Don't be a Blueberry Game Design Document

1 Introduction

1.1 Game Overview

The game idea is a game of tag between toy vehicles where the player (or one of the AIs in game) is currently "it" and must make contact with another to make them "it". Sounds a little simple and boring at first but there is a difference to this game of tag. The player or an NPC (non-playable character) starts with a virus that (over time) will turn its host into a blueberry. The virus (when in contact with a new sprite) will leap from its current owner to the new one. The player must chase the NPCs/AIs (and any other players) in the game to pass the virus to them. If everyone else is a blueberry apart from the player, then that person wins. In the case of two players playing, if everyone (including one of the players) is a blueberry then the last player standing wins. Items will appear at random points in the game to help the player. An example of this would be a vaccine object that removes the virus from the player and passing it onto the closest sprite to them. NPC's will not be able to pick them up but other players will.

1.2 The Hook/Pitch

Ladies and gentlemen, please whatever you do, don't be a blueberry! A virus is going around turning its host into blueberries. Nothing wants to be a blueberry, not even toys! You as the player must use the wheelchair to play this life and death game of tag as a toy and be the last survivor. Play with AIs or your closest friend in this surreal game of tag knowing at some point that they will become your greatest foe. Play the only game where keeping your friends close and your enemies closer may cause you to hit a fruity end.

1.3 Unique Selling Points

- Uses Kinect to detect player rotation for input
- The only game where everyone else becoming a blueberry matters
- All kinds of players can play this whether they are bound to a wheelchair or not and can play cooperatively
- Comical game which all types of players will have fun playing

1.4 Personas

- Male 34: Jonathan Pietersen
- Female 12: Caryl Anne
- Female 42: Tessa Lissy

Jonathan Pietersen was born is South Africa. Jon has a spinal injury that he got from accident while working at a construction site. He still is bitter about the dramatic change in his life because of the injury he got. Jon does still get by everyday with the carer that works with him. Jon loves his games and is a big fan of RPG games. What he loves the most about them is that you can become someone

else. He is someone in the games who can jump and run while acting as the hero of the world. Kind of sad when you think about him enjoying this false reality so he can get away from his real life issues. Apart from his love of games, he is also a fan of “thrash” or “metal” music. He feels his love of aggressive music helps him calm down so that he himself does not get “pumped up”.

Caryl Anne was born in America. Caryl was born with Cerebral Palsy. She never lets her disability get the better of her emotionally. She is a very positive girl who always looks on the bright side. She will cry at some occasions when she cannot play with her friends who are able bodied as she starts to see her limitations with Cerebral Palsy. As for games, she likes her Nintendo ones. Very much loves Animal Crossing and Pokémon. This is because she can be social with her friends in any environment with their 3DS’s. There may be psychological reasons as to why she like these types of games such as feeling equal to her friends in the games virtual world. Music wise she loves her pop music looking up to idols such as Rhianna, Katy Perry and adoring certain boy acts such as one direction.

Tessa Lissy was born in England. Tessa herself is not disabled but her son is. Her son severely suffers from his disability with hardly any ability to move a muscle in his hand. It breaks Tessa’s heart that her son may not have a future and will never gain full independence, as he needs a career. A social worker does come by and help the family as well as the boy when he is at school. Tessa wants her son to enjoy life as much as possible and most boys want to play video games. Unfortunately, the boy cannot hold a controller so a Kinect based game would be the last/only hope. Tessa herself is not much of a “gamer” but enjoys some casual games. She will go and play Tetris on her 3DS if she had a moment to herself or candy crush on her phone. What she really wants is a game that she can play with her son. Music wise she is very much a soul person. She listens to some classic Motown records with singers such as Marvin Gaye and Stevie Wonder on them.

2 Concept

2.1 Setting

As the player’s avatars are toy vehicles we can say that this is set in a child’s bedroom but this is not necessarily the case. Looking at the sprites again we can also see the time period should be around our modern times as there are vehicles which would not have existed in a previous time period (such as the recycling truck). So this game should be set in an area where toys are stored (e.g. child’s bedroom) and in the twenty first century.

2.2 Platform, Genre and Target Audience

This game will be for the PC platform. It would be nice to get this game on the mac platform if possible however PC is a must. The team will attempt a Mac version once the PC version is complete. The genre of the game is casual infinite runner. Infinite runner in this case is not quite true as the player always moves in the direction they are facing but can rotate where they face with the wheelchair controller. The camera never moves as well so the player’s avatar will always stay in the one screen during gameplay. The target audience is generally everybody but the game should have the ability to persuade the younger generation to play it.

2.3 Vehicles and Enemies

The AI and player share the sprite avatars available in the game. AIs will have theirs randomly selected when the gameplay starts. There is no behaviour change when the AI is a particular sprite. These are the basic designs of sprites for the game. The design of these sprites will be from toys that have wheels. Here are some examples:

Figure 1: Fire engine

Figure 2: Vehicle examples

Figure 3: Taxi example

Figure 4: Train example

To separate the sprites the player and the AIs can play as, they will have to be different colours. The thought is to make the player yellow and the AIs red. If there are two players then both of them are yellow but they have different sprites. Players are able to pick the vehicle that represents them in the game. Player one would get first choice when it comes to selecting the sprite that they will play

as in the game. Over time, the colour of the sprites will start getting bluer for both player and AIs. So the closer to a blueberry the player or AI is, the bluer they are.

2.4 Player Goals

The player's main goal in this is to be the last sprite left in the arena meaning they are the only survivor. The player must also try and get on top of the high score table if possible. They do not have to win the game in order to get on this table but the better the player does in the game the more likely it is they will reach a higher position in the table.

2.5 Plotline

In general, there are no plotlines in this game. It is just a simple game of tag with just the element of blueberries added to it. If you win then you survived but if you do not then you become small piece of fruit, nothing complex to warrant having lots of plots in the game.

3 Storyline

There is a virus going around turning its host into blueberries. Although this serious yet comical virus is destroying all life around it, objects (that were inanimate) have come to life and do not want to become a piece of fruit in the short time they have had at living. There is hope for it seems the virus jumps from one host to another. In other words, when one object with the virus touches another, instead of both having the problem, the virus leaps from its current owner into a new one and now they have the virus.

4 Game Introduction

The game goes through the splash screens for Unity and the team and then goes into the game menu. When the game of tag begins, there will be a countdown exactly like the pause menu (only without the menu). The sprite starting with virus is random meaning the player or the AI will start with it. Once this process has met an end, the game can begin.

5 Graphics

5.1 Concept Art

5.1.1 Paper Prototype

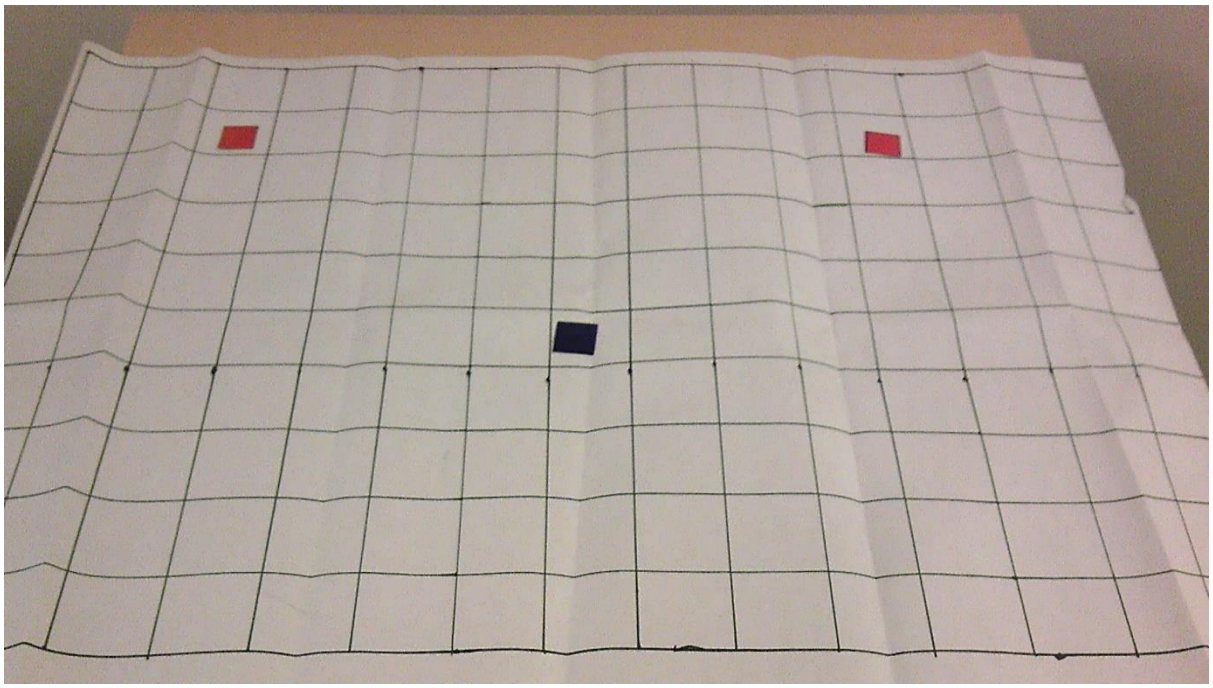


Figure 5: General map

The prototype has the following parts to it:

- Wheelchair/office chair
- Player Sprite
- AIs
- World map
- Health

The map has different sections that form into squares to help show where there is contact between the sprites on the map. It also helps for the sprites speed and how far they can move. The player will start in a random spot on the map. This is a problem, as the player can start right next to an AI. As the player will start with the virus this gives the player an unnecessary advantage. From this, the addition of a spawn zone is necessary. For this test, the player and the AIs should not have the same speed. This is an obvious issue, as the player with the virus will never catch the AIs. Therefore, the sprites (player or AI) with the virus will be twice as quick as the others who do not have the virus. To count how long a sprite has a virus, each time there is a change in the sprites position; it will count as a game round. For each round completed, a tally will be kept to show how long the player or AI has had the virus. In this quick mock up, the twenty-five rounds will mean that sprite has become a blueberry and is out of the game. The player becoming a blueberry will mean the game is over. To tell the difference between the AIs representatives in this prototype one AI has a dot in the middle of it.

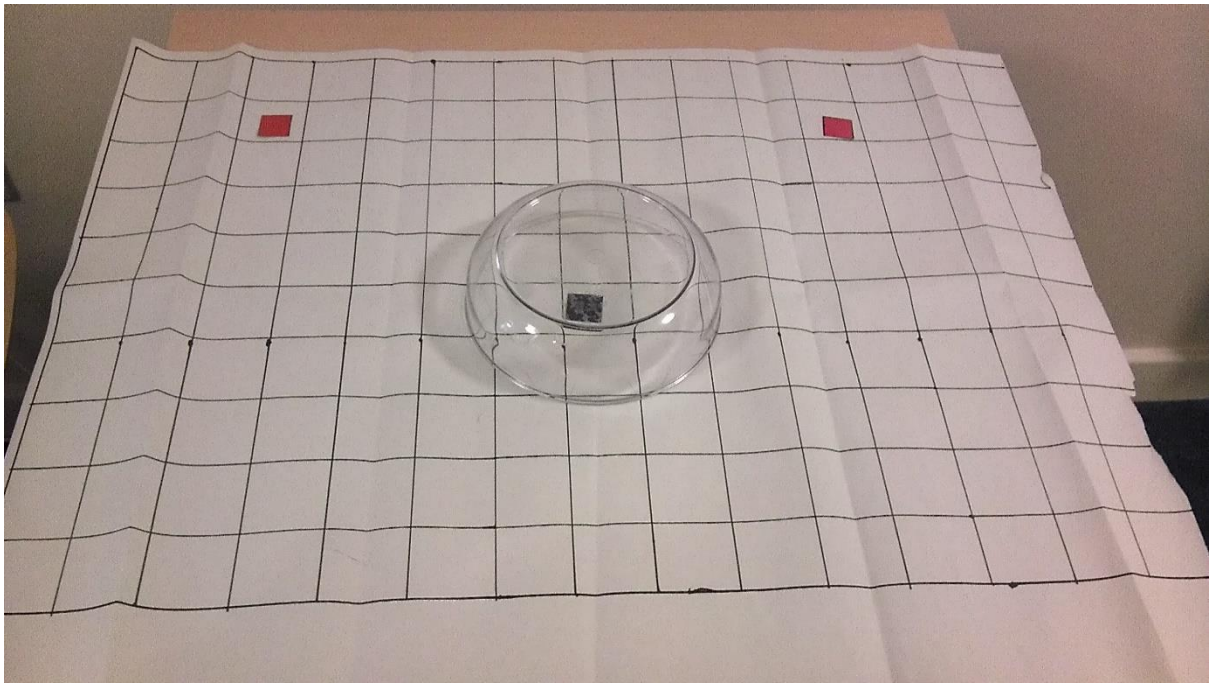


Figure 6: Map with spawn Area

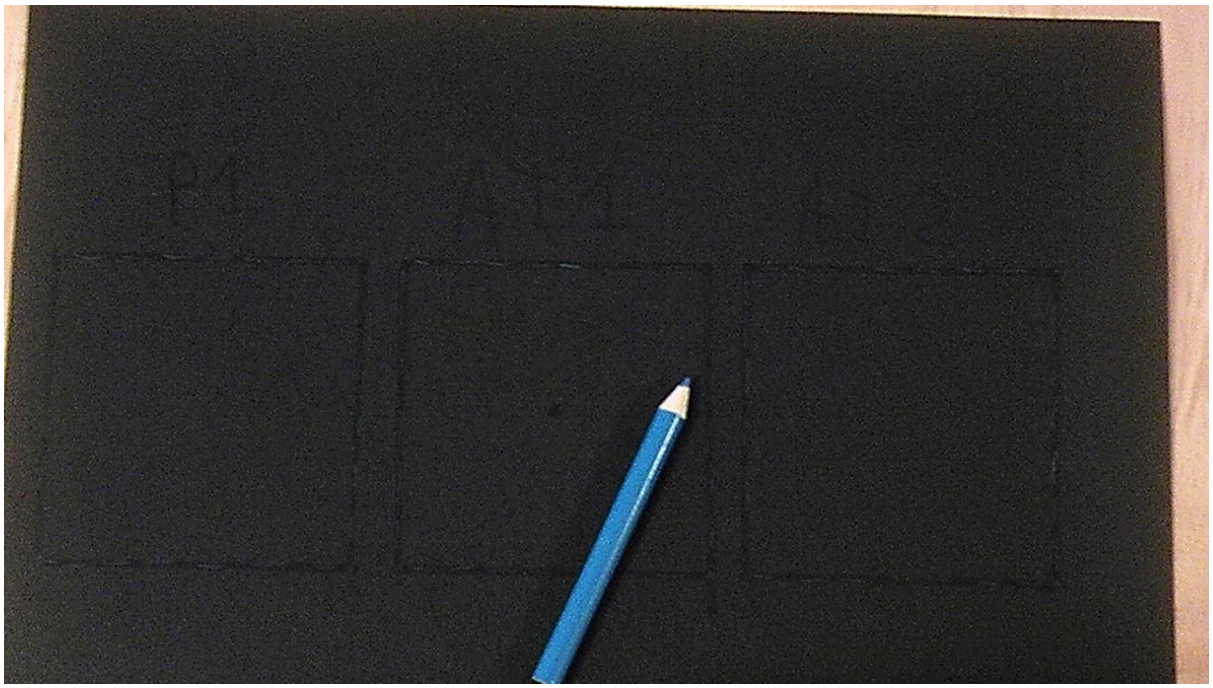


Figure 7: Health blocks

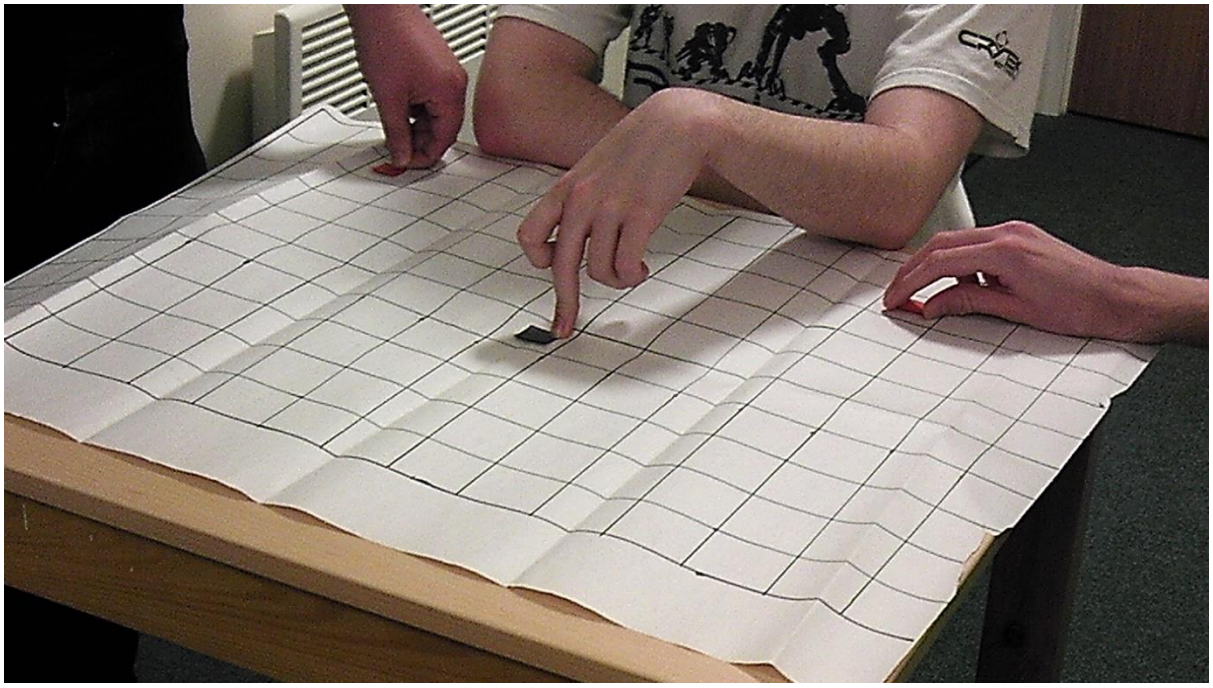


Figure 8: Gameplay

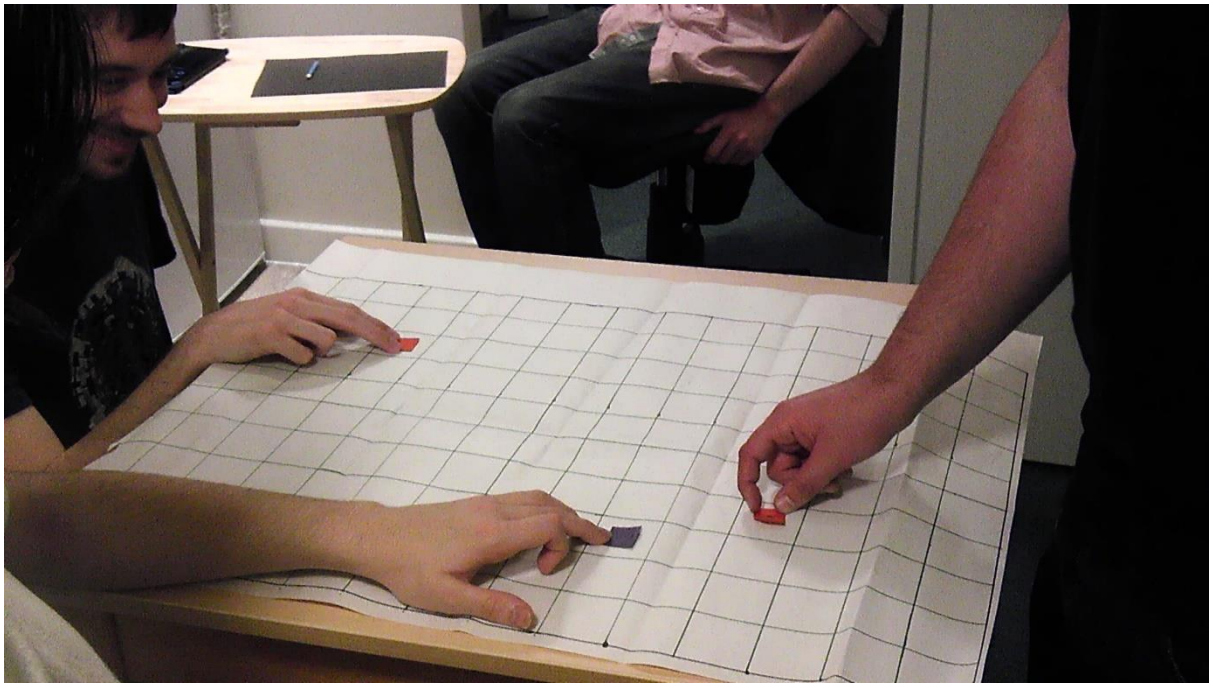


Figure 9: Player only facing one AI

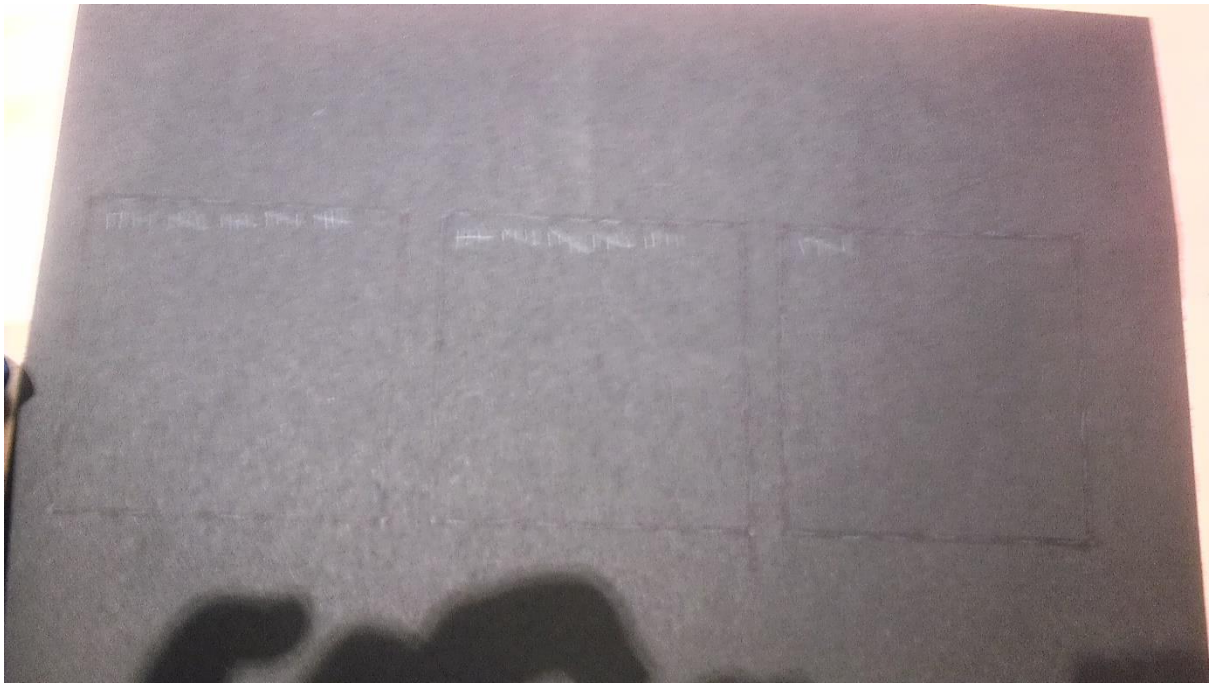


Figure 10: Rounds with virus (left to right: P1, AI1, AI2)

