Freshman RPG Companion Application and Game Manager

SWE420: Extreme Programming

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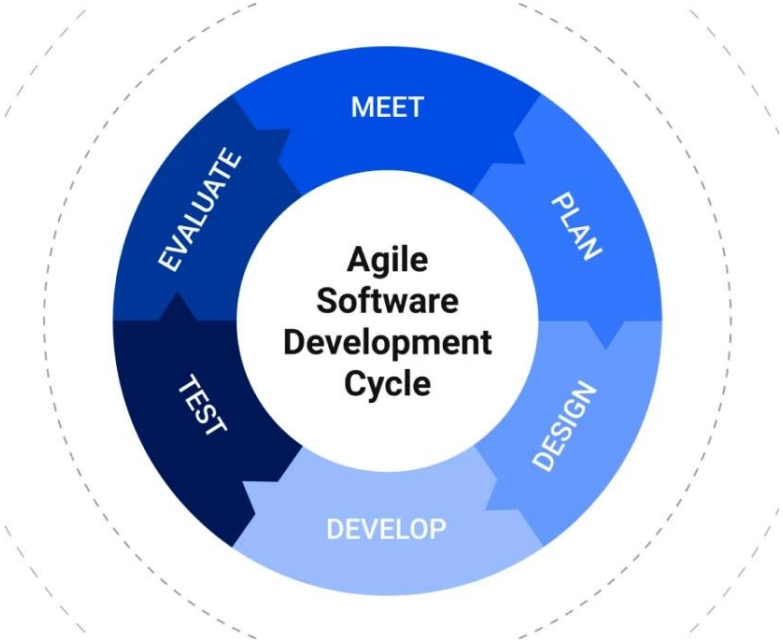
Our Development Process

- Agile development process
  - Task planning and load balancing
  - Standups
  - Retrospectives
  - Customer meetings
- Tools used
  - Zentao
  - Jamboard
- Development strategies used
  - Pair programming
  - Sit together
  - TDD



Freshman RPG Project Overview

Desktop Game

- Provide an interactive way for first-year students to learn about Shippensburg University, where they can walk around a virtual representation of the campus and complete objectives to earn points.

Companion App

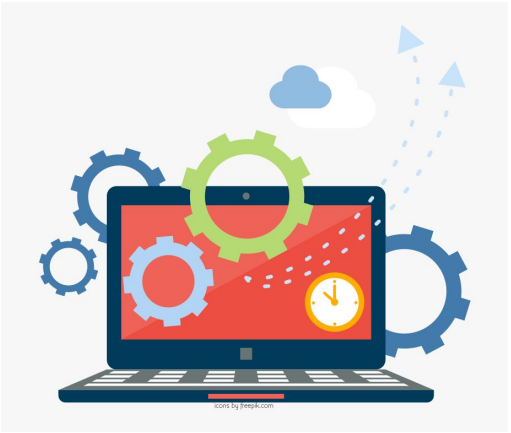
- Provided students a way to scan QR codes across campus to complete select objectives.
- Became main focus of our project

Game Manager

- Provide game administrators with a method to manage the game (i.e. add objectives, players, NPCs, etc)

Spring 2024 Goals

- Add more functionality to the game manager for more control and capabilities.
- Expand the companion app to more than just a QR code scanner.
- Make our customer happy!



