**13DTP Python Assessment Testing Sheet**

**Licenses and acknowledgements:**

Everything (Assets, Maps, Code, Game) is created by me.

**Livestreams of progress: (Chronological order)**

Please excuse the music and my accidental revealing of private information multiple times.

<https://youtube.com/live/VYLn5ujlw1w?feature=share>

<https://youtube.com/live/cKD71xpkABU?feature=share>

<https://youtube.com/live/HgFm4WpSufg?feature=share>

<https://youtube.com/live/KBmM2aDBMxs?feature=share>

<https://youtube.com/live/bAkrgdo19Xk?feature=share>

<https://youtube.com/live/9kox2FgAjYs?feature=share>

<https://youtube.com/live/wP_kzHLnGUc?feature=share>

<https://youtube.com/live/NOOXxg1nm6I?feature=share>

<https://youtube.com/live/eYwAuRrcdZQ?feature=share>

<https://youtube.com/live/KERYYJh_roM?feature=share>

<https://youtube.com/live/LuGJ1_WnB9g?feature=share>

<https://youtube.com/live/pN_jH7Ul2es?feature=share>

<https://youtube.com/live/0EoWmeA5-oE?feature=share>

<https://youtube.com/live/a8J2HwAXZXU?feature=share>

**My Playthrough (GPS):**

<https://youtu.be/M96uYFoKnhI>

**Backend:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Feature Tested | Test Type | What I did | What happened | How it was fixed (if applicable) |
| 12/3 | Finding number of files in a folder | Expected | Checked number of files in “idle” folder of player character using built-in os library. | Returned 0 instead of 4 | One of the conditionals in the for loop caused the image files to not be registered as files. By removing the if statement the issue was fixed. |
|  |  | Invalid | Checked number of files in “Idle” folder which doesn’t exist | Error occurred | Added an if statement to prevent folders which don’t exist from being accessed |
|  | Loading the game | Expected | Ran the game code (which should work) | ‘GameView’ object has no attribute ‘jump\_sound’  I was trying to load in a jump sound when I didn’t even have one | Removed the offending line of code. |
| 13/3 | Checking the number of files in ‘idle’ folder of villager NPCs | Expected |  | Received errors of index outside range | Within an unzipped folder there exists a hidden file (thumbs.db or something). This was counting towards the number of files counted, so there was consistently one more file in the directly unzipped folders. To fix this I moved all of the images into new empty folders that didn’t contain the hidden file, which fixed the issue. |
|  | Testing a more robust system for the general ‘Entity’ class | Expected | Put [“Idle”, “Walk”, “Jump”] as argument for available\_anims parameter for player sprite | Textures load correctly |  |
|  |  | Invalid | Put “Walk” in available\_anims for villager | Error occurs where there is no “walk” folder in villager folder. | This is fine as the animations which exist for each entity are hardcoded by me and will not change, and so if I ensure the list is correct there will be no errors. |
| 9/4 | Exiting the game when clicking the end screen | Valid | Clicked the end screen | Game did not exit. | Using sys.exit() does not close windows which is the main issue. I assumed that arcade.window must have a .close() or .exit() method, and I was pleased that I was correct. |
|  | Backend complete |  |  |  |  |

