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EECS 494

March 6, 2017

Magician's Heist: Research and Analysis

Magician's Heist is a cooperative 4-player heist game. The game is 2-dimensional and side scrolling. In the game, players work together as polymorphic magicians to loot a vault inside an office building while avoiding the guards. The four magicians each have a unique ability that they can polymorph into at any point in the game. In addition, the magicians can polymorph into objects in the environment that they can pick up (for example a plant or a radio). *Magician's Heist* draws inspiration from a wide variety of games. Some games provided inspiration for movement styles and graphics. Others provided insight in making a cooperative heist experience. We have also added new mechanics not seen in these games to make *Magician's Heist* a unique and exciting adventure for players.

Monaco:

The largest source of inspiration for *Magician's Heist* is the game *Monaco* (Pocketwatch Games, 2013). *Monaco* is a cooperative heist game for up to four players. The game has received high-praise for its cooperative gameplay so we thought it would be vital to the development of our game to explore features that helped the game be so successful.

In *Monaco*, the players choose to be one of eight characters. Each of these characters possesses a unique ability; for example, the locksmith can unlock doors while the lookout can see enemies not directly in view. The unique abilities of each character provide a sense of importance for each player: their skills are needed to make the mission come together. While we were playing the game, we noticed how much the specific skills each character had really forced us to work well together as a team and influenced how we interacted with each other and

cooperated. For example, the player who was the lookout would tell the other players where to watch for enemies and the pickpocket used the gun since the gun required money to shoot and the pickpocket had the easiest time stealing money. We wanted to emulate this experience in our game and so we decided to give each magician character a unique item that only they can turn into and manipulate.

In addition to providing inspiration for character abilities, *Monaco* also lays down good groundwork for an effective camera in a 2D heist game. In *Monaco*, the map is shown grayed out with basic outlines of the major stationary objects in each room (for example, tables and walls). As the players move around, their field of vision is lit up on screen and the players can then see a colorful rendering of the area as well as a full view of what is contained in that area (for example, guards, help text). This way of viewing the game world keeps things interesting in the simple 2D layout. Without this unique camera style, the players would be able to see the guards at all times and have way too much information about the current level. The lack of immediate visibility allows the player to be challenged by the unexpected, a very important element in an effective heist game. While *Monaco* is a top-down game and *Magician's Heist* is side scrolling, we still intend on implementing a camera that only allows a limited view of the world by only allowing the players to view certain portions of the room characters are in.

Payday 2:

Payday 2 (Overkill Software, 2013) is another cooperative heist game for up to four players. In general, the game received strong praise with complaints mostly to single-player modes and issues with friendly AI. We wanted to explore how features of this game encourage strong cooperative heist gameplay and what characteristics were similar and different from *Monaco* and how that affected the players' experiences. While *Payday 2* is very different from

Monaco and *Magician's Heist* movement wise as the game is 3D, there are still many similarities to consider in terms of player-to-player interaction and character types.

In contrast to *Monaco* and *Magician's Heist* the characters in *Payday 2* do not have distinct special abilities. Instead, players are able to personalize a character by choosing different weapons, masks, etc. We think that this provided less incentive for players to work together as they are not dependent on one another's skills. We think that the game loses something by not giving the individual characters an advantage for a certain task.

In comparison to *Monaco*, the level design of *Payday 2* includes many walls, counters, doors, and separate rooms. This creates a limited field of vision for the players. Similar to *Monaco*, the limited field of vision forces players to think on their feet and be prepared for unexpected challenges, especially guards.

Another factor similar to *Monaco* that appears to be important for effective cooperative games is the ability to revive knocked-out players. If a player is knocked out in *Monaco* or *Payday 2* they can be revived by teammates. We found this to help encourage continued teamwork throughout the game and, in *Monaco*, to prevent players from being stuck if a key character goes down.

One thing that we really appreciated about *Payday 2* was the strong encouragement for players to complete the levels stealthily. In addition to additional experience points that players receive for avoiding being caught upon level completion, *Payday 2* features an interesting way to keep players stealthy. If a player is caught on camera or by a security guard, SWAT teams are called in and the players have to complete the level under constant pressure from the police. We liked how the players had the choice to avoid this heavy confrontation if they were more careful in their traversal through the level. We wanted to emulate this encouragement to stay stealthy in *Magician's Heist* by also having additional enemies that show up if the players

fail to remain undetected. If players cause too much suspicion, an alarm is sounded and the police are called in.

Gunpoint:

Gunpoint (Suspicious Developments, 2013) was the strongest source of inspiration for the game design and level design in *Magician's Heist*. The game was very highly acclaimed, many people citing its gameplay and design as its strong suits. *Gunpoint* is another 2D stealth game, however in contrast to *Monaco* the game is side scrolling. In *Gunpoint*, the world that the main character is in is displayed as a cross-section of an office.

When playing this game, we really liked the effect the cross-sectional view had on the game play. We strongly preferred this presentation of the world to the top down view in *Monaco*. We thought that this presentation made it clearer where characters were in the world and that this style would be significantly less overwhelming to understand when many players would be on the same map at once. We appreciated also how this view style allowed the player to quickly traverse between floors. In contrast, floor traversal in *Monaco* was quite awkward with the player needing to stand in a labeled area to go up or down a floor. We think that this style will be most effective for *Magician's Heist* because of the easier traversal between floors and clearer world presentation; this will allow us to create larger and more complex levels.

However, we did not like how the content of each floor was immediately visible to the player. We thought that this was lacking something that we really appreciated about the camera style in *Monaco*. The immediate visibility removes the unexpected from the game, which we also interpreted to remove some of the challenge of remaining stealthy.

