**Space Shooter Doc Template**

**Mantra/Tagline**

A single sentence description of the game that you will use to guide design decisions. *Example: an educational infinite running game that tests your mental reflexes.*

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| A retro-inspired Space Invaders shooter that tests your accuracy against the oncoming aliens. |

**Design Pillars**

List up to 3 words/phrases that convey the feeling or emotion you want the player to experience. *Example: Fast. Cerebral. Smart.*

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| Fun | Retro | Single-Player |

**Story/Gameplay Summary**

List what the game is from a gameplay and/or story perspective. *Example: This game places the player into an infinite runner where they have to answer progressively harder trivia questions about geography in order to get power ups and stay alive.*

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| This Space Invaders inspired game throws the player into space where they must stop the oncoming fleet of aliens from destroying their base. If all four of the players bases are destroyed, it’s game over. The player must avoid dealing damage to their bases and carefully aiming through the gaps of their own bases to keep their bases alive for as long as possible as the invaders steadily get closer. |

**Storyboard**

What’s the arc of the gameplay? See this [introduction to storyboards](https://www.nngroup.com/articles/storyboards-visualize-ideas/) for user experience design. Use their [template](https://media.nngroup.com/media/articles/attachments/Storyboard-Template.pdf), or something like it with frames that have captions. See some game storyboard examples: [VR game](https://www.artstation.com/artwork/nxzXr), [robo game](https://sites.google.com/site/videogamedesigntsanh/home/storyboard), [platforming game](https://www.storyboardthat.com/storyboards/soradora/storyboard--penguin-jump). Your storyboard should have at least six frames that explain the key features of your game. Think about the progression all the way from title screen to the win/end screen.

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**Feature List**

List all the features that you want to include in your game. Don’t worry about implementation - it’s okay to list a feature you don’t know how to make. Everything is a feature - from collectables, to player controls to showing visual feedback when a character is hit, to story voice-overs triggered when you enter a room, to a HUD, to the player’s footstep sounds, etc. If you’ve got less than six features, you are very likely missing things or your features are too big (e.g. “platforming” is not a feature, it’s multiple - player movement controller, level design, player animation, etc.).

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| * \*Game over occurs after all bases are destroyed or invaders reach player * \*Player wins after killing all invaders * \*Bases have health * \*Player can shoot * \*Invaders can shoot * \*Game scales according to screen resolution * \*Invaders move left and right | * \*Invaders move down after reaching the edge of the screen * Player gains points from shooting ships * The player can retry * Background Music * Sound Effects * Text UI to show shoot controls * Text UI to show movement controls |

**Prototype**

Describe what you’ll need to build for your prototype of the core mechanic of your game. What’s the least you can build to test your idea? *For the infinite runner quiz game, that would mean that, at the bare minimum, my prototype should feature a player object moving forward with obstacles spawning in the way and a way to track when the player hits an obstacle. I would use simple Unity primitives for the player (gray sphere) and obstacles (red boxes).*

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| The last I can build to test my idea is to create a ship in which the player can move left and right and avoid escaping the sides of the screen. I want the player to be able to use the arrow keys or the A and S buttons to move while pressing the left click mouse button to shoot. I don’t want the player to endlessly shoot because that would make it too easy so I want the player to have a wait time before they can shoot their next bullet. Upon shooting a bullet shoots from the ship, and after the bullet leaves the screen, it shouldn’t hit anything to avoid too many game objects being created. Next I would like to set up a timer, a score, and a game over text. Finally, I would like to make it so that enemies can move from left to right and advance forward after reaching the edge of the screen. |

**References**

Link to at least three links to other pieces of media - books, designs, other games, etc. - that have something similar to what you are trying to accomplish and explain which element you are interested in. It could have similar gameplay elements, a related story motif or an aesthetic you want to remix.