Figure 11: Gameplay time

5.1.2 Menus

5.1.2.1 Main menu

The Menu should have the name of the game at the top of it. The buttons on this screen will be in the centre of it. The order of buttons are play, options and exit. This is from going top to bottom (so play will be at the top and exit at the bottom). All other screens will have their buttons listed in this order as well. This screen may look a little empty so any areas that have nothing in them can have items that link to the game in them (such as toys or blueberries)

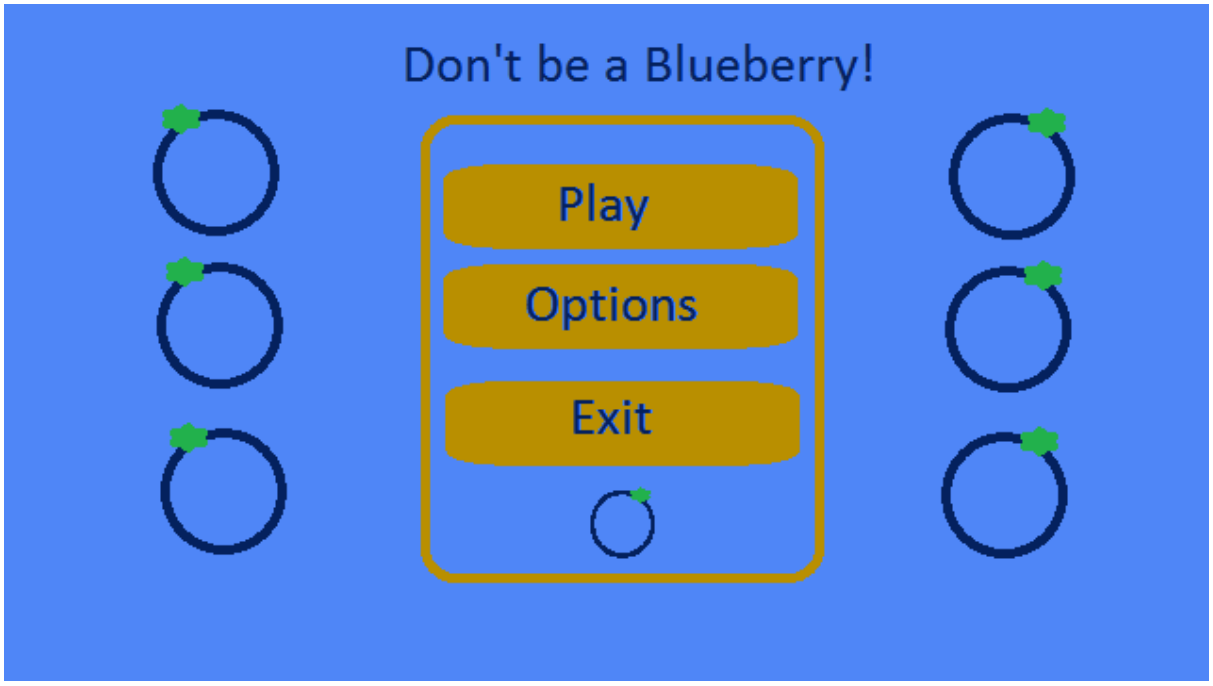


Figure 12: Main menu

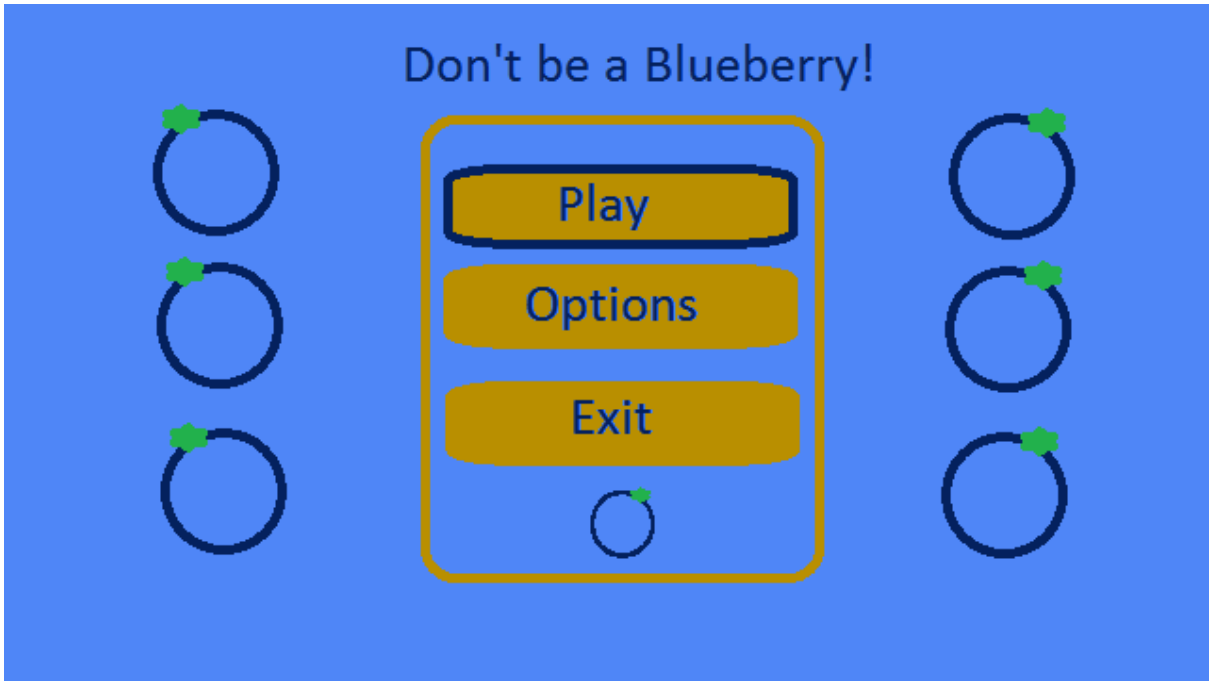


Figure 13: Player selecting "play" in main menu

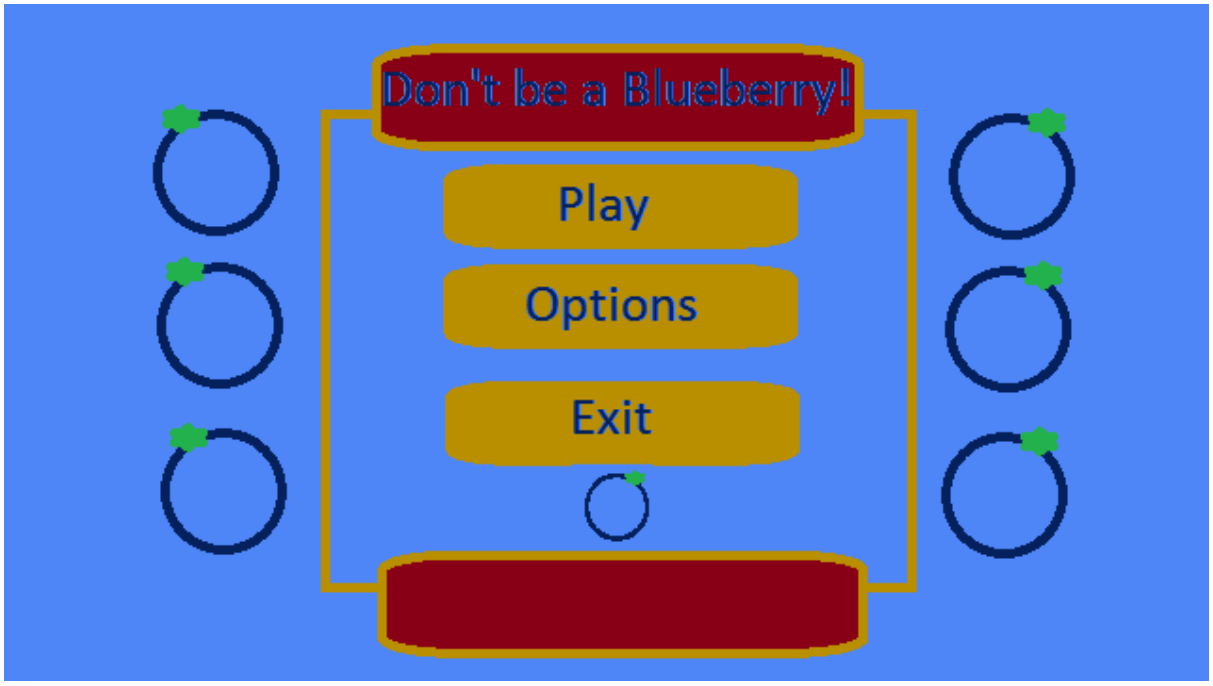


Figure 14: Menu design two

5.1.2.2 Play

If the user performs the select action on the play button, the game will take the player to this menu. There are two avatar select sections at the top of the menu with player one on the left and the other on the right. If there is no player two then we ignore that section when selecting the options on this screen. The game does not remove this part from the menu if there is no player two. After that, the menu will have terrain, AI count and start game options that the player can select.

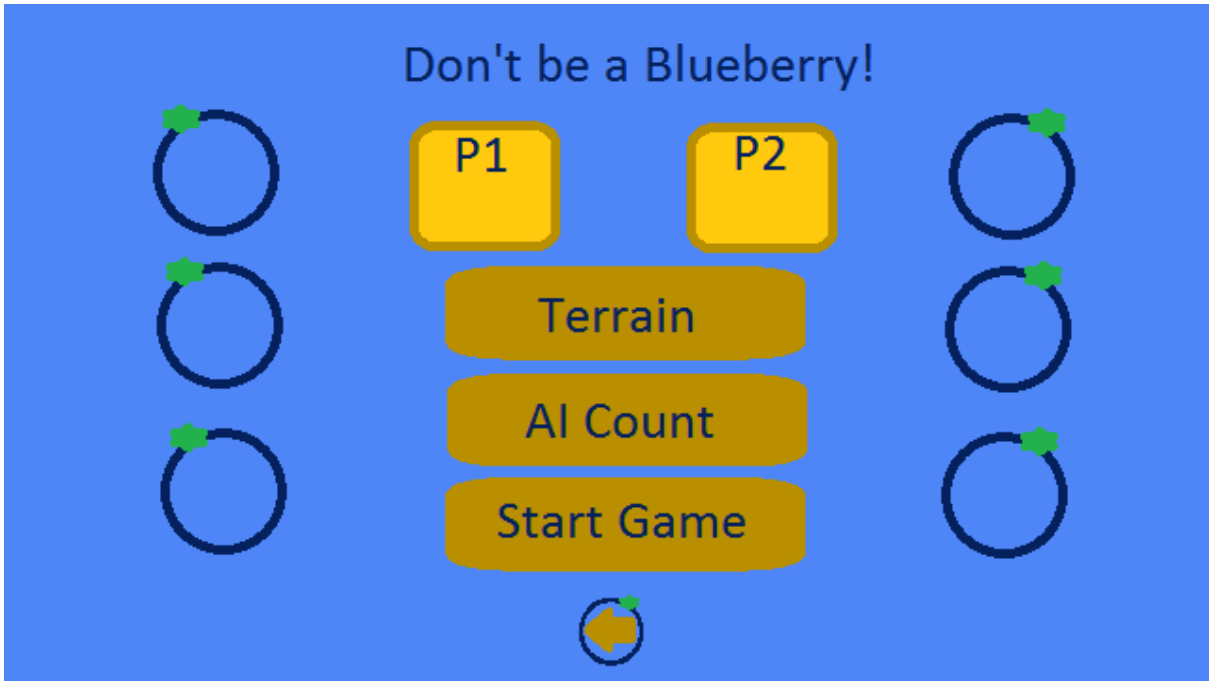


Figure 15: Play menu

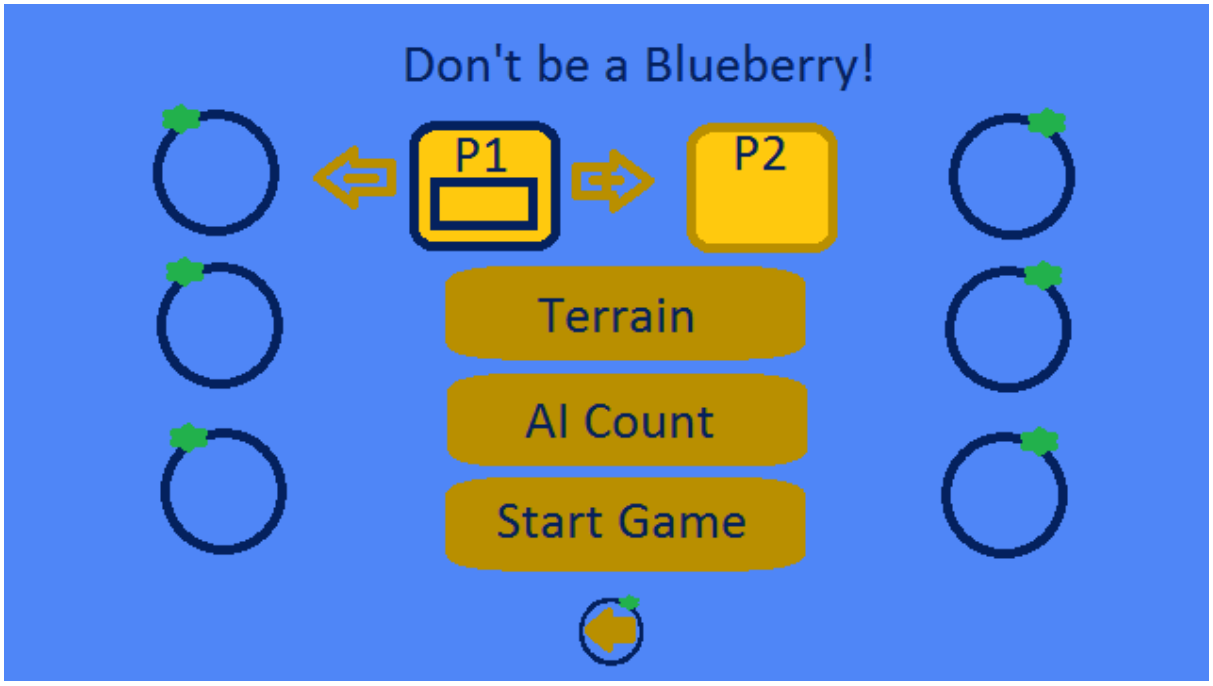


Figure 16: Selecting player avatar

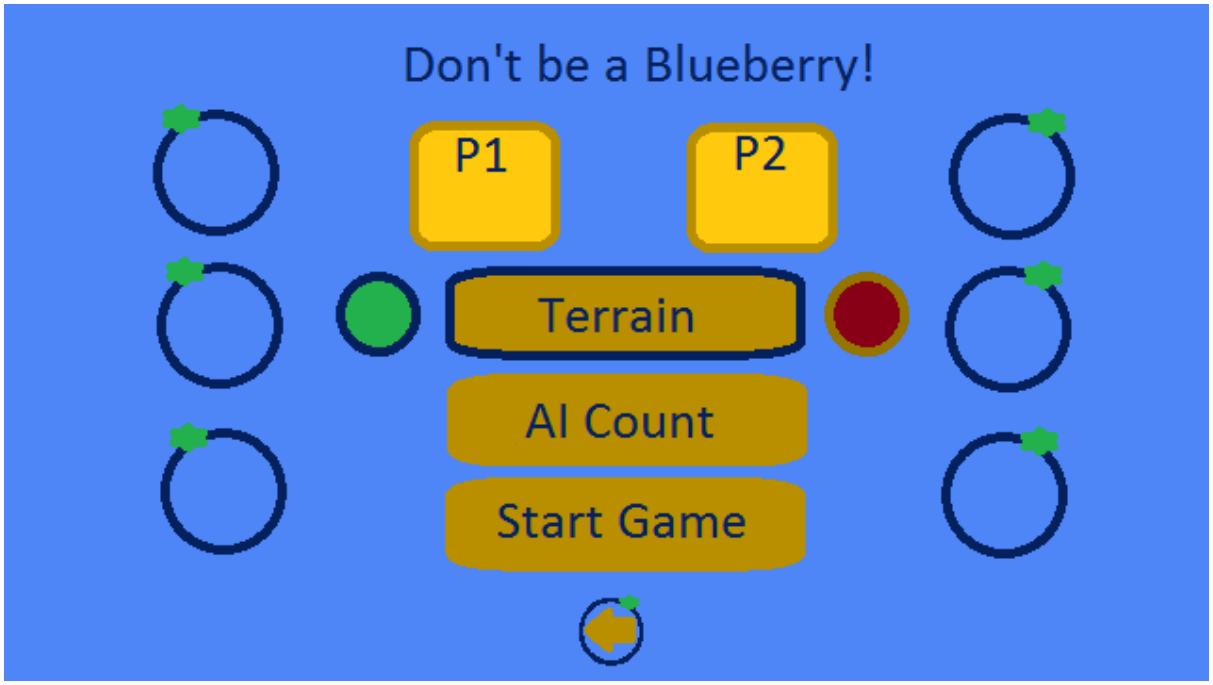


Figure 17: Selecting terrain

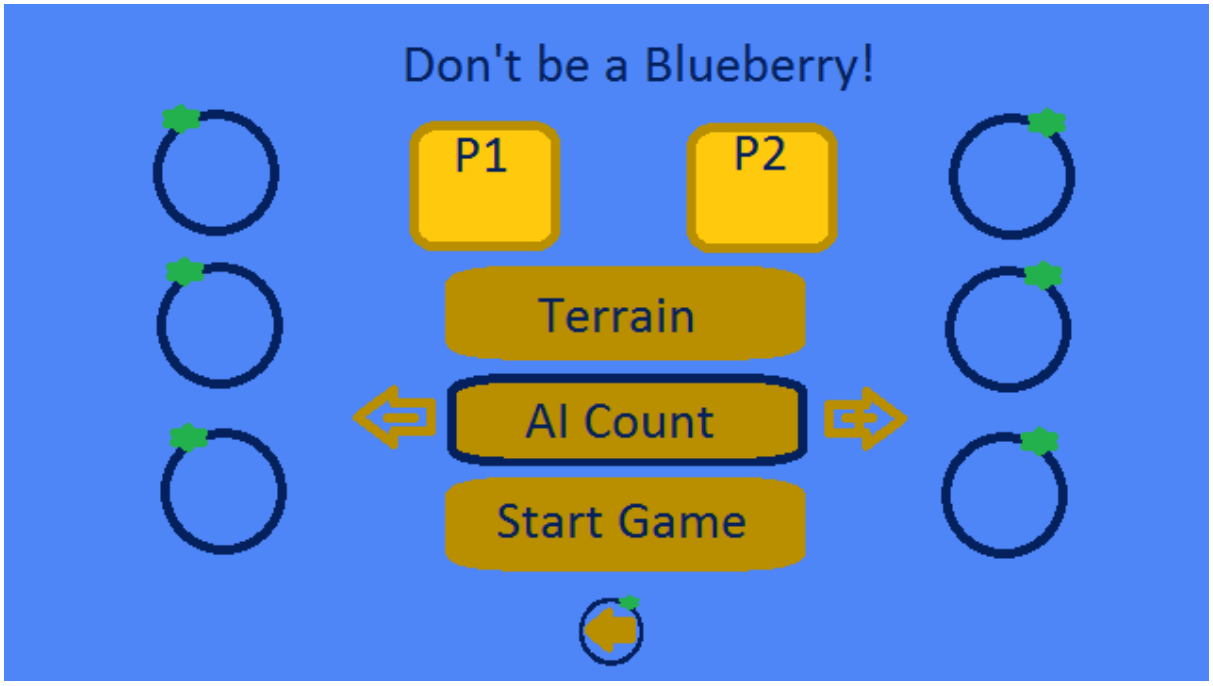


Figure 18: Selecting AI count

Figure 19: Selecting back

5.1.2.3 Options

If the user performs the select action on the options button then this menu appears. The layout of this section should be the same as the main menu. The order of buttons would be resolution, sound, high scores and back. The full screen option will under resolutions as well as other options such as:

- 1024x768
- 1440x900
- 1280x1024

- 1680x1050
- 1920x1080
- 1920x1200

The game will start at the 1024x768 option. If the player changes the resolution here then the game will load at that chosen resolution the next time the player starts the game.

