

Raccoons Games

Unity Post-Interview Practical Assignment

Introduction

Hello friend! Thanks for applying for a Unity developer position in Raccoons Games. Let's test your skills to prove you are professional and ready for new challenges.

Focus

We expect you to focus on the following aspects:

- Readable and unified code style - we want you to type code in unified style with good naming and structure rules.
- Flexible and reliable architecture with patterns usage - show us you are able to predict possible aspects of the future game development and make the architecture following SOLID-principles and patterns.
- Optimized code - avoid any unoptimized programming techniques
- Gameplay impact - games should feel satisfying even despite being simple. Use any ways like VFX, physical interactions or animations for that.
- Avoid bugs - players should not face technical problems messing up their experience.

Don't spend too much time on searching resources for the project and don't add any additional functions, but make sure it has a satisfying gameplay impact and neat, stable and flexible source code.

Result

When the project is ready, make sure it's contained in a public git-repository with Unity gitignore and send the link to HR so we can check it and play it. We would be very grateful if you also send us a build for a target platform.

Prototype “2048 3D”

Objective

Make a basic gameplay prototype of the popular game physical 3D-representation.

Platform

Android

Gameplay

Location. There is a long rect board, limited by walls.

Gameplay. At the start of the board we spawn a cube at the center with some Power-Of-2 number value (Po2). The Po2 value of spawned cube is:

- 75% probability - 2
- 25% probability - 4

Players can down the screen anywhere with their finger to prepare the cube to launch. When the finger is down, Player can drag the cube left or right by scrolling the finger left or right. When the finger is up, the cube physically launches in forward direction. Cube merges with any other cube, if:

- It has enough impulse at collision. The cube should not just touch another cube, it should have some **minimal impulse directed to another cube** when colliding.
- It has the same Po2-number.

As a result of the merge, two cubes should become one with the value that equals the sum of their value (that is also bigger Po2).

Player goal. Earn scores. Each merge gives a reward Po2-value / 2, so 1 score is the result of merging 2+2, 2 for 4+4, 4 for 8+8 etc.

Game over: Decide yourself.

Schema.

