The Package Protector

ToSoftwareInc.

Your Package is in Good Hands

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● ToSoftwareInc. Member Names and Bios

1. Member One: Liam Bowen
   - ☐ **Favorite Games**

     Sports games such as MLB the Show or Madden. A lot of Rocket League as well. I would count Rocket League as a sports game. It's basically car soccer with extra steps like flying and boosting. I play a lot of Dead by Daylight which is a multiplayer survival horror game. There are 4 survivors and a killer and the goal is to either escape by doing tasks or kill everyone. I usually play on Playstation, but I do enjoy playing other games on other consoles.

   - ☐ **Playerbase/Personal Lifestyle Beliefs**

     I'm not really sure who I would want to build a game for, but I believe that people should do what they love. I would like to build a game that is something that more similarly relates to my lifestyle, but I have always branched out with games and something different would still be interesting. I more so think that I tend to go towards games with ranking systems (the games I mentioned above all have ranking systems in place for multiplayer). Typically I only play games of multiplayer style, but story based games such as Detroit: Become Human or Jedi Fallen Order are a lot of fun.

   - ☐ **Interests/Collaboration**

     I think I will be alright collaborating with someone with different interests than me. I do tend to stick to sports related games but I do really enjoy other games at times and creating something that I have not typically played before is a fun challenge.

2. Member Two: Lukas Howlett
   - ☐ **Favorite Games**

     Open World games like Skyrim and Terraria are a couple of my favorites that I usually come back to from time to time. My favorite genre would have to be Metroidvanias since I grew up playing Super Metroid which has led me to play and complete Hollow Knight and other games of that genre. I also really enjoy Action RPGs that have a high degree of challenge to them like Dark Souls and Elden Ring. Not a super big fan of Sports Games but I am "decent" at Rocket League and always have a blast when playing FIFA with friends, so I understand the appeal of the genre. Haven't really played any Horror Games myself but I grew up watching a lot of let's plays on YouTube and I really enjoy the genre's thrill.

   - ☐ **Playerbase/Personal Lifestyle Beliefs**

     If I had it my way completely, I would love to try my hand at designing a Metroidvania. Thus, I would think that a majority of the playerbase would be people who like discovery and completion. I would definitely describe myself as someone

who likes both discovery and completion as well. However, I'm always open to new things and would also love to try designing in a genre that I'm new to or have little experience with as well.

☐ **Interests/Collaboration**

Like I stated in the previous section, I would be completely open to try designing in an area that I'm unfamiliar with or entirely new to and with people who have completely different interests from me as well.

3. Member Three: Tiger Wu

☐ **Favorite Games**

RTS games like Warcraft3 and Red Alert. I spent lots of time on them before high school. For FPS games, I only play Overwatch, but I'm trying to start Apex these days. Open World games like Fallout 4 and Skyrim are actually my favorite. I love games where I can collect materials to edit and combine my weapons freely. JRPGs like Final Fantasy, Nier AutoMata and OctoPath Traveller. I really like the art style and narrative of JRPG games. I also play MOBAs like League of Legends with my friends a lot. Board Games like HearthStone, which I played for 7 years from 2015-2021. Once I reached the Top 100 rank in Chinese servers during high school. Also Action RPGs like Sekiro and Elden Ring, but I'm not really good at them. I also play Roguelikes a lot like Noita and Dead Cell; Noita is the one I like best.

☐ **Playerbase/Personal Lifestyle Beliefs**

The player base I want to play my game is people who enjoy a discovering, developing and challenging type of game. I have a similar set of beliefs because I'm actually the player base of those types of games.

☐ **Interests/Collaboration**

I would be glad to collaborate with a team member with different game interests than me. I can accept almost all kinds of games.

● Gameplay Overview

The player's character (The Mailman) spawns at the beginning of a residential street, tasked with navigating to its end while delivering and collecting as many packages as possible. In the user-interface, the top left corner shows the health, the top right corner shows the time left and the bottom left corner shows if the player is holding a package or not.
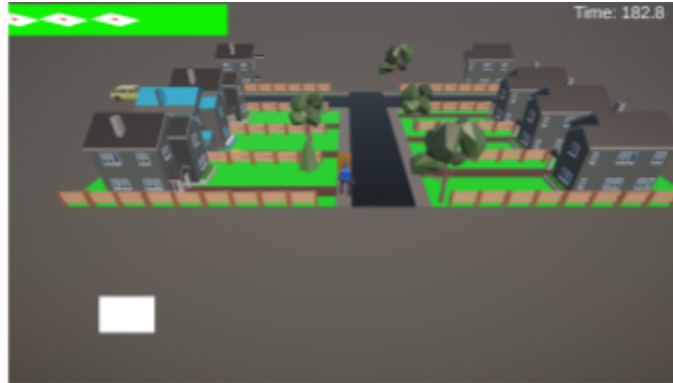
Player spawn and User Interface

