



# Unity Developer Home Assignment

Confidential



# Welcome!

Welcome to the Lootheads development challenge!

We're excited to see your Unity skills in action as you craft a variant of the Snake game.

**Please keep in mind that we don't want this challenge to consume an excessive amount of your time.**

The challenge is supposed to take no more than 7 days.

We wish you the best of luck and can't wait to see your solutions and innovation in action!

## Your Task

Craft a variant of the Snake game incorporating a unique mechanic – **Snake Division**. Demonstrate your expertise in **game mechanics**, **UI design**, and **data persistence**.





# Notes

- You will be evaluated on code quality, implementation accuracy, and proper engine usage.
- Feel free to use any 3rd party package \ technology you see fit.
- The game can be 3D or 2D, whichever you prefer.
- You are encouraged to use `async` \ `await` or any other form of achieving asynchronous logic in your game.
- Following the test, there will be a short meeting in which we will go over the test and might ask you questions about it.
- The final project needs to be uploaded as a git repository to Github (if it's private you should give us access to both **peleg@lootheds.com** \ **uri@lootheds.com**)



**We are here to help!** If you have any questions, please **feel free** to contact us via email and we will do whatever we can to assist.





# Game Mechanics

- **Movement Mechanic:** The snake always moves forward. The player can only turn right or left. The body part cannot be in a position where the head weren't previously.
- **Walls:** stationary walls that kill the player on impact.
- **Snake Division Mechanic:** The snake can be divided or "cut" if it hits its tail. If the division results in a section over 50% of the original length, it leads to the "death" of the snake. If less than 50%, the "cut" part should disconnect and follow the "Snake Dissolution Mechanic."
- **Snake Dissolution Mechanic:** If the division results in a section less than 50% of the original length, the game eliminates this smaller section at a pre-determined speed, achieved through a gradual "dissolution" effect.
- **Item Collection Mechanic:** The snake collects items within the game world, expanding by a single length unit each time it eats an item.
- **Item Spawn Timer:** Incorporate a timing mechanism that regulates the spawning of collectible items. The items should spawn at regular intervals, and there should be no more than two items in the game world at once.



# Extras



## User Interface

- **Snake Indicator:** Implement a distinctive marking at the center of the snake entity, indicating where it's safe to cut.
- **Score Display:** The UI should contain a real-time scoreboard showing the current score.
- **Timer (displays time since current match start)**



## Bonus Features

- **Map Wrapping:** Leave gaps in the walls, and let the snake pass from one end of the screen to another.
- **Save Game Feature:** The game should be able to store its current state, including the snake's length and the player's score. Please explain how this feature is activated and what data it preserves.
- **Load Game Feature:** Players should be able to resume a previously saved game state. Please outline the process involved in retrieving and loading this saved data.



**THANK YOU  
& GOOD LUCK! <3**

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