**Developers Diary for Star Assault**

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| 21st October | Received notification of who the game designer is.  The game designer is Daniel Keogh, made contact with Daniel, asked for a copy of the design document to be forwarded by email. Checked with the designer that the name of the game was Star Assault. |
| 22nd October | Read the design document and decided some further research and practice was required before starting development. |
| Oct 23rd to November 4th | Worked on Unity, to become more familiar with the game engine. Also to work in a 3D space, which is not intuitive way for me to work. |
| 5th November | Opened git repository for the game, after researching the best way to use Unity with GitHub, the consensus on the internet was to use GitHub Desktop. |
| 9th November | Opened up a project in Unity for the game “Star Assault”. |
| 11th November | Imported the packages suggested by Daniel in the game design document. |
| 15th November | Added blank scenes, for the levels and splash screens. |
| 16th November | Worked on terrain creation, made a terrain for level 1. |
| 18th November | Added skybox to opening splash screen, added buttons as per design document. The buttons are just place holders for now. They will be changed as the game development goes on. |
| 20th November | Downloaded music for the splash screen. Note this must be changed, again the music is a placeholder. Using this music to ensure that music played correctly. |
| 23rd November | Fine tuned the terrain for level 1, this level will be an easy level with not too many obstacles or difficult terrain to avoid. There will be one enemy attack as detailed in the design document. |
| 26th November | Emailed Daniel to clarify checkpoints, respawning and a query I had on how the health bar for the player should work. This resulted in a short correspondence on the aspects of the game mentioned above. See section separate to this part of the diary which details the correspondence. |
| 27th November | Having gotten somewhat familiar with creating a terrain for level 1, I created terrains for levels 2 and 3. These will have to be tweaked as game development goes on and player flight is added to the game. |
| 28th November | Created all other displays, eg level transition and end of game displays. None of these displays have any functionality yet. Trying to keep as close to Daniels’s original design. None of these have any functionality yet. Added a health bar, this has no functionality yet, need to add a script to make the health bar work. |
| 29th November | Decided to try and make to do lists for every day that I’m working on the game.  Today’s list is:  Add player to scene, child player ship to main camera.  Set up flight path for player ship.  Create particle system for firing bullets/lasers.  Completed all tasks but the flight path needs more work. |
| 30th November | To do list:  Enemy waves need to be set up – decide if the enemies fire continuously or at intervals.  Powerups and shields need to be added – need to spawn randomly/at different times.  Completed setting up enemy wave for level 1, this will need to be tweaked as the game development goes on.  Powerups added to the scene but need to work on the timing of when they spawn and how often. |
| 1st December | Stuck with player moving too fast and exploding – the player controls seem to be wrong..need to look at properly, see if the movement can be improved.  Most urgently player from level 1 flight controls are not working – player can fire, but I can’t control movement -I could but not now!  Eventually discovered one of my variables for Position Yaw Factor was a negative value, it should be a positive value. Once I changed this the flight of the player ship improved.  To do: Set up reticle on the player.  Did not complete the reticle, looked online for some guidance but most of the tutorials I could find were from a first-person player perspective, need to investigate further, to see how to move the reticle from the centre of the screen and to move in relation to the player. |
| 3rd December | emailed Daniel, to let him know that I will be fully implementing the game as for PC platform before I move onto adapting the game for mobile, this may impact on the demo for the 16th of December. Daniel advised he was happy enough to see the game developed for PC platform. |
| 4th December | Added script for player score which adds the score correctly. Only tested on one type of enemy need to add more enemies in other levels with different score amounts. |
| 6th December | Added powerups to a timeline – need to add code for the power ups to actually do something.  1 power up for health, 1 power up for shield protection. |
| 7th December | To do lists, have disappeared from my work method. Trying to focus more and get small jobs complete.  To do:  Ensure all terrains on each level have a timeline on them that the player can fly around.  Figure out how to trigger to move from one scene to the next.  Completed all terrains in each level has a basic master timeline added.  Created a large cube a the end of each level to allow the player collide with it and when it does the player moves to the next level. Not moving to next level yet. |