On the sides of the road are sidewalks, followed by grassy yards leading up to houses. Fences separate the property boundaries, with players having the option to bypass them by either jumping over them or walking around.
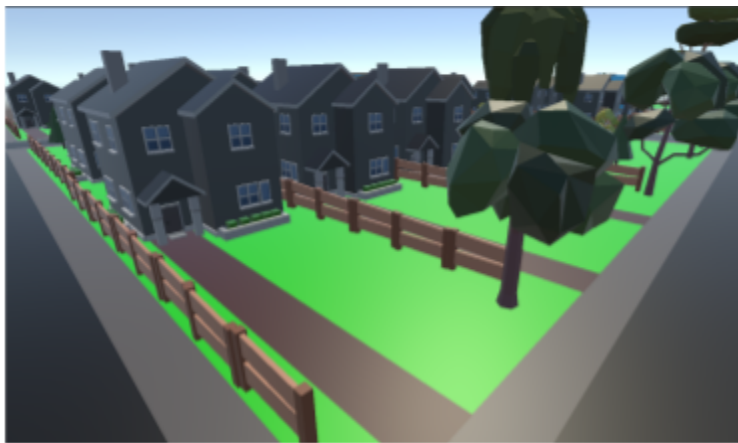
Fences separate house boundaries

Dogs which lay dormant appear within the yards and parks, start to chase the player if they come too close. Mailboxes, in this case orange pads on house doorsteps, are essential for package pick-up and delivery; they are located either at the house's entrance or in the front yard, encouraging players to cross the road.

Dogs spawn in grassy areas

Cars appear at either end of the street, driving up or down, requiring players to dodge them or jump over them while traversing the street.


Cars spawn at either end of the street

The yellow pads (which substitute for mailboxes), which appear at the front door of blue houses, is where players can deliver additional packages and earn extra time.


Yellow pad in front of blue house for package delivery

There is one special yellow house in each level, which is where the Very Important Package (VIP) package should be delivered to. After delivering the VIP package, the level ends and sends the player to the next level.
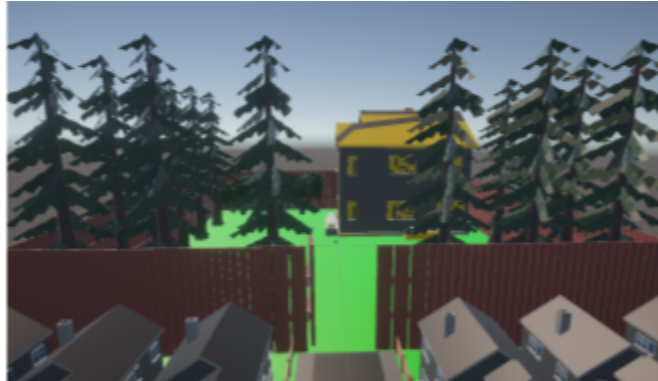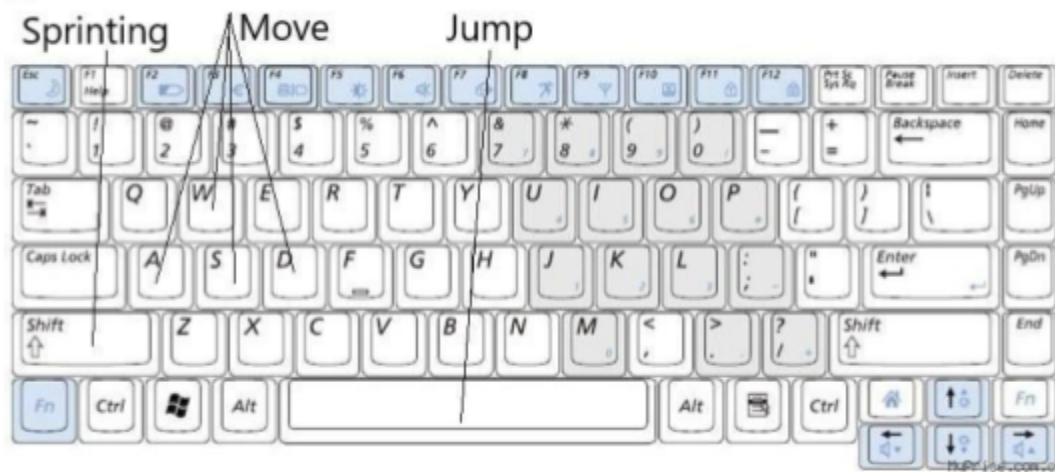

