Design- Testing

Test Number	What am I testing?	Expected outcome	How am I going to test it?	Actual Outcome	Notes and fixes.
1.	Player- Movement	The player should move smoothly at a constant speed when I press the arrow keys. Pressing the arrow keys should also change the animation of the player. If multiple keys are pressed than the player should react to the last key pressed.	I will press the arrow keys in order. Starting by holding each one for 5 seconds, I will then speed this up until I am pressing multiple buttons at the same time.	Left and right keys control relevant horizontal movement, last key pressed will take priority if multiple keys are held, tapping and holding the keys work. Space is now assigned to jumping and acts independent to the horizontal movement, meaning you can move left and right while jumping. You can only jump when the robot has completed a whole jumping cycle.	Jumping has been assigned to the space key, this makes the player more involved in movement.
2.	Player- Interaction	The Player should enter the interacting animation and trigger interaction with certain objects when I press space.	I will press spacebar to test the animation. I will rapidly press it to see if the three second cool down works like intended. I will then have to load up levels to interact around objects to see if the state is working correctly.	Pressing enter within two spaces (128 pixels) of an object will cause an interaction. While interacting you are interacting you are locked into place, sadly no special interacting animation was implemented. If the object has speech pressing the enter button will cycle through it. Holding the enter button will rapidly read through the next that is somewhat unwanted as it ruins the story, but is a feature useful for testing and speed running, so I see no reason to remove it. Attempting to interact with an object a second time will lock you into place again; this issue can easily be resolved by pressing enter again.	Interactions have been assigned to the enter key, this has been employed in many other games and was the logical replacement for space after it was assigned.
3.	Player- Tutorial	At the start of the game, there should be images of the controls floating above the player for 15 seconds.	I will load up the game multiple times in a row and time how long the controls last before disappearing.	All movement and features of the game are explained by the kiosk objects in the first four levels that serve as a tutorial to the game. Basic movement is given as part of the background, and the cue to press enter to interact is flashed above all tutorial kiosks and is given in text at a later stage.	This was implemented as a user-friendly method of introducing the game, it also gives more information and is harder to misinterpret.
4.	Player- Win	At the end of the game, the player should enter a win animation and the user should not be able to interact with it.	I will artificially put the player into a win state to see if the animation will work as intended, I will then if I can interact with the player by pressing spacebar and the arrow keys during the animation.	When you reach the last level you have no way of leaving, you are trapped in a final zone with full movement but nowhere to go until you manually close the game.	It is a shame that this wasn't implemented, instead the player is told they won by another robot and will have to manually close down the game.
5.	Platform	This should prevent player movement and support the player.	I will try to make the player run through a platform. I will also load the player on platforms to see if the player falls through them or stands on them.	The tiles that are meshed together to make platforms also make up the floor, as they prevent the character from entering a falling state, you cannot fall when standing on the floor or a platform.	
6.	Neutral area- start	Should start as a black screen with the text (Press space to start). This animation should change when the user presses start (as the player should be interacting).	I will load the game from the start and see if the animation is always in start. I will than press all the keys to see if the animation changes with only the spacebar.	While the screen is not blank, there is a 'Press enter to start' pop-up at the start of the game. It serves the same purpose, but not to the same effect as a completely blank screen.	In the end, the absence of a black screen at least allows the user to see the game from the start and get a feel of the art used.

7.	P1	When P. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the P1 instance. I will manually activate the battery. This should cause the player to be moved from the P1 to the neutral area instance.	This test has been removed as the level transition is now uncontrollable, you will be spawned into the next pre-determined level if you touch the right hand side of the screen. There is a bug that if jump while attempting to transition you will crash the game. While exit blocks have been implemented to help prevent the case of accidently jumping, if you really want to crash the game using this method, you still can.	
8.	P1.Teleporter	When I load into the P1 stage, the player should be placed on this object.	I will manually load P1 and see if the playable character is not only in the instance, but also next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	Due to massive changes in the way the level transitions have been changed, this object and the concepts following it have been removed. This removes a massive amount of complexity for the game, making it an experience that is easier to enjoy.
9.	Fuel	When the player interacts with this object, as it changes to hold, the player should have a hold state and change animations to be holding the fuel and the fuel should change animation to disappear.	I make the player interact with the fuel while having the code visible, this interaction should give the player an additional state (fuel) and the fuel's current state should be changed to hold. If that works fine, then the associated animations should take place.	The way the object interact with the player has been changed; every object's unique states have been unified to off and on. This object will disappear when the character interacts with it, simulating the concept of picking it up.	Sadly, due to the complexity, held objects don't function as flashy as I originally wanted them to, there are no special animations of holding the object.
10.	Generator	When the player interacts with this object, as it changes to powered, the player should leave the hold state and change animations to no longer holding the fuel and the Generator should change animation to be vibrating and pumping out steam.	I make the player interact with the generator while having the code visible, this interaction should remove an additional state from the player (fuel) and the generator's current state should be changed to powered. If that works fine, then the associated animations should take place.	The way the object interact with the player has been changed; every object's unique states have been unified to off and on. When interacted with, the generator will enter an on state.	
11.	Generator-Broken	4 seconds after being in a powered state, the generator should change to a broken state. This will cause it to change animation so that it stops vibrating and produces a puff of black smoke before staying still.	I make the player interact with the generator while having the code visible. I will time the interval between the changing of states (if it does happen). If everything goes to plan, then the associated animations should take place.	This test has been removed due to the object not being in the game.	With the solar panel not working there was no explainable way to implement this object.
12.	Powered platform	While in an unpowered state, it should behave just like a platform and block movement. If the generator is in a powered state, then it will change states, losing all interactions and changing animation to swing down (via the right platform) to hang vertically.	Firstly, I will try to fall through the platform. If everything works fine, the player should walk on it as if it was the floor. I make the player interact with the generator while having the code visible. If everything goes to plan, then the platform will change state and the	This test has been removed due to the object not being in the game.	With the solar panel not working there was no explainable way to implement this object.

