

Object Pooling: Object pooling is a memory management technique that can benefit any game. In the case of Pac-Man, you can use it to control the amount of enemies spawned in the game at once. As well as control them to see if they are active or not. When you start up a new game of Pac-Man, not all four ghosts are active at the start, during the beginning only one ghost is out and about while the others are stuck in the center waiting to be released. So by disabling them with object pooling can be beneficial to memory management because the AI for them doesn't need to be active yet until they are released from the center.

Command Design: The command design pattern can store a request as a standalone object. This means that you can pass a request as a method. The original Pac-Man only has one level that is repeated over and over with the only difference being the player's score. So using a command pattern you could use it as an undo for a small little reset for when the player loses a life or you can use it as a level reset for when the player loses all their lives.

Management System:

For the management system I decided to implement, I went with a sound manager. Sound management for a game like Pac-Man is crucial. With the games' simple playstyle, you need more than just visuals to get them immersed and the next sense of target is hearing. When a game has good sound design and direction, you can sometimes feel that you don't need visuals and can rely on sound alone to guide you. So when it comes to making a sound management system, you have to make sure that it's simple but effective. To start off with, the manager sets up the background music making sure that the player can get a feel for the game. Then the sound manager waits for the events that trigger an instance of the sfx sounds to be played. For example when the player picks up an item, it can play a sound for that or when the player takes a hit, it can play a sound for that. So having a good and functioning sound management system can aid in creating a good atmosphere for the game as well as ease the implementation of sound into a game.