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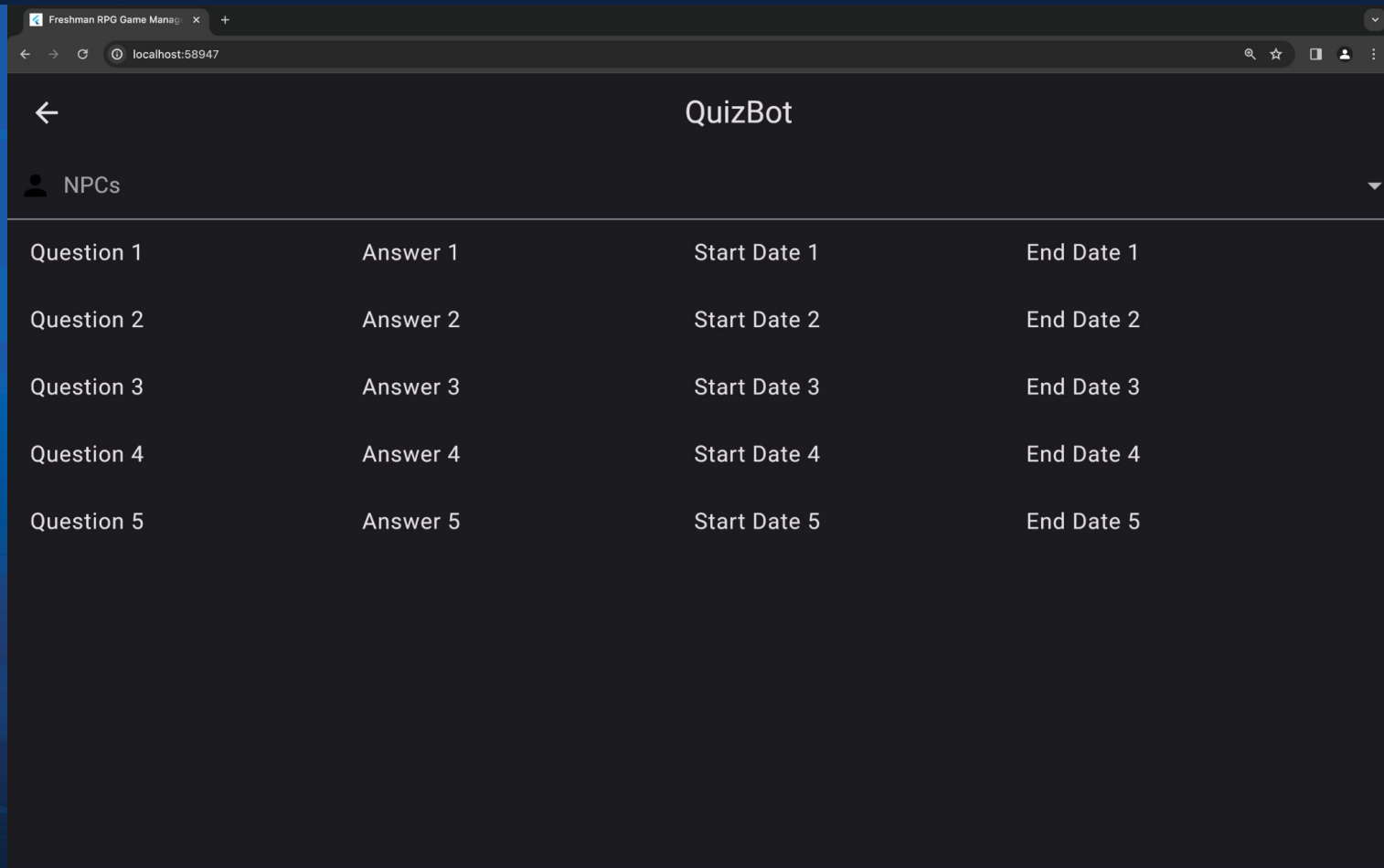
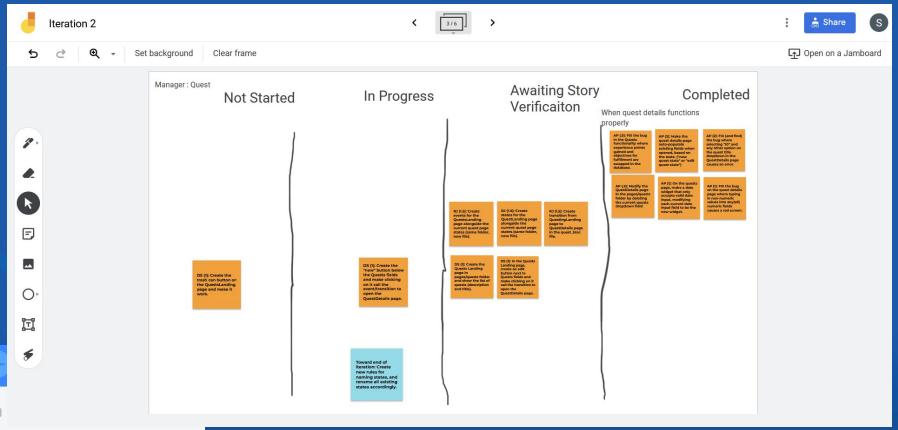
Iteration 1: Game Manager- QuizBot, Crews, and Quest Control

Adding more functionality to the manager for more control


Freshman RPG Game Manag
localhost:58947
QuizBot
NPCs
Question 1
Answer 1
Start Date 1
End Date 1
Question 2
Answer 2
Start Date 2
End Date 2
Question 3
Answer 3
Start Date 3
End Date 3
Question 4
Answer 4
Start Date 4
End Date 4
Question 5
Answer 5
Start Date 5
End Date 5

Iteration tools



eration 1 | Task | Kanban | Burndown | View | Software Requirement | QA | Code | Doc | Build | Dynamic | Settings

All | Unclosed 19 | My | Involved | AssignedByMe | Changed | More | Search | Report | Export