			associated animations should take place. I will then try to fall through the platform, this time it should not impede my movement.		
13.	High Powered Lamp	If the powered platform is on, then it will change state to On. While on its animation will change, causing it to change animation to extend the light further down.	I will manually set the powered platform into an on state, the lamp should respond to this by changing animation.	This test has been removed due to the object not being in the game.	No matter what I tried to do all attempts to implement this object failed and it just crashed. As a result, I removed it from the game and changed the level.
14.	Solar Panel	If the High Powered Lamp is on, then it will change state to Powered. While on its animation, will change- the panels will start to shimmer with light.	I will manually set the High Powered Lamp into an on state, the panels should respond to this by changing animation.	This test has been removed due to the object not being in the game.	No matter what I tried to do all attempts to implement this object failed and it just crashed. As a result, I removed it from the game and changed the level.
15.	Power Box	When the player interacts with this object, it should change to a plugged state, the Power Box should change animation to have the plug connected to it.	I make the player interact with the Power Box, if it changes states, it should change animation.	The way the object interact with the player has been changed; every object's unique states have been unified to off and on.	
16.	Power Box- Powered	If both the solar panel is on and the power box is plugged, it will enter a powered state. While powered it should change its animation to have its symbol glow.	I will manually set the Power Box into a plugged state and the panels into an on state, the Power Box should change state a glow in response.	With the lessened complexity of the game, this step of the object was removed.	
17.	Gate	While in an unpowered state, it should behave just like a platform and block movement. If the Power Box is in a powered state, then it will change states, losing all interactions and animations	Firstly, I will try to walk through the platform. If everything works fine, the player should walk on it in to it as if it was a wall. I will manually set the Power Box to powered; the gate should disappear along with all interactions and animations.	The way the object interact with the player has been changed; every object's unique states have been unified to off and on.	
18.	P1 Battery	When the player touches this item, it should enter a win state and the player should enter an animation to hold it up and celebrate.	I will move my player into the battery, if it does not enter a win state and/or the character doesn't dance, then something is wrong.	The whole concept of batteries was completely changed; they now float around and get collected upon contact, causing your count to go up.	These collectables behave similar to collectable in other famous platforms such as coins in *Mario* and apples in *Crash Bandicoot*. In those games, collecting 100 of them would give another life, but as there are no lives, they currently serve no purpose.
19.	P2	If P1 has been completed, when P. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the P2 instance. I will manually activate the battery. This should cause the player to be moved from the P2 to the neutral area instance.	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	

20.	P2.Teleporter	When I load into the P2 stage, the player should be placed on this object.	I will manually load P2 and see if the playable character is not only in the instance, but next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
21.	Small projectile	When the player interacts with the projectile, it should transfer state with the player. This will than make it disappear (this will also work the other way around).	I will have the player interact with the object. I will open the code to see if the state has been transferred. After this, the animations should change so that the Player is holding the projectile and the projectile has disappeared. I will then interact with the invisible protective to see if the state can be transferred back.	Now acts like a hold object, will disappear when interacted with.	With the complexity of the catapult being too high to implement, the functionality of the projectile changed.
22.	Player- Small projectile	When in this state, the player should walk slower and be unable to jump.	While in this state, I will press the movement keys, the player should be moving slower and I should not be able to jump.	Test has been removed due to a reduction in the complexity of held objects.	
23.	Large projectile	When the player interacts with the projectile, it should transfer state with the player. This will than make it disappear (this will also work the other way around).	I will have the player interact with the object. I will open the code to see if the state has been transferred. After this, the animations should change so that the Player is holding the projectile and the projectile has disappeared. I will then interact with the invisible protective to see if the state can be transferred back.	The interaction has changed due to the complexity of the catapult. It know exists as part of a different puzzle, in which it is pushed to show the effects of gravity on an object with mass. Will disappear when interacted with.	
24.	Player- Large projectile	When in this state, the player should not be able to walk or jump.	While in this state, I will press the movement keys, the player shouldn't be moving slower and I should not be able to jump	Test has been removed due to a reduction in the complexity of held objects.	
25.	Catapult- Charging	When interacting with the catapult, the first interaction should pull the holder back; a further interaction will pull it back further.	I will use the player to interact with the catapult. As each interaction causes the catapult to change state, there should also be an associated animation taking place.	The complexity of the catapult has been vastly reduced. When interacted with it will fly forward, simulating a launch.	
26.	Shabby wall	It should behave just like a platform and block movement. If the catapult is in a strong launch state, than the wall will break, changing its interaction and animations.	Firstly, I will try to walk through the platform. If everything works fine, the player should walk on it in to it as if it was a wall. I will manually set the catapult into a strong launch state to see if the wall will change state.	Breaks when the catapult is interacted with, allowing the player to walk past it.	
27.	Box	It should behave just like a platform and block movement. When interacted with, the player should enter a pushing state. They can only move left.	Firstly, I will try to walk through the platform. I will make the player interact with the Box, if the state successfully transfers, then I will attempt to move left and	The box has been changed to be an asset used multiple times. It will break in response to the projectile/boulder being interacted with, simulating the idea that the boulder has been dropped on the box, breaking it.	

