## 4.1. Introduction

Stealth games have been one of the most popular genres of video games since the turn of the millennium. Games such as Metal Gear Solid(Hideo Kojima, 1998), Tom Clancy`s Splinter Cell: Blacklist(Ubisoft Toronto, 2013) and Hitman(IO Interactive, 2016) defined the genre. An overwhelming majority of these games are in the Third-Person. The only notable recent exception is Arkane Studios` Dishonoured 2(Arcane Studios, 2016). There have been many attempts by FPS studios to include a stealth level within their action-packed games, but these often feel shoehorned in. For my project, I made a prototype First-Person Stealth game that sets out to achieve what most FPS Stealth games/levels are missing. In this literature review, I will compare and contrast five themes: AI, UI, Mechanics, Traversal and Balance in Third-Person Stealth and First-Person Stealth games/levels. This allowed me to find gaps in current FPS stealth levels that my prototype aimed to fill.

## 4.2. Artificial Intelligence

A stealth-based AI is a critical component of a stealth game. An AI that the user perceives to be unintelligent will make the game less intense and provide less of a challenge for the player. One essential part of a comprehensive AI is how the AI detects the player. In Splinter Cell: Blacklist(Ubisoft Toronto, 2013), the team used vision cones and vision zones(Walsh, M. 2014) to allow the player to be slowly detected over time based on the player`s location within the enemy’s vision cone. This is an example of great architecture for stealth AI and provides a realistic interpretation of how someone would spot a foreign entity in real life. In contrast, Metal Gear Solid(Hideo Kojima, 1998) has a binary detection system. This means that whenever the player is within the enemy’s vision cone, they are instantly detected. This could be very frustrating to the player as even if the player`s arm was barely visible for a split second, the enemy would go into an attack state. This makes AI seem unrealistic and unfair. However, unlike some games, Metal gear solid(Hideo Kojima, 1998) does allow the player to hide after being spotted and return to the stealth aspect of the game. This is evidence of an in-depth implementation of a behaviour tree or finite-state machine(FSM) for AI(Millington, I. 2019). To sum up, the AI needs a non-binary detection system and a behaviour tree or FSM that allows the player to escape after being spotted.

## 4.3. User Interface

Stealth games must have an intuitive UI design. A good UI can help the player understand what state the enemies are in, if the player is hidden and how close the enemies are to spot the player. Dishonoured 2(Arcane Studios, 2016) has an excellent UI that uses markers above the enemy’s head to depict the enemy`s current state. If we compare this to Call of Duty: Modern Warfare(Infinity Ward, 2019), we find that during the mission ‘Going Dark’, the UI gives the player no indication of what state the enemy is currently in. This does not give the player confidence and can make the player play safer and not explore the level to its fullest. Overall, it is crucial to have an intuitive UI that helps the player understand what state the enemy is in.

## 4.4. Mechanics

A game will not be fun if its mechanics are boring and unbalanced(Adams, E. and Joris Dormans, 2012). Games are made by how good their mechanics are, and stealth games are no different. This is most clearly seen during the Battlefield 1 mission ‘Fall from Grace’(DICE, 2016). During this mission, there are only two stealth mechanics; both are overused and unbalanced. The first is throwing an item to take the guard’s attention, and the second is destroying a communication box to stop reinforcements. Not only are they overused, but they are also unbalanced. The player can find things to throw to distract the guards all over the level, and disabling the communications boxes provides no real challenge. Therefore, mechanics in stealth games must be original and balanced to prevent the player from abusing the mechanic.

## 4.5. Traversal

Traversal is a vital component of any good game. The ability to traverse the level uniquely provides more replayability for a level. Stealth games have been using unique forms of traversal for a long time. Examples include Sam Fisher`s split jump in Splinter Cell: Chaos Theory(Ubisoft, 2005) and Batman`s grapnel in Batman: Arkham Asylum(Rocksteady Studios, 2009), which the player can use to climb above the guard’s line of sight or use ventilation shafts/grates to traverse the level below the guards’ feet. This kind of traversal is largely missing in First-Person Stealth games/levels. An example is Battlefield 1`s level ‘Fog of War’(DICE, 2016). In this level, the player has no unique ways to traverse the map. There is no way to change the verticality or manoeuvre around enemies. This leaves this level feeling a little flat. Ultimately, traversal is necessary for all games, but the lack of unique traversal in stealth games can leave the player with no opportunities to tackle a level in an original way.

## 4.6. Balance

A balance between the player and enemies is even more vital in stealth games than in regular games. In stealth games, if the player feels like they can win a shootout against a large number of enemies, it defeats the point of the player trying to be stealthy. The designers made a single enemy lethal in The Last of Us(Naughty Dog, 2013). This forced the player to play stealthily. However, this alone would not be balanced when the player was fighting a large group of enemies in a non-stealthy environment. To counterbalance this, when the player was fighting a large group, only one or maybe two enemies would shoot at the player simultaneously (McIntosh, T. 2014). This meant the player was still cautious of the enemy, but at least it gave them a fighting chance. Getting the balance right in a game is a tedious and lengthy process. Getting it right in a stealth game is just as hard. However, doing it correctly means the player plays the game in the way intended for them by the developer, thus resulting in a much more fun experience.

## 4.7. Conclusion

To conclude, there is a multitude of things that FPS stealth games/levels can learn from their Third-Person counterparts. Many FPS stealth levels incorporate one or maybe two good practices seen in Third-Person Stealth games, but the only First-Person game that encapsulates all these practices is Dishonoured 2(Arcane Studios, 2016). With the knowledge from this literature review, I focused my prototype on the specific areas that FPS stealth games/levels are in dire need of.