**Player:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Date | Feature Tested | | Test Type | | What I did | | What happened | | How it was fixed (if applicable) |
| 12/3 | Loading textures | | Expected | | Loaded all of the player textures for walking, jumping, falling, idle | | ‘PlayerCharacter’ object has no attribute ‘fall\_texture\_pair’  So it turned out I didn’t actually have a dedicated falling texture, because I commented out the code which added them in. | | First, I uncommented out the code which added in the falling/jumping textures from image files. Then I created the image folders in the player folder to contain the images. |
|  | Playing idle and walking animation | | Expected | | Played around with the character on the testing map | | Character was switching textures so fast it was basically vibrating | | Instead of switching textures every frame I made it switch textures every 8 frames instead |
|  |  | |  | |  | | After above fix character was stuck on first frame of idle animation | | I had changed the upper limit of the frame counter incorrectly, resulting in the character being stuck on the first texture, so I instead made it change textures every 4 frames, which fixed the issue. |
|  | Walking off the edge of the screen | | Boundary | | I walked off the right edge of the screen | | Player disappeared from view until I walked back onto the original stretch of screen. | | I added a ‘center\_camera\_to\_player()’ method which kept the player centred on the screen unless the screen was already touching the edge of the map. |
|  | Walking off the edge of the map | | Boundary | | Walked off the left and right edge of the map | | Kept falling forever | | Added a check every frame so that if the player fell below y = 0 they would teleport back to the spawnpoint. |
|  | Basic player movement | | Expected | | Tested standard arrow keys (Left, right, up) and WAD keys on their own | | Player moves as expected at the expected speed dictated by the PLAYER\_MOVEMENT\_SPEED constant (pixels/s) | |  |
|  |  | | Boundary | | Tested switching between keys | | Due to the process\_keychange() method any cases of keys being pressed at the same time were handled smoothly and the player only moved when one key was being pressed at a time | |  |
|  |  | | Invalid | | Pressing random keys like ‘t’ and ‘g’ which had nothing to do with the controls | | Nothing happens, as expected | |  |
|  | Interacting with statues | | Expected | | Pressed ‘f’ when standing next to a statue | | New spawnpoint at position of statue as expected. Respawned there when dead. | |  |
|  |  | | Boundary | | Pressed ‘f’ next to another statue after the first one | | New spawnpoint at the new statue as expected | |  |
|  |  | |  | | Went back to the first statue and pressed ‘f’ | | Nothing happened, which is incorrect, as the spawnpoint should have switched back. | | My thought process for doing the statues was to shift the current statue to its own layer “Current Statue”, so that the player spawnpoint could be made clear. However, I neglected to move the statue back to the normal “Statues” layer once another statue was interacted with. So I kept the current statue in a variable “prev\_spawnpoint”, which meant that once a new statue was moved from the “Statues” layer to the “Current Statue” layer, I could move the previous statue from the “Current Statue” layer back into the “Statues” layer. |
|  |  | | Invalid | | Pressed ‘f’ while standing away from the statue | | Nothing happened as expected. | |  |
| 17/3 | Shapeshifting | | Expecteed | | Pressed ‘2’ when in shape 1. | | Program displayed debugging error message “Not available or already this shape”. | | When shapeshifting I created a new player sprite in the player layer in the scene. However, I also needed to create a new physics engine to go along with the sprite, and I ended up having to split my elifs into separate if statements since each shape is of equal hierarchy. |
|  |  | | Invalid | | Pressed ‘3’ when in shape 1. | | Shape 3 doesn’t exist (yet) so nothing happened. | |  |
|  |  | | Invalid | | Pressed 1 when in shape 1. | | Nothing happened because player is already that shape (no consumption of energy) | |  |
|  |  | | Boundary | | Changed shape with 2 energy | | Nothing happened because energy level was not high enough (>=3) | |  |
|  |  | |  | | Changed shape with 4 energy | | Shape was changed and 3 energy was consumed. | |  |
|  |  | |  | | Changed shape with 3 energy | | Shape was changed and 3 energy was consumed. | |  |
| 18/3 | Added third player shape (has flight) | | Valid | | Tested out basic flight movements. | | Flight acceleration was a little too quick. | | Decreased the thrust (acceleration) of the player. |
| 18/3 – 20/3 | Fixing gravity for third player shape | | Invalid (Gravity is broken and things are not working as expected) | | Same as above | | Player moved downwards at a constant speed. | | I never figured out what the reason for this was, but I tried many things and I ended up just defining gravity when creating the physics engine. The main issue from before is that I tried to do all of the physics processing myself instead of using the arcade physics engine, which resulted in many timer and sensing variables being used to simulate kinematic equations using my custom gravity, which was both inefficient and did not have the desired effect.  In the end, I kept gravity normal and made it so that the player would just accelerate a bit more downwards on top of gravity when pressing the down or s keys. This at least made it so that the player wasn’t moving downwards at a constant speed anymore. |