			right, I should only be able to move left.		
28.	Boulder- push	When interacted with, the player should enter a pushing state.	I will make the player interact with the boulder, if the state was transferred successfully, it should walk while rolling the boulder.	Removed due to complexity issues.	
29.	Glass wall	While in an unbroken state, it should behave just like a platform and block movement. If the boulder is in a crash state, then it will change states, losing all interactions and changing its animation to break.	Firstly, I will try to walk through the platform. If everything works fine, the player should walk on it in to it like it was a wall. I will manually set the boulder to crash; the glass wall should break removing its interactions and changing its animations.	Removed due to complexity issues.	Without the boulder being pushed, there was no need implement another puzzle that would behave similar to the box being broken by having a boulder pushed into it.
30.	P3	If P1 and P2 have both been completed, when P. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the P3 instance. I will manually activate the battery. This should cause the player to be moved from the P3 to the neutral area instance.	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	
31.	P3.Teleporter	When I load into the P3 stage, the player should be placed on this object.	I will manually load P3 and see if the playable character is not only in the instance, but also next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
32.	Source box	These objects hold three different states, if the player interacts with certain parts of the Source box, it will transfer states (and vice versa).	I will have the player interact with the source box while displaying its code. At each point, I will attempt to transfer the states to and from the player.	Due to the simpler nature of objects, this object has been split into three different objects, each one giving a different source.	
33.	Fire- On	Will act as a platform. If the player touches the platform it will say, (I am not fireproof! I need to stop the fire to continue.).	I will make the player walk into the fire; it should be stopped short of its animation and talk, blocking the player from advancing.	Due to the layout of the game, the player never gets close enough to the fire to interact with it. When the smoke alarm goes off, the fire will be put out.	Even if the main character is a robot, it may have been a good call to make sure that the robot never gets close to the fire.
34.	Smoke alarm- off	Can transfer states to and from the player when interacted with. Its visuals will change depending on the state.	I will interact with the alarm with the player while it is in both gamma and beta state, there should be a visual change as the state is transferred between the two but nothing else.	As robot states have been removed, this test has also been removed.	
35.	Smoke alarm- alpha	When the player interacts with the alarm while in an alpha state, it will change to an on state and start flashing.	I will interact with the object while in an alpha state while the code is showing, I should be able to see a change in state and the animation should change.	When you interact with the smoke alarm, you already would have taken an alpha source with you, when you interact with the smoke alarm it will go off, changing animation.	

36.	Sprinklers	When the smoke alarm is on, the sprinklers will enter an On state. This will cause it to change animation and spray water.	I will manually set the alarm into an on state; this should cause the sprinklers to enter an on state.	Have been moved to be included as part of the fire object, therefore test is removed.	
37.	Fire door	While in an off state, it should behave just like a platform and block movement. If the sprinklers are in an on state, then it will change states, losing all interactions animation	Firstly, I will try to walk through the platform. If everything works fine, the player should walk on it in to it as if it was a wall. I will manually set the fire to on, the fire door should open removing its interactions and changing its animations.	When the fire enters an on state, this enters an on state and disappears from the level, while this means it no longer blocks your way, there is no way to interact with it before, therefore it is impossible to test its ability to block the player.	
38.	Beta gun- off	Can transfer states to and from the player when interacted with. Its visuals will change depending on the state.	I will interact with the beta gun with the player while it is in both gamma and alpha state, there should be a visual change as the state is transferred between the two but nothing else.	Due to the simplifying of object mechanics, this object's test has been reduced. When interacted with, there is no visual difference, but it will no longer block my way.	
39.	Waterfall	While on, it should act like a platform. If the Beta sensor is on, then it will change to an off state. When in this state it will lose all interactions and change animation to lesser stream of water.	Firstly, I will try to walk through the platform. If everything works fine, the player should walk on it in to it as if it was a wall. I will manually interact with the beat sensor, this should cause the waterfall to change state, and this should be evidenced by the change in visuals. I will then try to make the Player walk past it	Due to the layout of the game, the player never gets close enough to the object to interact with it. When the player interacts with the beta gun, it will cause the water in the waterfall to disappear, allowing the character to walk past it.	
40.	Beta sensor	When the Beta gun is on, the object will enter an On state.	I will manually set the beta gun into an on state; I will have to have view the code in view to see if it successfully changed state.	When the beta gun enters an on state, the sensor changes animation to sport a green light.	
41.	Gamma gun- off	Can transfer states to and from the player when interacted with. Its visuals will change depending on the state.	I will interact with the gamma with the player while it is in both beta and alpha state, there should be a visual change as the state is transferred between the two but nothing else.	Due to the simplifying of object mechanics, this object's test has been reduced. When the player interacts with the gun, it changes state, this is shown by a section of the gun closing off to show the gamma source has been placed it in.	This time a warning has been used. It may be smarter to give the other sources warnings too, seeing that beta is questionably the most harming to life.
42.	Cancer-On	Will act as a platform. If the player touches the platform it will say, (I'm not touching this! Find a way to get rid of it!).	I will make the player walk into the cancer; it should be stopped short of its animation and talk, blocking the player from advancing.	Due to the layout of the game, the player never gets close enough to the object to interact with it. When the player interacts with the gamma gun, the cancer's animation changes to it being burned and allows the user to way past it.	One of the more scarring objects drawn, it has been toned down for the audience.
43.	Button	When the Player walks on the button, it should change state to on; this will also change its animation to make it pressed down.	I will move the player over the button. If it changes state, than it should change animation as I walk on it.	This object has been moved to the biology level, and is now placed onto the ceiling. When the plant light enter an on state, so does this object, causing a plant to press the button, putting a protective wall into an on sate.	This puzzle added nothing to the game and was removed for being redundant. It was then placed into a different puzzle to adjust it for the lowered complexity of the game.

