

COSC2659 - iOS Development

Assignment 2 Documentation

Game name: Jurassic Escape

Category: Indie board game

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Lecturer: Mr. Tom Huynh

1. Game Introduction

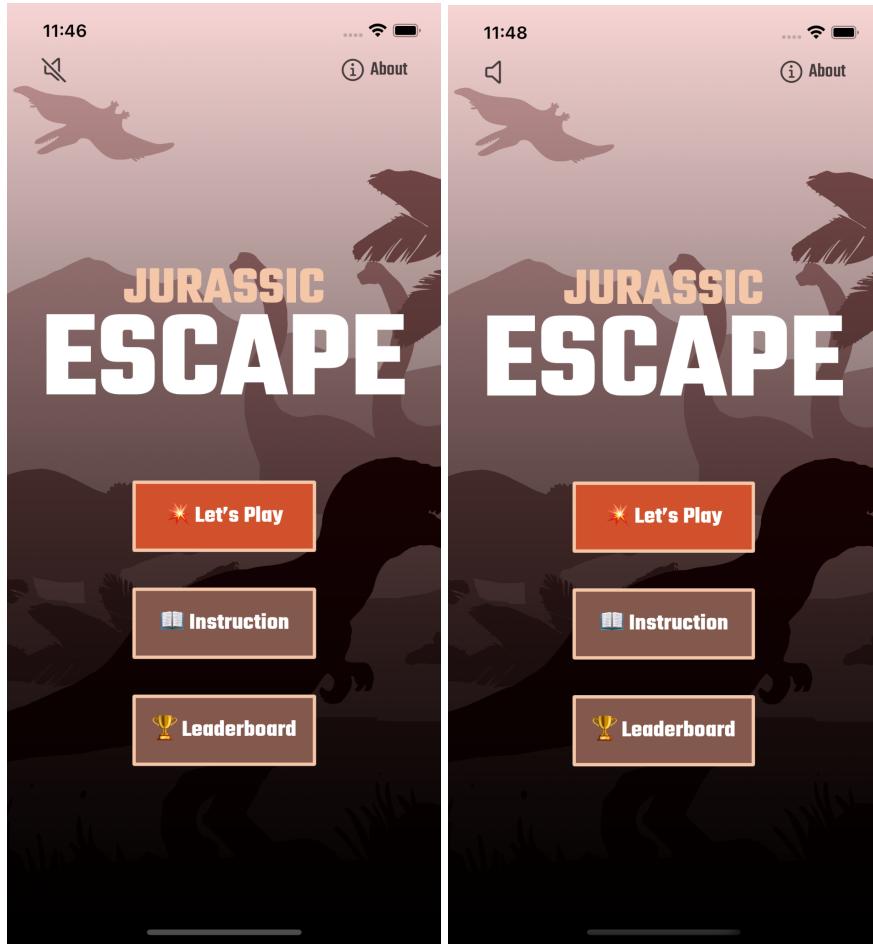
For this assignment, I developed an RPG indie board game whose mechanism is inspired from the well-known board game, Ludo. Basically, it is a single player game that has a fun story built around a fictitious character named Dil who is a last standing dinosaur on his way to escape the Jurassic Period. As a player, your mission is to roll a dice to move Dil around the board to get to the designated place. On Dil's way to salvation, there will be some setbacks that you might come across, which makes the game more challenging and exciting overall. Further details about this game app will be discussed in this documentation report.

2. Topic & Inspiration

Indie games have always been something that I would love to try while learning software development. The idea of building your own game from scratch without any limitations in terms of creativity is fascinating to me. For that reason and thanks to this assignment, I have got the chance to give it a try.