| 20/3 | Gravity is fixed | | Valid | | Tested out player shape 3 movements. | | When pressing up the player accelerated upwards. When up released the player started accelerating downwards. When down pressed the player accelerated faster downwards. Nothing happened when both pressed. Horizontal movements work the same as the other shapes. When the player hits the ground the vertical speed is reset to 0. | |  |
| 21/3 | Shapeshifting between all 3 shapes | | Valid | | Pressed 3 when more than 3 energy and not in shape 3 | | Player shape changed to the flying shape and physics worked correctly. (Consumed 3 energy) | |  |
|  |  | | Invalid | | Pressed 3 when already in shape 3 | | Nothing happened and no energy was consumed. | |  |
|  |  | | Boundary | | Pressed 3 with 3 energy | | Player shape changed to shape 3 and 3 energy was consumed | |  |
|  |  | |  | | With 2 energy | | Nothing happened. | |  |
|  |  | |  | | With 4 energy | | Player shape changed to shape 3 and 3 energy was consumed | |  |
|  |  | Invalid | | Pressed 4 | | Nothing happened. | |  | |
|  |  |  | | Pressed all 3 keys at the same time | | The player shape changed to the first key that was pressed and consumed 3 energy. | |  | |
| 22/3 | Created climbing animations | | Valid | | Climbed up and down ladders | | All animations displayed correctly at the correct speed. | |  |
| 22/3 | Player shape 2 | Invalid | | The player shape 2 (dog)’s hitbox makes climbing stairs quite difficult. | | The shape gets stuck at certain points on slopes. | | Because the shape can climb up 1 high slopes normally, I ensured that the maximum height of a slope on any map was 1, and also removed its ability to climb ladders as a handicap. | |
| 25/3 | Player interactions with villagers | Valid | | Interacting with villagers in all 3 shapes | | Only shape 1 (human) is able to interact with villagers. This is intended as a handicap on the other two shapes. | |  | |
| 28/3 | Player death animations | Valid | | Added player death animations when health is 0 or spikes are touched. | | Animation plays correctly in a controlled setting, but hasn’t been implemented in game yet with correct functionality. | |  | |
| 28/3 | Testing energy bar filling | Valid | | Walked into energy orbs at various energy levels. | |  | |  | |
|  |  | Boundary | | Energy 0, 1, 2 | | Energy bar texture changed to the next one which had one more bar filled. | |  | |
|  |  | Invalid | | Energy 3 | | Energy bar did not change as max energy had been reached and orb did not disappear either. | |  | |
|  |  | Valid | | Shapeshifted with max (3) energy | | Energy bar changed to the empty texture. | |  | |
|  |  | Invalid. | | Shapeshifted with less than max energy | | Energy bar did not change, shapeshifting did not succeed. | |  | |
| 1/4 | Tested health bar | Valid | | Ran into some spikes | | Health immediately dropped to 0 and player respawned with max health again :) | |  | |
|  |  | Valid | | Ran into the enemy | | Lost all health (should have only been 1), health bar changed texture to reflect this correctly, also respawned the player with max health. | | Because of the lack of immunity frames when touching the enemy, the code to decrease health continuously ran thus killing the player instantly. To fix this I added an immunity timer so that the player couldn’t be hurt for half a second after touching an enemy, and also made the player automatically jump up to get away from the enemy. | |
|  |  |  | | Tried again after implementing the fix | | Player lost 1 health and texture changed to reflect this correctly. | |  | |
|  |  | Boundary | | Same as above but with 1 health | | Health bar dropped to 0 and player respawned with max health. | |  | |
| 2/4 | Implementing death animation | Valid | | Play the death animation once health reached 0. | | Death animations did not have a chance to play before the player respawned. | | Turns out I was resetting the current texture to 0 every single frame of the player dying, which meant that only the first frame of the animation played before the player respawned. To fix this I ensured that the current texture would only be set to 0 on the first iteration, by adding a conditional that could only be fulfilled when the player first dies. | |
|  |  | Valid | | Same as above | | Death animations played continuously. | | Because the health was still below 0 the death animation would play constantly since health <= 0 was the condition. To fix this I made sure to reset the health back to max (3) so that the death animation only played once before player respawned. | |
| 3/4 | Added knife feature | Valid | | Pressed ‘Z’ to use knife when knife in inventory | | Knife could be spammed repeatedly. | | Added cooldown to knife so that it could only be used once every half second. | |
|  |  | Invalid | | Pressed ‘Z’ to use knife when knife not in inventory | | Knife did not appear. | |  | |
|  |  |  | |  | | Knife spawned in wrong direction. | | When spawning in the knife I used the incorrect facing direction of the player sprite. Once I moved some direction changing code around so that the direction would be changed before the knife spawned in, everything managed to work. | |
|  | Stabbing enemies with knife | Valid | | Stabbed enemy with knife. | | Enemy removed from scene and enemy drop added to inventory. | |  | |
|  |  | Invalid | | Pulled out knife 2 blocks away from enemy. | | Enemy did not die. | |  | |
|  | Knife size | Valid | | Decided that knife was a little too big | |  | | Decreased knife scaling to more appropriate sizes. | |
|  | Player Complete |  | |  | |  | |  | |