ID	Name	P	AssignTo	Status	FinishedBy	Deadline	Est.	Cost	Left	Progress	Action
062	Create actual quiz bot page: quizbot_page.d	3	Luke Henr	Waiting			2H	0H	2H	0%	
078	M Create crew_repository_test file to test c	3	Devin	Doing		02-26	2H	2H	1H	67%	
069	Create quizbot requests and responses	3	Austin Plisl	Done	Tommy ...		2.5H	5.8H	0H	100%	
068	Create restful handler and packer for quizbot	3	Austin Plisl	Done	Tommy ...		1.5H	1.5H	0H	100%	
067	Make transition from quizbot.complete to qui	3	Rachel Joh	Done	Rachel J...		1.5H	1H	0H	100%	
066	Make transition from quizbot.load to quizbot.	3	Austin Plisl	Done	Austin P...		1.5H	3H	0H	100%	
065	Make transition from quizbot.initial to quizbot	3	Austin Plisl	Done	Austin P...		1.5H	3H	0H	100%	
064	Create events in quizbot_event.dart	3	Austin Plisl	Done	Austin P...		2H	2H	0H	100%	
063	Create states in quizbot_state.dart	3	Austin Plisl	Done	Austin P...		2H	2H	0H	100%	
061	Make transition from crews.complete to crew	3	Austin Plisl	Done	Mohame...		1.5H	2H	0H	100%	

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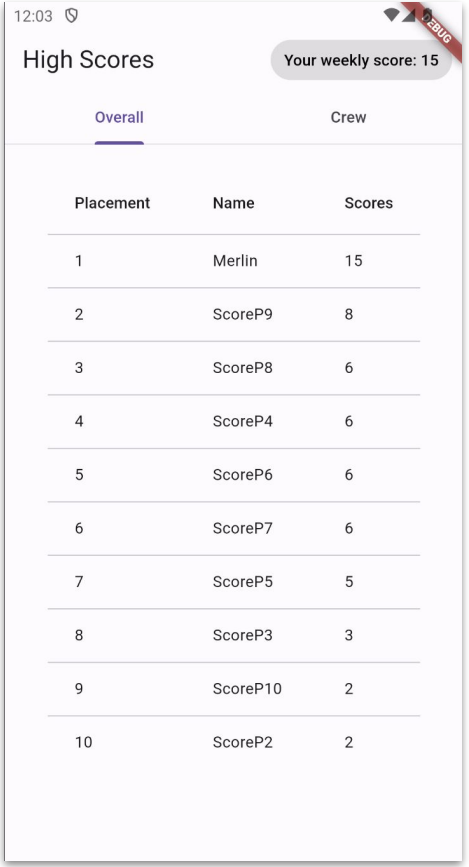
Iteration 2: Switching Focus to the Companion App

Building Onto the QR Code Scanner

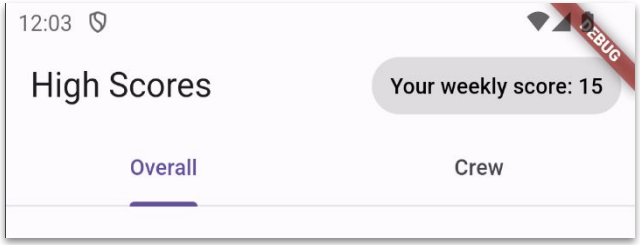
The Companion App

- We implemented functionalities to display the player score, and a list of high scores in the current week
- Added a time stamp to the quests to mark the date of their completion.
- The player can see the overall standing, and also within his crew
- By the end of this iteration the score was shown on the button that takes the player to the list of scores (will be changed afterwards)