44.	Protective Wall	It should behave just like a platform and block movement. If the Button is in an on state, than the wall enter an Off, changing its interaction and animations.	Firstly, I will try to walk through the wall. If everything works fine, the player should walk on it in to it like it was a wall. I will manually set the button into a on state to see if the wall will change state.	This wall is now used in multiple other levels and is the generic mechanical gate. At no point does the character have a chance to be blocked by it though.	This object was kept as it served as a great reusable asset, helping to speed up development and reduce complexity.
45.	B.Teleporter	When interacted with, should enter an on state.	To test this interaction, I will set it change animation while on. After interacting with it, if it goes blank, then it is working fine and I will remove that animation change after testing.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
46.	B1	When B. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the B1 instance. I will manually activate the battery. This should cause the player to be moved from the B1 to the neutral area instance.	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	
47.	B1.Teleporter	When I load into the B1 stage, the player should be placed on this object.	I will manually load B1 and see if the playable character is not only in the instance, but next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
48.	The fan	When the player interacts with the object, it will enter an off state; this should change its animation so that it stays still.	I will walk the player up to the object and press space; the object should change state, therefore changing its animation.	One of the more impressive animations, when interacted with, the animation will stop and the plug will be pulled out (potential edit is to place the plug on the same side as the player).	
49.	Hair	It should behave just like a platform and block movement. If the fan is in an off state, than the hair will enter an unlocked state, changing its interaction and animations.	Firstly, I will try to walk through the hair. If everything works fine, the player should walk on it in to it as if it was a wall. I will manually set the fan into an off state to see if the hair will change state.	Due to the layout of the game, the player never gets close enough to the object to interact with it. It now exists within a pit and makes a makeshift spiked pitfall. When the player interacted with the fan, the erect hairs will retract, removing all interactions with them and rendering them harmless.	
50.	Switch	When the player interacts with the object, it will enter an on state. While in an on state, its animation should change to being flipped on.	I will walk the player up to the object and press space; the object should change state, therefore changing its animation.	Interacting with the object makes it change state and animation, the switch is visibly flipped and electricity crawls across the wire.	The electrical effect probably warrens the need for a hazard and/or a safety warning.
51.	Light bulb	If the switch is on, then it should change state to On. While on it should change its animation to glow.	I will manually set the switch into an on state, if the light bulb should glow in response to this.	Turns on the when the switch is interacted, causing the bulb to light up.	The placement is somewhat questionable.
52.	Plant	When the light bulb is on, it will enter a powered state, this will make it change its animation to grow towards the light and behave like a platform.	First, I will walk past it to make sure that it does not block movement. I will then manually set the light bulb into an On state. This should cause the state change.	Massively changed due to the decreased complexity of the game. When the light is turned on, it will change animation to shoot up towards the light.	My game lacks any method to create platforms during a level, therefore this puzzle needed to be changed.

			Finally, I will try to walk up the platform without falling through it.		
53.	Pull chain	When the player interacts with the object, it will enter an on state. When it is on, its animation will change to it to extend down and then back up.	I will walk the player up to the object and press space; the object should change state, therefore changing its animation.	When I interact with the chain, it changes animation to be pulled down slightly lower on the screen.	
54.	Drop weight	If the Pull chain is on, then the drop weight will also change state to on, his will change its animation to fall and hit the knee.	I will then manually set the light bulb into an On state. This should cause the state change. This will be confirmed with the animation.	When the pull chain enters an on state, the weight will fall down, hitting the knee.	
55.	The knee	If the drop weight is on, then the knee will also change state to reflex, his will change its animation kick the box.	I will then manually set the light bulb into an On state. This should cause the state change. This will be confirmed with the animation.	When the pull chain enters an on state, the weight will fall down, hitting this object, in reflex it will kick out.	
56.	The box	While in an idle state, it should behave just like a platform and block movement. If the knee is in a reflex state, then it will change states, losing all interactions and changing its animation to break.	Firstly, I will try to walk through the box. If everything works fine, the player should walk on it in to it like it was a wall. I will manually set the knee to reflex; the box should break removing its interactions and changing its animations.	When the pull chain enters an on state, the weight will fall down, hitting this object, in reflex it will kick out- breaking this box, allowing the robot to walk past it.	Due to the layout of the game, the player never gets close enough to the object to interact with it.
57.	B2	If P1 has been completed, when P. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the B2 instance. I will manually activate the battery. This should cause the player to be moved from the B2 to the neutral area instance.	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	
58.	B2.Teleporter	When I load into the B2 stage, the player should be placed on this object.	I will manually load B2 and see if the playable character is not only in the instance, but next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
59.	Buttons	When the Player interacts with a button, it will change the object its sate, causing that button to glow.	I will make the player interact with all four buttons. Each one should change state when I press them, lighting up.	When this object is interacted with, it will change animation so that one of the buttons is darkened to represent it being pressed it.	The whole version of this puzzle was repetitive and the complexity of having multiple buttons just didn't seem worth the effect it gave, so this puzzles was simplified.
60.	Microscope	When in any state other than 1, it should behave like a platform. Changes state and animation to match the buttons, each number will shrink it smaller and smaller.	Firstly, I will make the Player walk into it, it should not allow me to pass it- like a normal platform. I will then manually change the state of each	Due to the layout of the game, you never get a chance to interact with this object. When you interact with the button, the subject being viewed in the microscope shrinks, allowing you to walk past it.	This puzzle was simplified to match the changes done to the buttons.