**Map:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Feature Tested | Test Type | What I did | What happened | How it was fixed (if applicable) |
| 12/3 | Displaying the map | Expected | Ran the code as normal which should have showed the testing level | Black screen | Changed the window background colour from ‘self.tile\_map.background\_color’ to (255, 255, 255) (White) |
|  |  | Expected | Same as above | Level appeared but was far too small in the bottom left corner | Increased TILE\_SCALING and CHARACTER\_SCALING constant from 1 to 10. |
|  |  |  |  | After fixing sizing issue saw that everything was blurry | Added the parameter ‘pixelated=True’ to the scene.draw() method, which changed the filtering to nearest-neighbour, creating a sharper pixelated effect. |
| 13/3 | Displaying statues on the map | Expected | Added the statues for the respawn mechanic | Statues displayed correctly |  |
|  | Displaying villagers on the map | Expected | Added some NPC villagers for future purposes (quests and stuff) | No matter how closely I followed the tutorial code (adding in object\_lists) the villagers would not appear | This issue took me waaayyyy too long to fix (like 2 days). So it turns out that on the Tiled map you have to put objects down as pins then give them textures in the actual code, rather than drop their images straight onto the Tiled map. Once I changed the sprites to pins everything worked and life was good again. |
| 16/3 | Displaying villagers | Expected | Same as above | I managed to figure out the issue 3 days after I encountered it. |  |
| 17/3 | Displaying “Can interact” text | Expected | Walked around some villagers. Every time I get close the text should appear. | Text only appeared when I moved around the first villager and no others. | Because I had set the interactable state of a villager to True but didn’t change it back to False when the player moved away, the first villager was constantly in the interactable state and thus the player could only interact with that one villager.  By creating the toggle system the first villager stopped hogging the position of “interactable villager”, thus allowing the other villagers to also take up that mantle and allowing the text to display correctly. |
| 17/3 | Displaying energy orbs | Expected | Ran the program as normal. | Orbs appeared correctly but were too big. | Created a new scaling constant named COLLECTIBLE\_SCALING which was half of the TILE\_SCALING, so the orbs appear at an acceptable size. |
| 17/3 | Displaying current energy on GUI | Expected | Ran into some energy orbs | Energy text updated correctly |  |
| 27/3 | Cave reveal system | Valid | Added a system where blocks covering a cave in the foreground would gradually become transparent as the player approached. | Originally the opacity of the blocks would only become 0 if the player was directly next to it, which resulted in a radius of visibility that was too small to be useful. As a result, I created a lower bound and upper bound, where anything within the lower bound distance was fully transparent, and anything above the upper bound distance was fully opaque. |  |
| 29/3 | Added energy bar in place of text | Valid | Checking energy bar displays properly. | Energy bar displays correctly at all energy levels and fills up correctly as well. |  |
|  | Added health bar | Valid | Checking health bar displays properly. | Health bar displays correctly at all health levels. (Haven’t implemented death animation at this stage yet) |  |
| 1/4 | Tested playability of map 1 | Valid | Tried to play through the first map to the end | Last section had some spikes that were too long and couldn’t be jumped over. | Reduces the length of the spikes slightly to make the jump possible. |
|  | Tested moving to the next level | Valid | Jumped in the warp portal at the end of the level | KeyError: ‘Villagers’ | This was quite a big problem at the time for me and since I didn’t know how to fix it I just put it off until I got all the rest of my features working. It would be the 3rd before I managed to get the level change working (even after I managed to get sublevels working). In the end I realised that the issue must have been with the order which arcade ran the code, which meant that some of the code which utilised the villager layer ran before the villager layer could even be added to the scene, resulting in the KeyError. To fix this, I added a try except around all of the code involving villagers so that even if there were issues the game would not crash. This ensured that the game could last long enough for the setup code to add in the villager layer, thus allowing the normal villager code to run again, instead of being ignored by the try-except. |
| 2/4 | Added new layer “Warp Doors”. | Valid | Player interaction with warp doors | When player interacted with door KeyError: ‘key\_req’ appeared | Some of the warp door objects in the tilemaps did not have the custom ‘key\_req’ property, causing the error to occur. By adding this property the player is able to move into the sublevel. |
|  | Moving into sublevel | Valid | Player interacted with warp door | Error occurred where the scene was missing many layers. | Because my sublevel tilemap didn’t have any statues or death layers or villagers there was a lot of code involving them in the on\_update method that caused errors due to the lack of layers. To fix this I added try-excepts around every single code involving tile/object layers, because I knew that the code all worked properly, and if there were any errors it was because that layer didn’t actually exist in the scene. This ensured that the game was robust and did not break when moving into new tilemaps. |
|  | Moving back into main level | Valid | Interacted with warp door inside sublevel | Player spawned too high in the air. | The ‘dest\_y’ property in the custom properties of the warp doors was based off the Tiled coordinate system, where the top left was (0, 0). However, Arcade uses bottom left as (0, 0), which meant that I had to change the ‘dest\_y’ value to the height of the tilemap – the Tiled coordinate in the custom properties to get the player to spawn in the right place. |
|  | Added locked doors (unlockable with a key) | Valid | Grabbed key and touched door. | Door should have opened, but instead it just blocked my player. | I had the locked doors as a tile layer, but instead I turned it into an object layer so I could animate it opening and closing. This also ensured that it was constantly transparent. However, since this meant that the player could pass through the door at any time, I added a 1 pixel wide barrier behind the background that could be shifted between a transparent layer and a solid layer, in the same way as moving statues between layers. This meant that if the player collided with the door with the correct key in inventory the door barrier would move to the transparent layer the door would update texture to the opened texture. |
|  |  | Invalid | Touched door without key or with wrong key | “Missing key” text displayed, which was correct. Door did not let player through. |  |
| 3/4 | Moving to next main level | Valid | Touched the warp portal at the end of the level | KeyError: “Player” | Again, this has to do with the order that Arcade runs its code. When a new level is loaded the player layer does not have a chance to be added to the scene before code involving the player is run. Hence, errors will occur. To fix this, I changed the position of the code that loaded the player into the scene from the bottom of the setup method to the top. This ensured that the player would always be loaded in before any code involving it could be run. This allowed the next level to load smoothly and without error. |
| 3/4 | Floating text in scene stays even when next level loaded. | Invalid | The text should not be remaining in the scene since it was from the previous level. |  | It was interesting that sublevels could work nicely yet the main levels didn’t want to cooperate, even though they’re technically the exact same thing. To fix this issue I just cleared the text layer time setup was run at the start, before any other code had a chance to be run, which could mess everything up again. |
| 3/4 | Added clouds in scene | Valid | Checked if clouds rendered correctly in the background | Yes |  |
| 4/4 | Loading in level 2 and 3 | Valid | Jumped into the warp portal at the end of levels 1 and 2 | After fixing the code hierarchy and missing layers issues, the levels all loaded smoothly. |  |
|  | Moving into sublevels in levels 2 and 3 | Valid | Checked if I could enter the sublevels in level 2 and 3 both with and without meeting the requirement. | Everything ran as expected, and the sublevels loaded correctly when I had the right key, and didn’t let me through when I didn’t have the key. |  |
| 4/4 | Testing playability one last time | Valid | Checked if all levels were finishable | Yes |  |
| 9/4 | Testing start screen into instructions screen into actual game | Valid | Followed the instructions and clicked the screen to move on | Start screen changed into instructions screen which changed into the actual game which worked properly. |  |
|  |  | Invalid | Spammed a bunch of keys (not mouse) | Nothing happened. |  |
|  |  | Valid | Spam clicked the mouse | Start screen quickly shifted into the game. |  |
|  | Testing game into end screen | Valid | Collected all 4 secrets | Corresponding end screen appeared |  |
|  |  |  | Collected all combination of 3 secrets | Corresponding end screens appeared correctly |  |
|  |  |  | Collected all combination of 2 secrets | Same as above |  |
|  |  |  | Collected all combination of 1 secret | Same as above |  |
|  |  |  | Collected no secrets | Same as above |  |
|  |  |  | Clicked on the screen | Game ended and window closed |  |
|  |  | Invalid | Spammed a bunch of keys | Nothing happened since there’s no code for key detection. |  |
|  | Maps and screens completed |  |  |  |  |