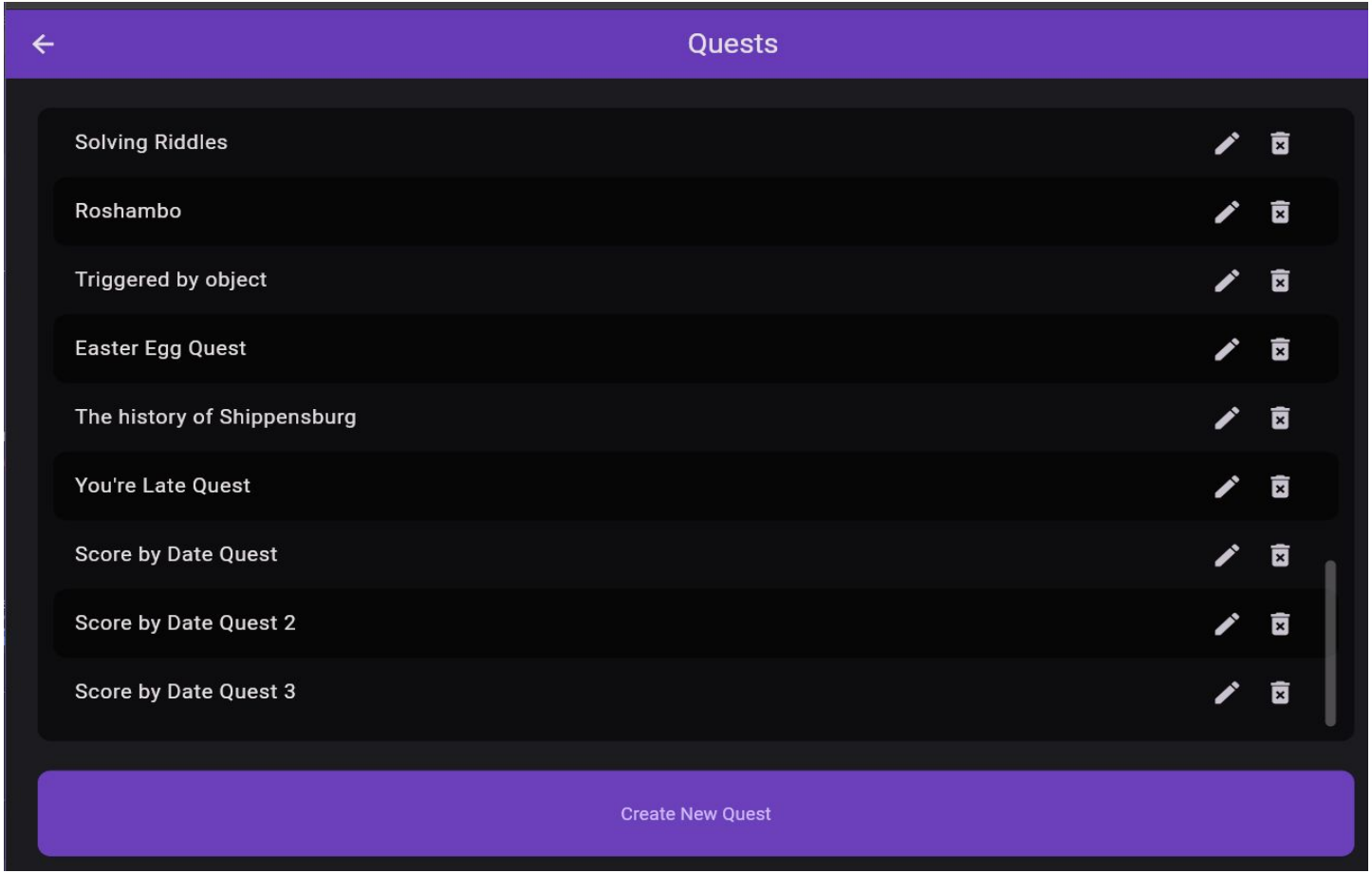
User can switch between “overall” and “Crew” tabs to see overall standing and within crew standing