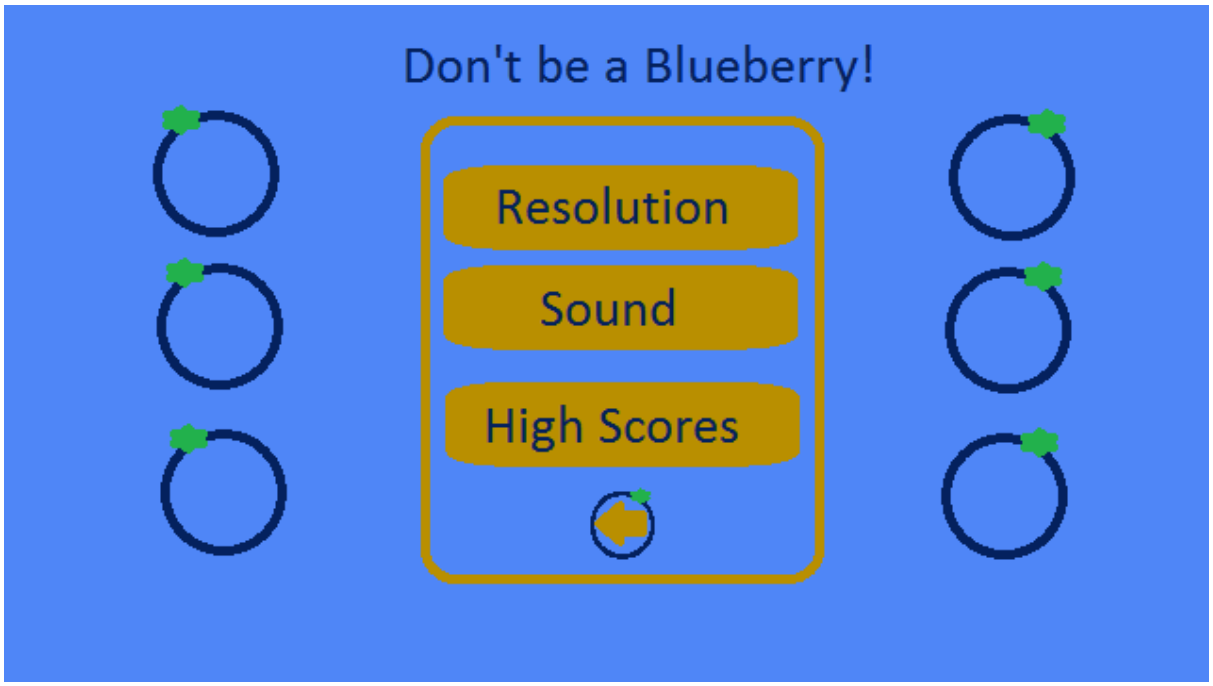


Figure 20: Options

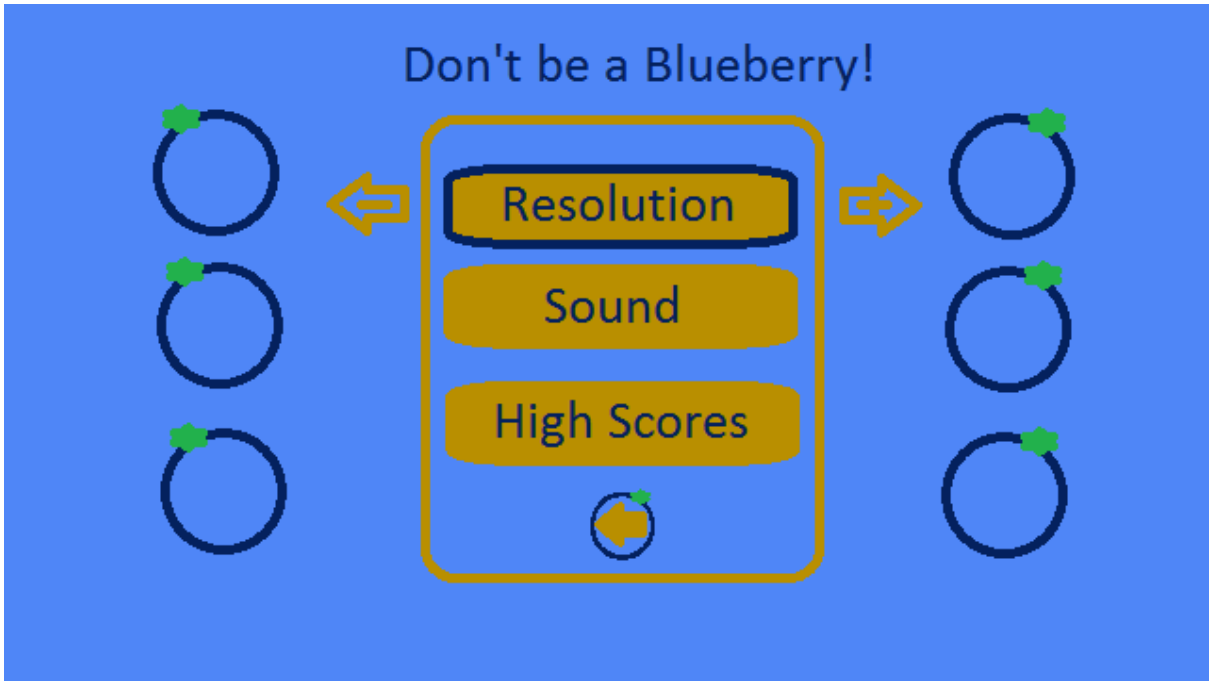


Figure 21: Changing resolution

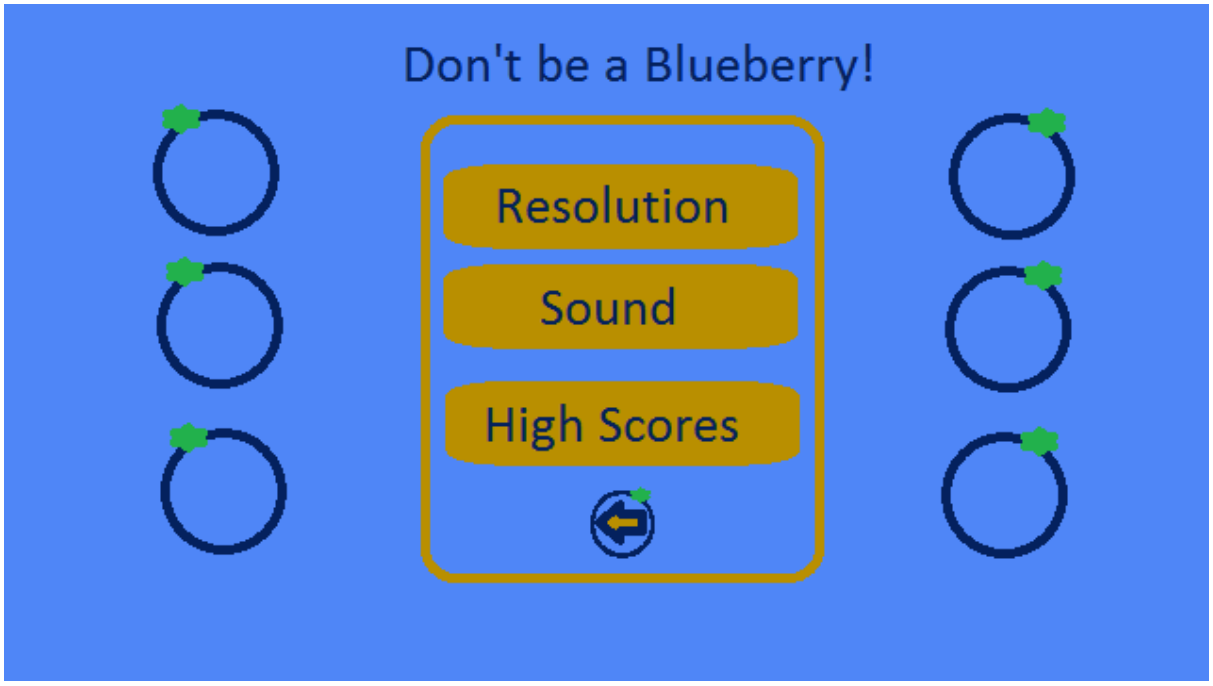


Figure 22: Going back

5.1.2.4 High scores

The player can access this screen by selecting it in the options menu. A table will appear in the centre of this screen with all the high scores in the game. The AI count option will be at on top of the table.

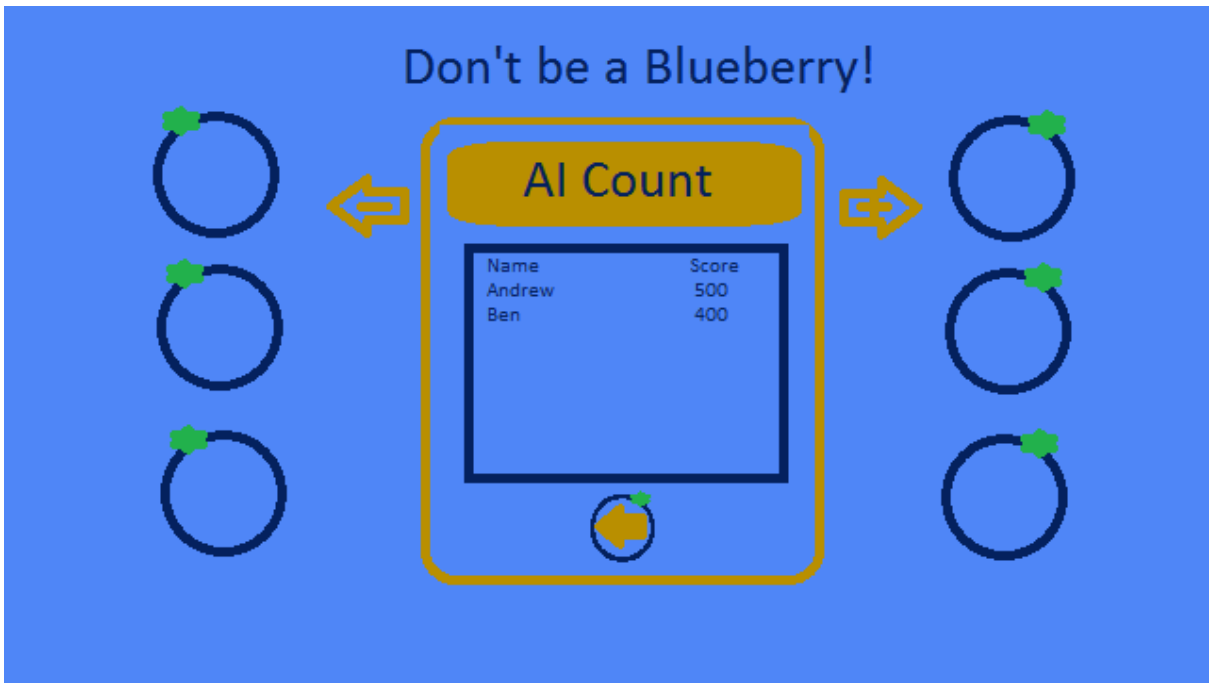


Figure 23: High score

5.1.2.5 Pause

If the player rolls back during the game, this pause screen will come up and stop the game. The word “paused” will appear at the top of the menu with the options continue and exit available to the player.

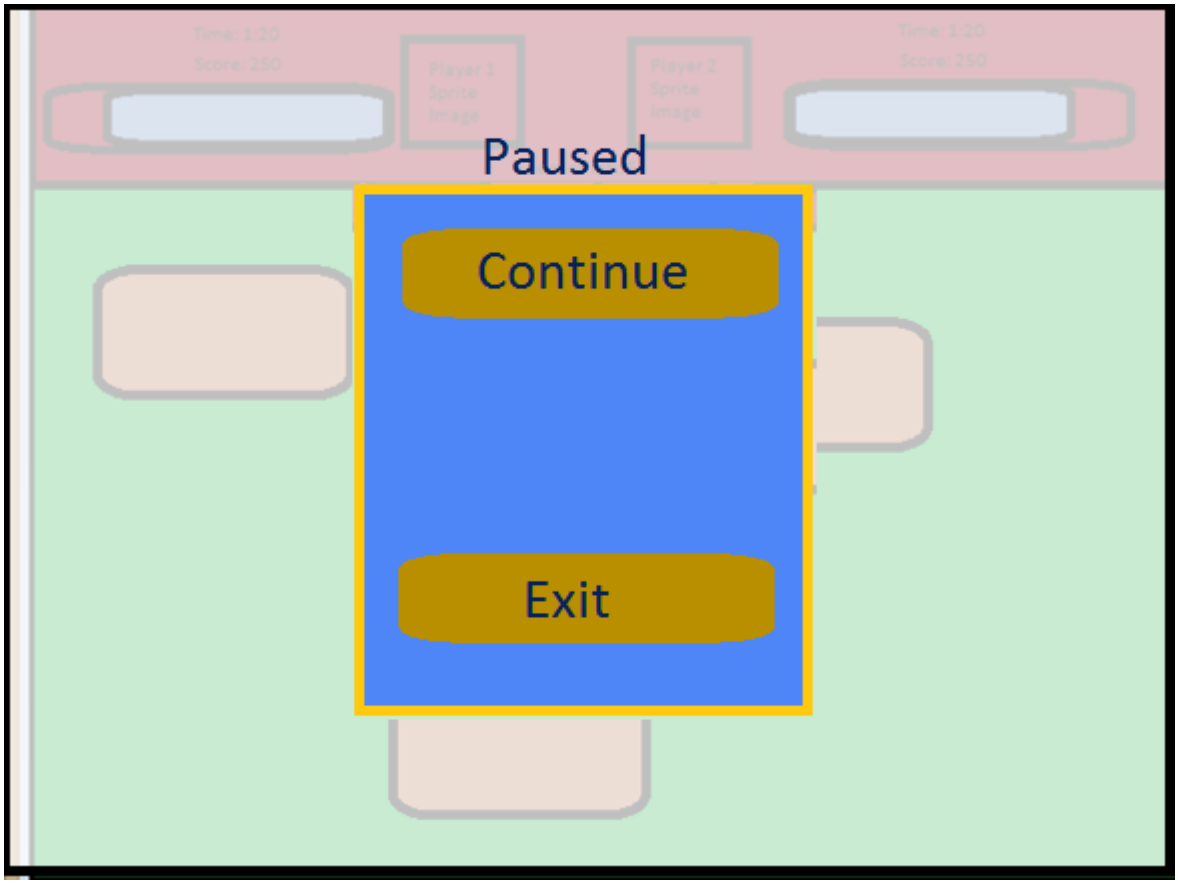


Figure 24: Pause screen

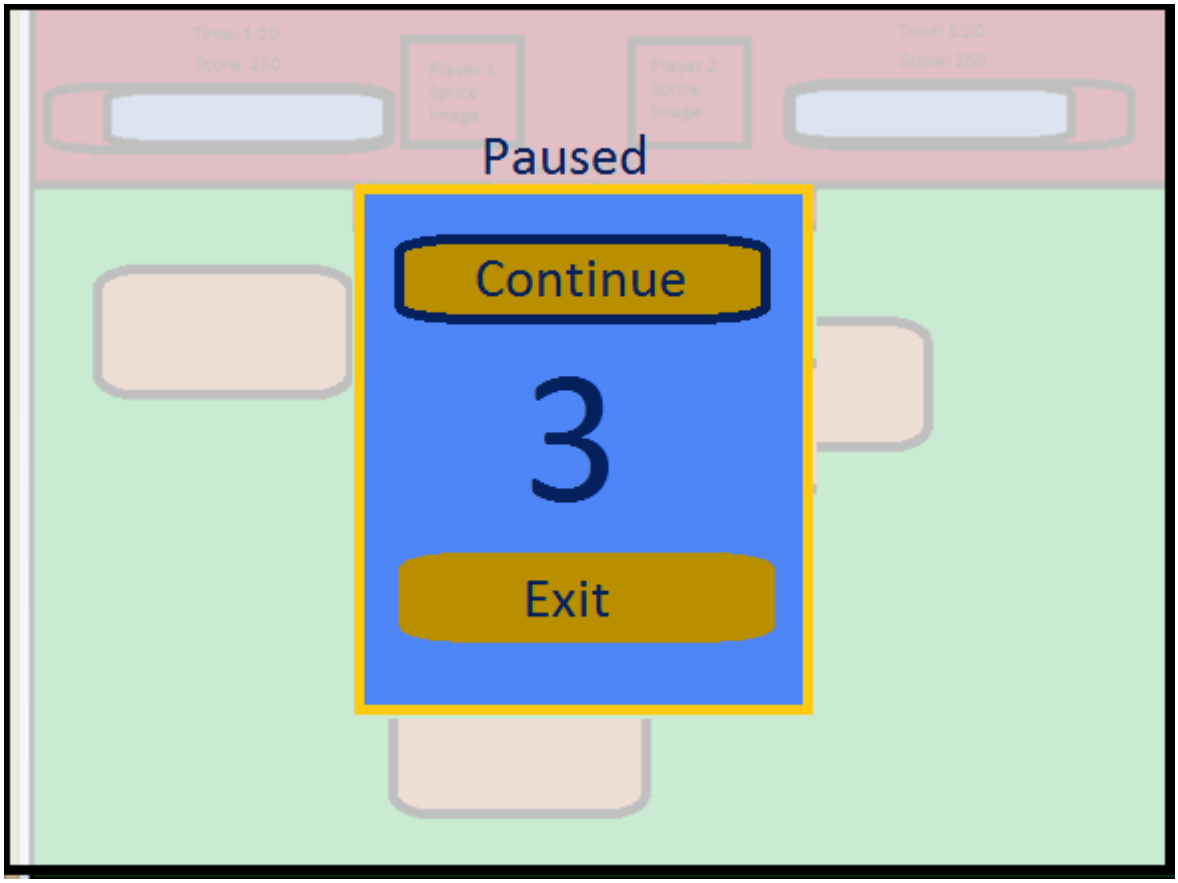


Figure 25: Continue game countdown

5.1.2.6 Game over

If the player (or if two are playing) become blueberries then the game is over and this screen comes up. This is a small menu over the game screen with the words “Game Over” above it. The options retry, exit to main menu and exit game will be available to the player.

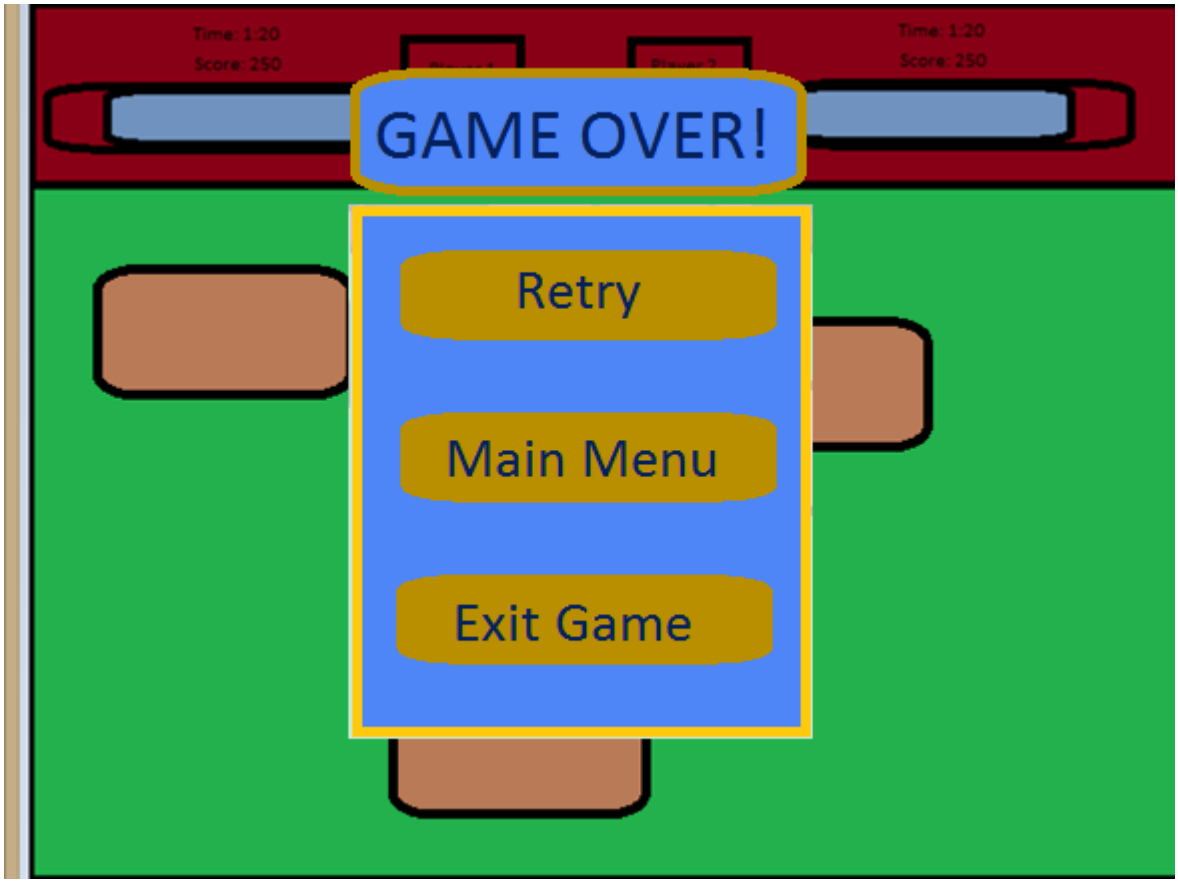


Figure 26: Game over screen

5.1.2.7 You win

If the player is the only one left in the arena then this screen appears to show the player has won the game. This is a small menu over the game screen with the words “Winner” above it. The options retry, exit to main menu and exit game will be available to the player.

