



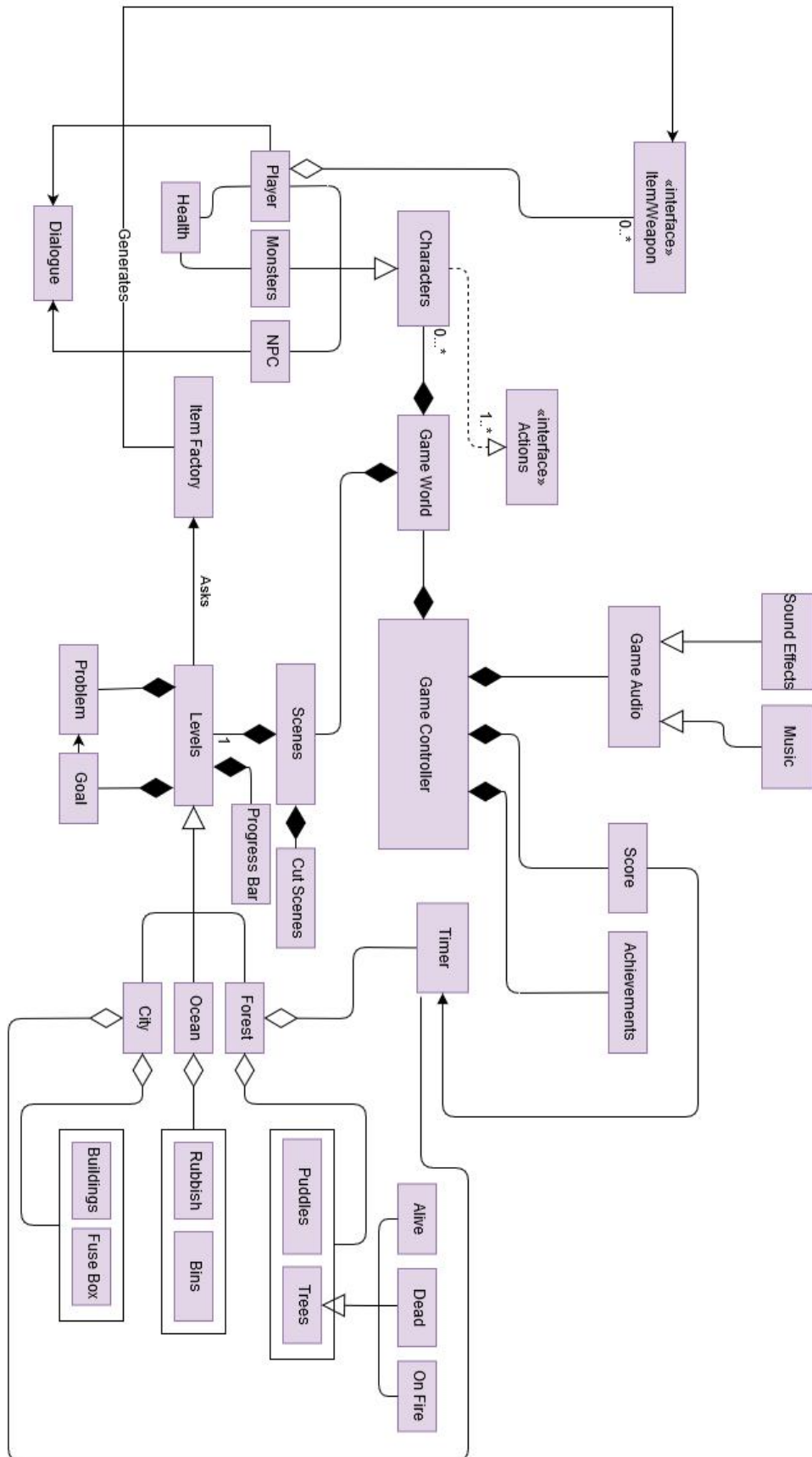
# Design Documentation

SOFTENG 306 | 30 September 2019

## Preface

After further discussion with our team members, with great emphasis on the rational unified process, we have decided to deviate away from our original 2.5D top down game towards a 2D platformer (this is reflected in the design docs). We believed that having a 2.5D top down game would place too much emphasis on adventuring, taking away from the original purpose of raising climate change awareness. We hope that the new addition of our puzzles in the 2D platform will better convey this. This new game mode encourages the player to be more focused on completing the tasks rather than adventuring in our game