User can see his score on the top right corner of the screen

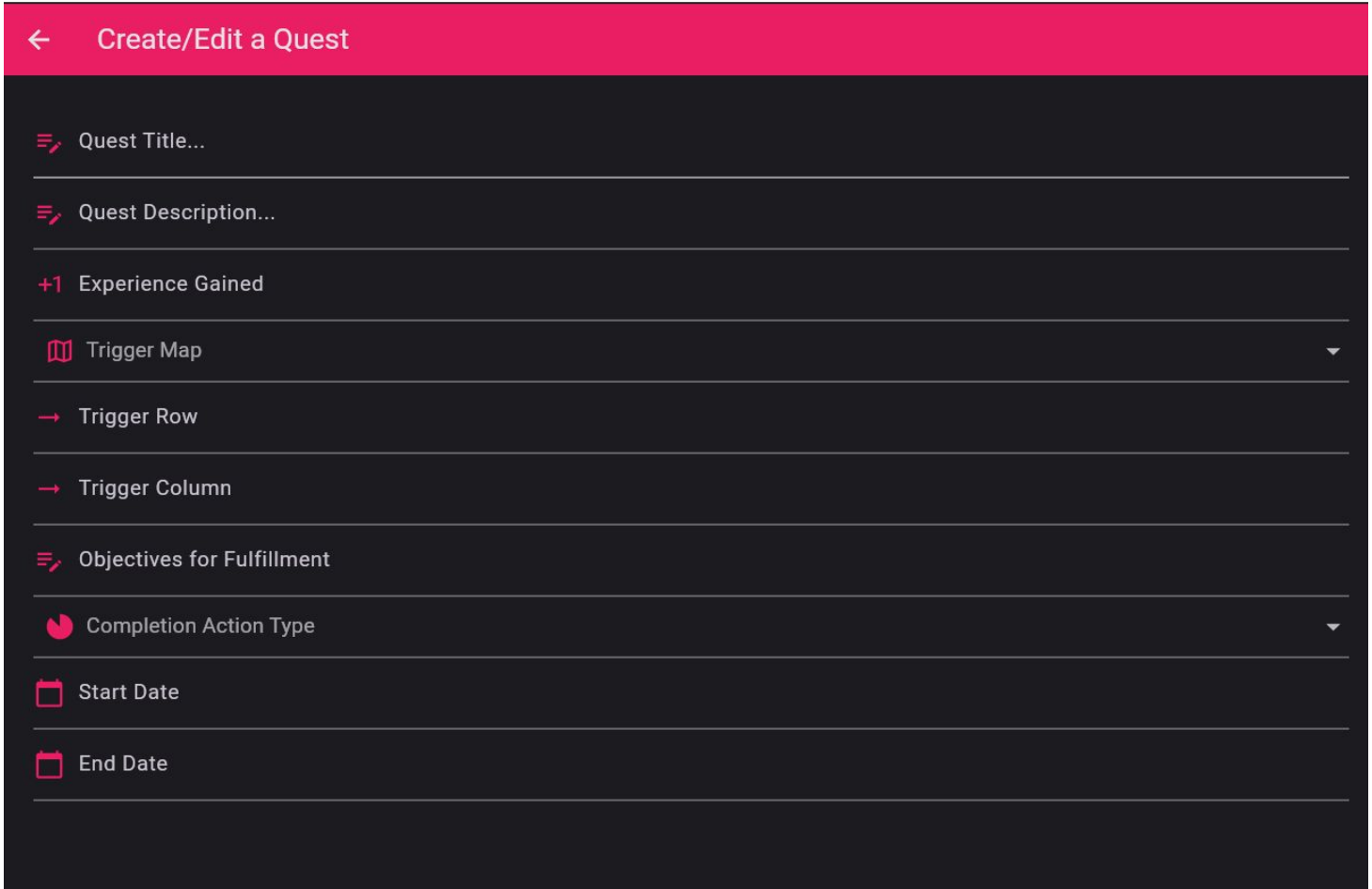


In the game manager, we added functionality to edit and delete quests.



-Initially there was only one page in which we use to create and edit a quest.

-Making separate pages for creating and editing a quest.



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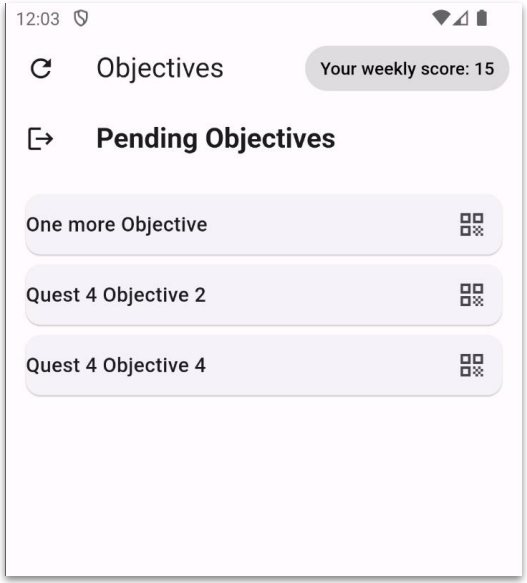
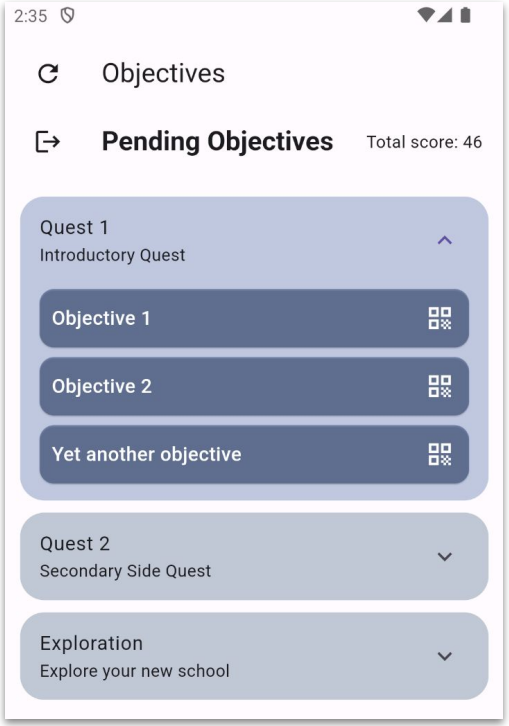
Iteration 3: Companion App- Quest Page Intuitivity and Added Info Button