**Villagers:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Feature Tested | Test Type | What I did | What happened | How it was fixed (if applicable) |
| 17/3 | Interacting with villagers | Expected | Pressed ‘F’ near a villager | Nothing happened | I made an update method for the villager class which calculated the distance to the player every frame and thus toggled the “interactable” state of each villager object. However, I did not realise that I had to run the method in the on\_update method in the main game, so once I did that and passed in the player position as an argument, the villagers could be interacted with. |
| 17/3 | Interacting with villagers | Expected | Constantly printed position of each villager relative to the player. | Discovered that the y distance was completely off (in the 1000s). | Turns out I was subtracting the y-coordinate of the villager from the x-coordinate of the player, which resulted in the very big distances. I changed them both to be y-values which fixed the issue. |
| 17/3 | Interacting with villagers | Expected | Pressed ‘F’ when near a villager. | Villager played Wave animation |  |
|  |  | Invalid | Spammed a bunch of keys next to a villager | Villager only waved when I pressed ‘F’. |  |
|  |  | Boundary | Interacted with a villager then left to interact with another villager | First villager stopped waving and second villager started waving. |  |
| 17/3 | Added villager wave animations | Expected | Interacted with villager | Villager refused to wave | Did a ton of debugging which resulted in the splitting of checking if the player is in range of the villager and whether the player is interacting with the villager into two separate blocks. |
|  | ‘’ | ‘’ | ‘’ | This time the code which should have triggered the wave animation all worked correctly, but the apparently there were no wave textures even though I had the texture in the folder. | The os library code I was using to identify how many images were in the folder did not work correctly and did not actually count the files in the folder. I removed the if statement that checked if the file was an image since I could make sure that all files in the animation folder were in fact images. |
| Villagers completed |  |  |  |  |  |

