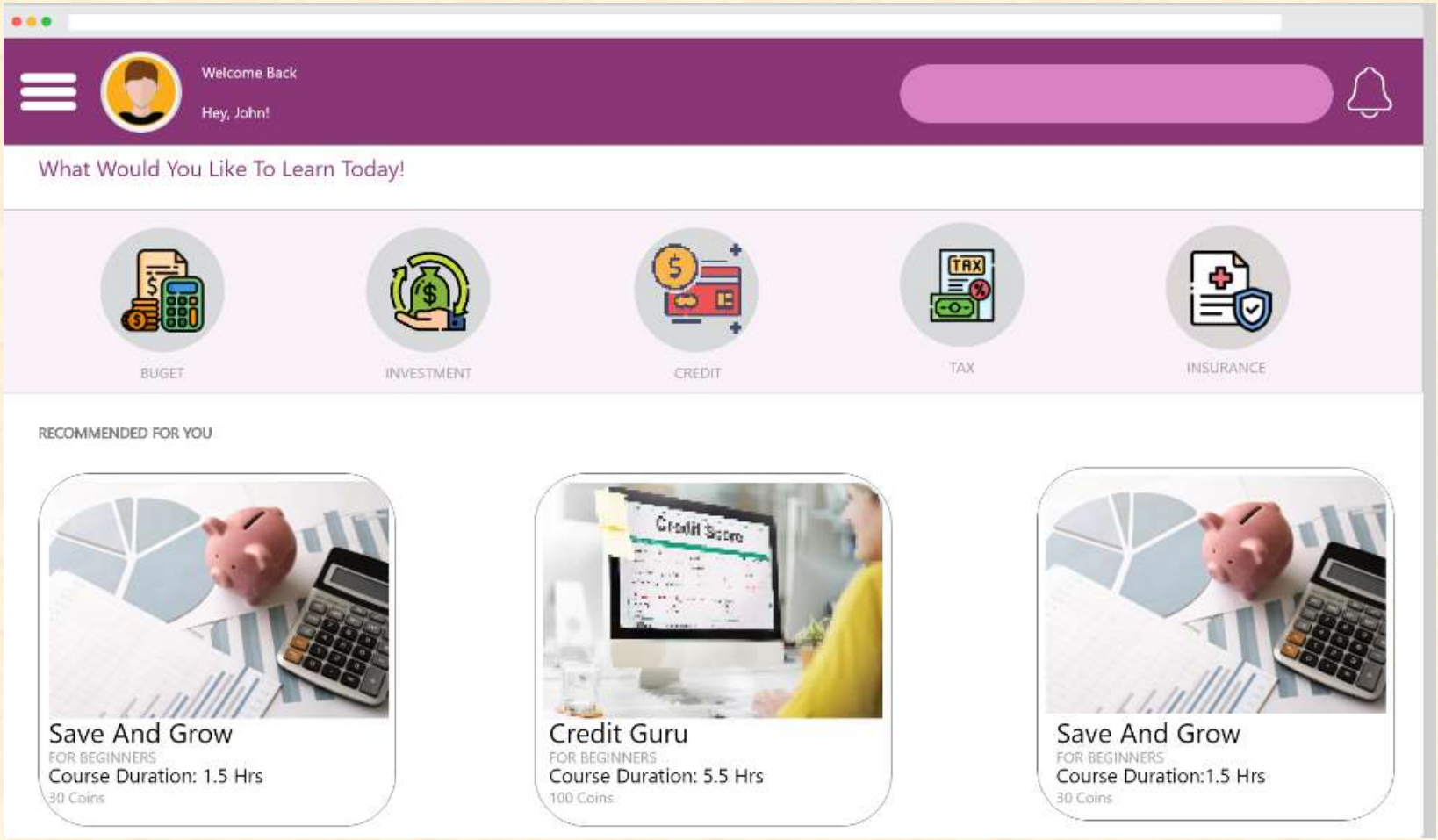
- Mobile-based web application, easy-to-use navigation bar to traverse through the application
- User Profile creation and establishing preferences to tailor the website to fit user needs and wants
- Reward system that utilizes app-specific currency to unlock financial tools to assist users, earned by consistent completion of financial lessons