Designing Landing Page to be Clearer

Grouping Objectives by Quest

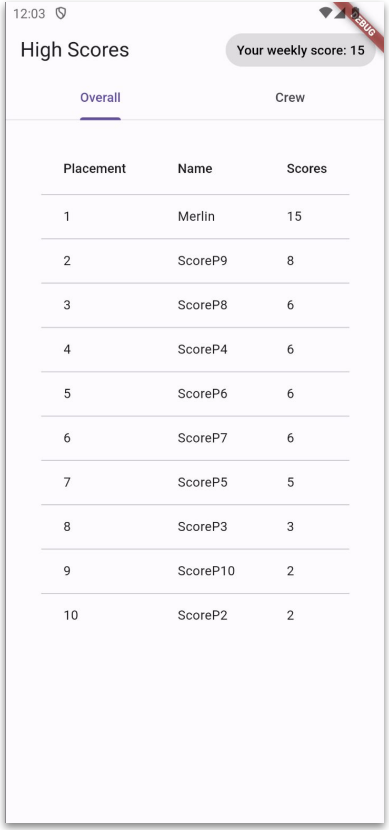
- Instead of listing all available objectives, created dropdowns for quests that held objectives.
- Added Total Score to main objectives page and removed weekly score button

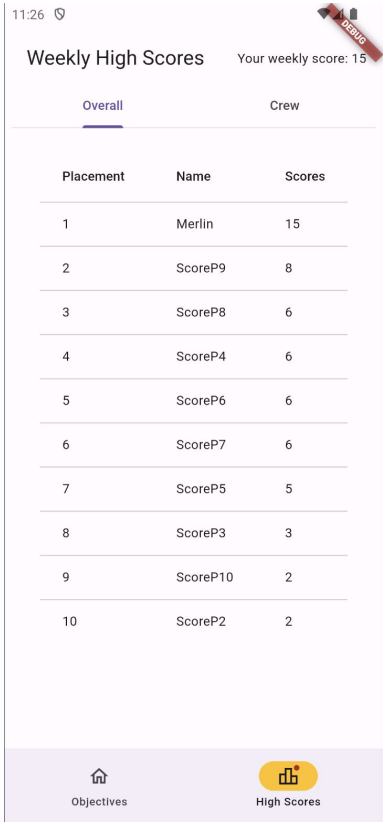




High Scores Page Redesign

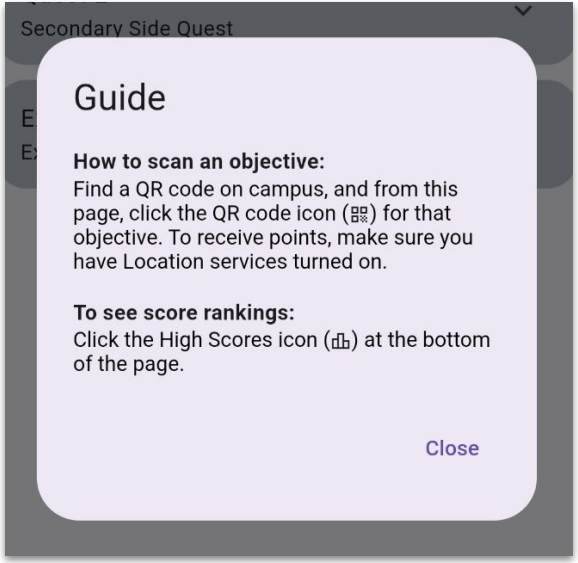
- Added Navigation Bar at the bottom of the page
- Weekly Score button became a Label