Yellow VIP delivery house

When the player presses ESC on the keyboard, they are able to pause the game. Players can click on "RESUME GAME" to continue playing or "QUIT GAME" to go back to the main menu.
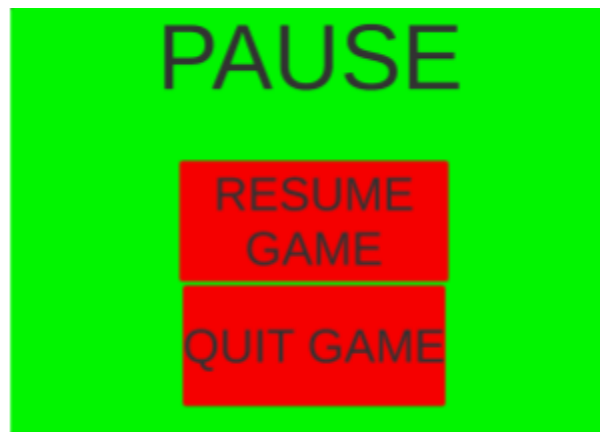
Pause menu interface

Players can move by using WASD, jump using SPACE and sprint by left or right SHIFT, similar to many PC games.

Player movement control scheme

● Game Art Asset Samples

1. Terrain and Landscape: The terrain and landscape of our game takes place in a brightly colored suburban neighborhood. Houses and their yards are separated by streets and are comprised of tileable neighborhood blocks. Additional landscape/terrain features include many different models of low-poly trees, bushes and flowers.

No.	Named Asset	Description	Int
1.1	Grass	Painted onto plane, green; short	
1.2	Tree	Tall and green with brown trunk	
1.3	Bush	Mid-player height; green; can be jumped	
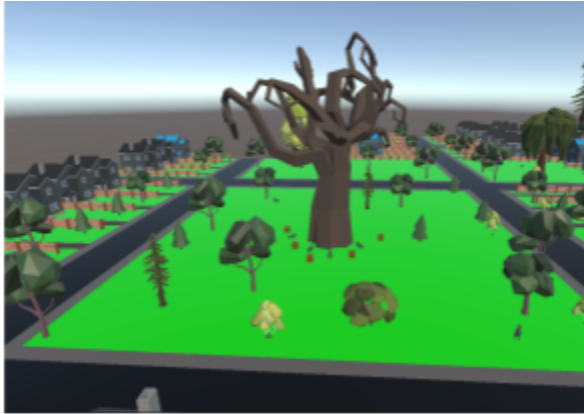
Many different tree models

No.	Named Asset	Description	Int
3. Exterior Architecture and **Engineered Forms**: Most of the exterior architecture in our game consists of a single two-story house asset, with streets, sidewalks, fences surrounding them to form a uniform suburban neighborhood. Houses will either be gray, blue, or yellow. Fences are always brown.			
3.1	House	Large; act as borders for the right and left sides of the level	
3.2	Street	Middle of the level; black; yellow/white lines in the middle; cars spawn here	
3.3	Sidewalk	Left and right sides of the road; thieves spawn here	
3.4	Fence	Taller than player height; separates yards and can be jumped or slid under if it is broken	

No.	Named Asset	Description	Int
5. Transportation: While not actually used for transport, cars and buses will speed up and down the streets serving as a hazard for the Mailman to avoid. Should the Mailman come into contact with one of these, he'll lose a life. Cars models are composed of taxis, SUVs, police cars (police serve no in-game purpose), and sports cars. Buses only have one model and are blue in color			
5.1	Car	Spawns on the top or bottom of the road; can damage the player if it crashes into them	X
5.2	Bus	Same as car but is a bus	X

Bus and various car models

7. Props: The only prop that the Mailman will have to worry about picking up are small, brown packages that can be found scattered throughout each level. These packages will be dropped off at blue colored houses.	