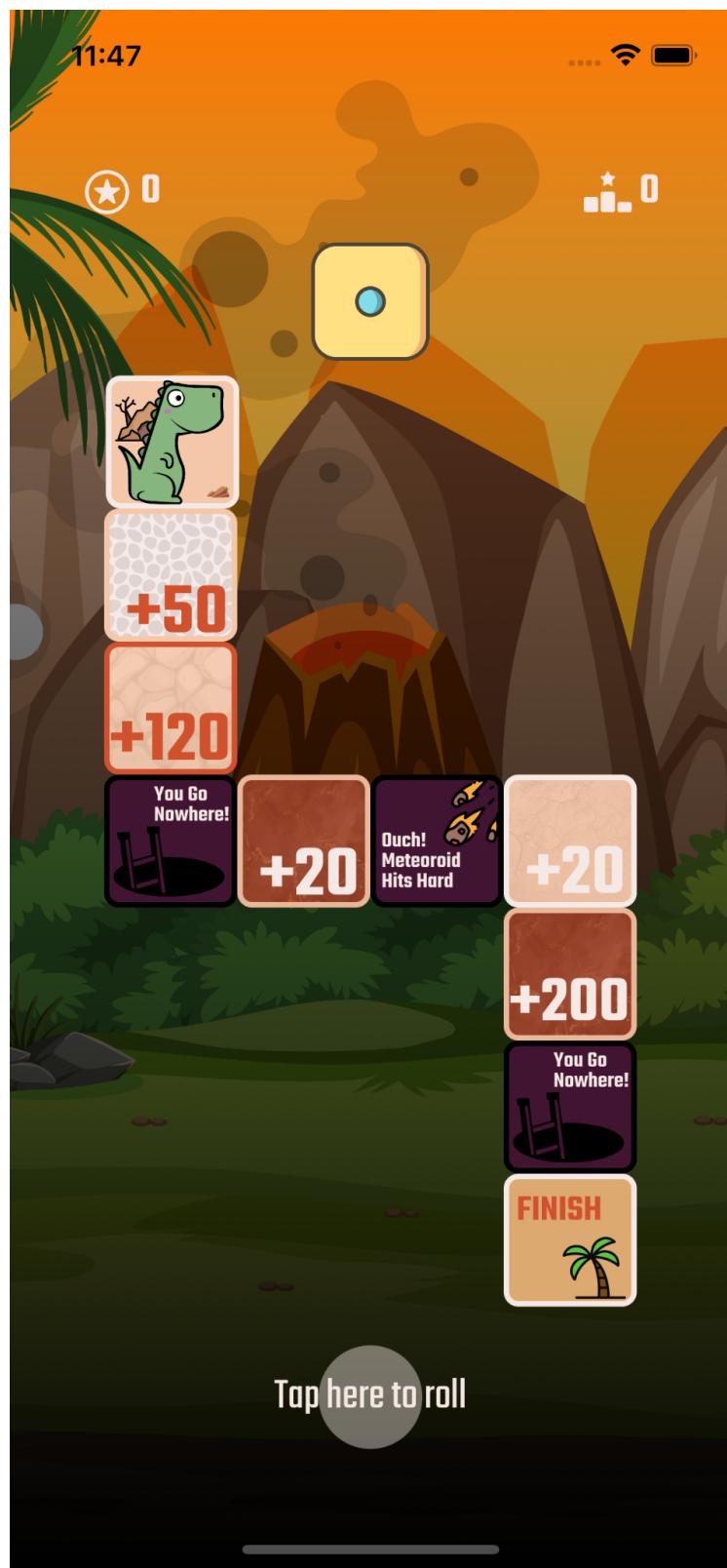
3. Gameplay Instruction

The game app welcomes users with a minimalist, intuitive Menu View that allows them to quickly grasp a sense of what the game is about and how to proceed with it. Here you will find three buttons that link to three other major views of the game: Main Game View, Instruction View, and Leaderboard View.



Additionally, you can also find a sound icon and a small link to the About Author View. To toggle the background music of the app, simply tap on the sound icon. To read some information about the app author, tap on the “About” text on the top right corner of the screen.

If you tap on the “Let’s Play” button, you will be navigated to the Main Game View where all the main interactions of the game take place.