world, thus helping us achieve the goal of our game. This decision was not made lightly, as we wanted to make sure that our game design was done to a high standard with everyone on board. These design docs are the last phase before the project transitions from low-risk to high-risk during the coding and development portion of the project.

## Domain Model:



# Low-Fi Prototypes

## Basic Game Mechanics:

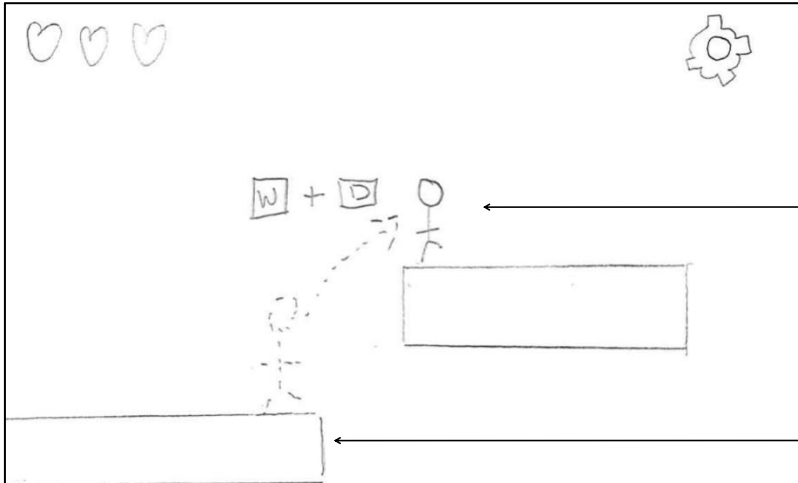


Image 1: Protagonist is moving about

Hearts indicate the health of the player and consequently how much damage they can take before losing the game.

Double jump by pressing W twice.

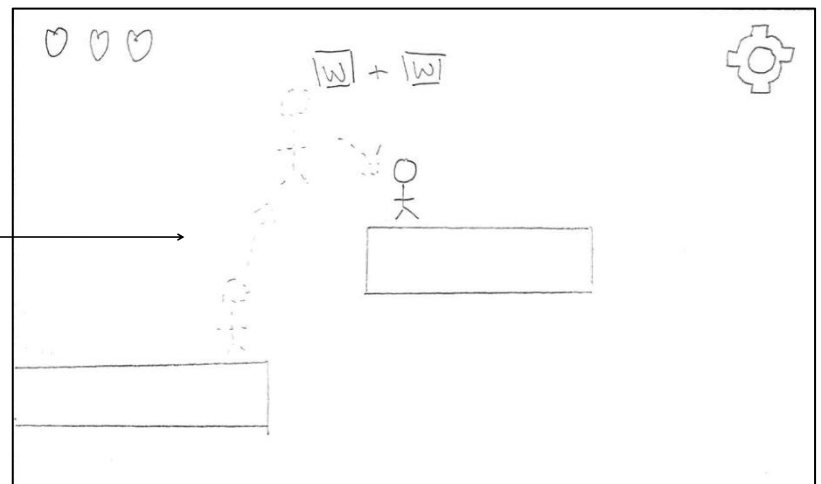
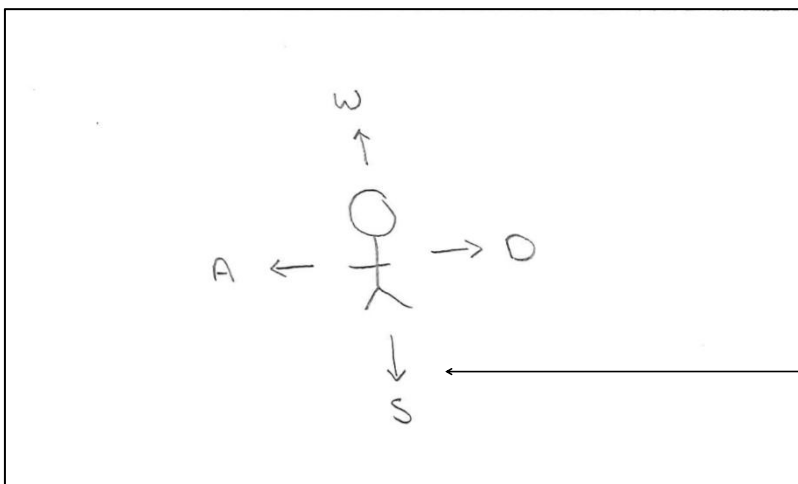