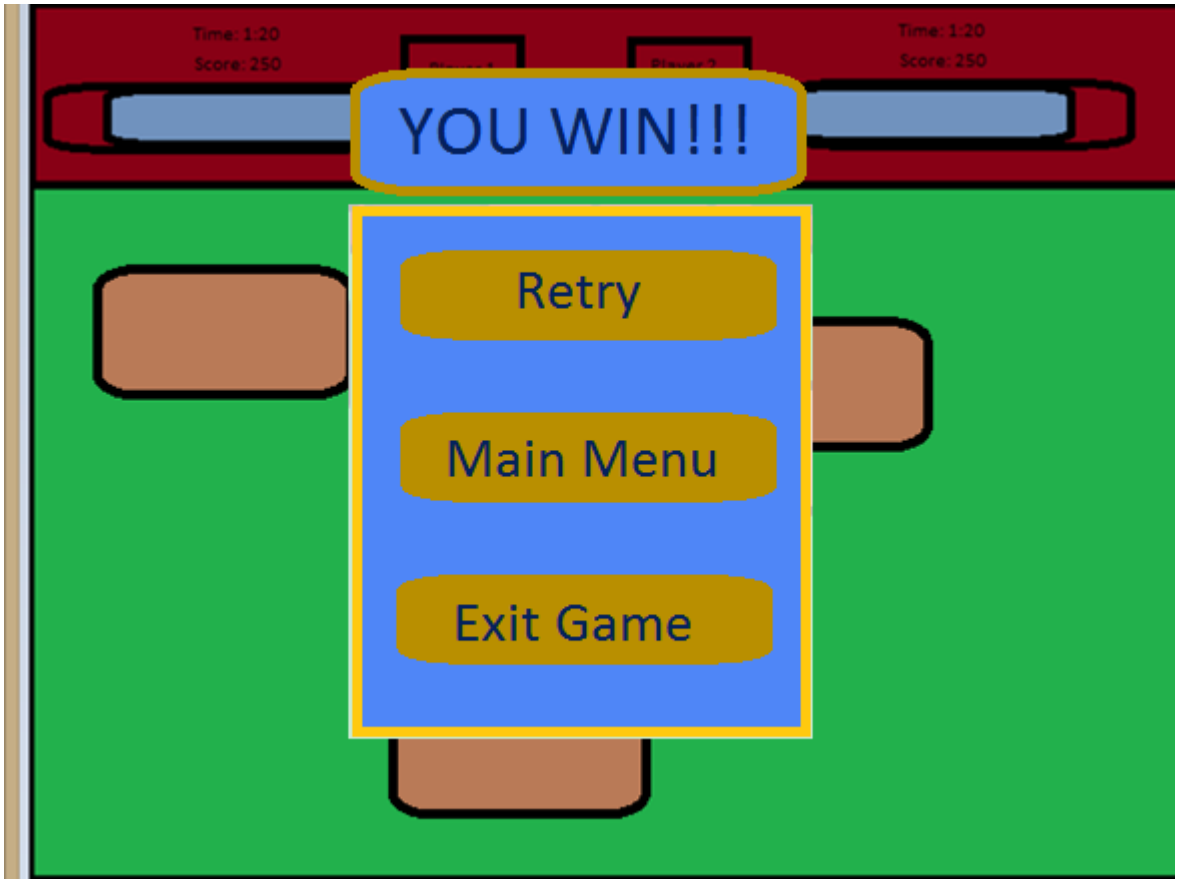


Figure 27: Win screen

5.1.3 GUI

Here is a quick design of the GUI. It will only be at the top of the screen. The green in this image represents the game map/world.

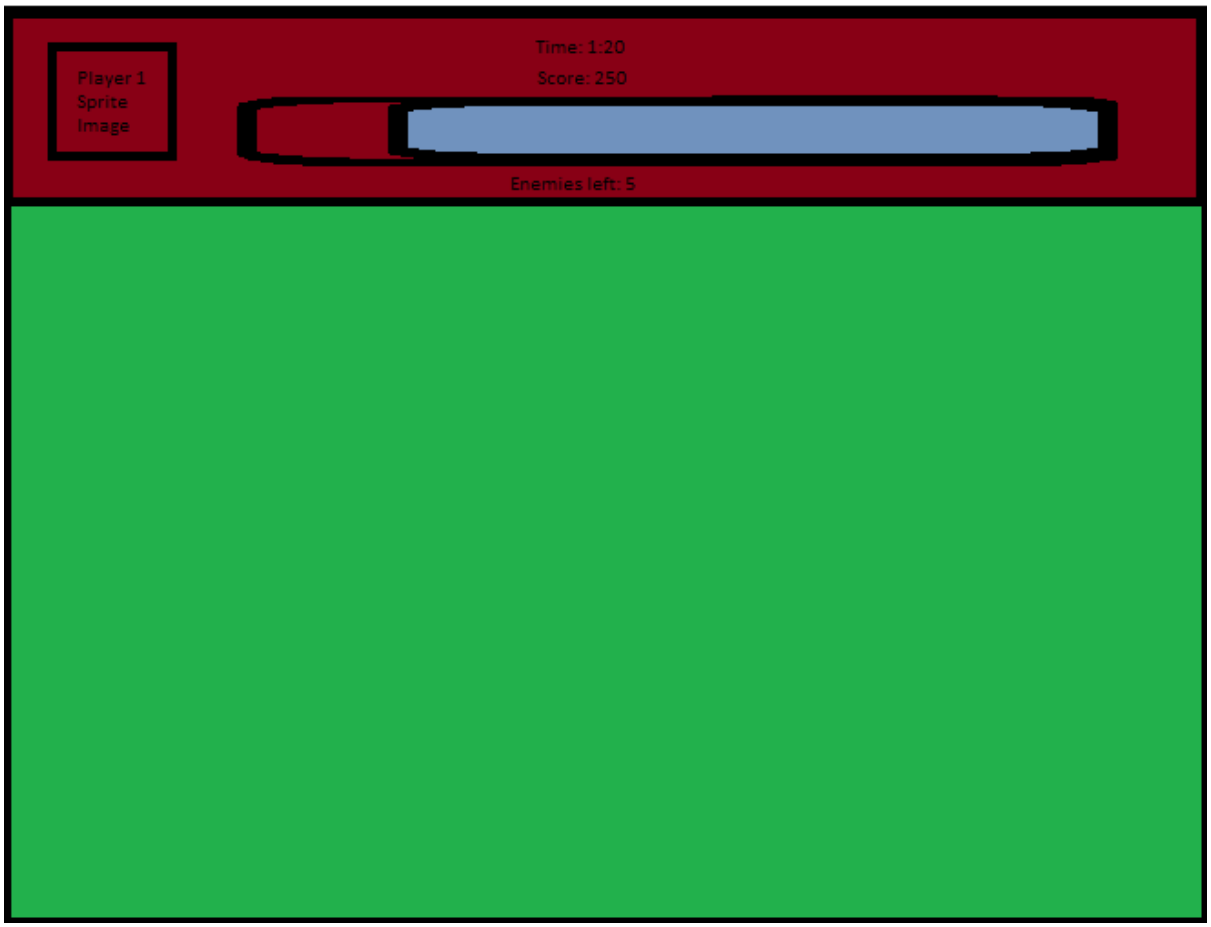


Figure 28: One player GUI on map

This is the player one screen. The health bar is in the centre of the GUI. It will fill with a blue colour while the player has the virus. Bottom centre will be the amount of enemies left on the board while the time and score of the will be above it. On the left hand, side will be the image of the player's avatar. The two-player screen (see below) is slightly different.

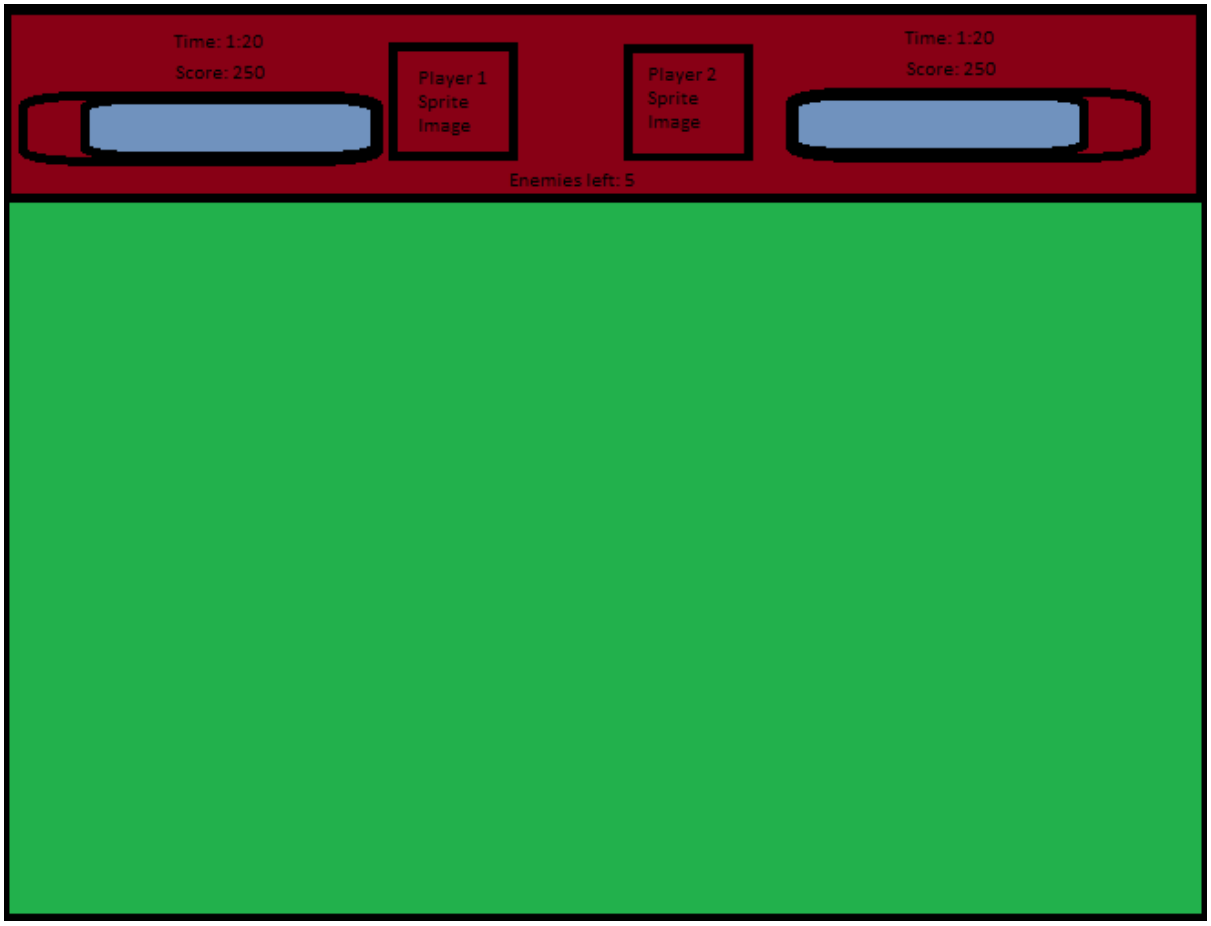


Figure 29: Two player GUI on map

The health bars are at both left and right sides with time and score above them. Enemies left count is in the same place but the player image sprite is either side of the counter. These are the basic views on the GUI. It is likely that these will have a new design when it comes to properly making the game (so it looks nicer) but this just gives the idea of what the current vision is of the GUI.

5.1.4 Map

The map or game world will be very plain. Looking at the original design for the GUI, the screen will be green. This does not mean that it will always be green as other colours are available and could be better suited for the game when implementing it. Everything in the game world will appear in this world. There will be nothing moving on screen so the game camera's position will never change its location (i.e. it will never move). It is possible a grid world is better to make rather than a plain colour. This will be looked into the design phase to see which is better. The current idea is that the game environment is better if it is plain.

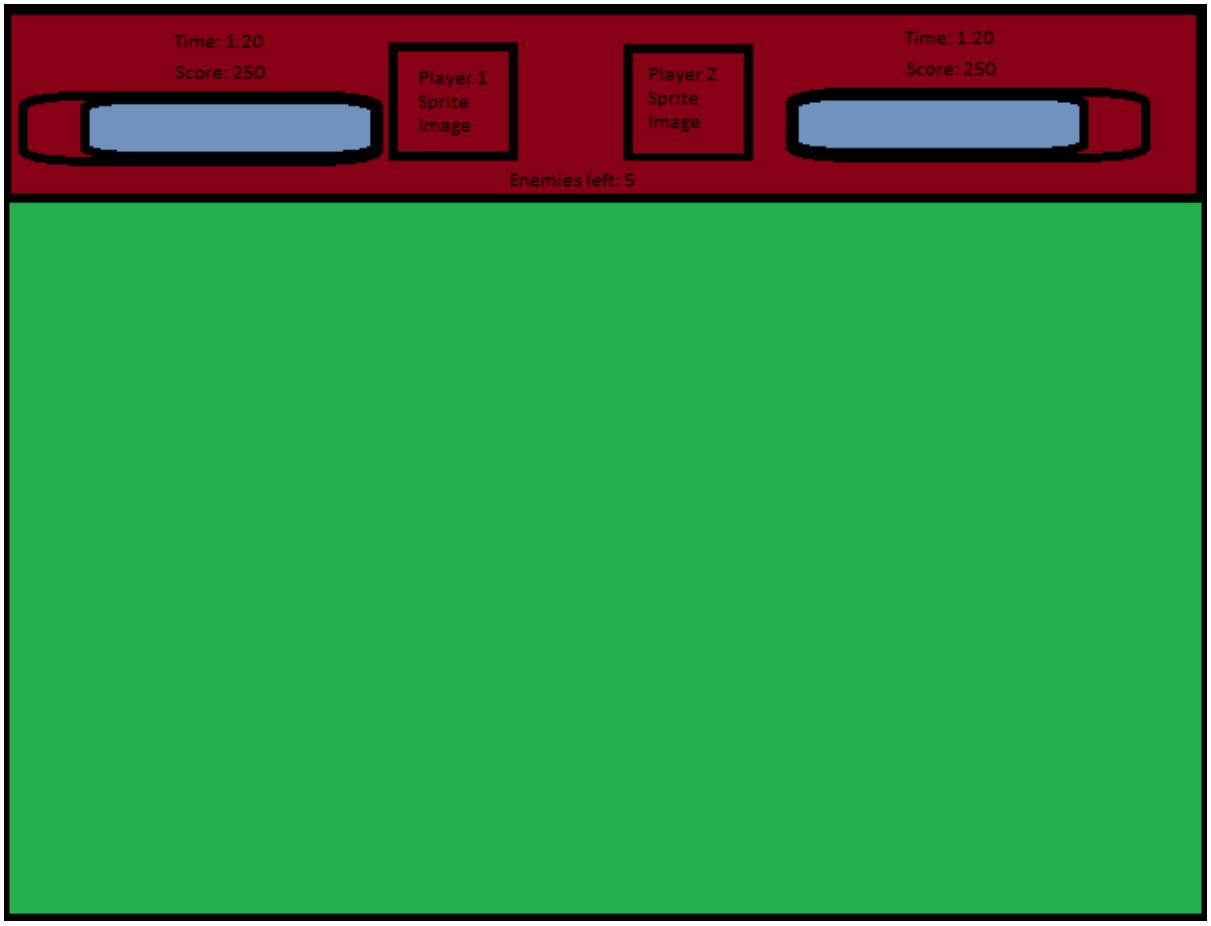


Figure 30: Map with GUI

5.1.5 Sprites

These are the basic designs of sprites for the game. The design of these sprites will be from toys that have wheels (as spoken previously in the vehicles and enemies concept). Here are some examples:

Figure 31: Fire engine

Figure 32: Vehicle examples

Figure 33: Taxi example

Figure 34: Train example

5.1.6 Terrain

No Terrain in the game will change position. If a sprite hits one then it will not be able to continue its movement in that direction. Terrain positions are random when starting the game. It may be possible to make special maps that have terrain laid out like mazes but doing everything randomly is fine for now at least. It should also be a choice as to whether wants terrain in it or not. Terrain would increase the essence of challenge for the player but this may make it too difficult to certain players, which we do not want. Terrain does not have to be as thick as the example provided shows. This is just to give a general idea of the world will look like with terrain on it.

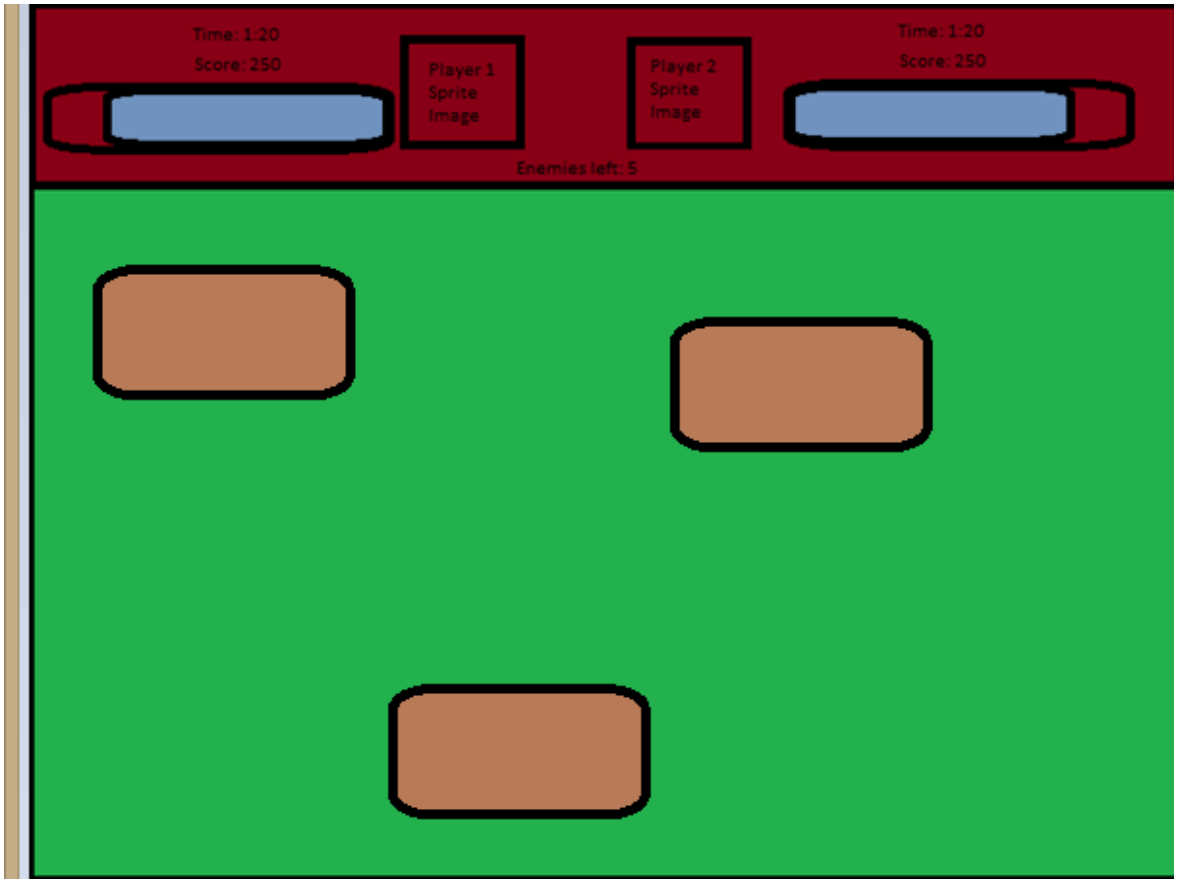
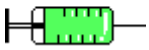


Figure 35: Map with terrain

5.1.7 Pick up Items

Pick up items will be available during the game. These items will help the player gain an advantage against the other sprites. AIs will not be able to pick up the items. Each item will have a ten-second timer on them. Once this finishes, the item will disappear. When an item is collected, its effect happens immediately and the item is removed form play. The pickups thought of so far are:

- Vaccine (Removes Virus and it goes to closest AI/other player to you)
  - 
- Bandage (Heals a bit of virus)
  - 
- Slow time (all characters on screen have their speeds halved for ten seconds apart from player who used it)
  - 

- Speed up (doubles users speed for ten seconds)
  - 
- Camouflage (All sprites can't see player, meaning they can't flee or chase)
  - 
- If terrain is in, Ghost (walk through terrain)
  - 

5.1.8 Other screens

5.1.8.1 Unity screen

When the game loads the first screen to load up will be the unity one. As this is already set up when using Unity, the team should have no issues with this and would have to actually try and disable this feature to stop this screen appearing.

5.1.8.2 Team screen

After the Unity screen has appeared, the team screen will be next. One of two options are available to the team on this screen. They can either just have the name of the team in the middle of the screen or use the team's logo (if they have one). It is preferred to have a logo if possible as it would look nicer than just fancy text but this can be decided by the team working on this game. Having both on screen would be acceptable as well. The team should focus more on the game than a fancy logo for themselves anyway. This screen should only be up for two seconds.