			button; this should be confirmed by the changing animation of this object. Finally, I will leave the buttons on 1 and try to walk past the object.	This puzzle is somewhat abstract and may be hard to interpret.	
61.	Acids	These objects hold four different states, if the player interacts with certain parts of the Acids, it will transfer states (and vice versa), each change of state will either have the Player picking up and holding an acid or putting it back.	I will have the player interact with the proteins while displaying its code. At each point, I will attempt to transfer the states to and from the player.	These are placed on different levels, they will block the user from advancing (as you would not be able to go back to this level if you passed them), when you interact with them, they disappear from their stem with a pop.	The names in the code was changed to bases, as that is more accurate to what they actually are.
62.	RNA	The RNA consists of four different parts, each one of these parts can have one of the acid stats transferred to them. Each part will than change its animation to have the complete strand.	I will use the Player to attempt to transfer the wrong states to each part, and then have the player attempt to transfer the acid states to the right paths; this will be confirmed via the change in animations.	This object now consists of four sections, each blocking a platform. By interacting with each one, you change its state, causing it to have the base placed in it; it will then close to connect two bases and lose the interactions.	This was changed to be separated, as the placement of each, one was a nightmare to develop and was taking an unjustifiable amount of time to get to a state that was acceptable to present.
63.	RNA- Wall	While in an idle state, it should behave just like a platform and block movement. When every part is in an acid state, the RNA will change to an On state, and then it will change states, losing all interactions and changing its animation to break.	Firstly, I will make the Player walk into it; it should not allow me to pass it- like a normal platform. I will then manually change the state of each section; this should be confirmed by the changing animation of this object. Finally, I will then attempt to walk the player through the wall.	This became a separate object that blocks the exit on the other side of the level (although due to the layout of the level, you never interact with it). When the final RNA is complete, the door will 'open', this change in state will cause it to disappear and loss all its interactions, allow the player to walk past it.	Maybe the design of the door should be changed further to increase the DNA/RNA themes.
64.	Proteins	These objects hold three different states, if the player interacts with certain parts of the Proteins, it will transfer states (and vice versa), each change of state will either have the Player picking up and holding an protein or putting it back.	I will have the player interact with the proteins while displaying its code. At each point, I will attempt to transfer the states to and from the player.	This test was removed due to the object being removed from the game.	Due to massive similarities to the DNA and bases puzzles, this object was removed, as reputations cause boredom in a game.
65.	Enzyme gate	The gate consists of two different parts, each one of these parts can have one of the protein states transferred to them. Each part will than change its animation to have the complete strand. If the player attempts to transfer blue, they will say (It doesn't fit).	I will use the Player to attempt to transfer the wrong states to each part, and then have the player attempt to transfer the acid states to the right paths; this will be confirmed via the change in animations. When I try to transfer the blue state, they player should speak.	This test was removed due to the object being removed from the game.	Due to massive similarities to the DNA and bases puzzles, this object was removed, as reputations cause boredom in a game.
66.	B3	If B1 and B2 have both been completed, when B. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the B3 instance. I will manually activate the battery. This should cause the player to be moved from the B3 to the neutral area instance.	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	

67.	B3.Teleporter	When I load into the B3 stage, the player should be placed on this object.	I will manually load B3 and see if the playable character is not only in the instance, but next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
68.	Chain	When the player interacts with the object, it will enter an On state. If the chain is in this state, it will change its animation to be pulled down and remain longer.	I will walk the player up to the object and press space; the object should change state, therefore changing its animation.	The test has been removed, as the object does not exist in the game.	This was removed to reduce program complexity, as the chain wasn't really needed for the bell to work.
69.	Bell and bowel	If the chain is in an On state, the object will enter an On state; this will make it change animation to have the bell ring.	I will manually set the chain into an On state; this should trigger the bell and bowel to enter an on state, signal by the animation.	This test has been changed as the dependency of the chain has been removed. The robot cannot walk past the object, until it has been interacted. This changes the state, causing the bell to fall off and the dog to stare at the bowel drooling. The player can walk past the object at this point.	
70.	Hungry Dog	While in an Off state, it should behave just like a platform and block movement. If the player touches the dog, the player should say (It looks hungry). If the bell and bowel is in an on state, then it will change states, losing all interactions and changing its animation to make it run over the bell and bowel.	Firstly, I will try to walk through the dog. If everything works fine, the player should walk on it in to it as if it was a wall and speak. I will manually set the bell and bowel to on; the dog should move removing its interactions and changing its animations.	Due to the layout of the level, the user will never interact with the dog. When the bell is interacted with, the dog object will disappear along with all its interactions, allowing the user to walk past were it once was.	
71.	Distractions	These objects hold four different states, if the player interacts with certain parts of the distractions, it will transfer states (and vice versa), each change of state will either have the Player picking up and holding a distraction or putting it back.	I will have the player interact with the distraction while displaying its code. At each point, I will attempt to transfer the states to and from the player.	The test has been removed, as these became separate objects.	
72.	Busy bees	While in an Off state, it should behave just like a platform and block movement. If the player touches the bees, the player should say (Would you walk past them!)	Firstly, I will try to walk through the bees. If everything works fine, the player should walk on it in to it like it was a wall and speak.	Due to the layout of the level of the level, the player will not have a chance to interact with the object. When the flowers change state, the bees will change state, this will change their animations and cause them to loss all interactions.	
73.	Busy bees-meat	If the player tries to interact with the bees while in a meat state, the player will say (Nothing's happening, maybe they're vegetarian?).	Firstly, I will try to walk through the object. If everything works fine, the player should walk on it in to it like it was a wall. I will then interact with the object, the player you speak.	This object will block the player's movements until interacted. When the player interacts with the object, it will say something in terms of the character's reaction to the idea of using it, and then it will lose its animation and all interactions.	
74.	Busy bees-horn	If the player tries to interact with the bees while in a meat state, the player will say (This only seems to make them angry, I should stop)	Firstly, I will try to walk through the object. If everything works fine, the player should walk in to it like it was a wall. I will then interact with the object, the player you speak.	This object will block the player's movements until interacted. When the player interacts with the object, it will say something in terms of the character's reaction to the idea of using it, and then it will lose its animation and all interactions.	
75.	Busy bees-flowers	If the player interacts with the bees while in a flower state, the bees will enter a flower state. This will remove their	Firstly, I will try to walk through the object. If everything works fine, the player should walk in to it as if it was a wall.	This object will block the player's movements until interacted. When the player interacts with the object, it will say something in terms of the	

