

Practical Exam

I can't get my player controller working.

I will be attempting for part-marks on the theoretical component of this part of the exam by explaining the implementations of the requested design patterns as if I successfully implemented them.

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$1+0+0+7+8+5+8+2+6 = 37 = \text{Odd}$

Designated game: Pac-Man

Question 1: Object pooling

Object pooling is implemented using a singleton ghost manager script. This script creates 4 ghosts on startup from a prefab and disables each when Pac-Man manages to eat them until they respawn. The number of ghosts in the scene can be increased or decreased by calling the functions within the manager, `addGhost()` and `removeGhost(index)`. Each ghost has an index within a list that the ghost manager script uses to keep track of active and inactive ghosts. It also uses this list to determine when all existing ghosts are active and it needs to instantiate a new one and add it to the list in the event that `addGhost()` is called.

This saves on performance especially when playing a round of Pac-Man where the number of ghosts has been increased, as the frequency of ghosts respawning and being eaten during the use of a Power Pellet is very high. The need to create new ghosts is removed, unless the maximum number of active ghosts is increased or surpassed.

Question 2: Command design pattern

Not attempted

Question 7: Game management system

Not attempted