| 8th December | Deadline is approaching and I feel like I have left a lot to do at the last minute.  To do:  Scenes -3 levels basically set up.  Start screen need to add functionality.  Between level screens – need to add script for these to work  Pause canvas – need to activate it.  Lose screen – done but need to activate it  Win Screen – done but need to activate it.  Completed, 3 levels set up. Start screen the single player button works now, the game now moves from level to level completed scenes in the correct order. Pause canvas working for level 1 clicking on buttons. Only works on other levels by clicking esc – buttons don’t seem to be working on other levels. |
| 9th December | To do: Concentrate on getting functionality of elements listed below working.  Portal from one scene to the next when level is complete.  Scores – carrying from scene to scene.  Healthbar needs to function for the player.  Enemies firing – at the moment they just fly on timeline.  Pick ups - need to fire at the pickups, make sure the pickups disappear off screen and add what ever powerup to the player. Write code for this part.  To fix – Player is not flying smoothly on level 1…in fact level one timeline needs to be redone.  Add Multiplayer  Seriously doubt I will have this done by deadline. Working on getting the basics of the game working before I tackle this element of the game.  Completed  Redid level one timeline, player flies better…but still dies just at the beginning, reloads and doesn’t die at the same spot. Discovered that this only happens if I launch the game directly from level 1, if I play the game from the very beginning the player doesn’t die, not entirely sure why this is happening but happy that the game plays as expected from the beginning. |
| 10th December | made a new Timeline for level one but my player still dies at the start – no idea why then when reloads doesn’t die!! If the player hits the terrain the player explodes …not sure why player dies with no explosion the 1st time. Will look at the scripts and see if anything in the scripts might be causing this.  Don’t have a script on the player in levels 2 and 3, trying adding playerBehaviour script to player to see if problem is the same with player dying – also want to test if controls are working for the player.  Added script, same error did not occur. Will add collisionHandler script now and see if the same error occurs. Something happened!! The player hit the terrain and the level loaded back to level 1…which means the level loading is working – just not on a portal!!  Adding the script to the player did not replicate the problem! But Player now reloads to start of correct scene now.  Need to work on some other areas for now eg, getting buttons working on start menu and getting pause screen working too. Will also need to fix health bar for player. |
| 11th December | – fixed portal problem – scenes now change when portal is struck. All portals should have a box collider and isTrigger ticked.  Problems per level  Splash screen is fine but need to separate out the select player option to another scene.  Level 1 player dies very near the beginning – can’t figure out why, player respawns and doesn’t die again at the same spot. After clearing the level the player passes through a portal which brings the player to a level completed scene.  Level 2 – Player didn’t have bullets added to their behavior, added bullets but continuously firing, small setting in particle system needs to be changed, as script should handle the firing of bullets…level 1 player is firing correctly, so will work through the settings.  Level 3 – need to add bullets to player, but won’t until level 2 player bullets are working correctly.  9th Dec Most urgent to do is:  Select single player button working, moves onto the correct scene. Working now  add the score to all screens and for the correct score to persist. Working now  Work on pause screen. <https://www.youtube.com/watch?v=JivuXdrIHK0> |
| 12th December | Most urgent to do is:  Pause screen is working but not properly – pause works fully as expected on level 1, on level 2 pause only works when esc button is pressed. Suspect it’s something to do with Game session manager.  Work on heads up screen  Work on player healthbar.  Fix the bullets continuously firing from player…continuous fire coming from the enemy is fine. Though the enemy fire rate should be slower for lower levels and faster for higher levels.  health bar working -tested on enemy need to move to onto player.  Dec – work on reticle, <https://www.youtube.com/watch?v=-7DIdKTNjfQ>  set up settings menu <https://www.youtube.com/watch?v=YOaYQrN1oYQ> |
| 13th December | Considered changing the shooting from the player to one shooting point from the centre of the payer ship. Decided against this option for now, but can easily be changed in the future. Tried to get health power up working, but I think I’m confusing where the code should go. More work is required on this. Health bar is almost working as expected |
| 14th December | Add multiplayer option to the game. Reticent to add a multiplayer option at this stage as the game isn’t functioning fully as it should. Will add the necessary networking elements from Unity Asset Store and some of the scripting, but anticipate that this will not be fully functional by December the 15th. |
| 15th December | All tests have been completed, please see attached spreadsheet titled Star Assault Testing. The testing has shown that there are many areas that need to be rectified. |