**Collectibles:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Feature Tested | Test Type | What I did | What happened | How it was fixed (if applicable) |
| 17/3 | Colliding with energy orbs | Expected | Walked into an energy orb | Energy increased by 1 |  |
| 17/3 | Energy orb blinking animation | Expected | Checked if orbs were playing their blinking animation correctly | Things worked as expected |  |
| 17/3 | Colliding with energy orbs | Expected | Walked into an energy orb | Orb was removed from the scene (intended) |  |
| 2/4 | Colliding with apples (quest item) | Expected | Tried to collide with apples during a quest that required apples. | Apples were not picked up | I forgot to actually set the type attribute of the apple objects to “Apple”, so when the player touched them the check if collision.type == “Apple” would never be True. Once I added that the collisions worked and the apples were added to the inventory and removed from the scene. |
|  |  | Expected | Same as above | Apples quantity in inventory increased by number of apples picked up. Each apple was removed from the scene once they were picked up. :) |  |
|  |  | Invalid | Tried to pick up apples when not in quest involving apples | Apples were not picked up. (Intended) |  |
|  |  | Boundary | Picked up more apples than required for quest | Number of apples went over the required amount but that was fine since it was intended. |  |
| 2/4 | Checking locked door keys | Valid | Walked onto a key | Key ID was added to ‘keys\_obtained’ list. |  |
| 3/4 | Going into sublevel that requires a key | Valid | Interacted with door with key | Missing key text displayed | This happened because I used the wrong key in the nested dictionary to check what key was needed for the door. Once that was changed the sublevel could be entered and it all loaded correctly. |
|  |  | Invalid | Interacted with door without key | Missing key text displayed (intended) |  |
| 3/4 | Interacting with secrets | Valid | Touching a secret collectible | Collectible removed from scene and name added to secrets found list. “Secret Found” text is displayed. |  |
| Because like quests the collectibles are also very tileable not much testing is required once the system has been verified to work properly. | Hence, the collectible testing is complete. |  |  |  |  |