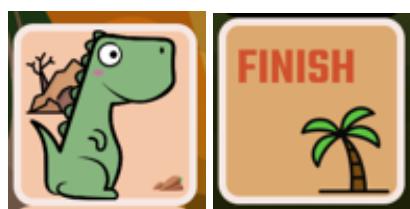


Going from top to bottom, you will first see the current score you are obtaining (), and the highest score of the app (). Currently, they are both zero as the game is first launched.

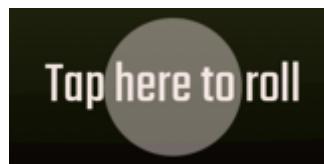
Next, you will see a dice that indicates a number of steps you need to take after rolling. By default, the dice displays number 1.



Taking up most spaces of the app is the game board which consists of several blocks. Your goal is to get Dil, our little cute baby dinosaur, from his starting point to the Finish block.



Placed at the bottom is a text button “Tap here to roll” with a visually tap animation. You will tap on this text to roll the dice and start moving the character.



The animation and location of this text button is intentionally made for highly visual so that users can easily locate and interact with the game.

Gameplay sounds easy, right? Not too fast. There are certain rules you need to follow when you enter any block on the way.

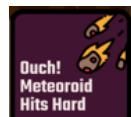
If you enter a block that has a number in it, it means you will obtain the number of points accordingly. For example, in the beginning you roll six, you will go to the block



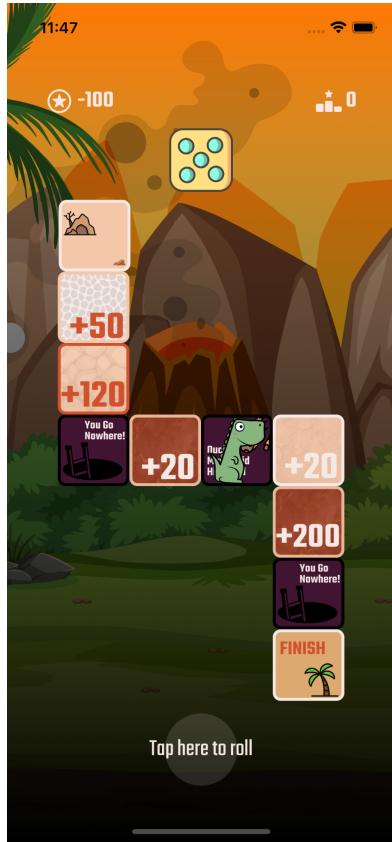
which has the number “+20”, meaning you receiving 20 points on top of your current point.



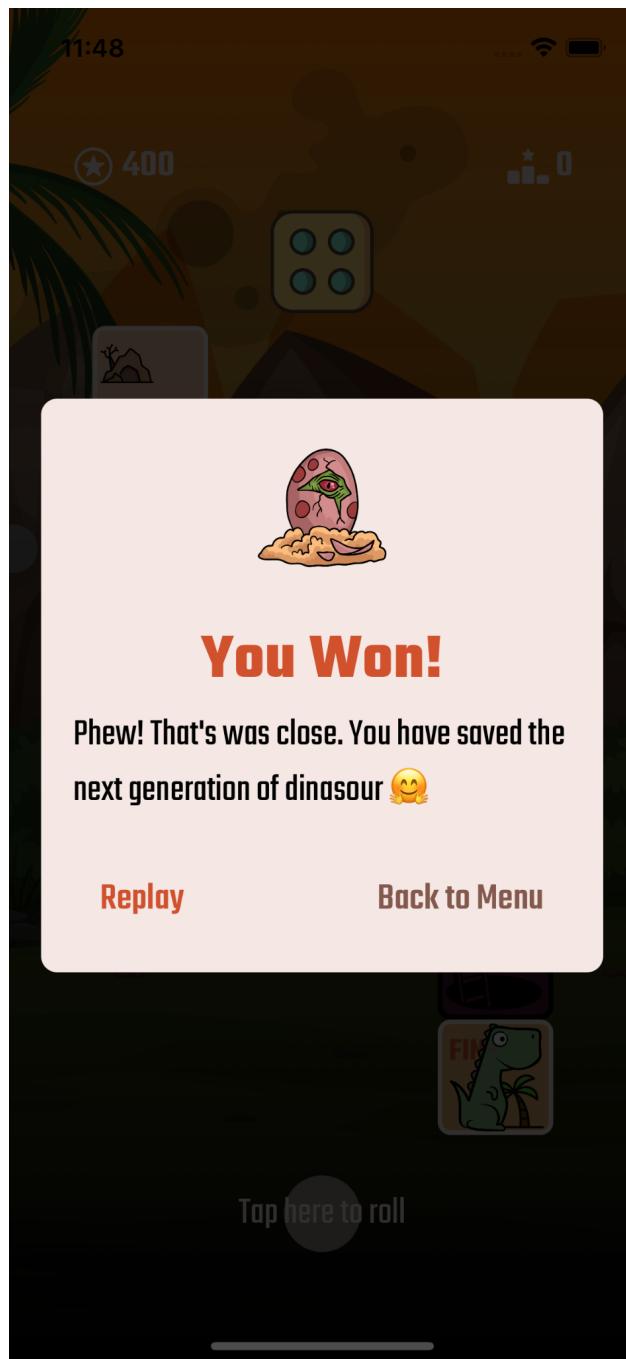
If you enter the block  , you will be taken back to the starting point and reseted all the current points to zero.