Screen Mockup: Profile Questionnaire

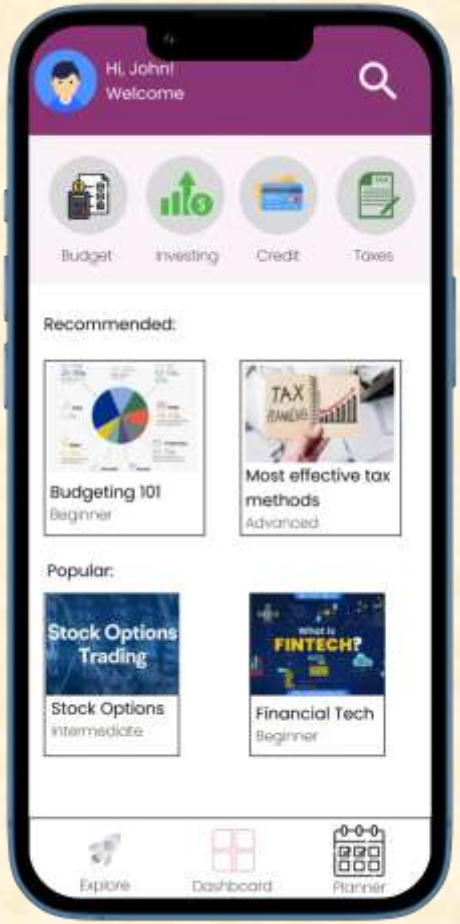


Screen Mockup: Profile Questionnaire