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| <https://en.wikipedia.org/wiki/Space_Invaders> <https://en.wikipedia.org/wiki/Space_Invaders_Part_II>  <https://en.wikipedia.org/wiki/Space_Invaders_Get_Even>  <https://www.youtube.com/watch?v=cnfwNzpoIlA> |

**Target Audience & Platform**

Who is the target audience for the game (e.g. age, interests, type of games they play, when they play)? How does that experience it (e.g. mobile, browser, AR/VR, desktop with keyboard, console with controller site-specific, etc.)? “Everybody” is not a target audience. *For example, for an educational game to teach geography, the target audience might be high schoolers who like to play quick and rewarding casual games, and it will be played in classrooms on PCs with a mouse and keyboard.*

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| My target audience doesn’t have an age restriction but will appeal to older gamers for its retro-inspired throwback to this classic. It’s pick up and play mentality makes the gameplay easy enough for anyone to understand, and the length of each level is short, making it perfect for quick game sessions, and will be played on PC’s with a mouse and keyboard. |

**Asset Research**

This is primarily a scripting class, so the focus is not on creating your own assets. Look through the free resources to find assets that you are considering for your project. Link them below. At minimum, you should have both visual assets and sound assets linked below.

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| The assets being made are using Unity primitives for the player and bases for the first prototype. I would like to include free assets from the Unity store for UI, invaders, the bases, the player, and include sound effects and music as well from the Unity Store when I go to polish this up. |

**Sound Research**

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| Used SFXR to make my own sound effects <https://www.youtube.com/watch?v=JFXrMqLCuqk> The font that I wanted my font to look like but couldn’t use since it’s technically licensed by Sega, either ripped or custom letters to go along with the font used in Sonic Advance 2 for the Gameboy Advance. <https://www.dafont.com/sonic-advanced-2.font> The font that I ended up settling on after knowing what kind of font I wanted.  <https://www.1001freefonts.com/old-game-fatty.font> |

**Font Research**

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| Video that helped me get the ball rolling <http://www.drpetter.se/project_sfxr.html> Used the song Dreams from Bensound for background music  <https://www.bensound.com/royalty-free-music/electronica> |

**Time Spent Towards Each Feature**

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| Player Movement: 2 hours 30 minutes  Enemy Movement: 5 hours  Music and Sound Research: 1 hour  Time spent creating Player and Bases: 20 minutes  Time spent creating enemies: 1 hour  Text UI: 1 hour  Text UI Scripting: 20 minutes  Fonts: 40 minutes  Most of the time I spent scripting, I was struggling getting things to work the way I wanted them to since I was trying to adapt a 2017 2D unity space invaders game to work as a 3D game, but I had to adapt and applied what I learned from our create with code assignments, and once I understood what every single little thing did and how it affected the game, I was able to get everything working the way I wanted. Fonts took longer than I expected, mainly because I roughly had an idea of how I wanted the fonts to look, and that may have resulted in me spending more time on the fonts in general as far as how I wanted them to look. First I watched a couple of videos until I landed on one in particular that had a couple of links of sites I could use for getting original fonts. Next I implemented a font style that I liked just to see how it would look. After deciding that it looked perfect I the needed to find a font that I could legally use that looked close enough to the look I was going for. |

**Feedback and Goals**

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| Based off of the feedback that I got in class, I was told that the only main problem with my game was that when it’s made into an application, without being told anything about the game, the player wasn’t sure how to shoot. The people who tested my game instantly went to try and use wasd or the arrow keys to move the player, but they didn’t know what would make their player shoot. This lead me to adding some text elements that let’s the player know the controls. Now that I have implemented the controls, I would like to figure out how to get them to appear at the beginning of the game, but disappear and fade out after a couple of seconds so they don’t need to be on the screen at all times. The other feedback that I got was to raise the enemies higher starting off so that the player would have more time to destroy the enemies before they reached the player and resulted in a game over. I also decided to add some more color to the enemies.  Overall I’m happy that my game functions as I’d expect it to, but I’m disappointed that my game doesn’t have a proper quit button, the player needs to force close out of game with alt + f4 as opposed to having a proper button to quit. My game also lacks a title screen as well, so I would like to improve the UI and add more functionality for the player so that they have the option to click play in a menu and work on polishing the game more overall. I should also add more than one way for the player to shoot. Since both of my classmates tried to use the spacebar to fire, I added an extra way for the player to shoot. |