If you enter the block  , you will get deducted by 100 points.



If you successfully get to the Finish block, you win the game and get yourself additional 500 points. Then, a pop up message will appear and prompt you for the next actions



From here, you can either choose to replay or go back to the Menu View. If you tap on “Replay”, the character is set back to the starting point with its points reset for the new game.

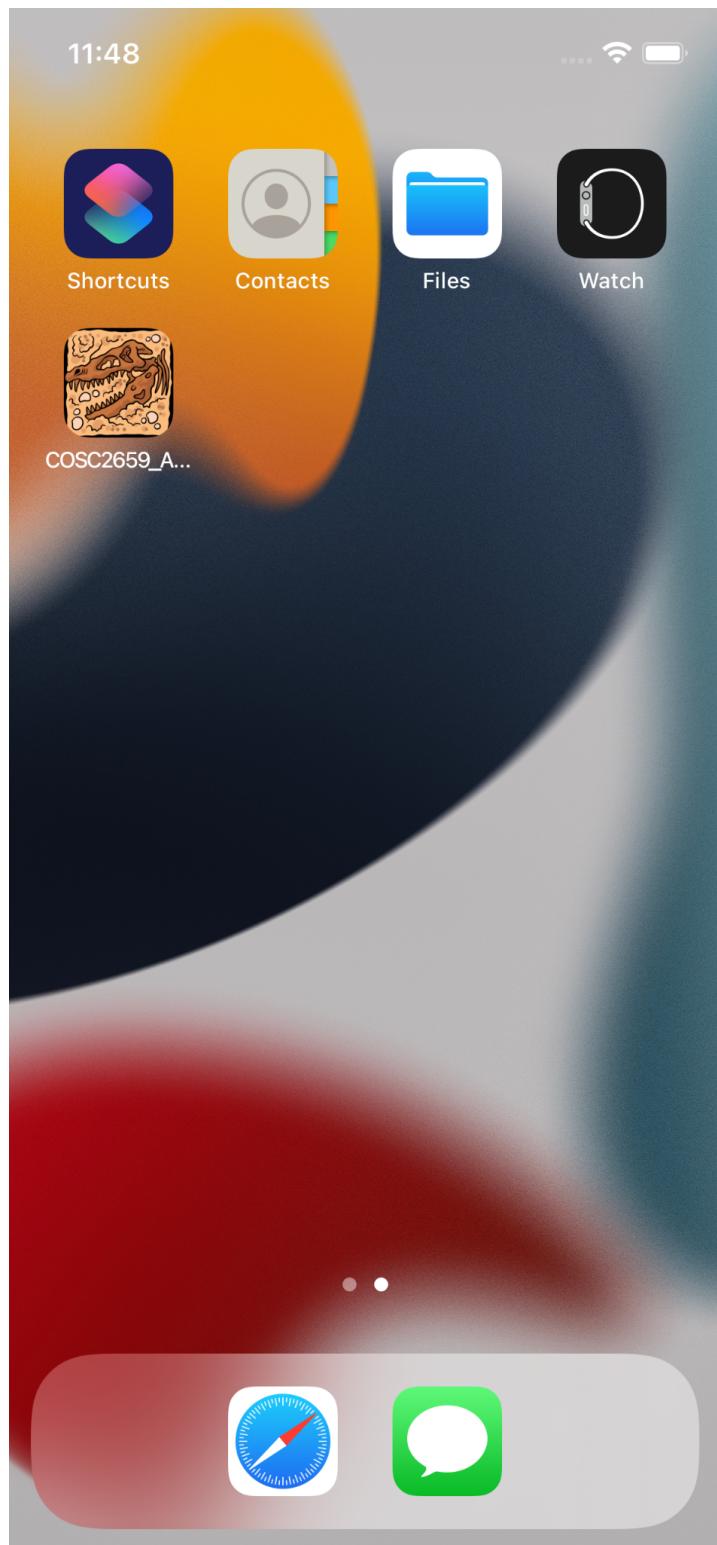
4. Main Features & Implementation Breakdown