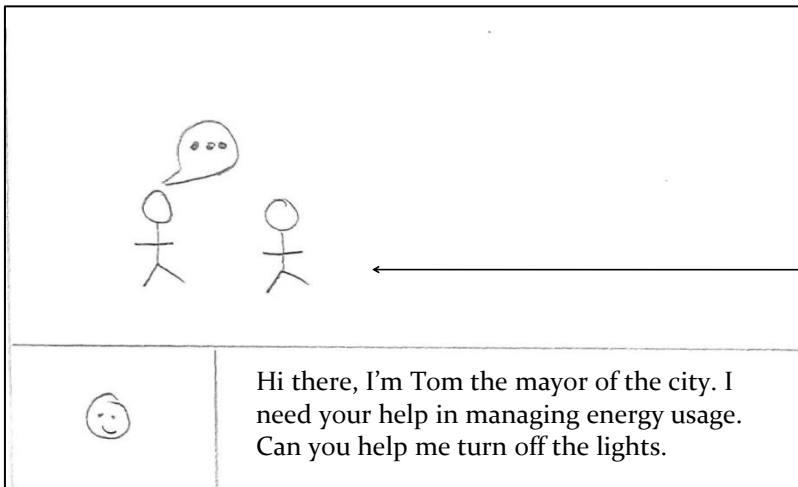
Image 2: Protagonist double jumping



Player moves using WASD keys.

Image 3: Movement capabilities of the protagonist

## Central character and its skills



This scene shows the interaction between a NPC and the Player. The NPC will have dialogue and the player must respond to the dialogue to continue with the story. By interacting with NPC's, the character can learn more about the world and the tasks he must complete.

Image 4: Protagonist interacting with a NPC

Dialogue box with choices that the player can select in response to the dialogue.

Face of person talking.