**Enemies:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Feature Tested | Test Type | What I did | What happened | How it was fixed (if applicable) |
| 28/3 | Enemy displaying correctly | Valid | Checked if the enemy was displaying correctly | Yes |  |
| 30/3 | Enemy moving correctly | Valid |  | Enemy was moving in the opposite direction to the direction it faced. | I accidentally drew the enemy textures facing left instead of right, which was the case for all my other sprites. This meant that its direction would always be opposite. I switched up the left facing and right facing constants for its movement so that it looked right when moving (even though from the code it looks like it’s facing the wrong direction). |
|  |  | Boundary | Checked if enemy would reverse direction once it hit its boundaries. | Yes |  |
| 4/4 | Added new ‘can\_kill’ attribute to enemies | Valid | Use knife on enemy with can\_kill = True | Enemy removed from scene and enemy dropped item in inventory increased by 1 |  |
|  |  | Invalid | Use knife on enemy with can\_kill = False | Enemy still alive. |  |
| 4/4 | Added bird enemy | Valid | Checked all movements | Bird enemy moving correctly (since it was basically a copy of the wraith enemy anyway). |  |
| Enemies completed |  |  |  |  |  |

**Quests:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Feature Tested | Test Type | What I did | What happened | How it was fixed (if applicable) |
| 1/4 | Activating quest | Valid | Interacted with villager with an associated quest. | KeyError: 1 | I was using a constant dictionary QUEST\_REF to store all the quest information and the key was the id of the villager associated with it. However instead of using the string ID from the custom properties of each villager to access the dictionary I instead used the integer villager\_id which determined what texture to give the villager, taken from the last digit of the actual villager ID. To fix this I created a separate attribute for the actual ID of the villager, and used that to access the QUEST\_REF dictionary instead. |
| 1/4 | Quest text displaying correctly | Valid | Checking starting quest dialogue by interacting with villager before starting quest. | Villager displayed starting dialogue correctly for 2 seconds. |  |
|  |  | Valid | Checking if current quest info was drawn correctly after starting quest. | Current quest requirements drawn correctly under energy bar. |  |
|  |  | Boundary | Interacting with quest villager after starting quest (but not finished) | Villager displayed text telling the player that their quest wasn’t done yet for 2 seconds. |  |
|  |  | Boundary | Interacting with another villager during quest, after quest | Other villager did not have associated quests so did not do anything. |  |
|  |  | Valid | Interacting with quest villager after meeting quest requirements | Villager displayed the quest finished text and gave out the quest reward (1 energy for this one).  Quest requirements disappeared.  However quest required items were not taken from the inventory. Also the quest could be started again right after finishing it. | Most of it was successful and there were technically no unexpected events happening, just things I hadn’t actually coded in yet. I first made it so that the quest items were removed from the inventory in the quantity required. I also added the finished quest villager ID in a finished\_quest list so that it could not be started again once it was finished. |
| 2/4 | Implementing multiple quests |  |  |  |  |
|  |  | Valid | Interacted with quest villager after doing a system rehaul. | Game immediately crashed.  AttributeError: ‘GameView’ object has no attribute ‘quest\_item’ | Again, due to the order that Arcade runs code the code which involved the quest variables ran before the variables had a chance to be associated with a value. This resulted in errors which crashed the game. To fix this I made a quest item checker which checked what items were needed for the current quests and only enabled collisions for those items, thus preventing errors where other quest items were also processing collisions. |
|  |  | Valid | Checking quest requirements displayed correctly by taking multiple quests. | Quest requirements displayed correctly one after another vertically stacked below the energy bar. |  |
|  |  |  | Checking quest requirements displayed correctly after finishing a quest or two | When quest was finished the other quest requirements moved up to fill the space so that there was no gap. |  |
|  |  | Valid | Taking quests and doing them in every order possible, e.g. taking all quests then doing all quests, taking one quest at a time, taking two, completing one, then taking another, etc. | Quest processing all worked fine (quite surprisingly) and there were no errors or miscalculated rewards or dialogues popping up. |  |
|  |  | Boundary | Taking another quest while first villager is in the middle of explaining the quest. | Second quest was started as well, and second villager started dialogue. However this cut out the first villager’s dialogue because only one villager can speak at a time (intended). |  |
|  |  | Invalid | Attempting to hand in quests when they are not finished. | Quest incomplete text was displayed above the villager being interacted with. |  |
|  |  | Invalid | Trying to start a quest that was already finished | Villager only waved and did not start the quest again (intended). |  |
|  | Decreasing timer for quest finished dialogue | Valid | Handed in a finished quest to a villager. | Game crashed:  TypeError: ‘NoneType’ object not subscriptable. | I had code which set the timer variable to 0 once it reached 0, preventing it from decreasing further, but because the value was in a dictionary I ended up setting the entire dictionary to 0 by accident instead of the value in the dictionary. |
| Note: | Because the quest system is incredibly tileable, it makes adding any new quests beyond 2 extremely easy, since it all works off the same system. | Hence once I got the first 2 quests working, I didn’t need to add any new features since it was already there. |  |  |  |
| 9/4 | Checking popup text when quest finished | Valid | Handed in finished quest | For some reason sometimes both the starting and finishing dialogue would appear at the same time, which is terrible for readability clearly. | Setting mutable variables equal to each other in Python points them to the same memory location. This means when one is changed the other is also changed, which can cause many unexpected issues. To fix this I just put a .copy() on the end of the quest finished dictionary so that it would stop editing the main quest dictionary when I finished a quest. |
| Quests are complete |  |  |  |  |  |