Main features of the game include:

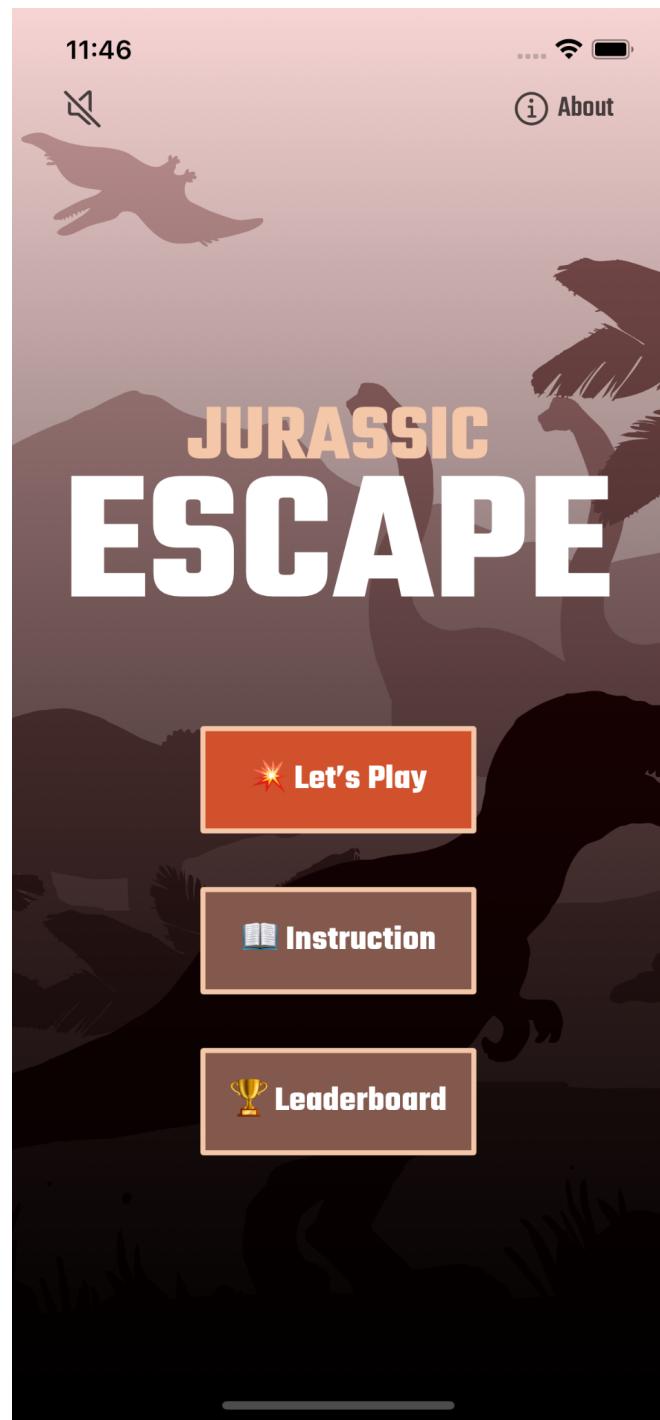
- **Menu View:** The entry view when users first open the app. From this, users can go to Main Game View, Instruction View, and Leaderboard View.
 - **View navigation**
A shared state variable to control which view should be rendered.
 - **Background music toggle**
A shared state variable to control whether the background music should be on or off.
 - **About author sheet view**
The .sheet modifier in SwiftUI.
- **Main Game View:** main view to play the game
 - **Dice rolling and animation**
Built-in random number generator of SwiftUI combined with the Timer interval schedule method to emulate the rolling animation.
 - **Character moving across the shape of the map according to the number rolled.**
Update the x and y coordinates of the character based on the current block it is in to make it move in the proper direction. The Timer interval schedule method is also used to emulate the moving animation
 - **Receive/minus/reset points based on certain rules when entering any blocks.**
Determined by the current block the character is located.
 - **Display and update current points and highest score.**
A Published state to hold and display the current points, while the value retrieved from the AppStorage is used for displaying the highest score.
 - **Display winning message modal when users won the game and prompt to take the next action, whether to replay or go back to the Menu View.**
If the current position is the Finish block, toggle a state variable to show the winning message modal.
 - **Sound effect when the dice is rolling and when the character takes a step.**
Call the method to play sound for each rolling and moving interval.
 - **Tap animation to indicate where to interact with the game**