		interactions and change their animations so have them swarm in a different place.	I will then have the player interact with it while in a flower state; the bees should change animation and allow me to walk past them.	character's reaction to the idea of using it, and then it will lose its animation and all interactions.	
76.	Decoys	These objects hold three different states, if the player interacts with certain parts of the decoys, it will transfer states (and vice versa), each change of state will either have the Player picking up and holding a decoy or putting it back.	I will have the player interact with decoys while displaying its code. At each point, I will attempt to transfer the states to and from the player.	The test has been removed, as these became separate objects.	
77.	Bird	While in an Off state, it should behave just like a platform and block movement. If the player touches the bird, the player should say (It looks dangerous).	Firstly, I will try to walk through the bird. If everything works fine, the player should walk on it in to it like it was a wall and speak.	Due to the layout of the level of the level, the player will not have a chance to interact with the object. When the toy change state, the bird will change state; this will change its animations and cause it to loss all interactions.	
78.	Bird- rose	If the player tries to interact with the bird while in a rose state, the player will say (It doesn't seem interested, maybe roses aren't its thing?).	Firstly, I will try to walk through the object. If everything works fine, the player should walk on it in to it like it was a wall. I will then interact with the object, the player you speak.	This object will block the player's movements until interacted. When the player interacts with the object, it will say something in terms of the character's reaction to the idea of using it, and then it will lose its animation and all interactions.	
79.	Bird- light	If the player tries to interact with the bird while in a rose state, the player will say (It doesn't seem interested, maybe roses aren't its thing?).	Firstly, I will try to walk through the object. If everything works fine, the player should walk on it in to it like it was a wall. I will then interact with the object, the player you speak.	This object will block the player's movements until interacted. When the player interacts with the object, it will say something in terms of the character's reaction to the idea of using it, and then it will lose its animation and all interactions.	
80.	Bird-toy	If the player interacts with the bird while in a toy state, the bird will enter a toy state. This will remove its interactions and change its animation to have it court the toy.	Firstly, I will try to walk through the object. If everything works fine, the player should walk in to it like it was a wall. I will then have the player interact with it while in a toy state; the bird should change animation and allow me to walk past them.	This object will block the player's movements until interacted. When the player interacts with the object, it will say something in terms of the character's reaction to the idea of using it, and then it will lose its animation and all interactions.	
81.	C.Teleporter	When interacted with, should enter an on state.	To test this interaction, I will set it change animation while on. After interacting with it, if it goes blank, then it is working fine and I will remove that animation change after testing.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
82.	C1	When C. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the C1 instance. I will manually activate the battery. This should cause the player to be	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	