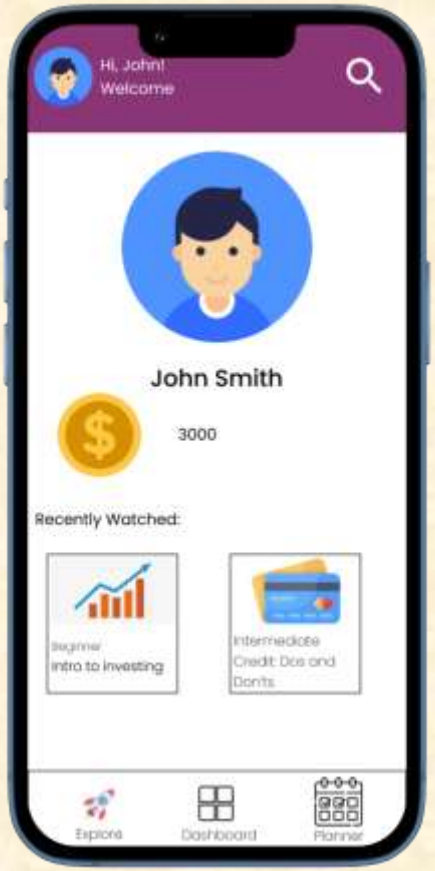
Screen Mockup: Dashboard



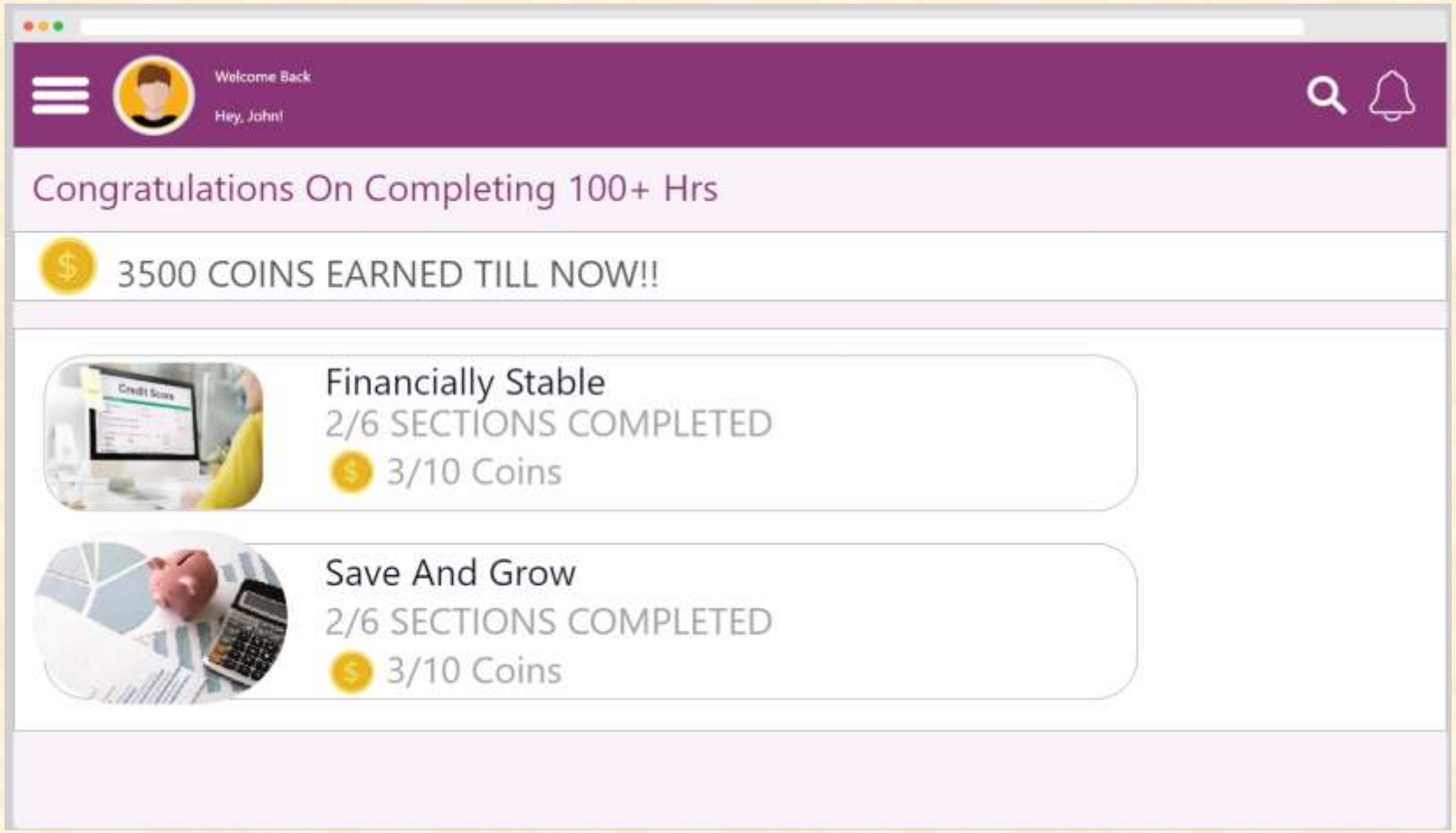
Screen Mockup: Dashboard (Mobile View)