**Feedback**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Name | Likes | Dislikes | My changes |
| 21/3 | Alex Ivanov | Cute dog | Should add indication when interacting with statue | Added floating text above player showing that a statue has been interacted with. |
| 21/3 | Ishan Gupta | Nice game, the shapeshifting feature is very cool. | Instructions are not clear, hitbox/physics for the dog shape are strange. (Gets stuck when climbing slopes) | Added in-game text guiding the player through the first level to learn the controls, as well as an instructions screen before the game starts. Made it so that there are no large slopes for the dog shape to get stuck on. |
| 21/3 | Sai Sushrut Chintakutla | Pretty good | Add more story, make parkour harder | Added harder parkour, especially in later levels. Story was very hard to implement so I ended up scrapping that idea (mostly). |
| 27/3 | Ray Ishihara | The helicopter (?) blaze thing is creative, though it can be a bit overpowered. | Game not intuitive enough so needs more instructions/guides. | Added certain obstacles on maps to make using the blaze shape a bit more difficult, as well as adding instructions. |
| 28/3 | Richard Meng | Shapeshifting is very creative, especially the half blocks which can only be passed through using the dog shape. Villagers are cute. | Villagers need some more functionality apart from just waving. Also the way to play the game is not very clear. | Same as above, also implemented quests for villagers. |
| 28/3 | Sam Dawson | Being able to fly is so cool. I like how you made everything yourself. | Can we enter the villager houses?  Game is slightly unintuitive. | Implemented sub-levels which can be entered from some of the houses. Once again added instructions screen. |
| 30/3 | Cortez Northam | The respawn feature is quite well thought out, and reminds me of one of those RPGs. Overall this gives old flash RPG vibes. | Can the villagers have more functionality, currently they only wave which is cool but they should have more actions. | Added villager quests. |
| 1/4 | Nathan Fernandes | I love the quest system, it seems difficult to make but it looks so cool. Really adds to the exploration/RPG aspect of the game. | The text is all black, so it’s really hard to read against a dark background. If you could add a highlight behind it or outline to make it easier to read that would make the game much more enjoyable. Also I want to be able to kill the enemy haha | Outline is too hard to make and would make game too laggy so I added a white background rectangle behind all of the black text which made it much easier to read. Added a knife to kill enemies with 😊 |