No.	Named Asset	Description	Int
7.1	Package	Brown and rectangular-prism-like; small and can be picked up by the player	X

10. Humanoid Characters: Our game will feature a single humanoid character which is the player's character, also known as the Mailman. The mailman doesn't have any distinguishing characteristics besides his blue uniform and hat. The Mailman is not a combatant and must run/jump away from dogs or obstacles while picking up and delivering packages.	

No.	Named Asset	Description	Spk	Int
10.3	Mailman (Player)	Average height wearing blue mailman uniform	X	X

11. Animal or Non-Humanoid Characters: The only non-humanoid character that our game features is a dog. Dogs are short (about half the size of the mailman), primarily colored black, and chase after the Mailman if he is within their range. Many dogs are placed throughout each level and pose a significant threat to the Mailman if he attracts too many of them. Can be killed by oncoming traffic if led into the streets.	

No.	Named Asset	Description	Spk	Int

| 11.1	Dog	Short; attacks the player if in range; varying models/colors of dog	X	X

Mailman and dog model side-by-side

12. Sound Effects: Not very detailed and quite short, our sound effects are kept simple to reflect the simple nature of the game. Footsteps are heard when the player is running, dogs bark in an aggressive manner when the player is in range. If a player is hit by a car, a metallic crushing sound will play to simulate a crash. Lastly a short "ugh!" will be exclaimed by the Mailman when he takes damage.

No.	Named Asset	Description	Linked
12.1	FootSteps	Thumping of shoes on ground when running	10.3
12.2	DogBarking	Woofing sounds of dogs	11.1
12.3	CarCrashing	Loud and mechanical thump of metal hitting flesh	5.1, 5.2
12.4	PlayerDamage	Grunt or low scream "Ugh", "Ouch", "Ahhh"	10.3

13. Music: Our music tracks, for the most part, are meant to be upbeat, cheerful, and quick to represent the fast-pace of our game. These fast-paced background tracks will play both during gameplay and while in the menus to keep players in the mood. Upon completing levels, players are met with a triumphant jingle as a reward, conversely if a player fails to complete a level they are met with an unsatisfying/depressing jingle.

| No.	Named Asset	Description	State

| 13.1	MenuMusic	Gets you excited to play the game	MainMenu
13.2	MusicTrack	Upbeat; makes you want to run fast	StartOfGame
13.3	LevelFinish	Also joyous or momentous sound-bite	EndOfGame
13.4	GameOver	Sad and depressing jingle	OnPlayerDeath
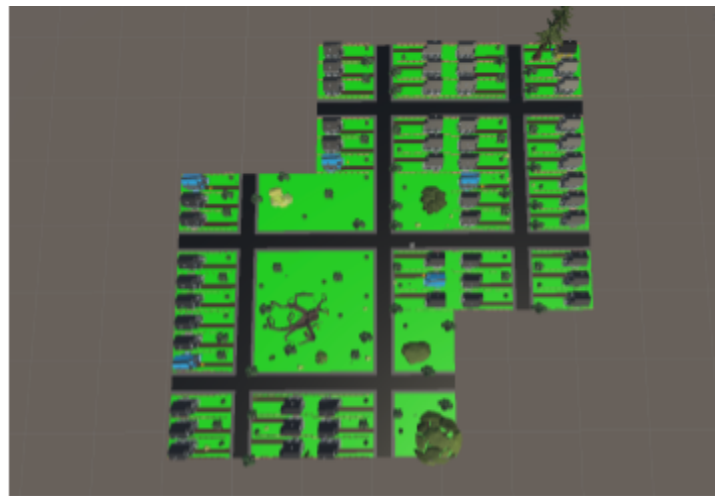
Birds-eye view of level 3