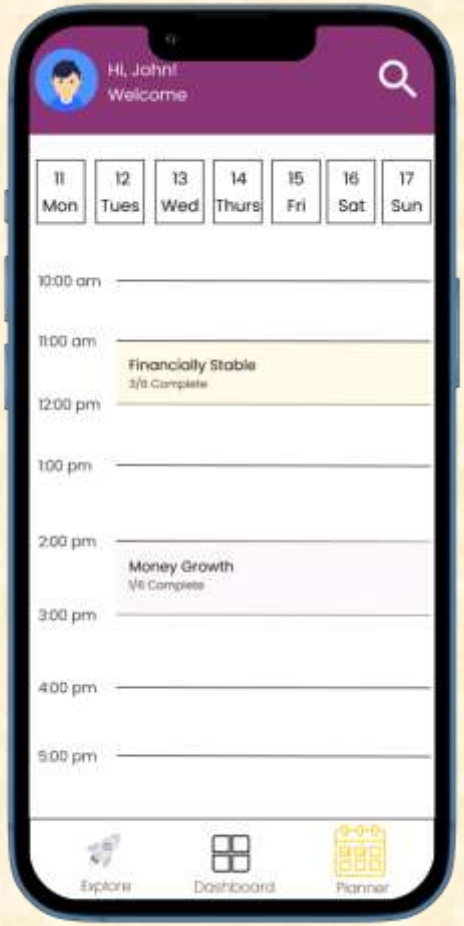
Screen Mockup: Profile Page



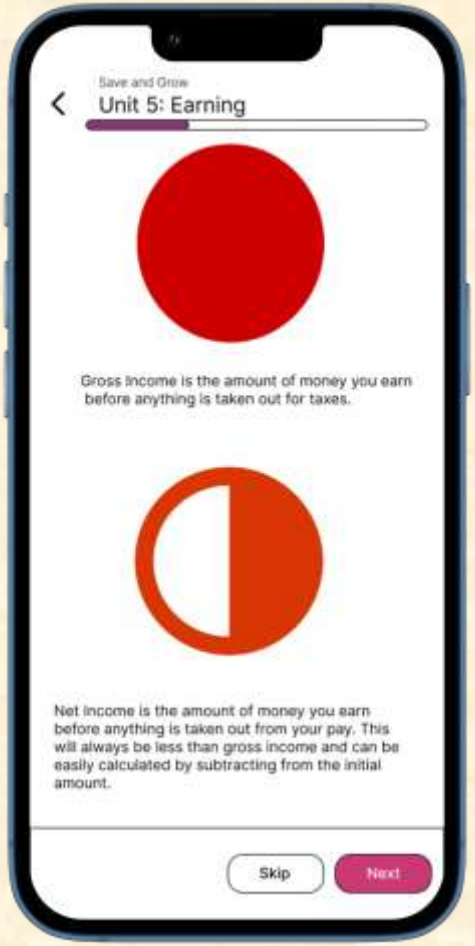
Screen Mockup: Profile Page

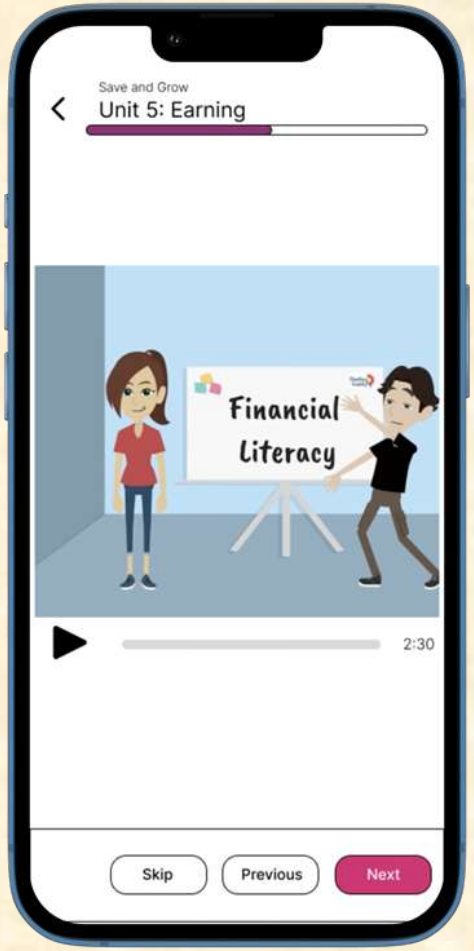


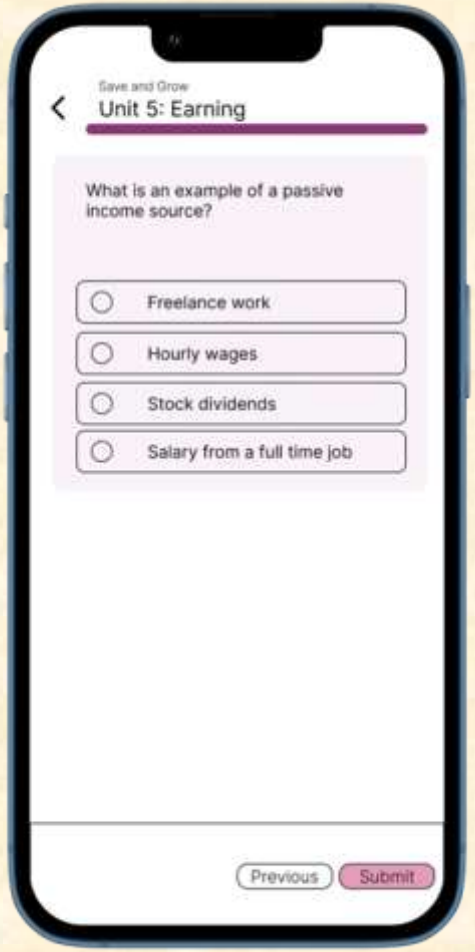
Screen Mockup: Planner



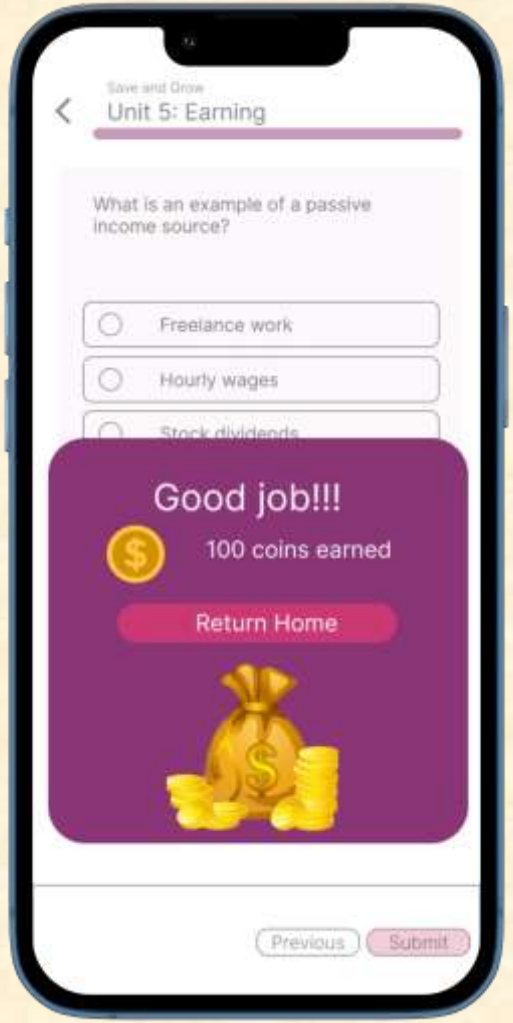
Screen Mockup: Course Content



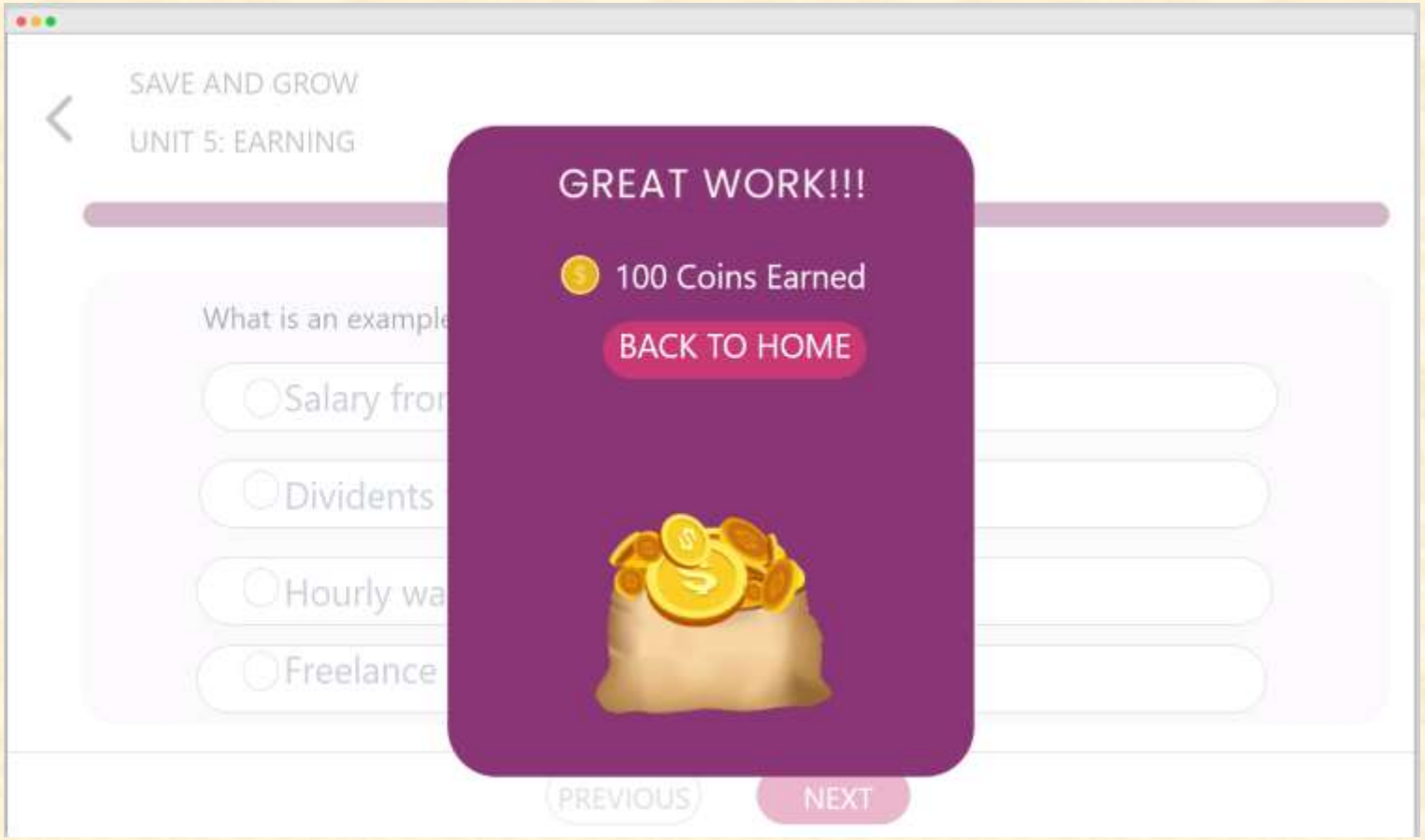




Screen Mockup: Reward Screen



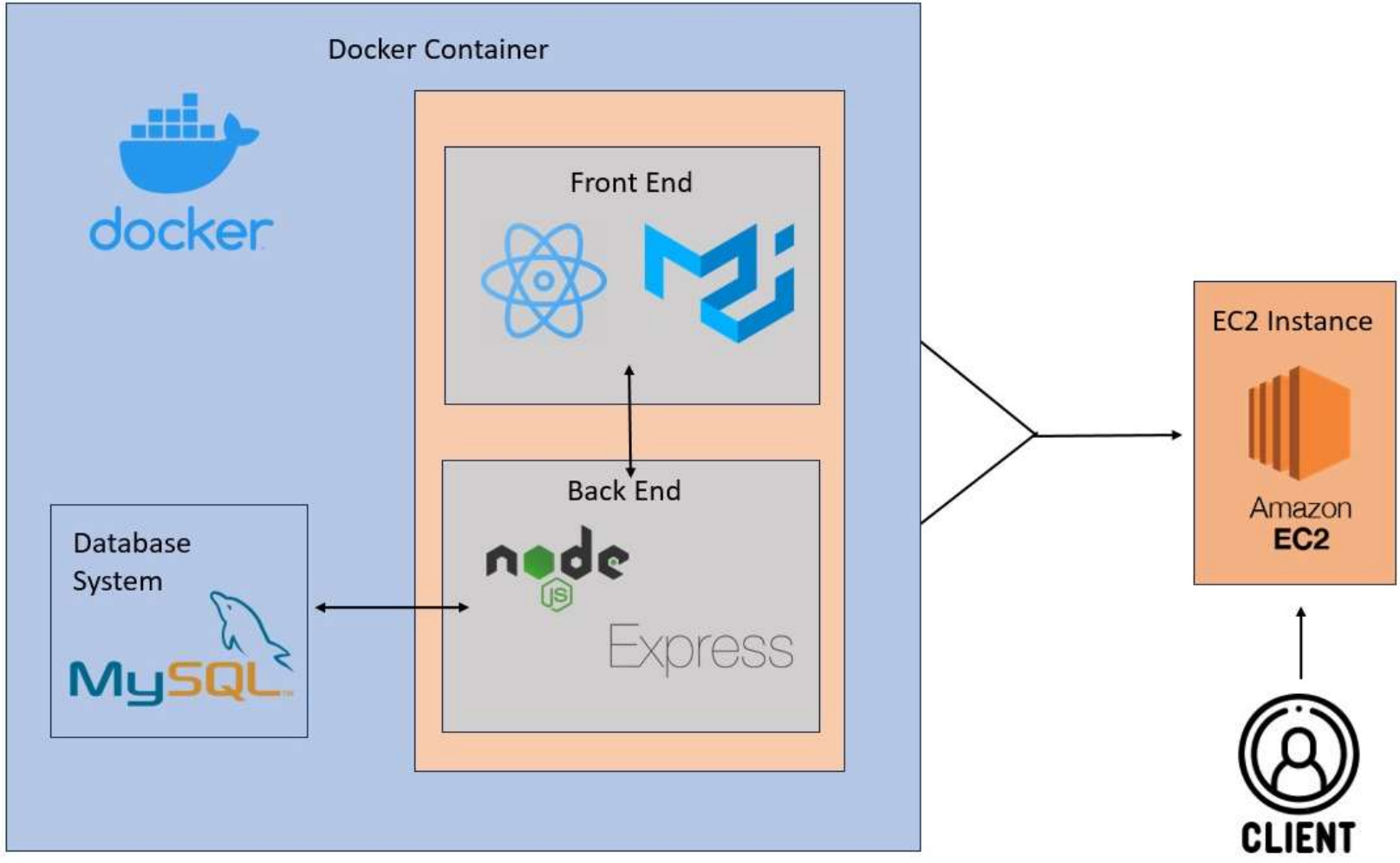
Screen Mockup: Reward Screen



Project Technical Specifications

- Web app built using ReactJS
- MaterialUI is used for styling