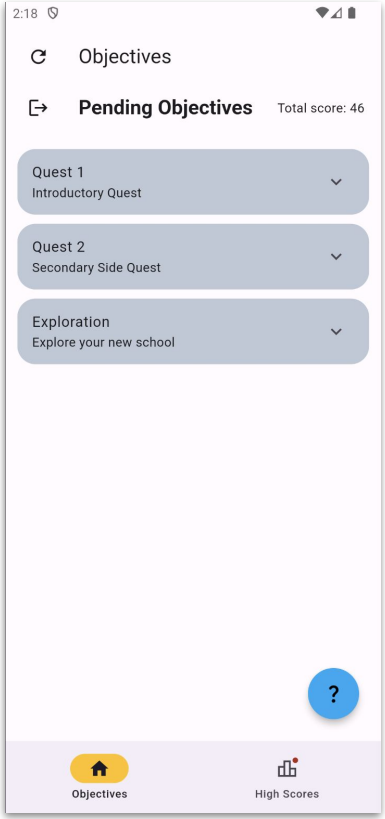




Info Button

- Added an Info Button
- Gives info on how to navigate and use the app





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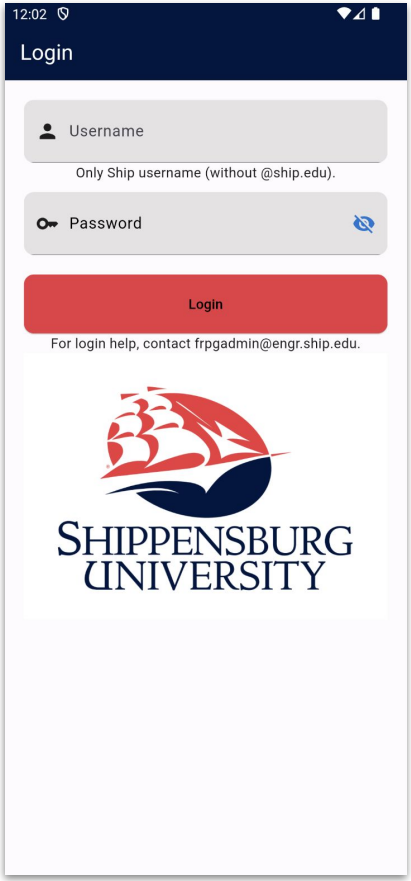
Iteration 4: Beautifying the Companion App

Branded the Application by Making Project-Wide Cosmetic Changes

App-Wide Redesign

- Added Ship branding
- Changed app widgets to use non-native UI elements for a cleaner feel
- Customized styling of widgets and added color



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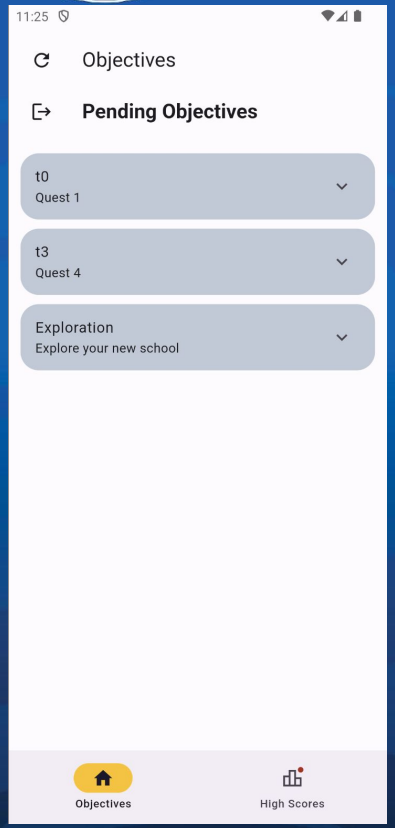