			moved from the C1 to the neutral area instance.		
83.	C1.Teleporter	When I load into the C1 stage, the player should be placed on this object.	I will manually load C1 and see if the playable character is not only in the instance, but next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
84.	Power Box	When the player interacts with the box, it have a powered state transferred to it, this state will animate the clip in the players and, and take it off the floor. If the player was to interact again, it would transfer states back.	I will have the player interact with the power box. This should cause both the player and object to change state, evidenced by their changing animations. I would then have the player interact again to attempt to transfer the state back.	This test has been changed to the lack of held objects in the game. This object will block the movement of the player. When interacted it will change state, causing the wires move and be bathed in electricity and all interactions with the player to be removed.	
85.	Hydrocarbon wall	While in an unpowered state, it should behave just like a platform and block movement. If the player interacts with the wall while powered, the state will be transferred. When in a powered state the wall will lose both its animations and its interactions.	Firstly, I will try to walk through the object. If everything works fine, the player should walk in to it like it was a wall. I will then have the player interact with it while in a powered state; the bird should change animation and allow me to walk past them	Due to the layout of the level, the user will never interact with this object. When the generator is in an on state, the wall will enter an on state, this will change its animations, causing the wires from the generator to connect to the hydrocarbons, making them spilt and making the wall lose all animations.	
86.	Bellows	When the player interacts with this object, as it changes to bellow, the player should have a bellow state and change animations to be holding the bellows and the bellows should change animation to disappear. The player should also be able to transfer this state back.	I make the player interact with the fuel while having the code visible, this interaction should give the player an additional state (bellow) and the bellows' current state should be changed to bellow. If that works fine, then the associated animations should take place. I will then try to transfer the state back.	The way the object interact with the player has been changed; every object's unique states have been unified to off and on. This object will disappear when the character interacts with it, simulating the concept of picking it up. The object will speak in place of the robot, explaining some of the reasoning behind using it for the puzzle.	
87.	Bonfire	While in an On state, it should behave just like a platform and block movement. If the player touches the bonfire, the player should say (There is a lot of black smoke, maybe it's not getting enough air?). If the player transfers the bellow state, it will change to an off state, changing its animation to ash and removing its interactions.	Firstly, I will try to walk through the object. If everything works fine, the player should walk in to it like it was a wall. I will then have the player interact with it while in a bellow state; the bonfire should change animation and allow me to walk past them.	Getting close to this object will stop the user. Interacting with the object will cause it to change animation to a pile of smouldering ash and cause it to lose all animations, allowing the robot to progress further into the level.	A possible fire safety warning might be required here.
88.	Hydrocarbon	When the player interacts with the hydrocarbon, it have carbon state transferred to it, this state will animate the hydrocarbon in the players and, and take it off the floor. If the player was to interact again, it would transfer states back.	I will have the player interact with the hydrocarbon. This should cause both the player and object to change state, evidenced by their changing animations. I would then have the player interact again to attempt to transfer the state back	This test has been removed as the object and feature no longer exists.	With the with the levels having increases freedom, I decided that having two hydrocarbon related puzzles was a bit redundant, and that this puzzle didn't really capture polymerisation well.

89.	Polymer wall-off	There is a small invisible platform over the ditch just touching the foot of the player they tried walk off or jump across the map; this should cause the player to stop at the ditch.	I will walk the player up to the platform and attempt to move it further; it shouldn't be able to move right in that situation.	This test has been removed as the object and feature no longer exists.	With the with the levels having increases freedom, I decided that having two hydrocarbon related puzzles was a bit redundant, and that this puzzle didn't really capture polymerisation well.
90.	Polymer wall-carbon (x2)	While in a carbon state, it should remove one of the platforms allowing the player to walk across the second half of the ditch.	I will have the player walk across the ditch in both directions; it should be able to without problem.	This test has been removed as the object and feature no longer exists.	With the with the levels having increases freedom, I decided that having two hydrocarbon related puzzles was a bit redundant, and that this puzzle didn't really capture polymerisation well.
91.	C2	If C1 has been completed, when C. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the C2 instance. I will manually activate the battery. This should cause the player to be moved from the C2 to the neutral area instance.	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	
92.	C2.Teleporter	When I load into the C2 stage, the player should be placed on this object.	I will manually load C2 and see if the playable character is not only in the instance, but also next to the teleporter.	This test has been removed as the object and feature no longer exists, the spawn location for the robot is a constant variable.	
93.	Gas canisters	This object holds two different states, if the player interacts with certain parts of the canisters, it will transfer states (and vice versa), each change of state will either have the Player picking up and holding an canister or putting it back.	I will have the player interact with the proteins while displaying its code. At each point I will attempt to transfer the states to and from the player.	The way the object interact with the player has been changed; every object's unique states have been unified to off and on. This object will disappear when the character interacts with it, simulating the concept of picking it up. The object will speak in place of the robot, explaining some of the reasoning behind using it for the puzzle.	
94.	Gas feed	Can transfer states to and from the player when interacted with to either O or Ar. Its visuals will change depending on the state.	I will interact with the gas feed with the player while it is in both O and Ar state, there should be a visual change as the state is transferred between the two to symbolise the transferring of states. I will then try to transfer the states back from the gas feed.	Getting close to this object will stop the user. Interacting with the object will cause it to change animation so that the Ar canister is in it and cause it to lose all animations, allowing the robot to progress further into the level.	
95.	Fire room-Idle	Will behave like a platform. If the gas feed is O, then the room state is changed to O, if the feed is Ar, then the room state is changed to Ar.	I will make the player walk into the fire room; it should not be able to walk past it. I will then manually change the state of the gas feed while the code of the room is open, to see if the states are changing.	Due to the layout of the level, the user will never interact with this object. When the gas feed is in an on state, the wall will enter an on state, this will change its animations, causing the fire die out and the walls open and making the room lose all interactions.	
96.	Blocks	This object holds three different states, if the player interacts with certain parts of the blocks, it will transfer states (and vice	I will have the player interact with block while displaying its code. At	This was changed to objects of different materials. These are placed across the level, they will block the user from advancing (as you would not be able to go	This was done so that the user has a better idea of each material was,

