

Game Development BCN - Revaluation Exam - February 2nd 2017

YOUR FULL NAME:

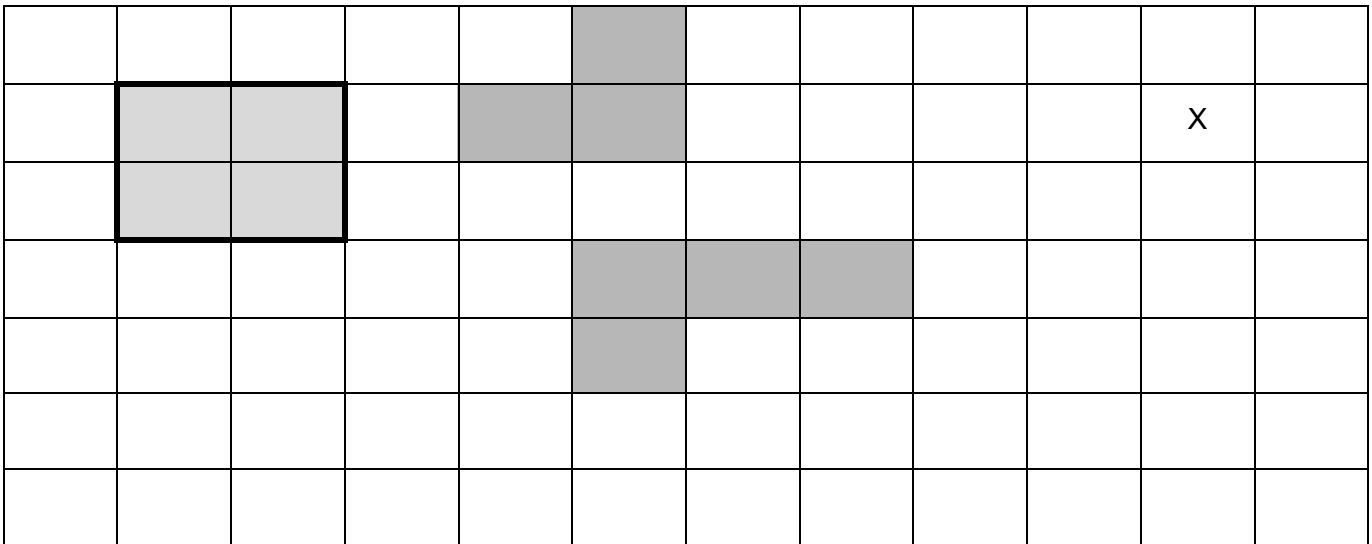
- You have 2 hours to complete the assignment.
- Only valid text will be the one inside each box, everything else will be ignored by the teacher

1.(3 points) Elaborate on the concept of the Virtual File System that PHYSFS provides. Detail how “mounting” works and create a simple example of folder structure that shows its utility in video game development.

2. **(2 points)** Explain the concept of a Navigation Mesh in video games: how many types exist ? what are the benefits and drawbacks of each type ? how are they generated ? how they behave in real-time when pathfinding algorithms use them ?

3. **(2 points)** During a specific frame our game where the logic uses 30 ms. We have vsync turned on (monitor refresh rate of 70 Hz) and our main character moves at 350 pixels per second. How much, is the character going to move this frame taking in account that we have variable time step ? How much vsync will make the application wait ?

4. **(3 points)** Adapt the A* algorithm to accept creatures with size of 2x2. Paths that including tight spaces of 1 square should be rejected. Explain your reasoning to solve the problem. Assume you cannot move in diagonals. *E. g.: Our Ogre is 2x2 and needs to reach the destination X.*



Use this page for your own notes. You cannot use any other page. Do not remove this page from the set.