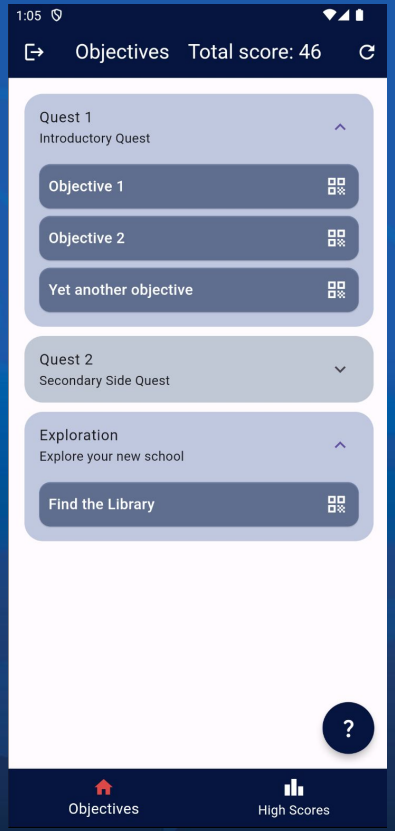

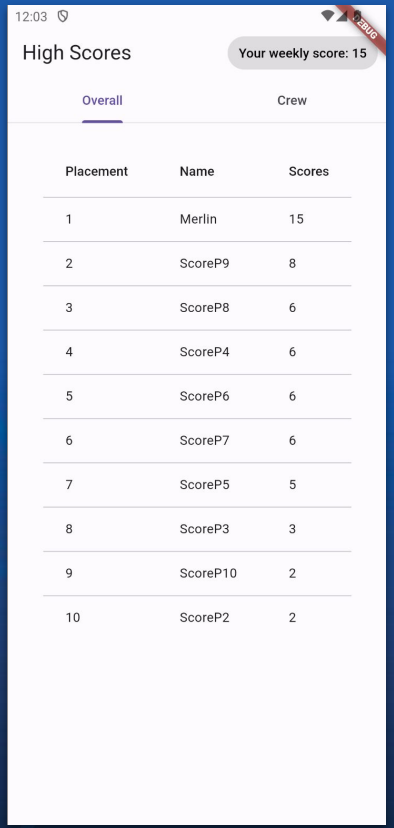

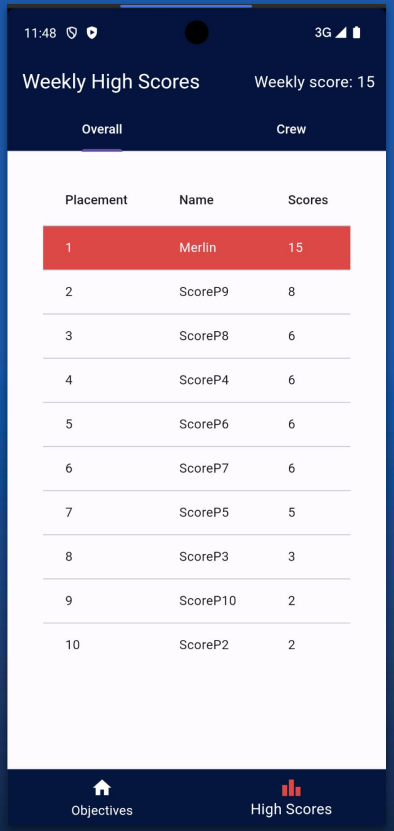

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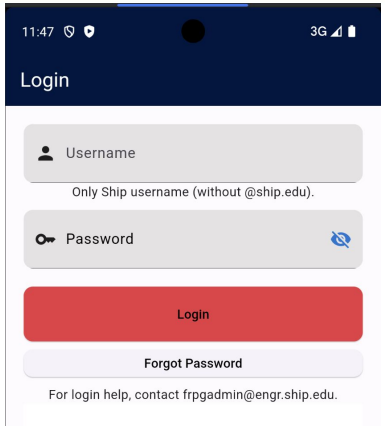
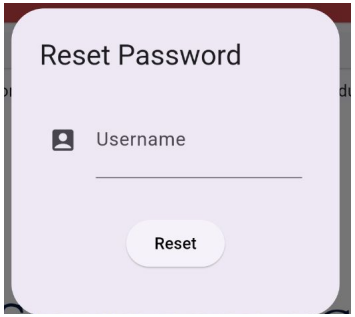
Iteration 5: Reset Password

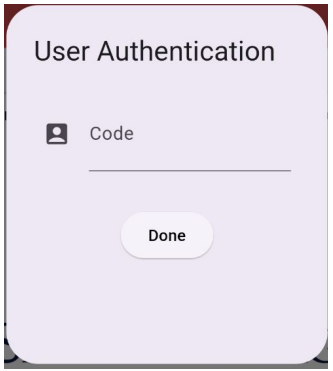
Added Password Reset Capability to
User Facing App

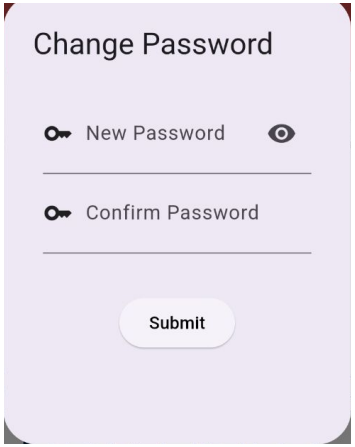
Password Reset

- Added Reset Password Button
- User inputs username and 6 digit code gets sent to database and email
- User then inputs code that was sent to them and that gets validated with code in database
- User can then input new password, which gets saved to database









Semester Reflection

- Customer seemed very satisfied with the product.
- As the semester progressed, each team member developed a “niche”.
- Productivity increased and workflow became smoother.
- Good team compatibility.

- Game manager can be improved to provide full control/management over players in case of any issues.
- Add more functionality from the desktop game to the companion app.

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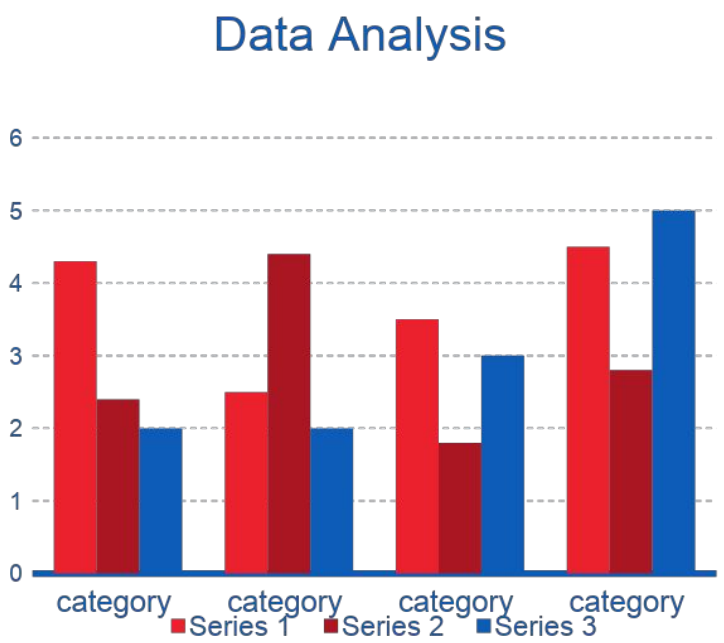
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