● Sample Game Play Description

Typical gameplay in The Package Protector always begins with the player character (The Mailman) spawning onto a neighborhood sidewalk preparing himself to make his Very Important Package (VIP) delivery for the day. Upon traversing the streets of the level, the Mailman will regularly come across additional brown packages. If in possession of one or more of these packages, the Mailman can make an extra delivery at blue-colored houses by stepping on the orange pad located at the doorstep of the house.
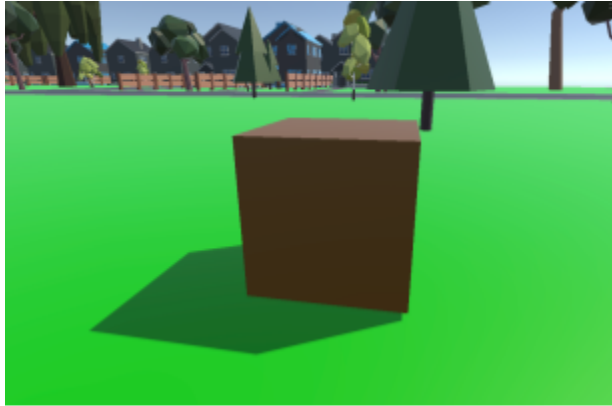
Additional package pickup
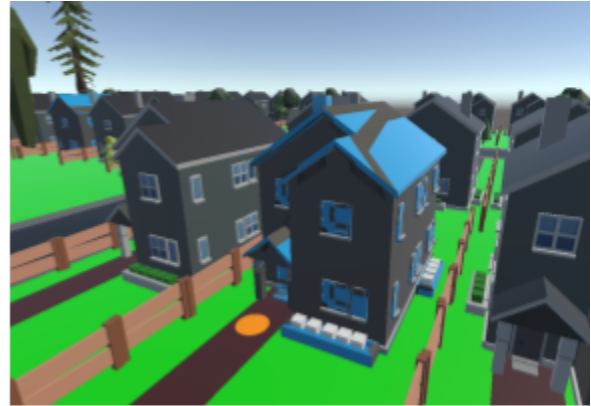
Blue house with orange delivery pad

Although the additional package drops are optional deliveries for the Mailman, there are still exceptional incentives for completing them such as having additional time added to the Mailman's delivery timer (giving him more time to make his VIP delivery) as well as an added bonus pay if the Mailman completes his VIP delivery with extra time on his delivery timer.

Delivery timer in top-right corner

However, making these deliveries doesn't come without risk, and those risks come in either the form of oncoming traffic or vicious dogs (the Mailman's worst enemy). Vehicles can be encountered when in the streets and won't stop for the mailman, on the other hand dogs can be found in yards or areas where there is a lot of grass and will chase after the mailman if he gets too close to them. Touching either of these adversaries will result in the Mailman losing a life, visualized as three letters, life-letters that is.

Life-letters in top-left corner (two after losing a life)

Dogs swarm the player and vehicles speeding on the streets

However, should the Mailman do well to avoid these obstacles by either jumping or sprinting away, he can make his VIP delivery with time to spare. These deliveries are made to yellow-colored houses by stepping on the blue pad at the doorstep of the house. There is only one of these houses per level, so the Mailman will have to search around until he is able to locate one to make the delivery. Making the VIP delivery is essentially the Mailman's most important goal, and therefore doing so also advances the Mailman to the next level, refunding any lives lost in the previous level and a new delivery timer.
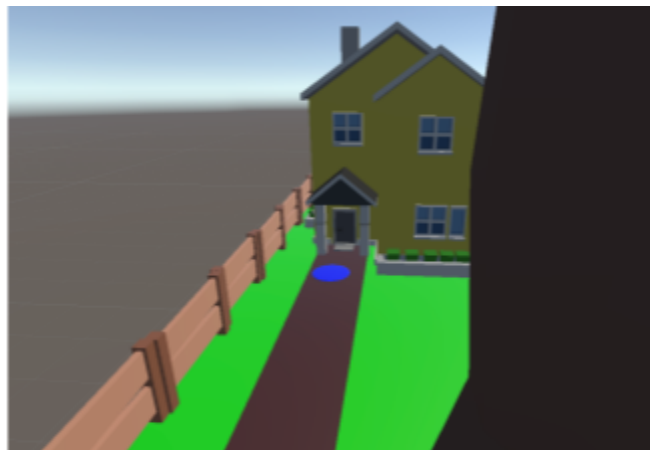
Yellow house with blue delivery pad

● Game Mechanics

Core Mechanics:

Movement:

Input:

|	
W	Forward
A	Left
S	Right
D	Backward
Space	Jump
Shift	Sprint

Effects:

WASD	Characters use these keys to move around other objects in the level such as cars or dogs.
Space	Characters use this to jump over some smaller objects like fences or dogs.
Shift	Characters can use the shift key to sprint around the map. The sprint key has no cooldown, and users can hold down the button to continuously sprint.