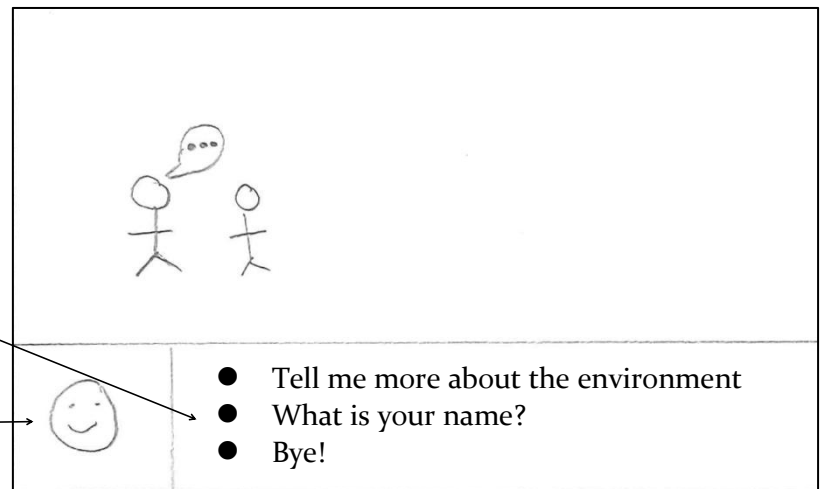


Image 5: The possible options a NPC provides

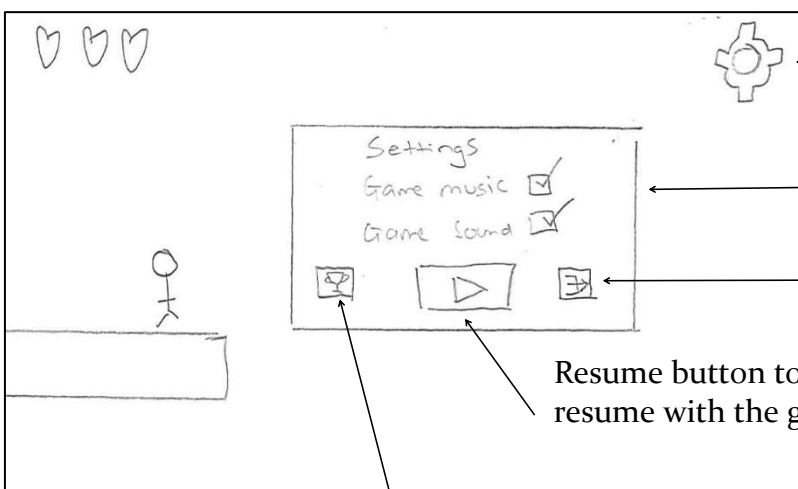


Image 6: The pause menu

Achievements button to open achievements screen.

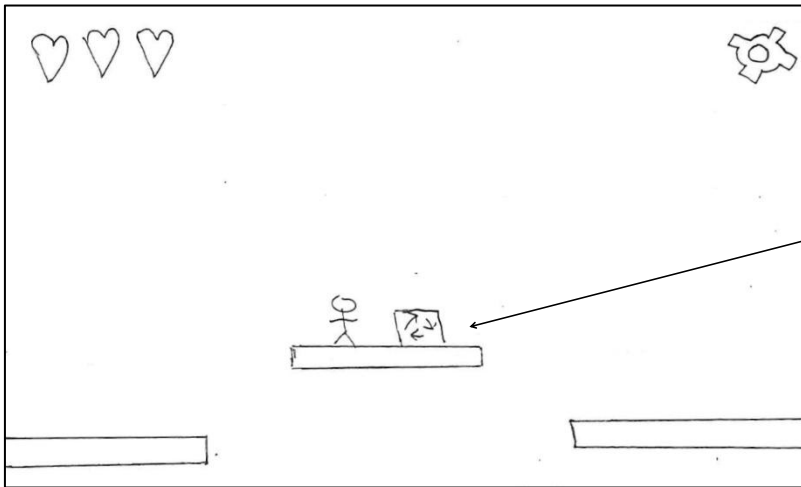
Cog to access settings and options.

Pause menu screen with different options.

Exit

Resume button to resume with the game

## Ocean Level:



Rubbish can be found around the map.  
Players use the interaction button to pick up the rubbish.  
Only one piece of rubbish can be picked up at once.

Image 7: Protagonist next to rubbish, ready to pick it up

Three bins are available in the level for players to dispose of their rubbish.  
Players press the interaction button to drop the rubbish into the correct bin.

