Snake Hunt Project Report

# Introduction

This Snake Game project is a fun and interactive implementation built using React.js, React Navigation, and React Native for the mobile app version. The project consists of three levels (Small, Medium, and Hard), each with increasing difficulty. In this report, we will cover the setup process, how the game works, and detailed instructions on how to run the project.

# Prerequisites

Before starting the project, ensure the following tools are installed on your system:

- \*\*Node.js\*\* (Version 12 or higher)

- \*\*MongoDB\*\* (For storing records related to game data)

- \*\*React.js\*\*, \*\*React Navigation\*\*, and \*\*React Native\*\*

# Project Setup

To set up this project on your local machine, follow the steps below:

1. \*\*Clone the repository:\*\*

```bash  
 git clone https://github.com/your-repository-link/SnakeGame.git  
 ```

2. \*\*Navigate to the project directory:\*\*

```bash  
 cd SnakeGame  
 ```

3. \*\*Install dependencies for both frontend and backend:\*\*

```bash  
 npm install  
 ```

4. \*\*Start the backend server (optional):\*\*

```bash  
 node server.js  
 ```

5. \*\*Start the frontend (React-based Web or Mobile app):\*\*

```bash  
 npm start  
 ```

# How It Works

Home Page: A simple screen with navigation buttons that lead to different game levels.

Level Screens: Each level has its own screen where the snake game is rendered. These screens contain the game logic for moving the snake, detecting collisions, and growing the snake when it eats food.

License Page: Displays licensing information about the game.

Navigation: The navigation between different screens (Home, Levels, License) is handled using React Navigation.

Game Logic: The game includes movement controls using swipe gestures and checks for collisions, eating food, and increasing difficulty as the player progresses.

# Game Levels

1. \*\*Level 1 (Small):\*\* This level provides a basic snake game where the player moves the snake around a grid to eat food.

2. \*\*Level 2 (Medium):\*\* Adds obstacles and barriers to the grid, making it more challenging for the player.

3. \*\*Level 3 (Hard):\*\* This level adds more complex obstacles and barriers, as well as faster snake movement, creating a higher level of difficulty.

# Connecting and Running the App

1. \*\*Connect your device\*\* (for mobile app): Make sure your Android/iOS device is connected to your computer for testing.

2. \*\*Run on Web:\*\* For web, you can start the app with `npm start` in your terminal, and it will run in your default browser.

3. \*\*Run on Mobile (React Native):\*\* Use `react-native run-android` or `react-native run-ios` to start the app on a connected mobile device.

# Project Structure

The project structure consists of several components that handle different functionalities:

1. \*\*App.js:\*\* Handles the main app logic, navigation, and initial screen setup.

2. \*\*Small.js:\*\* The level 1 of the game, with basic gameplay and functionality.

3. \*\*Medium.js:\*\* Level 2 of the game, with added obstacles.

4. \*\*Hard.js:\*\* The most difficult level with multiple obstacles and increased speed.

5. \*\*License.js:\*\* A screen displaying information about the game license.

# Conclusion

This project is a simple yet engaging **Snake Game** built with **React Native** and **React Navigation**. It provides an interactive experience with different levels of difficulty and a License page. The project demonstrates how to build and manage a mobile game with React Native from scratch, implement basic game mechanics, and handle navigation between screens.

Feel free to enhance the game by adding more features such as scoreboards, game over screens, and sound effects for an improved user experience!