Methods:
- GetComponent
    - Get the location of the character.
    - Get the locations of other objects to check for boundaries

Game States of Mechanic:
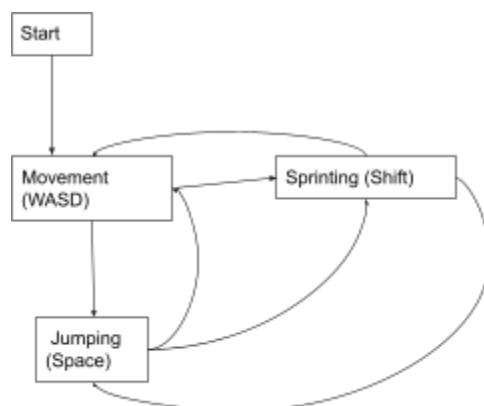
Primary Mechanics:

Complete Level:

Input:

There is no input for this mechanic. Completing a level happens when a package is found at the yellow house on the map, and takes the user to the next level.

Effects:
- When a player delivers a package to the yellow house on the map, it will end the current level and send the user to the next level.
- If they complete the last level, it takes the user to a screen that tells them they beat the game.

Methods:
- GetComponent
    - This method will be used to check the location of a package.
    - If the package has been delivered to the yellow house, then the level will end and the user will have beaten the level.
    -

Game States of Mechanic:

Secondary Mechanics:

Time Add Mechanic:

Input:

No input for this mechanic, completing secondary objectives adds time back to the game.

Effects:
- When a player delivers a package to the blue houses on the map, they will get time added back.
- The time added back will be visible in the HUD, so you can track your score and determine if you want to visit the blue houses.
- These are optional to do, but if you want to reach a higher score at the end of a level, delivering to the blue houses will improve that.

Methods:
- GetComponent
  - This method will be used to check the location of a package.
  - If the package has been delivered to a secondary goal, then time will get added on.

Game States of Mechanics:
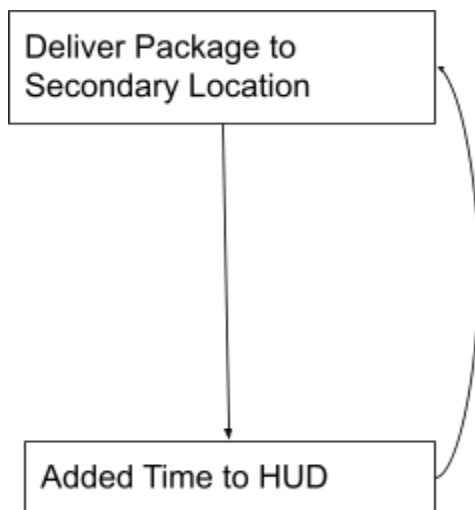
● Player Profile

The Package protector is likely to primarily attract **Achievers** from Bartle and VanerderBerghe's player types model. Achievers normally enjoy mastering game mechanics and overcoming challenges. They will be drawn to the time-limited aspect and escalating difficulty of delivering packages while avoiding obstacles in as quick a time as possible in order to brag about their skills to others. As they progress through the game, Achievers will strive to improve their performances and achieve higher scores with faster completion times. Our game caters to players who value a sense of accomplishment and enjoy a progressively challenging experience that keeps them engaged and motivated to master the game and compete with others to become the fastest level completionist.

Alternatively, **Explorers** would be likely to enjoy our game as well, since not every player wants to go fast. Explorers could take their time wandering our maps in order to find every package and every blue house to deliver those packages to. Additionally they will likely spend time mastering the game's mechanics, finding flaws and ways to exploit the game's physics to their advantage. In a way, if Achievers and Explorers collaborate on ways to complete our game, they could probably come up with some extremely fast completion times.

● Similar Games Description

Super Mario Bros:

Our game is similar to Super Mario Bros. in that it is a platform style game. Our game is a platform style game like Mario, but we adapted the platform style to a 3D map. Our controls are similar to that of Mario as there is movement and jumping. The dogs in our game take some inspiration from the Goombas and Koopas that are in Mario. They work as enemies that will move and are able to harm the player and take off a life.

https://www.youtube.com/watch?v=5yOQVYyEFDs

Sonic the Hedgehog:

Something that we took inspiration from Sonic was a timer aspect of the games. There is a timer to beat levels, and we want the player of our game to have the same mechanic. We incorporated a timer to make sure that the user is racing against something. If the user fails to complete the level before the timer hits zero, they will have to restart and try again. The player type here is people that enjoy speedrunning games and want to complete levels or challenges as fast as they possibly can. Sonic is a fast paced game with rapid movements as he is a super speedy hedgehog, and we incorporated a sprint mechanic for our users to replicate this in our own game. The player can sprint around the map with no cooldown to try and complete their level at a more rapid pace for a better score.

https://www.youtube.com/watch?v=Gsa_4s3CjmI

Portal:

In Portal, a game feature that we took inspiration from is the problem solving aspect. Meaning we want our player base to have to work out how to navigate through a level. The player type of portal includes people that really enjoy games with puzzle aspects and like completing tasks to navigate through a level. We wanted to include that in Package Protector, so we included secondary tasks that can be done before completing a level and obstacles that the user needs to avoid.

https://www.youtube.com/watch?v=0P2dzIa6pZY

● Technical Features

- **Platform**

  We believe that our first target platform will be PC and that our game and its 3D-platformer genre are best suited for it. While screen sizes will vary depending on what monitor the consumer has, the expected screen size will target monitors that can accommodate a 16x9 aspect ratio for our game. Additionally, graphic scaling of our assets are also best suited for the platform considering the fact that we are using a 3D medium to develop in. In other words, assets will be easier to see on PC than if we were developing on platforms with smaller screen-sizes, such as tablet or mobile. Furthermore, the use of sound typical of our target platform of PC will likely come in the form of some sort of soundsystem and/or headphones, since each can easily be connected to a PC without that much effort. Lastly, our platform's input system provides advantages to our game because a keyboard and mouse can provide more input options than a tablet screen as well as more precise inputs for platformer gameplay that can't be achieved with the handheld controllers of consoles.

- **Input System**

  As was mentioned previously, the input system for our game will be that of a keyboard and mouse. More specifically, the keyboard will be handling the player's movement with WASD controlling the running direction of the player, SPACEBAR controlling the player's jumping, SHIFT handling the player's sprinting, and CONTROL handling the player's dash/roll action. On the other hand, the mouse will handle the player's interaction with objects, by clicking LEFT MOUSE BUTTON the player can pick up and drop packages in order to score points as well as stop a thief from running away with a stolen package. These controls will be handled by Unity's new input system and input controller, allowing for easy customization of the controls at a moment's notice.

- **Memory and Processor Speed**

  To test our game's processing and memory requirements, we tested our game on three levels of PCs. First and foremost, our game's **minimum requirements** to be able to run it at an acceptable level is an Intel i5 quad-core processor with 1.4Ghz and 8Gbs of RAM. At this level the game was able to run, although it ran slower than the following two PCs. The medium-level PC consisted of an Apple m2 processor and 16Gbs of RAM and was able to run the game without any difficulty. Lastly, the high-level PC consisted of an Intel i7 with 2.6Ghz and 16 Gbs of RAM, which needless to say was overkill for our game.

- **Animation**

  Our game's use of 3D animation, in a traditional way, sort of challenges the expectations of the platformer genre of game since most platformers typically utilize a 2D or 2.5D environment. Furthermore, since our game won't have any dazzling special effects that reels in the audience, we're going to be leaning more on the side of simplistic design and visual-minimalism. This is also because many of our games assets are "low-poly" and lack

a lot of fine-tuned detail, however we feel this gives our game a humble and friendly style that is akin to many other platformer games like *Super Mario Bros* or *Sonic the Hedgehog*. Not to mention, this low-poly art style adds a greater range of accessibility to our game that it would have otherwise not had, should we have chosen a more hardware-consumptive artstyle.

- **Sound**

  Our game's sound design will be best suited for PCs and the platformer genre because PCs can easily accommodate different audio outputs types like stereo sound systems or headphones and since we are developing in the platformer genre, we don't see our game requiring any out-of-the-ordinary sound effects but rather simple and short clips. These simple audio clips are also easily abundant for us since our game takes place in varieties of suburban neighborhoods and include but are not limited to: footsteps, car engines, dogs barking etc. Additionally, the simplicity of these audio clips keeps our game from becoming too straining on consumer hardware, allowing for greater accessibility. We will also have relaxing ambient music that plays for the majority of the level, however when time is running short on the level timer that music will likely switch over to something more fast-paced. The game will not feature any lengthy dialogue, but rather short voice-lines for the player character. For example the player character will yelp in pain if damaged or perhaps grunt while landing after jumping.