- Instruction View: consists of the game storyline and brief information on how to play the game. Accessed from the Menu View
- Leaderboard View: list down five recent highest scores. Accessed from the Menu View
- Background music: different background music for Menu View, Instruction View, and Leaderboard View.
- An app icon that is suitable for the overall theme of the game.
- Custom font: Teko

5. Game Screenshots



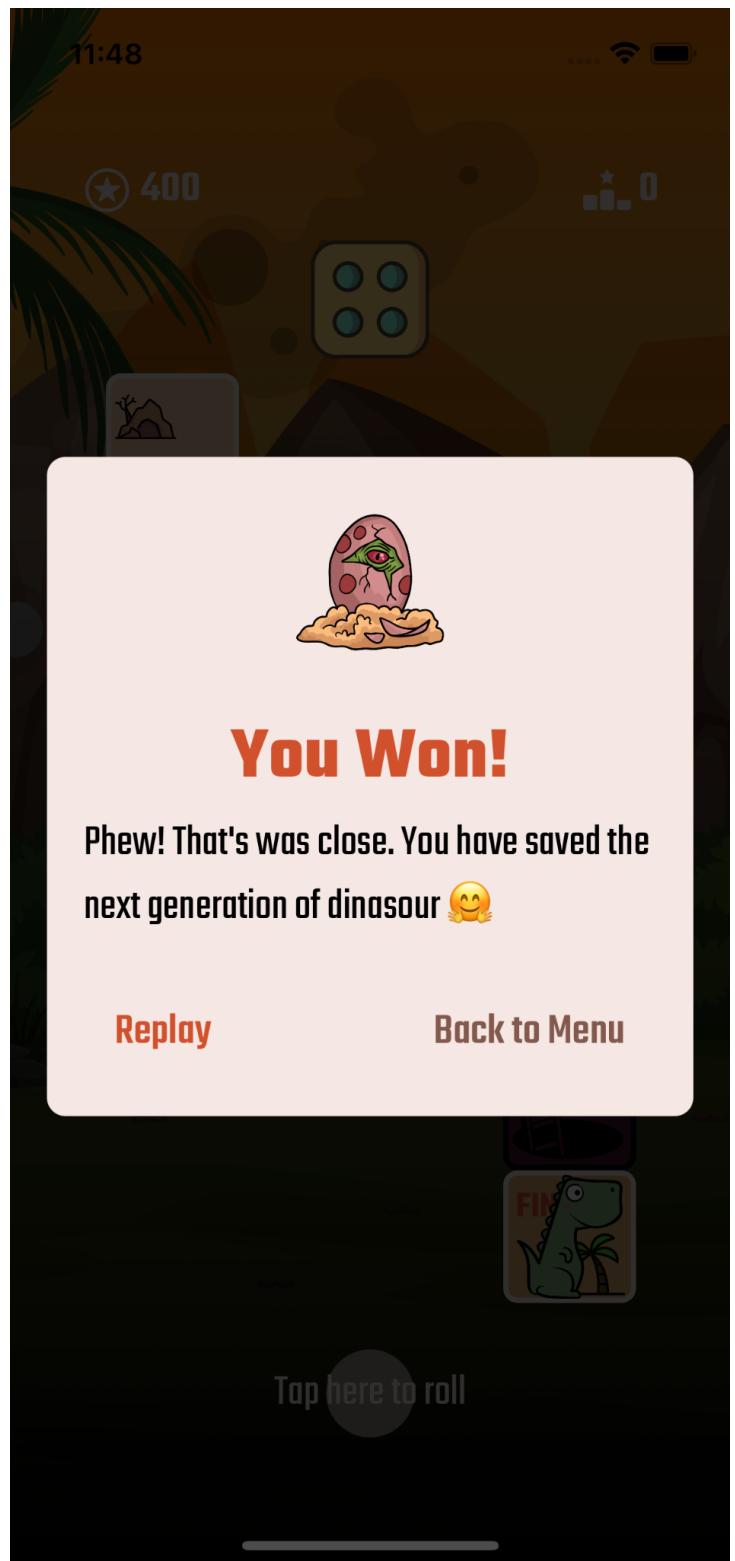
AppIcon on an iPhone (tested on iPhone 12 Pro)