Mark of the Ninja:

Mark of the Ninja (Klei Entertainment, 2012) is yet another highly acclaimed 2D stealth game. Similar to *Gunpoint*, the game is side-scrolling. However, in contrast to *Gunpoint* the

camera is significantly more zoomed in on the player. We appreciated having a closer, more intimate view of the level and the character.

Mark of the Ninja has a much stronger emphasis on stealth than many of the other games that we had played. We really liked how the player was able to use the surrounding environment, for example doorways and plants to hide themselves. We liked that the player had the option to find somewhere in the environment to hide and let guards pass by while they considered their options. We wanted to emulate this in *Magician's Heist* so we chose to implement a feature for the magicians to hide. The magicians are able to transform into inconspicuous items (such as plants and mugs) to remain undetected when near guards. While the player cannot move while they are one of these objects, it gives the player the opportunity to think through how they want to get through a situation.

We hypothesize that this will be particularly useful for our four-player game. In the case that one of the players gets themselves in a sticky situation, they can choose to hide until another player can help them or the situation passes to avoid being knocked out and requiring revival.

One additional aspect about *Mark of the Ninja* that we really liked was the style of the guards. We liked that it was clear and obvious to see their view path (as shown by the illuminated view path in front of their face). We also liked the indicator directly above the guard (similar to that in *Monaco*) that clearly shows the guards status (suspicious, alarmed, etc.). We intend to implement a similar icon to show our guards status and a clear section that the guards can see.

Castle Crashers:

Castle Crashers is a side-scrolling beat-em-up game for up to 4 players. The game is cooperative and can be played locally. The game was well received. While very different from

a stealth/heist game like the others we have reviewed and that *Magician's Heist* is intended to be, the game is still useful for us to consider for how to effectively manage 4 players on a local side-scrolling screen.

The first thing that we noticed in regards to effectively managing players was that it is very important for the characters to have a strongly distinct appearance. If we were to attempt to play *Monaco* locally, it would likely be (even more) overwhelming to tell which character is which. In contrast, the distinct colors of the characters in *Castle Crashers* (and especially that these colors stand out well from the background) make it easy to tell who is who on a chaotic screen.

A second thing that we noticed in playing this game was how the camera handled the individual players going off and exploring different portions of a level. As players move farther apart, the camera zooms out and as they move closer together the camera zooms in. In addition, it limits movement if the players get too far apart. We think that this is a good strategy to allow players to do different things in the level, without having it be too overwhelming. However, we intend to allow further vertical exploration as individuals than *Castle Crashers* allows to not limit the players as much.

One last thing that we thought was effective in *Castle Crashers* was the small player status GUI at the top of the screen. We liked how it succinctly showed player status and what weapon/object they had, their health, etc. We intend to implement a similar simple GUI that shows what object the magicians may be holding and their status (knocked out or not).

Deus Ex: Human Revolution:

Deus Ex: Human Revolution (Square Enix, 2011) is a stealth based first-person shooter. The game was well received and when we played the game we found that the AI for the guards

in this game provided a source of inspiration for the behavior we wanted to see in the guards in our own game.

In *Deus Ex*, the guards have the ability to become suspicious and when they are suspicious they seek to investigate the cause of suspicion. Possible sources of suspicion that we noticed in gameplay include hearing sounds, moving objects, and finding bodies. We liked how for small sources of suspicious (like moving objects) the guards would search for a small time in the area, with heightened suspicion, and after finding nothing, they would resume normal behavior, while in contrast, for larger sources of suspicion (such as finding a dead body) they would be very suspicious and would be in a constant state of search/alarm. In addition, having the guards react to movement and sound created from objects in the environment gives a much richer experience for the player. As players, we were concerned about the potential effects of each movement we made and whether or not it would go noticed.

We wanted to include this style of suspicion in *Magician's Heist*. For example, we want guards to be able to react to suspicious noises. One item that we intend to implement for magicians to turn into is a radio. Upon turning into a radio, a magician has the ability to make noise that will raise the guards suspicion and cause him to move towards the radio, creating a potential diversion. We also wanted to have the guards be able to react to objects that are incredibly out of place. For example, if a magician transforms into a cup and the cup is sitting in the middle of the floor or hung on a coat rack, that will raise suspicion. In addition, we wanted to have certain types of suspicion be more intense than others; for example, if a guard sees another guard lying stunned and uncovered, he will raise an alarm.

Overview:

Monaco provided inspiration for effective cooperative gameplay with unique character abilities and an interesting camera style that only allows the player to partially view the map. *Payday 2* solidified our decision to use a partially viewable map and encouraged us to have an additional enemy that shows up upon the guards detecting the player; this increases both the difficulty and the incentive to remain stealthy. *Gunpoint* and *Mark of the Ninja* encouraged us to use a side scrolling camera to allow for easy traversal between levels, clear view of the characters in the world, and larger more complex levels. *Mark of the Ninja* additionally encouraged us to think about ways the players could interact with the environment to increase their stealth, such as transforming (or in *Mark of the Ninja*, hiding) into inconspicuous objects. *Castle Crashers* showed us effective camera management and character design for a local 4-player cooperative game. *Deus Ex: Human Revolution* provided a source of inspiration for the AI of our guards and how and when they should become suspicious of a player's behavior.

In *Magician's Heist* we hope to implement the lessons we have learned from many similar games on level design, camera layout, and player interactions with the environment and with each other. *Magician's Heist* will build on these ideas by combining them all together and introducing the exciting new polymorph mechanic.