		versa), each change of state will either have the Player picking up and holding a block or putting it back.	each point, I will attempt to transfer the states to and from the player.	back to this level if you passed them), when you interact with them, they will disappear and the robot will give some information about each one.	rather than just looking at coloured blocks.
97.	Open Circuit	If the player tries to interact with the circuit while in a wood state, the player will say (Nothing is happening).	I will interact with the object, the player should then speak.	Getting close to this object will stop the user. Interacting with the object will cause it to change animation, causing the fork to be placed in the gap in the circuit. At the same time, the wires will be bathed in electricity. The object will loss all interactions and allow the user to walk past it.	Another potential electricity safety message might have to be placed here.
98.	Gate	While in an off state, it should behave just like a platform and block movement. If the circuit is in a closed state, then it will change states, losing all interactions and animations.	Firstly, I will try to walk through the gate. If everything works fine, the player should walk in to it like it was a wall. I will manually set the circuit to closed; the gate should open removing its interactions and changing its animations.	Due to the layout of the level, the user will never interact with this object. When the open circuit is in an on state, the gate will enter an on state, losing its interactions and animations.	
99.	Pulley	When the player interacts with the object, it will enter an On state. When in an On state, it will be pulled downwards, before springing up further than its first position.	I will walk the player up to the object and press space; the object should change state, therefore changing its animation.	This test has been removed; the pulley is no longer in the game.	This was removed to reduce program complexity, as the pulley was not really needed for the alkali drop to work.
100.	Alkali drop	While in an off state, it should behave just like a platform and block movement. If the pulley is in an on state, then it will change states, changing animation to blow up and losing all interactions.	Firstly, I will try to walk through the alkali. If everything works fine, the player should walk in to it like it was a wall. I will manually set the pulley to on; the alkali should change removing its interactions and changing its animations.	Interacting with this object will cause it to explode, changing its animation to a wreck and causing it to lose its interactions, allowing the robot to progress to the next level.	
101.	C3	If C1 and C2 have both been completed, when C. Teleporter is activated, this stage should load. When the battery is collected, this stage should be deleted.	I will manually activate the teleporter. This should cause the player to be moved from the neutral area to the C3 instance. I will manually activate the battery. This should cause the player to be moved from the C3 to the neutral area instance.	This test has been removed, as the level transition is the same of every level. By touching the right side of the screen, I will progress to the next level.	
102.	Button	When the player interacts with the object, it will enter an on state. If the button is on, it will change animation to have the red button part of it pressed in further.	I will walk the player up to the object and press space; the object should change state, therefore changing its animation.	This test was removed, as the object is not in the game.	As the electroplating station was not implemented into the game, this object has no need to exist.
103.	Electroplating station	While in an off state, it should behave just like a platform and block movement. If the button is in an on state, then it will	Firstly, I will try to walk through the station. If everything works fine, the	This test was removed, as the object is not in the game.	Due to the complexity of this object, and the limited animation of the game, this object would have been a lot of

		change states, changing animation to transfer metal from the bottom to the top node, causing the water to collapse the bottom and run down the drain.	player should walk in to it as if it was a wall. I will manually set the pulley to on; the station should change removing its interactions and changing its animations.		space taken for very little effect, so I decided no to include it in the game.
104.	Torch	When the player interacts with the torch, it have a fire state transferred to it, this state will animate the torch in the players and, and take it off the floor. If the player was to interact again, it would transfer states back.	I will have the player interact with the torch. This should cause both the player and object to change state, evidenced by their changing animations. I would then have the player interact again to attempt to transfer the state back.	The way the object interact with the player has been changed; every object's unique states have been unified to off and on. This object will disappear when the character interacts with it, simulating the concept of picking it up.	
105.	Syringe	If the player transfers the fire state to the syringe, it will change state. This will change its animation to have a flame at one end, causing it to rise up on the other end.	I will have the player interact with the torch. This should cause both the player and object to change state, evidenced by their changing animations.	This object will block the user if it gets within a tile of the object. Interacting with this object will change it to an on state, causing it to change animation so that it presses a button on a ceiling. This causes the gate that is a part of the object to open, allowing you to walk past it.	
106.	Gate	If the High Powered Lamp is on, then it will change state to Powered. While on its animation will change- the panels will start to shimmer with light.	I will manually set the High Powered Lamp into an on state, the panels should respond to this by changing animation.	This test was removed, as the gate became part of the syringe object.	To the user there is a very small difference between if this object is its own or part of another, as the result is virtually similar.
107.	Chemicals	These objects hold three different states, if the player interacts with certain parts of the decoys, it will transfer states (and vice versa), each change of state will either have the Player picking up and holding a decoy or putting it back.	I will have the player interact with chemicals while displaying its code. At each point, I will attempt to transfer the states to and from the player.	These are placed on different levels, they will block the user from advancing (as you would not be able to go back to this level if you passed them), when you interact with them, they disappear from their platform, removing their interactions.	
108.	Flames	Will act like a platform; block the player from advancing through the level.	I will have the player try to walk and jump past each flame, it should just stop at the flames.	This test has been changed as the object has been changed. This object now consists of three different objects, each blocking a platform. By interacting with each one, you change its state, causing it to change colour and lose their interactions.	
109.	Kiosks	Will act like a platform, will talk to user when interacted. After talking, it will lose its interactions and let the user walk past.	I will have the player attempt to walk past them. I will then try to interact with them, and then walk past them after.	They will block the user until interacted with, causing them to say a pre-set text. Pressing enter while they talk will cause the next speech bubble to appear. After talking, they will allow you to walk past them. Attempting to talk to them again will lock you into place, pressing enter again will let you move again.	These are new objects that were not originally designed to be in the game. They are now a key part as they provide information to the user.
110.	Henbit		I will have the player attempt to walk past them. I will then try to interact with them, and then walk past them after.	He will block the user until interacted with, causing him to say a pre-set text. Pressing enter while he talks will cause the next speech bubble to appear. After talking, you can walk past them. Attempting to talk to him again will lock you into place, pressing enter again will let you move again.	This object is based on the sprites for the other possible playable character. As I could not fit him into the game, he became an object similar to the kiosk.