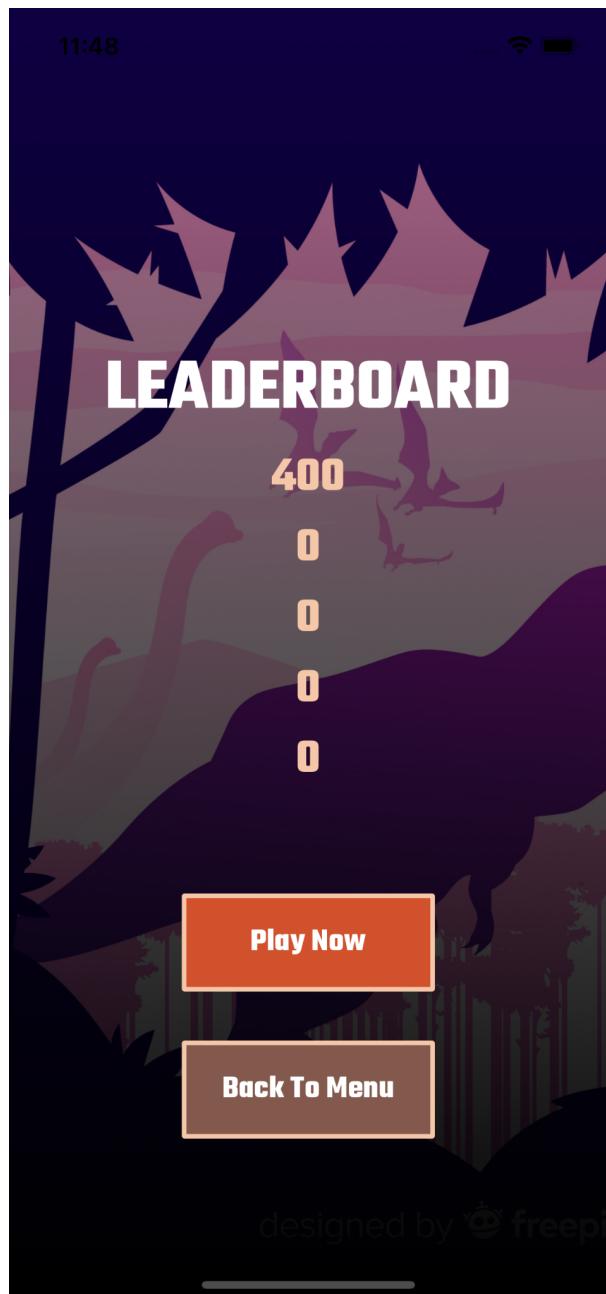
Menu View of the game



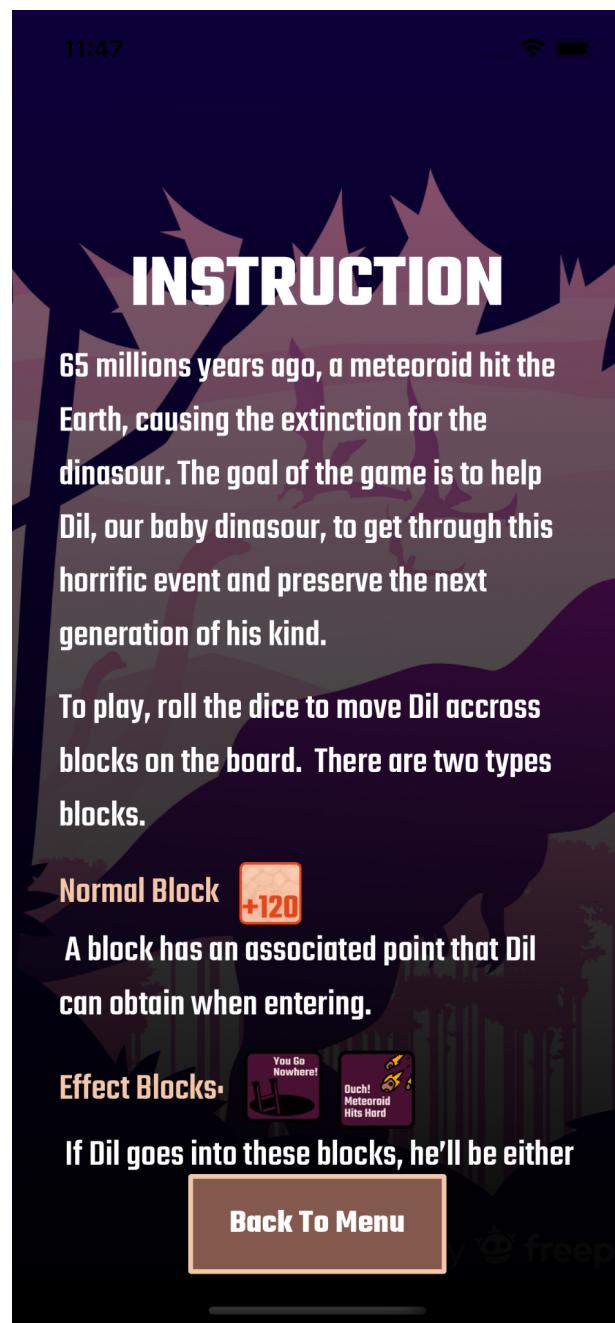
Main Game View of the app



Winning Game



Leaderboard View of the app



Instruction View of the app



About Author

This game was designed with 🔥 in Figma and developed with ❤️ in SwiftUI by Hoang Minh Quan - s3754450.

Game assets sources: Freepik, Mixkit, and Flat Icon.

For app/web design side projects, feel free to contact me at your convenience via:

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About View of the app

6. Link to demo video of the app

[DemoVid_ASM2_s3754450.mov](#)

Please log in with your RMIT account to access the video. The game demo is conducted in iPhone 12 Pro simulation of Xcode 13+ in RMIT university lab.