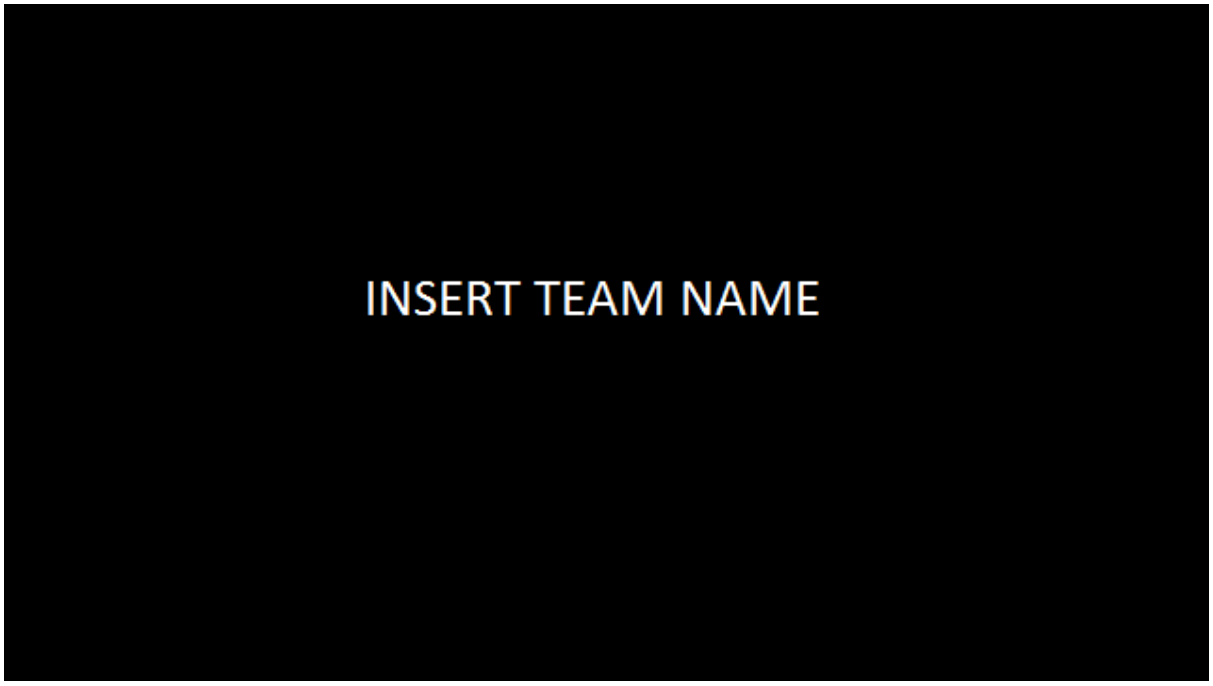


Figure 36: Splash screen with team name

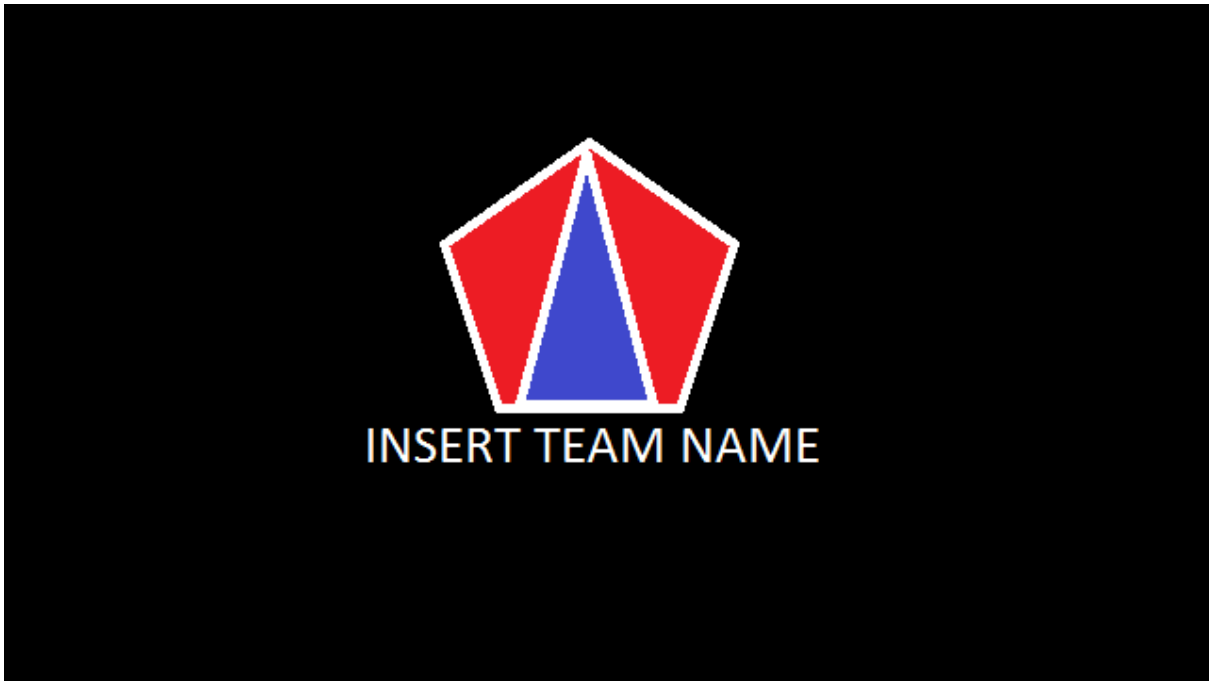


Figure 37: Splash screen with logo and team name

5.1.8.3 Loading

Whenever there is a moment of the game where the player has to wait, this screen will appear. The words “Loading” will appear in the centre of the screen. To show that the game is actually doing something, blue berries will appear to show its loading. Three of these will appear (one after the other) underneath the loading word. Once all three appear, it will go back to one and the cycle will continue.

Figure 38: Loading screen

Figure 39: Loading with one blueberry

Figure 40: Loading with two blueberries

Figure 41: Loading with three blueberries

5.1.8.4 Game

This is the screen the player sees when they start playing the game. A countdown will start exactly like for the pause menu. The game will start after one has appeared.

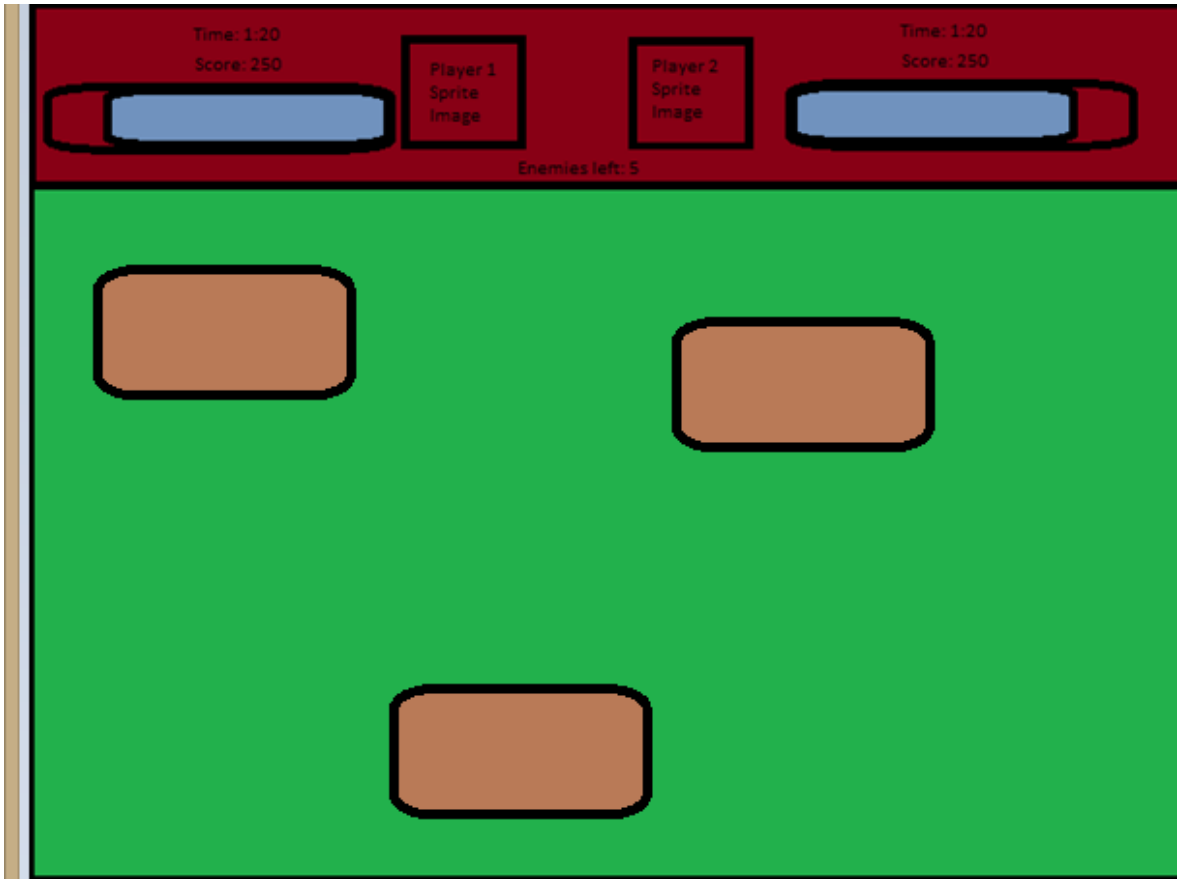


Figure 42: Game screen

5.1.8.5 High score placement

When a game end condition is met (you win or game over state) this screen will appear before the game over or you win screen. This screen will just show where the player(s) are in the high score table. This will be on a timer of three seconds before it continues onto the next screen. Arrow that shows where player is in table will scroll up to the point where they are. If player is not on the table then no arrow appears. The player would be able to add their name to the high score table if they have met the conditions to get on there. It would be nice if we could stop people using profanity as their names but this is a minor addition in the long run for making the game.

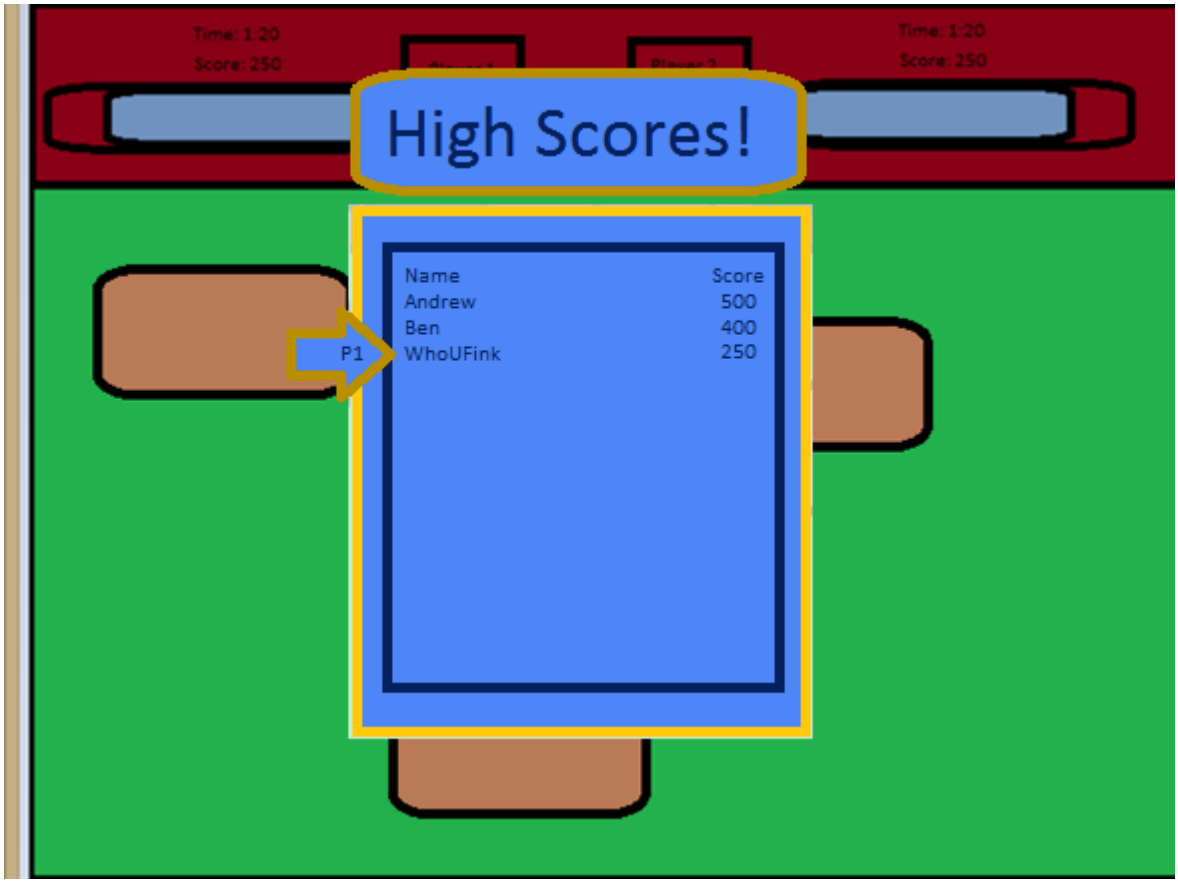


Figure 43: High score placement screen

5.2 Game Colours

These are all the RGB values used in the game.

Menus:

- Light blue
  - Red = 79
  - Green = 134
  - Blue = 247
- Dark blue
  - Red = 4
  - Green = 33
  - Blue = 94
- Red
  - Red = 136
  - Green = 0
  - Blue = 21
- Yellow
  - Red = 185
  - Green = 143
  - Blue = 0
- Green
  - Red = 34

    - Green = 177
    - Blue = 76

Loading:

- Light blue
    - Red = 79
    - Green = 134
    - Blue = 247
- Dark blue
    - Red = 4
    - Green = 33
    - Blue = 94
- Green
    - Red = 34
    - Green = 177
    - Blue = 76
- Black
    - Red = 0
    - Green = 0
    - Blue = 0

Game Environment:

- Light blue
    - Red = 79
    - Green = 134
    - Blue = 247
- Dark blue
    - Red = 4
    - Green = 33
    - Blue = 94
- Blue Health
    - Red = 112
    - Green = 146
    - Blue = 190
- Red
    - Red = 136
    - Green = 0
    - Blue = 21
- Yellow
    - Red = 185
    - Green = 143
    - Blue = 0
- Green
    - Red = 34
    - Green = 177
    - Blue = 76
- Brown

    - Red = 185
    - Green = 122
    - Blue = 87
- Black
    - Red = 0
    - Green = 0
    - Blue = 0

5.3 Sound and Music

5.3.1 Menus

It would be nice to have the team make their own sounds and the team should use the links given here as inspiration. If no one in the team can play an instrument or make music, then using a sound choice here will do as well. The main theme of the game will always be playing in the background of all screens bar the screens that appear in game (pause, game over, you win and high score placement). The game theme should have a happy feel possibly close to silly. The sounds listed here give an idea of what is available to use in the game:

- https://www.freesound.org/people/Bruno_ph/sounds/109408/
- https://www.freesound.org/people/Bruno_ph/sounds/109407/
- https://www.freesound.org/people/FoolBoyMedia/sounds/220754/

5.3.2 Game Screens

The in game theme will play for the other screens mentioned. This in game theme needs to have the same happy feeling as the opening theme but a much quicker tempo. This can also be used for the loading screen but it would better if the in game and loading themes were not the same but just similar in their design. Such examples of these kind of sounds are:

- https://www.freesound.org/people/FoolBoyMedia/sounds/231254/
- https://www.freesound.org/people/zagi2/sounds/232910/
- https://www.freesound.org/people/DANIpeNET/sounds/157170/
- https://www.freesound.org/people/zagi2/sounds/179734/
- https://www.freesound.org/people/zagi2/sounds/239953/

5.3.3 Winning

Winning should have a celebrate sound:

- https://www.freesound.org/people/mlteenie/sounds/169233/

5.3.4 Losing

Losing should have a disappointing sound:

- https://www.freesound.org/people/Robinhood76/sounds/98874/

5.3.5 High Score table

Gaining top spot on the high score table should have a celebrate sound with fireworks:

- https://www.freesound.org/people/sl130594/sounds/132273/
- Use the celebrate sound from the winning the game state

5.3.6 Pick up Items

Pick up items appearing should have a holy sound:

- https://www.freesound.org/people/Robinhood76/sounds/74539/

Picking up the items will have a “ding” kind of sound to tell the player you have the item:

- https://www.freesound.org/people/Robinhood76/sounds/221591/

5.3.7 General Player noises

Becoming a blueberry (AI or player) will have a pop sound:

  - https://www.freesound.org/people/unfa/sounds/245646/
- General player sounds are noises the player makes in game
  - 75% health or 25% blueberry = “I don’t feel so good”
    - 
I don't feel so good.wav
  - 50% health or 50% blueberry = “I’m feeling a little blue”
    - 
I'm feeling a little blue.wav
  - 25% health or 75% blueberry = “oh god help me!”
    - 
oh god help me.wav
  - 0% health or 100% blueberry = “OH MY GOD I’M BECOMING A *pop sound and player is blueberry*”
    - 
oh my god i'm becoming a.wav
  - Passing on virus = “HA HA, loser!”
    - 
ha ha loser.wav
  - Getting the virus = “NOOOOOOOOO!”
    - 
noooooo.wav
  - Picking up an item = “HA HA, now we’re talking!”
    - 
ha ha now we're talking.wav

6 Technical Documentation

6.1 Controls

The game will work by the player turning thirty degrees left or right to turn the avatar in the game. The sharpness of the avatar's turn will determine how far they rotated in the given direction. The closer to thirty degrees, the sharper the turn. The in game avatar will always keep moving in the direction it is facing so that the game will be easier for the players in the wheelchair. The player can pass the virus by raising their hand and pushing forward. Moving the players avatar into enemies will also pass the virus along which will help those (who unfortunately) struggle to use their hands. Here are a few images just to show how players should act to play the game.

Figure 44: Controls for game

6.2 High Score Calculations

The calculations for the high score in the game are the following:

Each second without the virus gives the player ten points, minus ten if the player has the virus. When an AI becomes a blueberry, the player gets one hundred points. If another AI becomes a blueberry and an infected AI has not touched the player since a previous one transformed into a blueberry, they get another hundred points and that is multiplied. The amount its multiplied by is determined by the number of AIs that have been transformed since the player was last infected (i.e. if three AIs become blueberries since the player was last infected then its score is hundred times three which equals three hundred). Therefore, instead of hundred points for the third AI, it is three hundred.

6.3 Mechanics

- General mechanics:
  - All sprites are randomly placed in game
  - Lose game if both or only player becomes a blueberry
  - Win game if one player is not a blueberry and is the only remaining sprite in the game
  - tag another sprite to pass virus
  - player can collect pick-ups to help them win game
  - Edges of screen and terrain are walls that cannot be walked through
  - Sprite that just catches the virus will freeze for three seconds
    - While this is in effect, blueberry health bar does not increase
- Pick up mechanics
  - Appear in game at a random time and place
  - Lasts for ten seconds before disappearing
  - When touched by the player the effect that pick up had activates immediately

    - All Effects (apart from vaccine and bandage) last for ten seconds
    - Vaccine and bandage's effect have no time limit as their power activates and stops instantly
- Controller Mechanics:
    - Gameplay controller:
        - Player sprite always moves in the direction they are facing
        - Rotating right will turn the player sprite right
        - Rotating left will turn the player sprite left
        - The maximum amount of degrees a player can do is thirty
        - The closer to this figure, the sharper the turn in game
        - Bashing a sprite into another one will cause the virus to pass from one to another
        - Player can raise hand to tag player if they are in touching distance to another sprite
    - Menu controller:
        - Turn right to go down menu
        - Turn left to go up menu
        - Move Forward to select option
        - Selecting menu option will either let player edit game display and environment or move to new screen
            - Depends on the menu button
        - Moving backward on options that edit game display and environment will deselect that option
        - When selecting the player sprite, move left and right to go through options
            - Move backward to deselect and apply the player choice of sprite
        - When selecting terrain, turn left for yes and right for no
        - When selecting the other menu options, turn left to decrease and right to increase by one
            - Staying on one side will change the options value automatically
            - Sound changes by ten instead of one.
- Point Scoring mechanics:
    - Player gets ten points for each second they don't have virus
        - If they have virus then its minus ten points for each second
- Player gets one hundred points if AI or opposing player becomes blueberry
    - The opposing player will stop getting points altogether as their game has ended
- If another AI becomes a blueberry and an infected AI has not touched the player since a previous one transformed into a blueberry, they get another one hundred points and we multiply that figure.
    - The amount its multiplied by is determined by the number of AIs that have been transformed since the player was last infected (i.e. if three AIs become blueberries since the player was last infected then its score is one hundred times three equalling three hundred). This means the third AI is worth three hundred points instead of one hundred points.

6.4 AI

For the AI, each sprite that does not have the virus, they will have a speed value of one. Those that do have the virus will have a speed of two. All values affect the player as well. The team should edit these figures when implementing this just to make sure the speeds chosen are not too quick or too

slow. Obviously, the values do not have to be integers as they can be decimal numbers as well. The sprite's collision box should never change in size no matter what happens in the game. AIs that are fleeing will always try and get as far away from the sprite with the virus. It would be nice to try and implement Boids in this case to get some AIs to flock in a group when fleeing. AIs with the virus will always chase the closest sprite to it. A* path finding should be fine for this AI. We should try and make these AIs a little smarter if possible.

6.5 Game Assets

6.5.1 2D sprites

- Player & AI avatars
    - Police car
    - Taxi
    - Lorry
    - Fire engine
    - Ambulance/ paramedic car
    - Train
    - Normal Car
    - Recycling Truck
- Sprite sheet for all avatars
    - Always top down but need enough sprites to show player turning in a full circle
    - We can do this by just rotating the same player sprite over time as well.
- Pick-up items
    - Syringe (vaccine pick-up)
    - Bandage (bandage pick-up)
    - Backward clock (Slow time pick-up)
    - Normal clock (speed up pick-up)
    - Bush (camouflage pick-up)
    - Ghost (Ghost pick-up)
- Other sprites
    - Arrow for showing place in high score table
    - terrain

6.5.2 Levels

- One level
    - Can change background colour to make level feel different if team wants to

6.5.3 Terrain

- Walls
    - One wall sprite should be fine but other options (such as fences) can be made if the team prefers

6.5.4 Animation

- As the blueberry virus starts to infect the avatar more, the avatar will start getting bluer.
- Menus fading as player navigates between them
- High score arrow scrolls up table to show where the player now is on it
- Wheels on spites change to show toys are moving
- Highlighting selected options on a menu
- When pick up items appear they should descend from the heavens in a ray of light

6.5.5 Sound effects

- Main theme
  - https://www.freesound.org/people/Bruno_ph/sounds/109408/
  - https://www.freesound.org/people/Bruno_ph/sounds/109407/
  - https://www.freesound.org/people/FoolBoyMedia/sounds/220754/
- Game theme
  - https://www.freesound.org/people/FoolBoyMedia/sounds/231254/
  - https://www.freesound.org/people/zagi2/sounds/232910/
  - https://www.freesound.org/people/DANIpeNET/sounds/157170/
  - https://www.freesound.org/people/zagi2/sounds/179734/
  - https://www.freesound.org/people/zagi2/sounds/239953/
- Selecting an option in a menu
  - https://www.freesound.org/people/Porphyr/sounds/191678/
  - https://www.freesound.org/people/qubodup/sounds/238995/
  - https://www.freesound.org/people/plasterbrain/sounds/242855/
- General Player sounds (Record these)
  - 75% health or 25% blueberry = “I don’t feel so good”
    - 
      I don't feel so good.wav
  - 50% health or 50% blueberry = “I’m feeling a little blue”
    - 
      I'm feeling a little blue.wav
  - 25% health or 75% blueberry = “oh god help me!”
    - 
      oh god help me.wav
  - 0 health or 100% blueberry = “OH MY GOD I’M BECOMING A *pop sound and player is blueberry*”
    - 
      oh my god i'm becoming a.wav
  - Passing on virus = “HA HA, loser!”
    - 
      ha ha loser.wav
  - Getting the virus = “NOOOOOOOOO!”
    - 
      noooooo.wav
  - Picking up an item = “HA HA, now we’re talking!”
    - 
      ha ha now we're talking.wav
    - If you are using the audacity program to record these, speak slowly and use the change speed effect to get the right kind of sound.
      - The examples increase speed by twenty percent
- Other sounds

- Winning should have a celebrate sound:
  - https://www.freesound.org/people/mlteenie/sounds/169233/
- Losing should have a disappointing sound:
  - https://www.freesound.org/people/Robinhood76/sounds/98874/
- Gaining top spot on the high score table should have a celebrate sound with fireworks:
  - https://www.freesound.org/people/sl130594/sounds/132273/
  - Use the celebrate sound from the winning the game state
- Pick up items appearing should have a holy sound:
  - https://www.freesound.org/people/Robinhood76/sounds/74539/
- Picking up the items will have a "ding" kind of sound to tell the player you have the item:
  - https://www.freesound.org/people/Robinhood76/sounds/221591/
- Becoming a blueberry (AI or player) will have a pop sound:
  - https://www.freesound.org/people/unfa/sounds/245646/

6.5.6 Other special effects

- Player flashes from invisible to visible and can't move for three seconds to show they have just caught virus
- When a player hits a pick up item, it disappears leaving a few sparkle effects for about two seconds

7 Functionality

7.1 Screen Navigation

To navigate the main menu the player will have to turn right to go down the menu and left to go up. The selected option will be highlighted and be slightly bigger than the other buttons so it looks like it is coming at the player. To choose that option, move forward or back to go to click that button and go to the next menu.