- React Router is used for routing
- NodeJS handles the server-side code
- Express is utilized to connect the both ends
- All application components are packaged into a Docker container
- This container will be hosted on AWS

Project System Architecture



Project Risks

- Risk 1
  - **Heavy use of JavaScript frameworks like React might slow down the site for users with slower connections or devices.**
  - **Mitigation : Optimize React components, consider lazy loading components, and use tools like Google Lighthouse for performance checks.**
- Risk 2
  - **Different browsers (and versions of those browsers) might render website differently.**
  - **Mitigation : Regularly test the website using tools like BrowserStack. Use CSS reset stylesheets or normalize.css to ensure consistency.**
- Risk 3
  - **There's a risk of data being tampered with during transfer or serialization/deserialization issues leading to data corruption.**
  - **Mitigation : Validate and sanitize incoming and outgoing data. Use tried and tested serialization methods.**
- Risk 4
  - **Figuring out and understanding how to store and access video data/information, and use it for the web application's content**
  - **Mitigation : Research various hosting platforms or CDN's to find a solution that allows us to import video to our application without storing all video locally. This involves exploring various libraries and cloud solutions to mitigate our risk.**

Project System Components

- Hardware Platforms
  - iMacs
  - Local machines
- Software Platforms / Technologies
  - React
  - HTML
  - CSS
  - NodeJS
  - Express
  - MySQL
  - Docker
  - AWS

Questions?