For all other menus, the player will have to turn right to go down the menu and left to go up. To choose an option, you only need to move forward to select that option. Moving backward will deselect the option the player is currently selecting. When selecting an avatar, the player moves left and right to go through the options. When the player is happy with their chosen avatar, they just move back and that avatar will the chosen representative in the game. Terrain will be a yes or no option in the shape of a tick box. Turn left for yes and right for no. AI count will be similar but it is a plus and a minus sign that the player chooses to increase or decrease the number of AIs in game. Turn right to increase the number of AI and left to decrease. If the play stays on one side, the count automatically changes (according to the direction the player has turned) every half a second. Selecting start game will just start the game with the options the player has chosen. When moving to a new screen in this menu area (where the games main theme would be played), all screens fade in and out for each other.

The options menu navigation is the same as the play menu. If the players chooses, resolution then move right pick the next ascending resolution and left for the descending choice.

Sound is exactly the same but instead of resolution size it will be sound percentage. Turning right will increment by ten and left will decrement by the same number. Selecting high scores will take the player to that screen. For the high score menu, changing the AI count will change the high score table for that particular count. For the pause menu, if continue is selected then the game will carry on. There should be a countdown for the player of three seconds just to get ready before the game continues. For the game over or you win menu, if the user selects the retry or main menu option, the loading screen may need to appear while the game resets itself.

7.2 Game Engine

The game engine that the team will use for this game is Unity. Alternatives are the XNA framework and GameMaker. XNA is a very good framework to create games in however, Microsoft has stopped supporting it. This means making games with this framework could cause problems as any limitations the system has hold us back meaning we will have to fix extras issues that we do not have time for, which will cost the team (making this) time for other tasks. GameMaker gives a greater amount of trust rather than XNA. GameMaker is a very simple, well-supported game engine. Game companies commonly use it to make prototypes of games or creating the final product to sell. The only issue with GameMaker is to get more features one must have the pro version of it, which will cost team money. Unity on the other hand is free until you want to sell the game (which is fine for the moment). This means there would be no limitations to what the team can do with Unity. The team working on this game will have more experience with Unity so from this point of view it would be more of a hindrance to work in a different game engine.

7.3 Stages of the Game

7.3.1 Starting the game

When the player starts the game they will see the two splash screens first and then the main menu. Now the player may not like playing the resolution the game is currently set at so let us change it to full screen

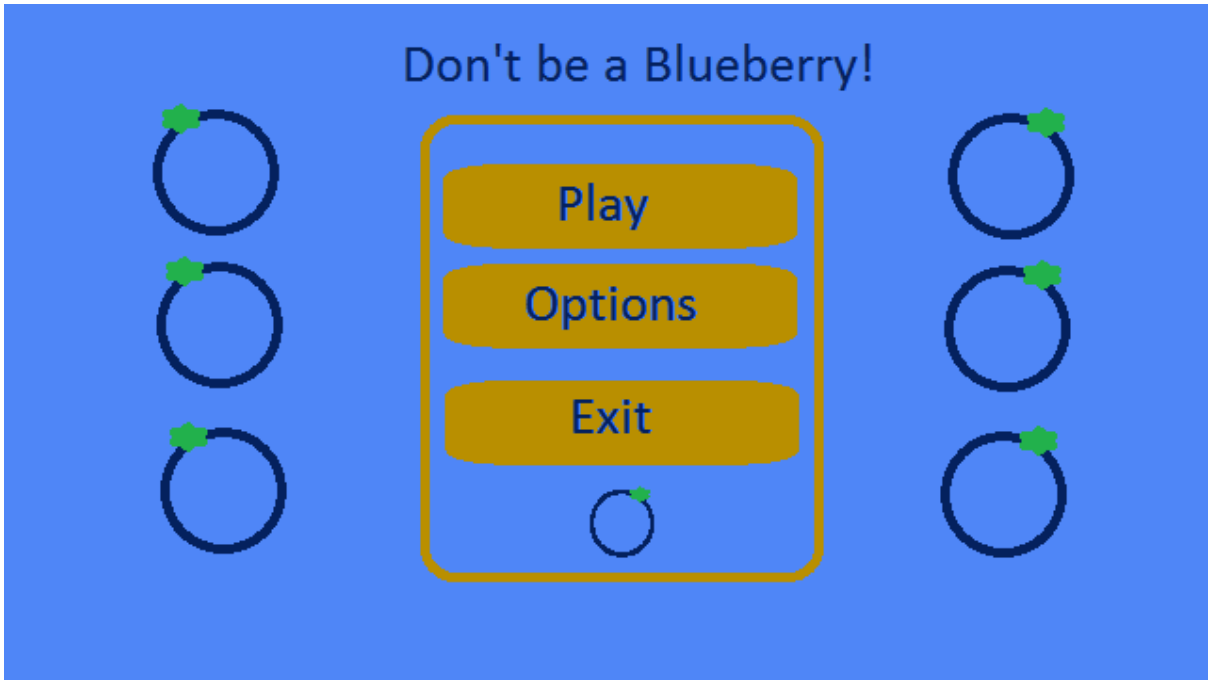


Figure 45: Main menu

7.3.2 Editing in options

Now in options, we can select resolution and keep changing it until the full screen option is in front of us. Once that option is available, we apply that by using the wheelchair to deselect. Now the game is in full screen we will go back to the main menu and click play to start setting up our game.

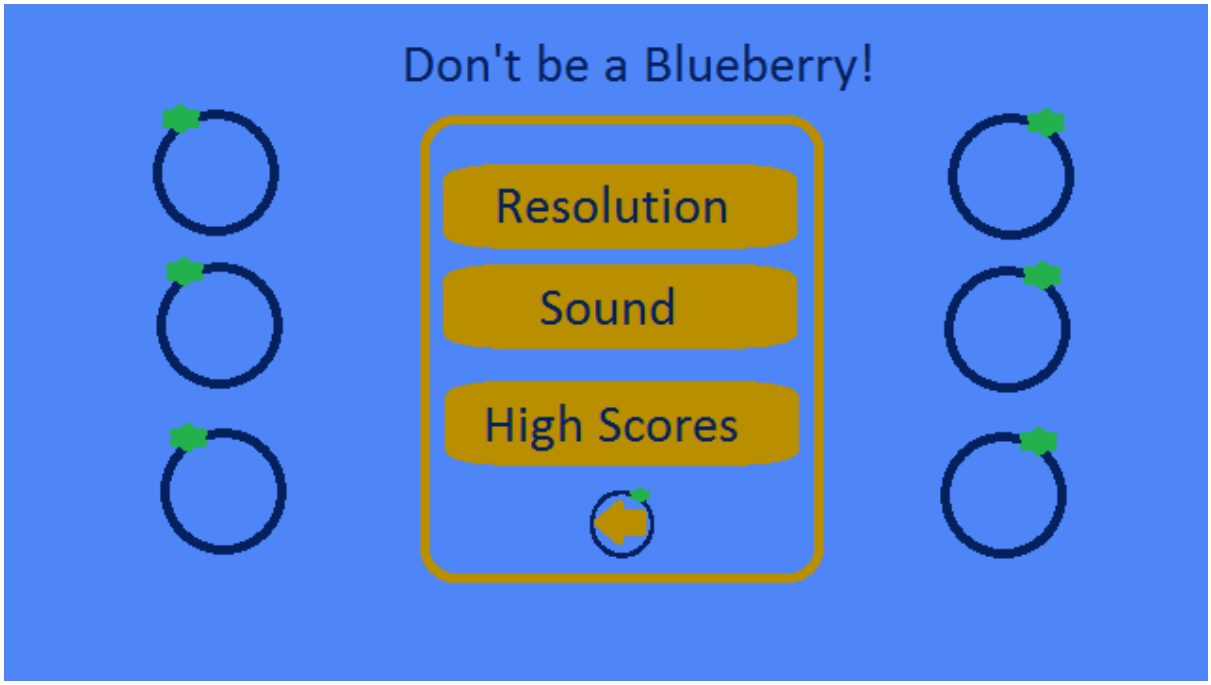


Figure 46: Options

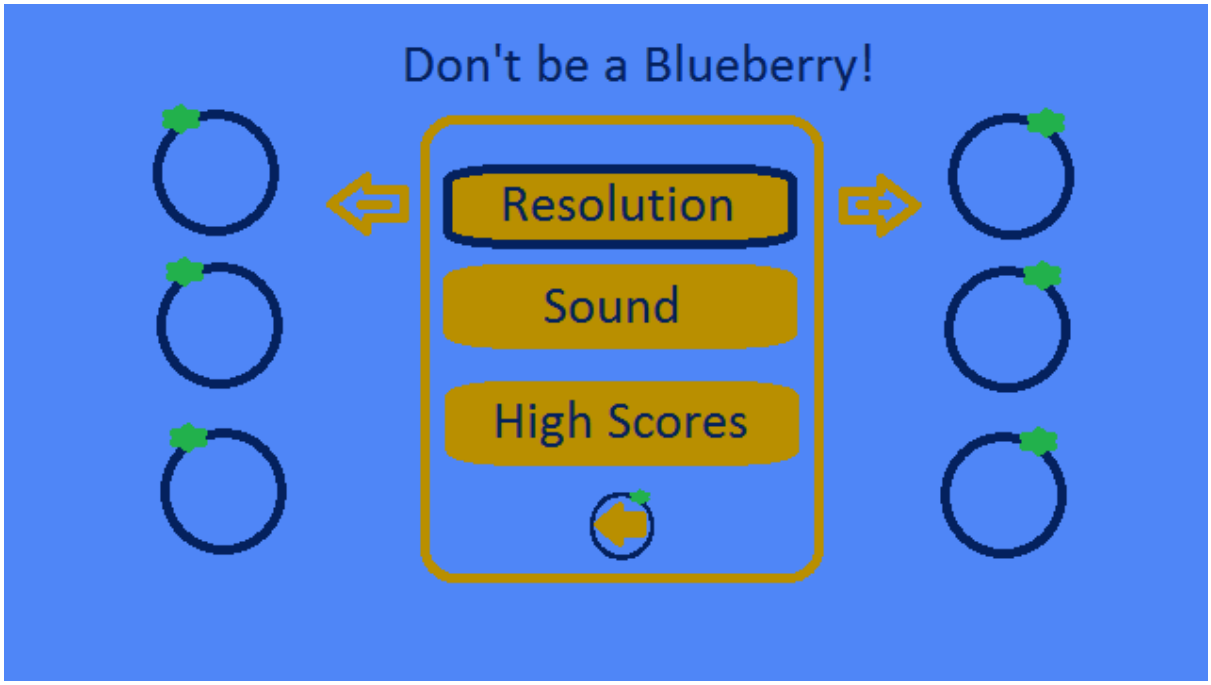


Figure 47: Changing resolution

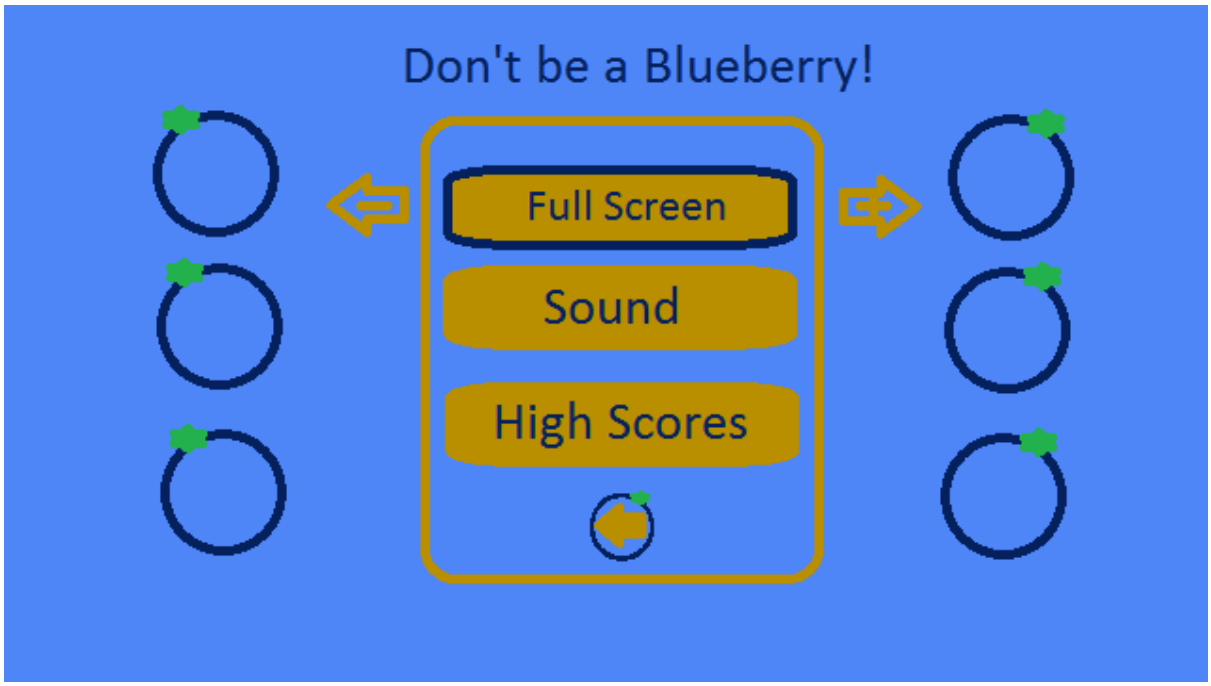


Figure 48: Changing resolution to full screen

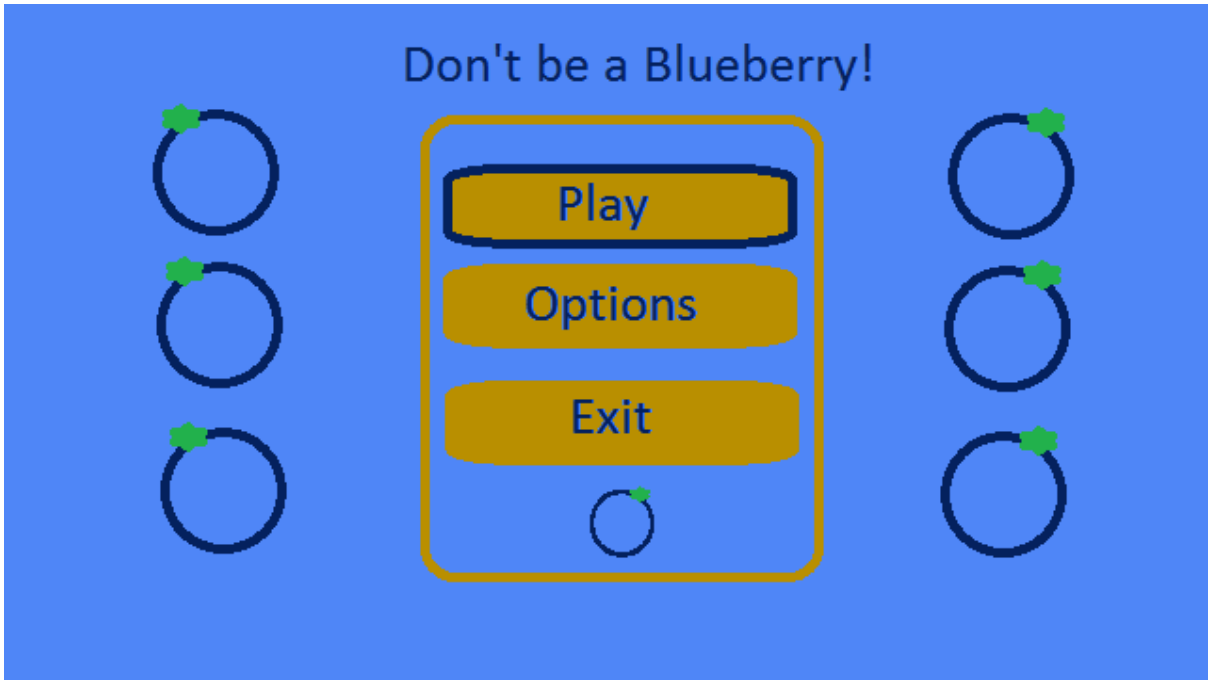


Figure 49: Player selecting "play" in main menu

7.3.3 Select type of game

Now we can set up a game of Don't be a blueberry. Firstly, we must pick the avatar that will represent us in the game. So we select the P1 box and go through the choices we have (the sprites available are represented as rectangles in this example). After that we must decide whether we want terrain or not in our game. For this game, terrain will be involved so we select the green button when choosing terrain. Now we must decide on how many AIs will be against us in this game. For this example, we will use only one AI to show how the game works. When all of these have been decided upon, we can select the start game button to begin our game of Don't be a blueberry.

Figure 50: Play menu

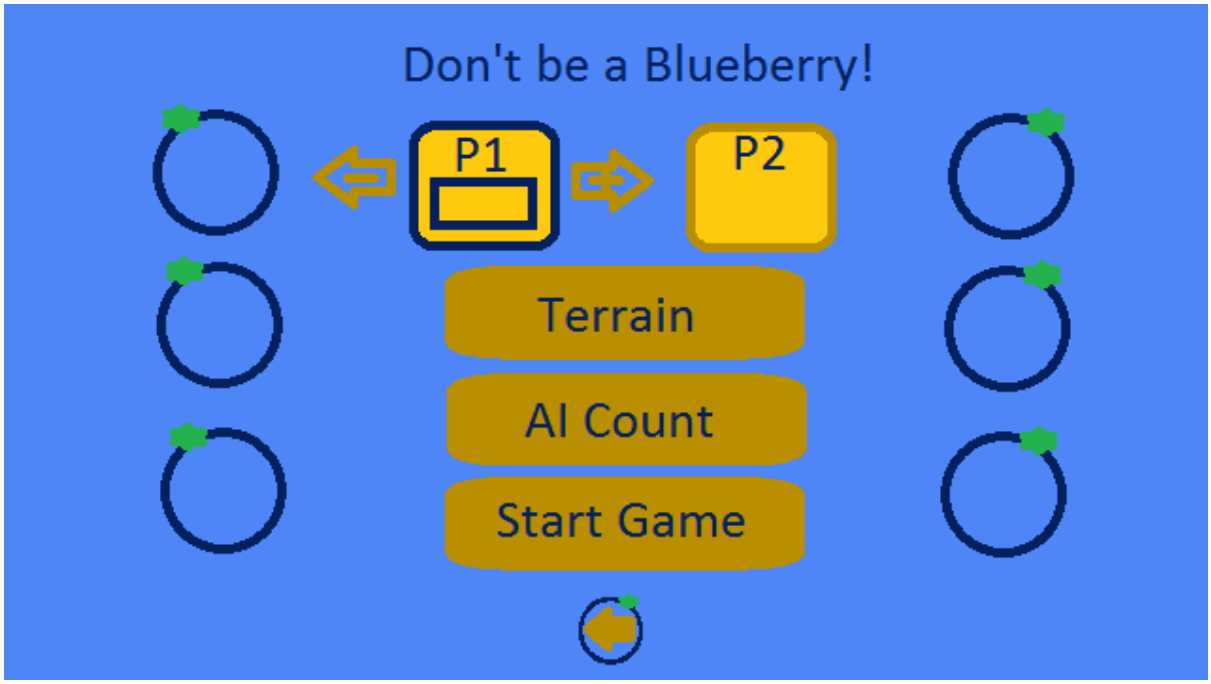


Figure 51: Selecting player avatar

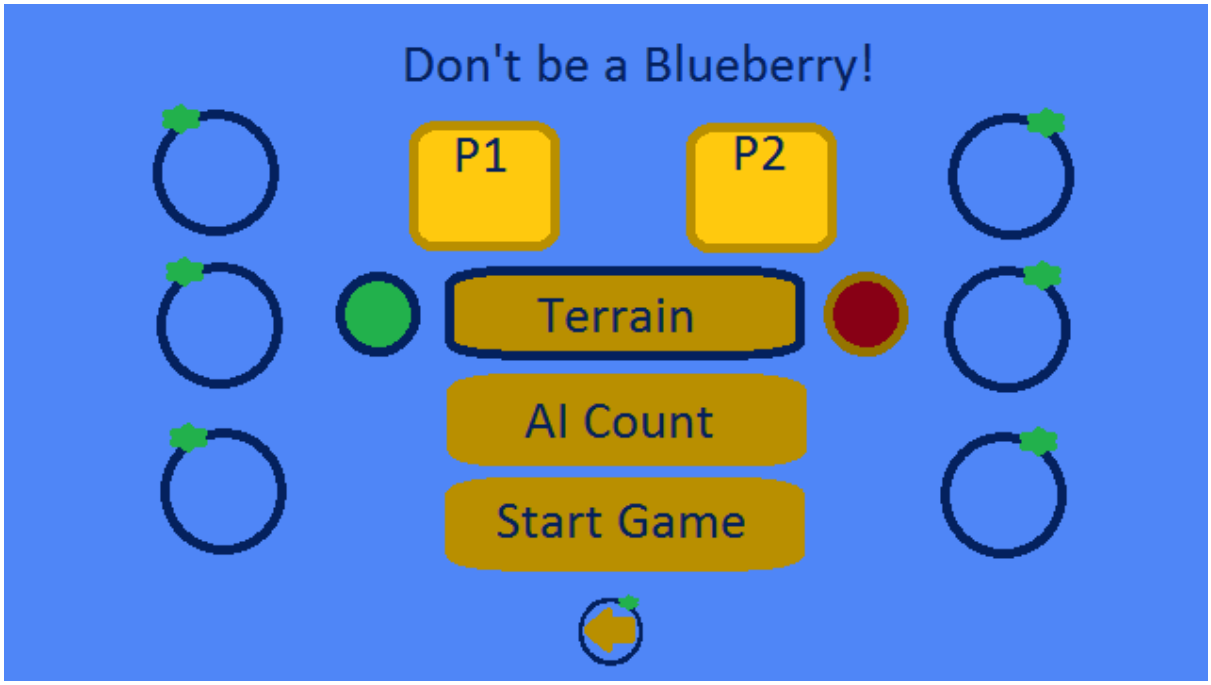


Figure 52: Selecting terrain

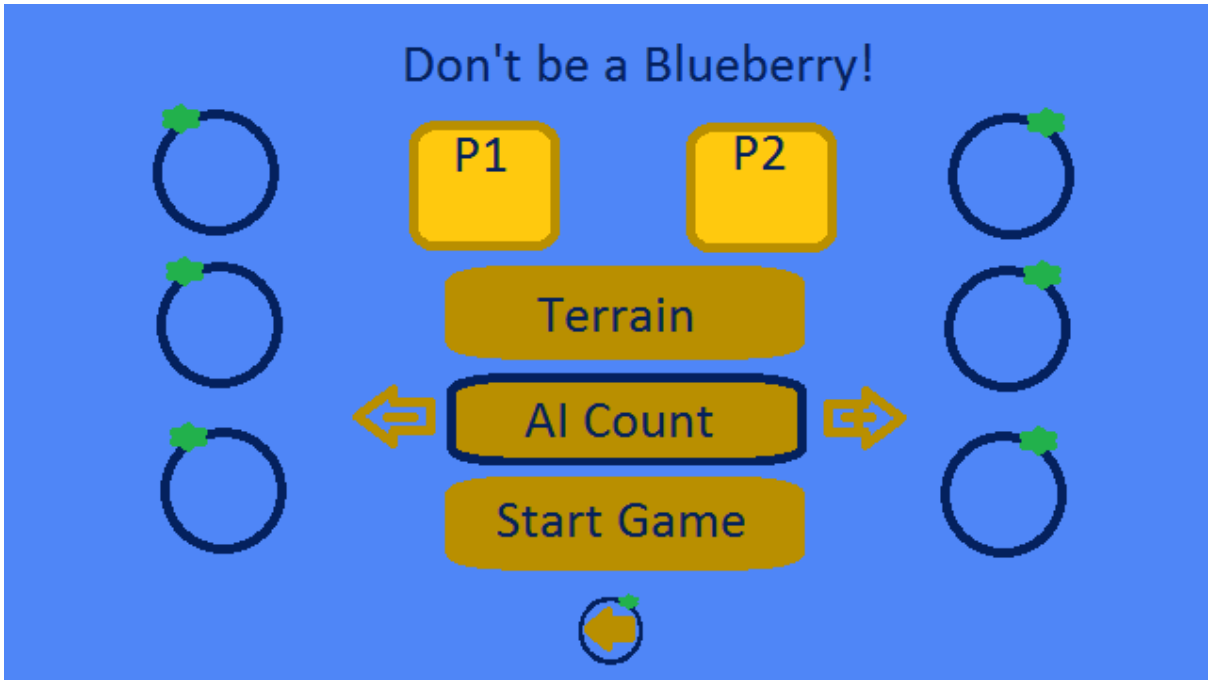


Figure 53: Selecting AI count

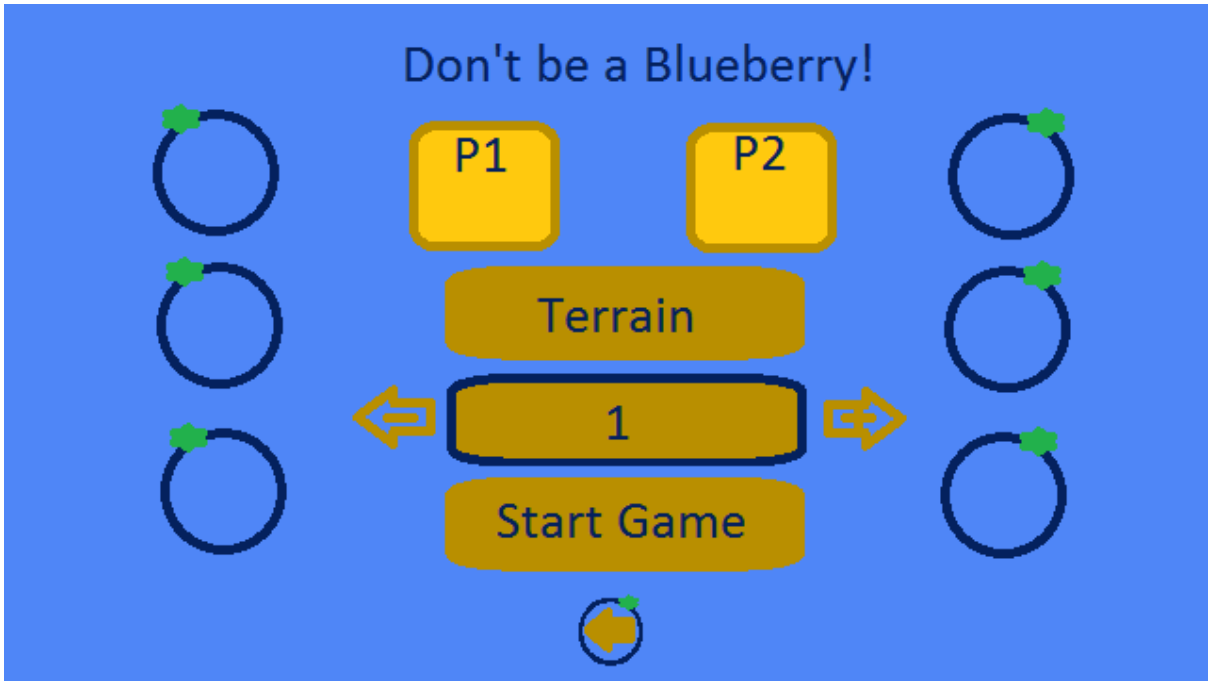


Figure 54: AI count value changing

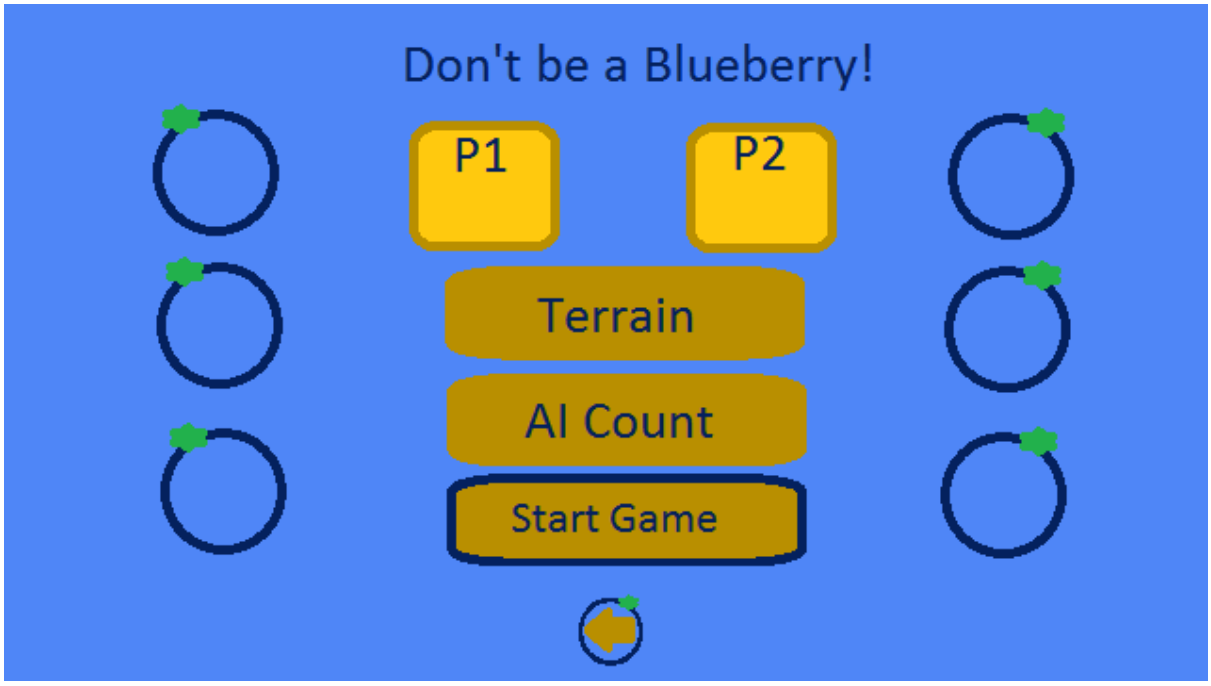


Figure 55: Selecting start game

7.3.4 Gameplay

When we enter the game world (after any loading is complete), we see our game environment and the avatars that present the AI and us in the game. The countdown for the start of the game begins going from three, two, one and then starting. The game has randomly chosen the AI as the virus carrier after the countdown has finished. Just as we are about to start, there is a distraction that we must attend to. We can pause our game there and take notice of this distraction. Once that little issue is over, we can un-pause the game and continue playing. We try and avoid the AI but it hits us therefore passing the virus to our sprite. Now it is our turn to chase the AI. After a few seconds, we are able to hit the AI so now they have the virus. As we get away from this AI, we see a pickup has dropped which would let us go through walls. We can try and pick this up but as the AI is heading in that direction we better stay safe. Luckily, the AI has become a full blueberry and we win the game.

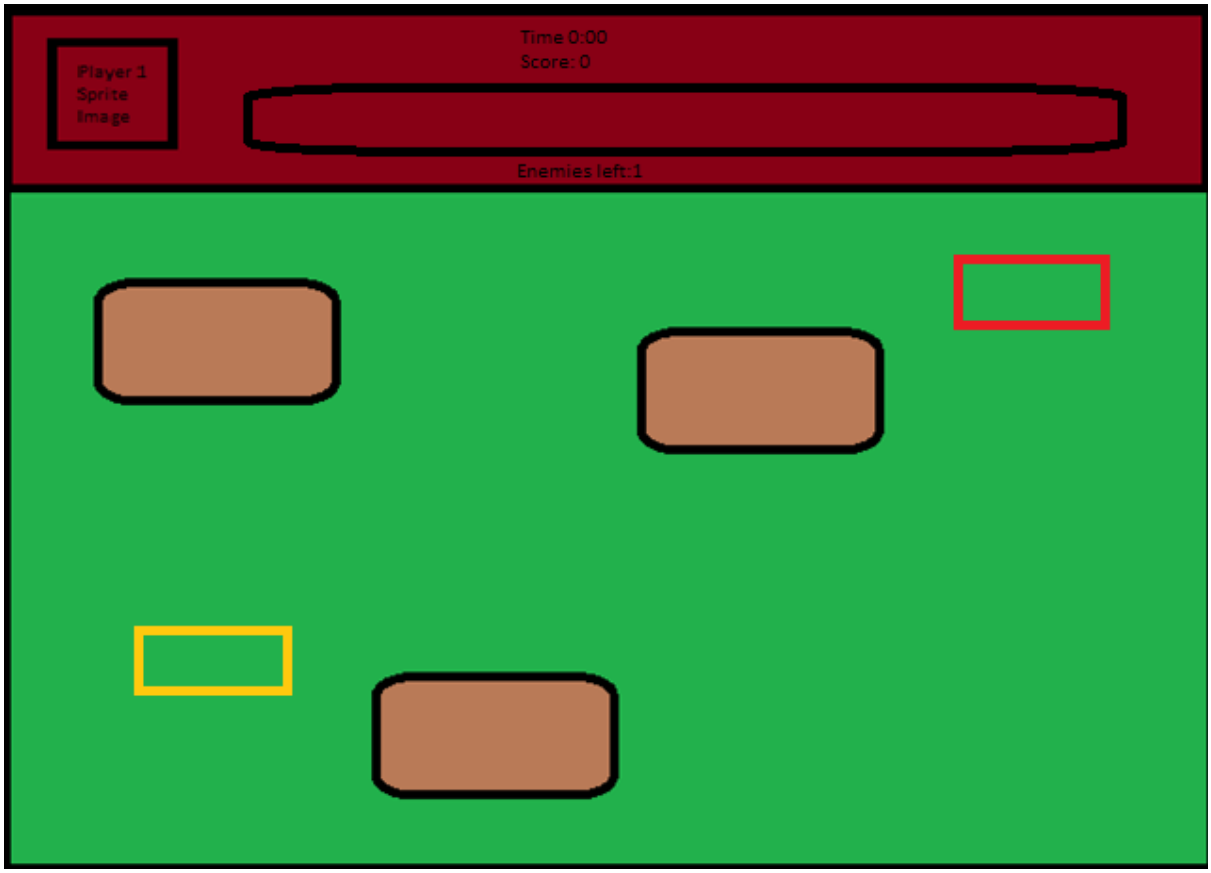


Figure 56: Beginning of game with player and AI

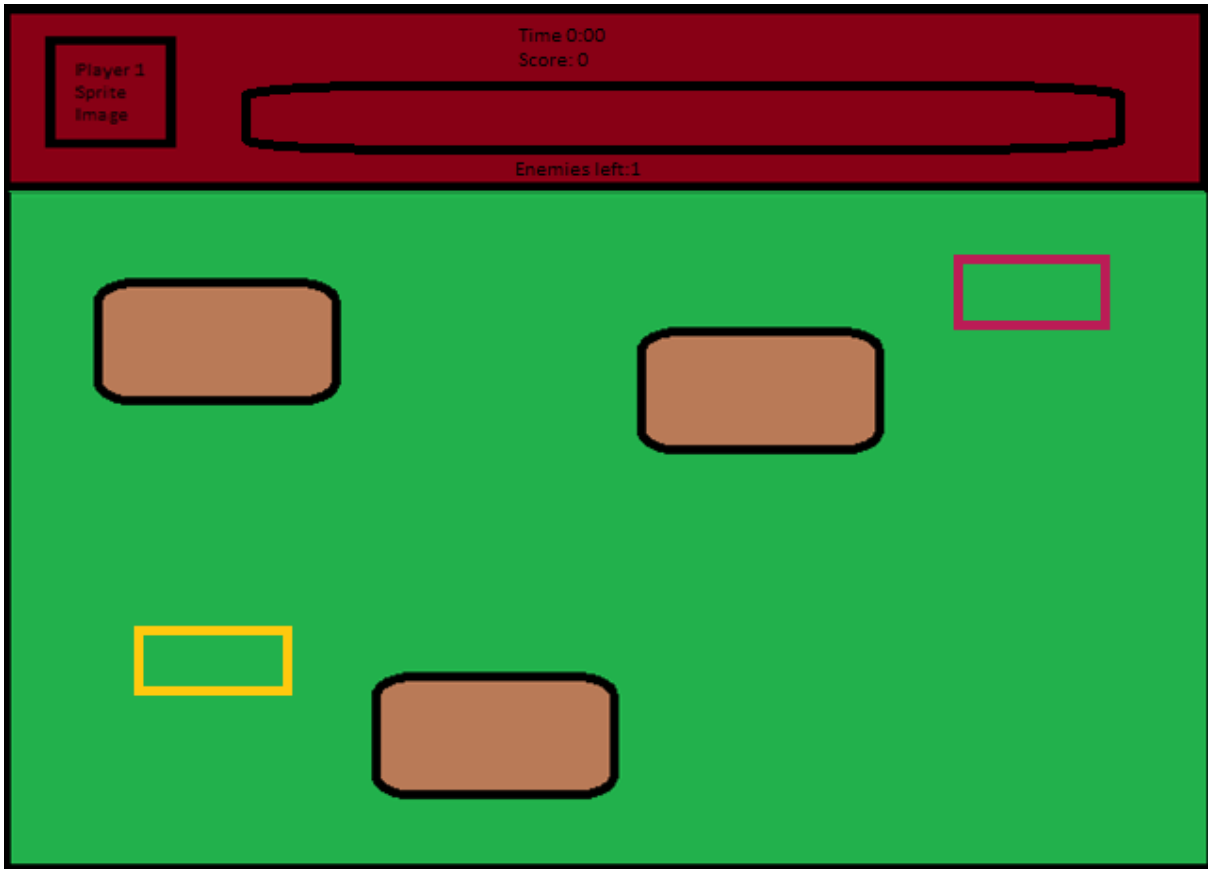


Figure 57: AI infected

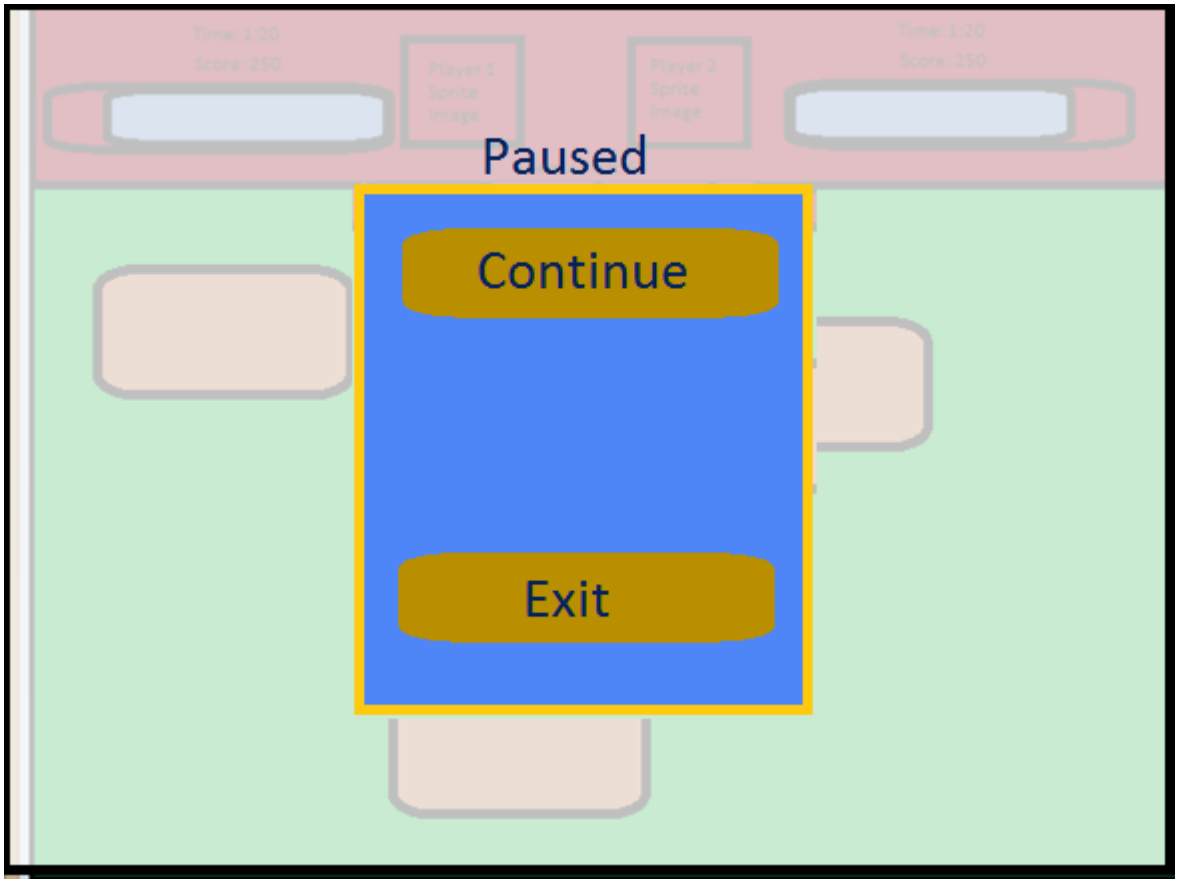


Figure 58: Pause screen

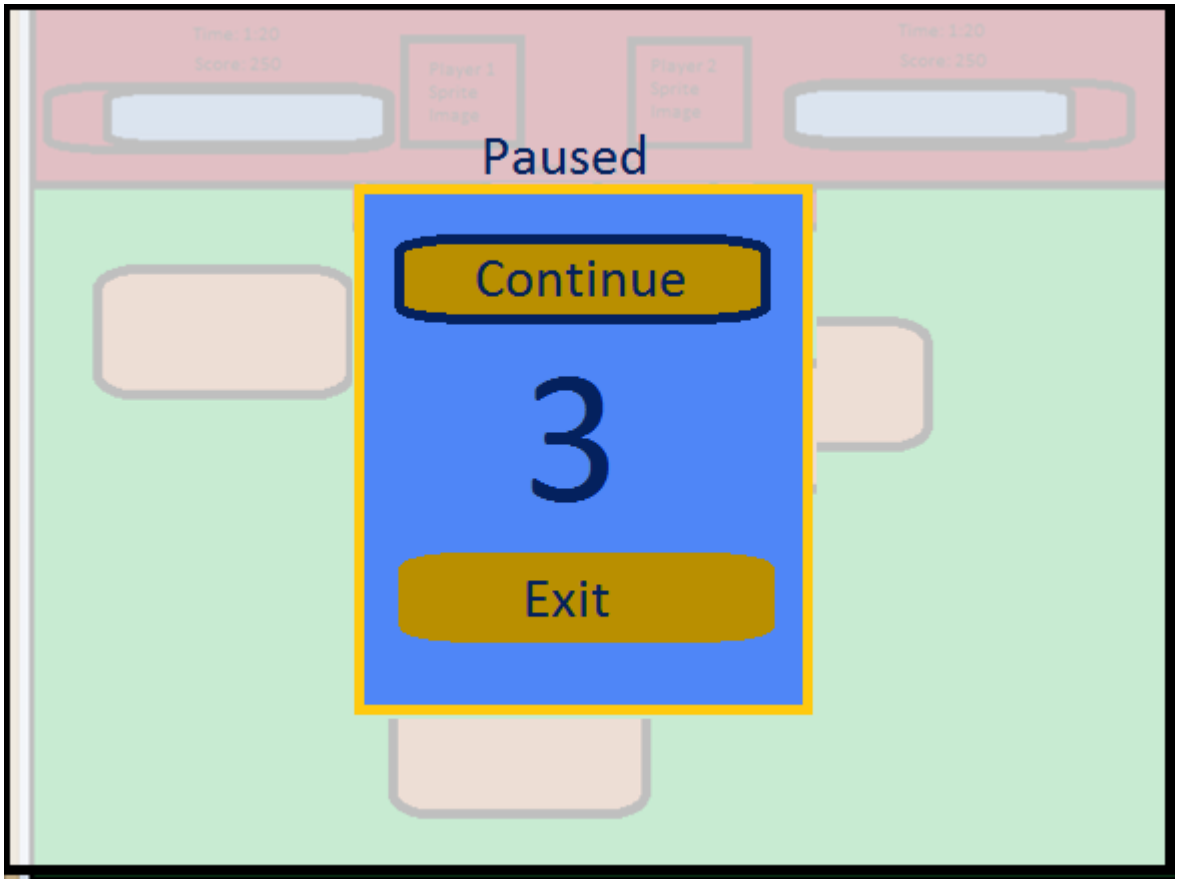


Figure 59: Continue game countdown

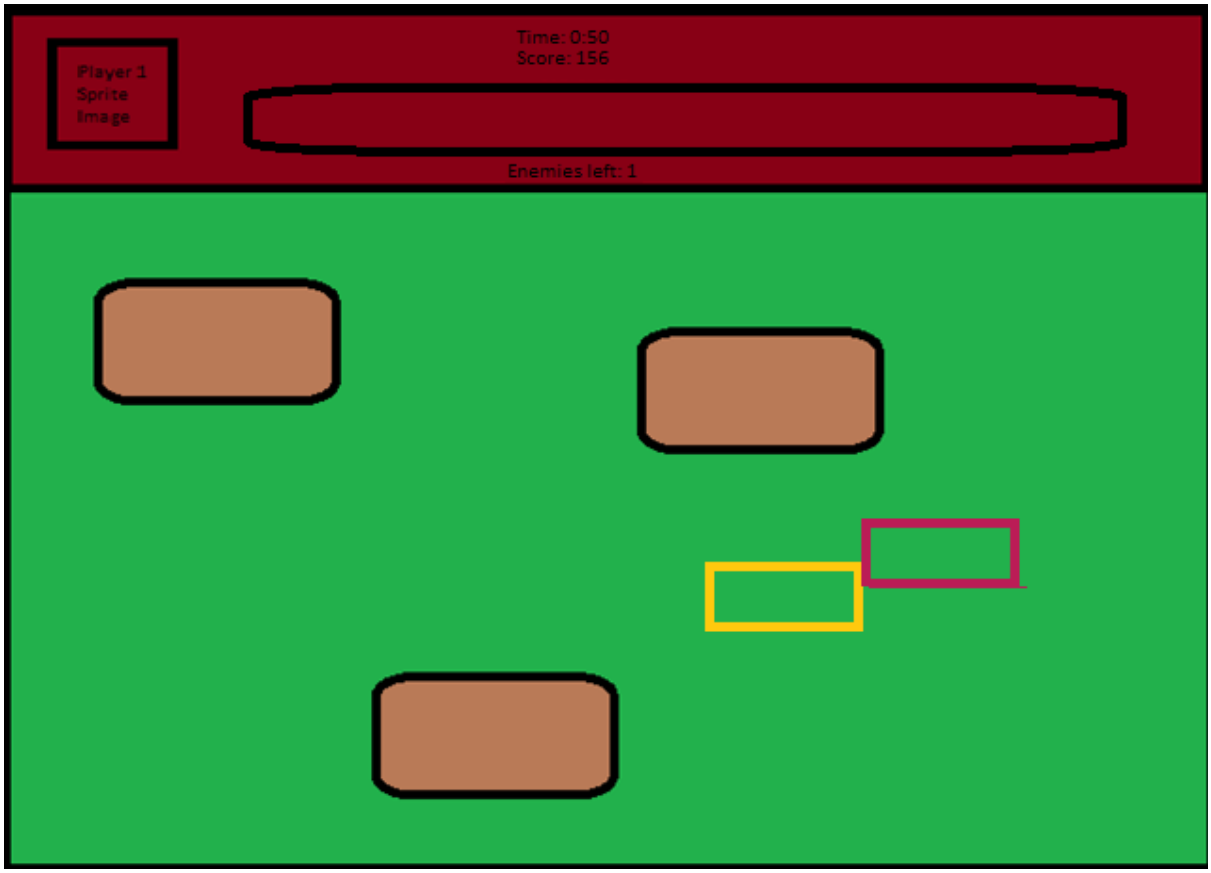


Figure 60: AI infecting player

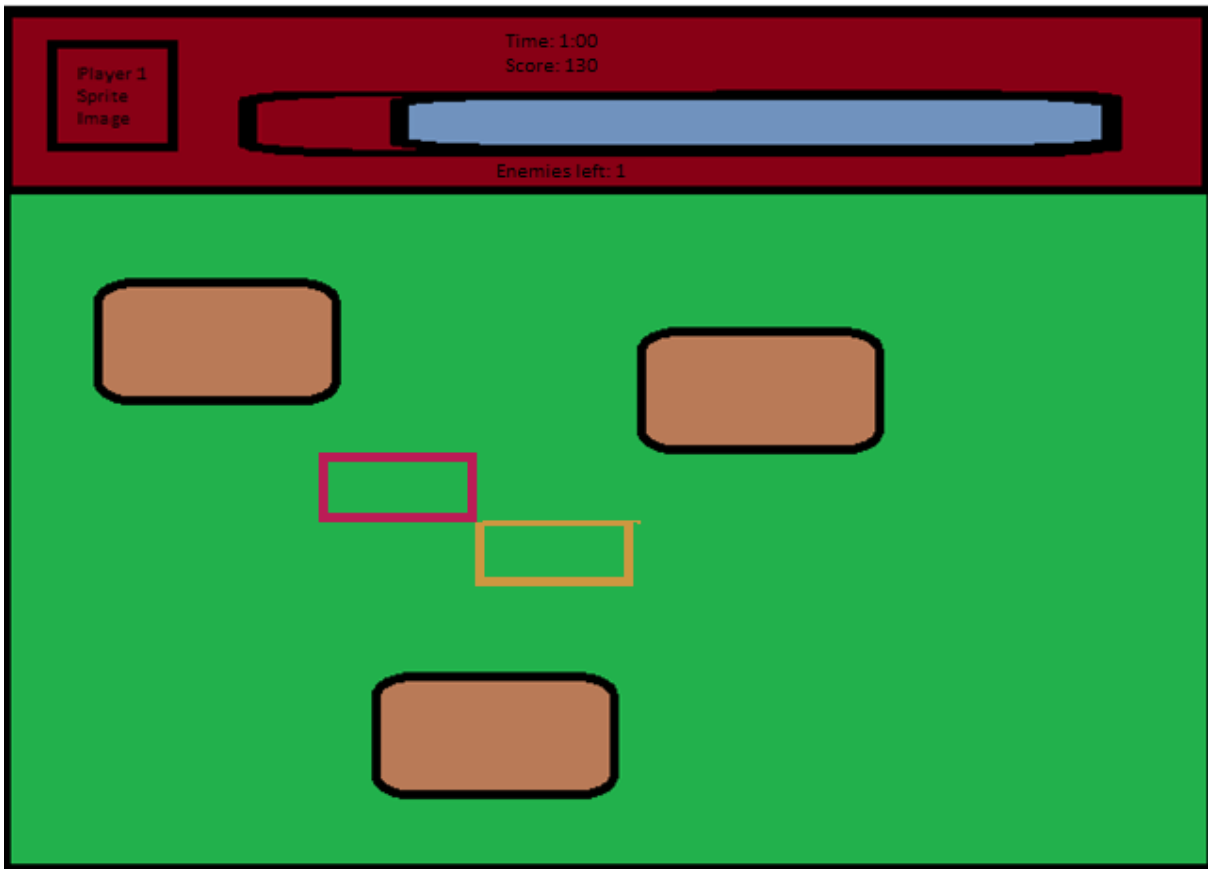


Figure 61: Player infecting AI

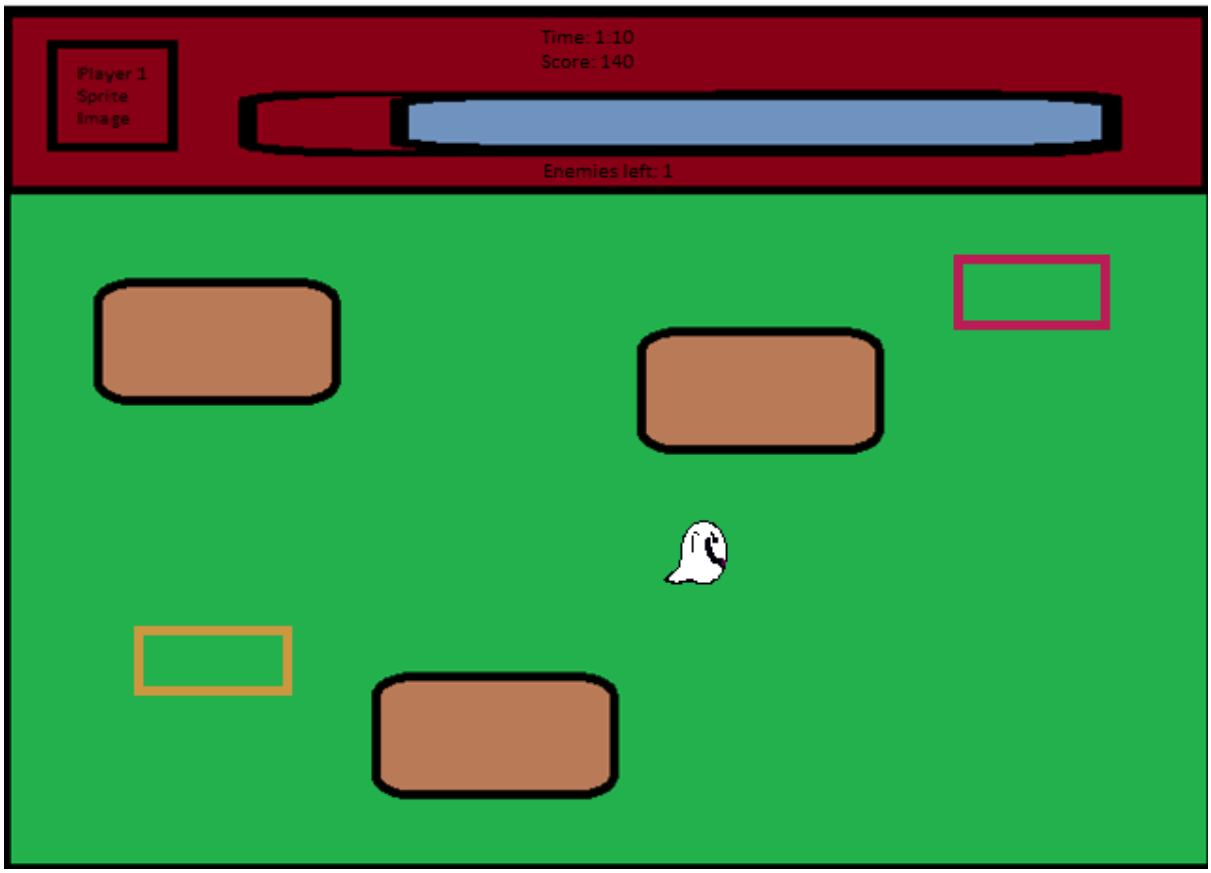


Figure 62: Pickup available to player

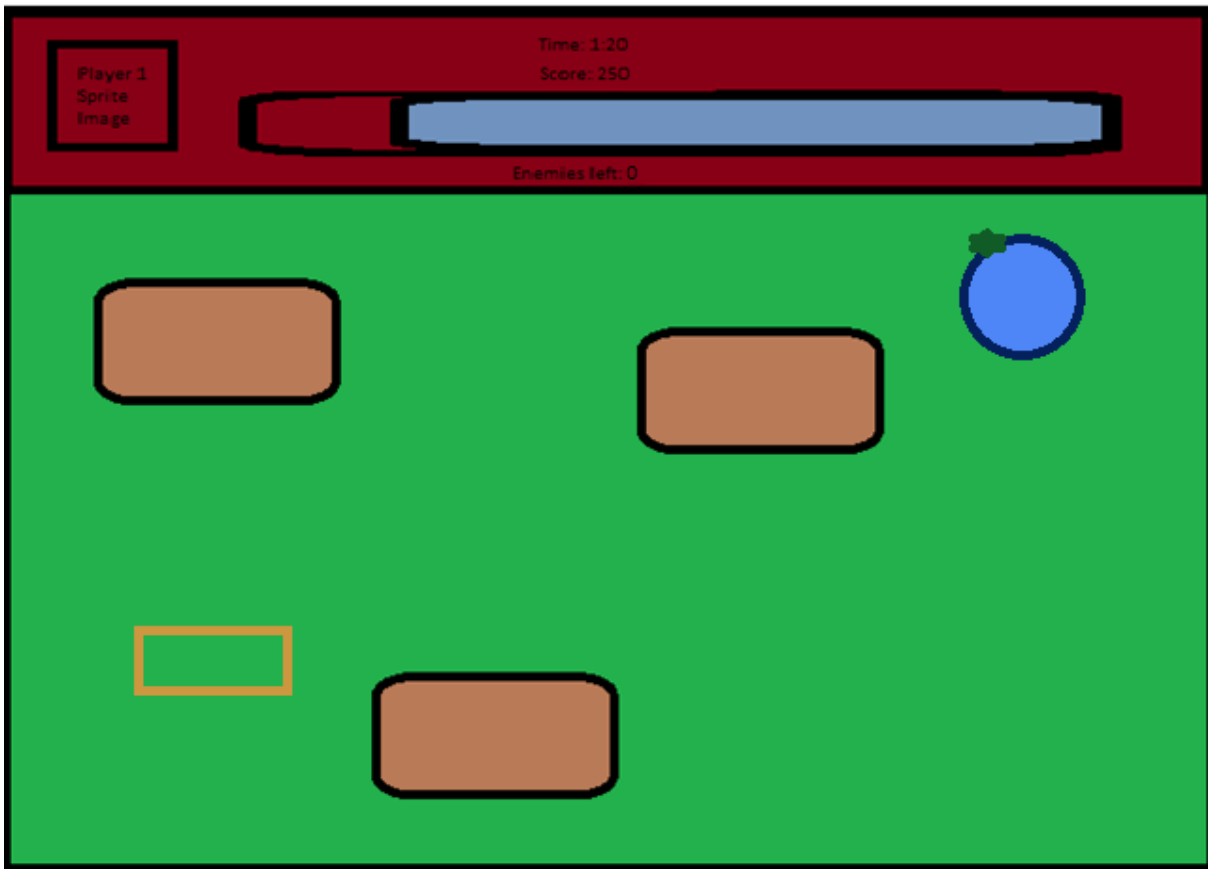


Figure 63: AI becomes a blueberry

7.3.5 End of game

As we win the game, the high score table pops up and shows that we came third (or last) and lets us type a name into the table. We type in “WhoUFink” as anyone else could do (or would do). After that, the “you win” screen appears and this allows us to retry that game again or start a new game by going back to the main menu. Alternatively, we can exit the game and stop playing if we really wanted to. This is the process to playing the Don’t be a blueberry game.

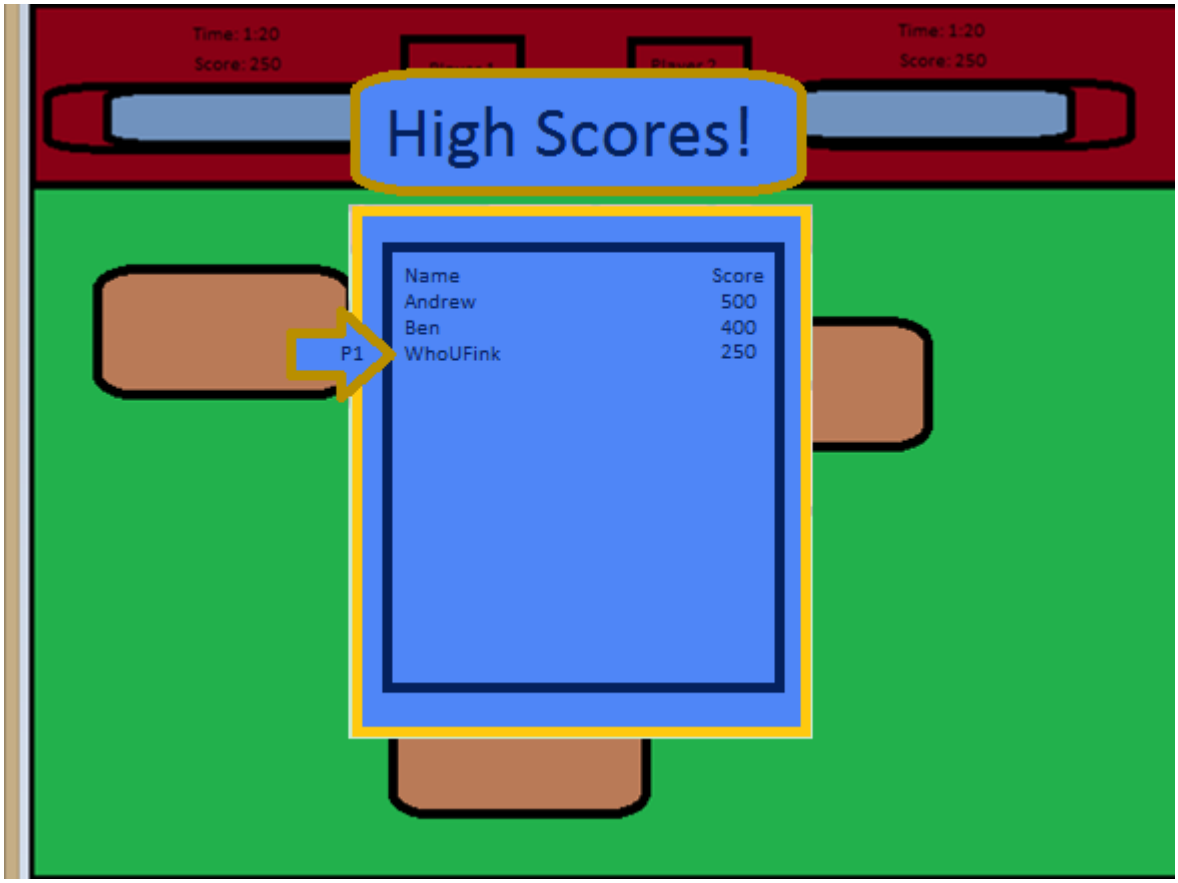


Figure 64: High score placement screen

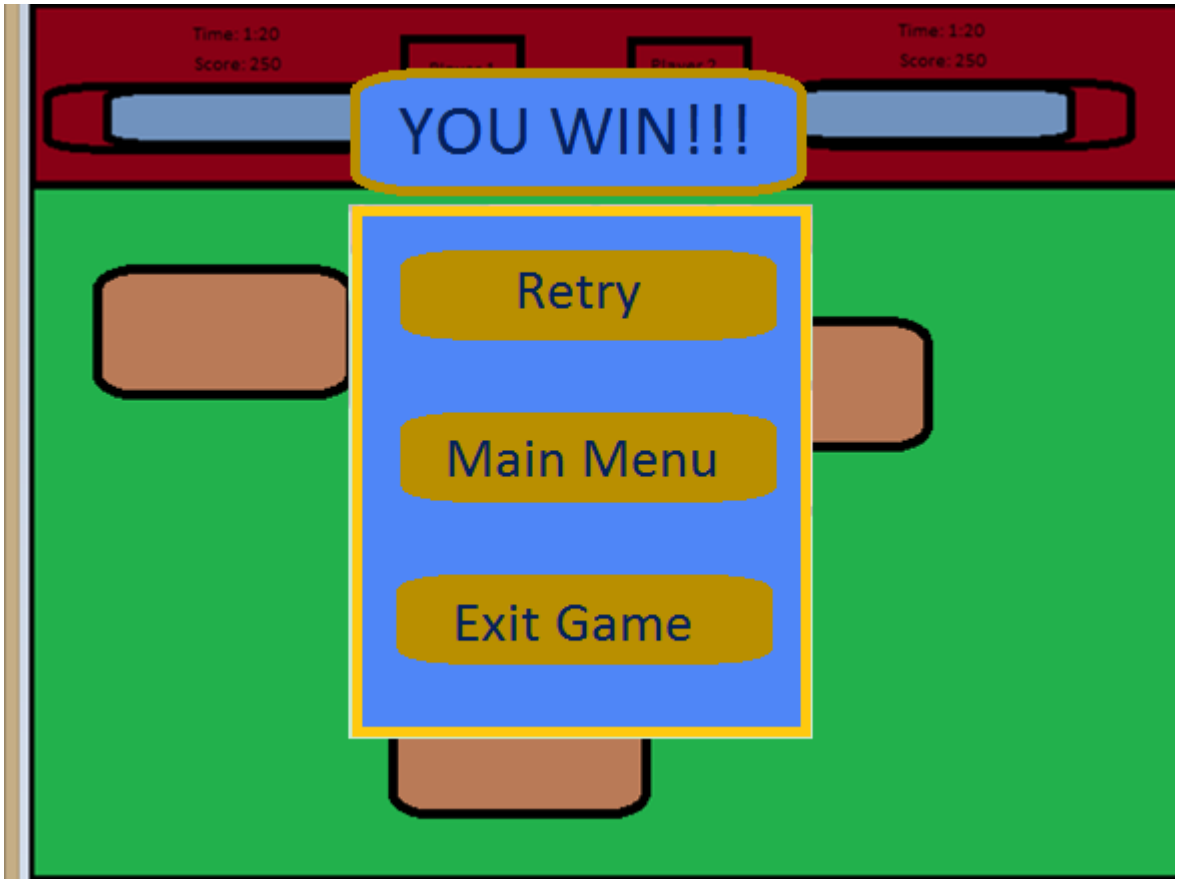


Figure 65: Win screen