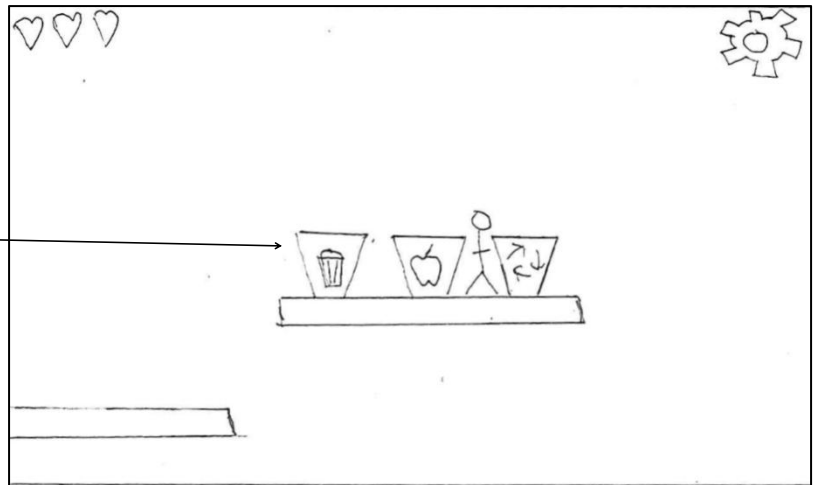


Image 8: Protagonist recycling the rubbish

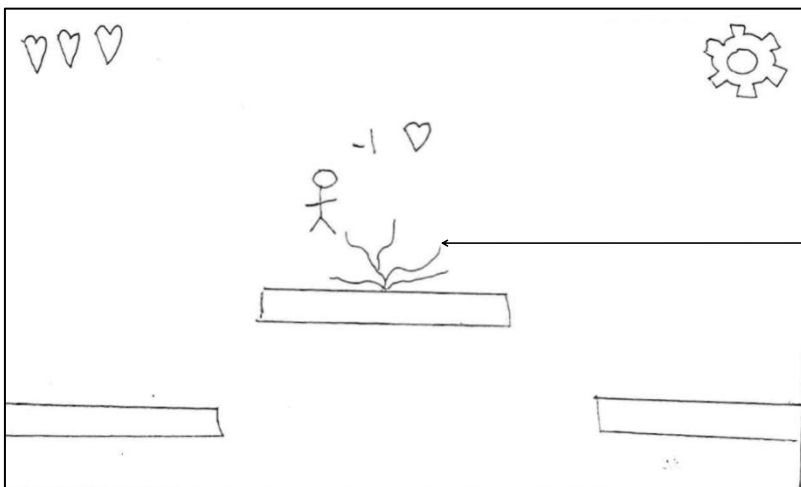
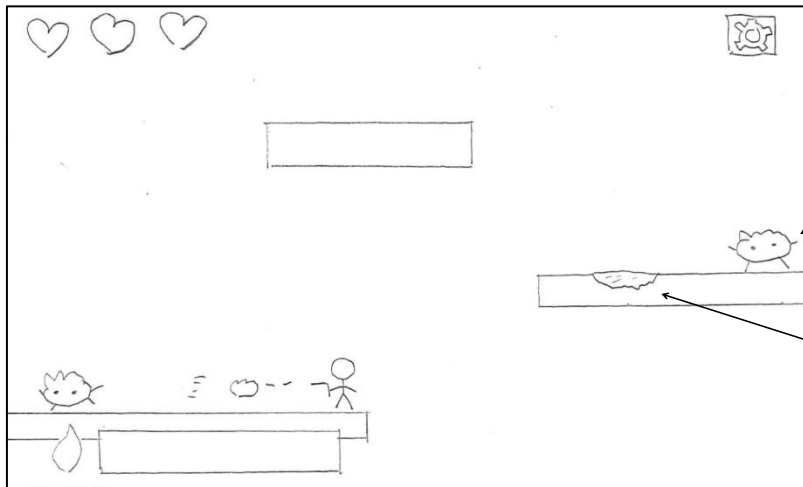


Image 9: Protagonist losing health to dead coral

There is dead coral scattered around the map representing some of the consequences of climate change.  
If the player touches the dead coral they lose a life.

## Forest Level:



Fire sprites (enemy) reduce the players health if hit by them. The player needs to put out these fire sprites with the water gun that he has equipped.

Water puddles that allow the player to refill their water bar just by walking over it.

Image 10: Protagonist on forest level dealing with fire sprites

The player can interact with the seedling by pressing the interact key.

Water system bar that represents the amount of water the player has available to use. If the bar is empty them player has to refill it by finding puddles within the level.

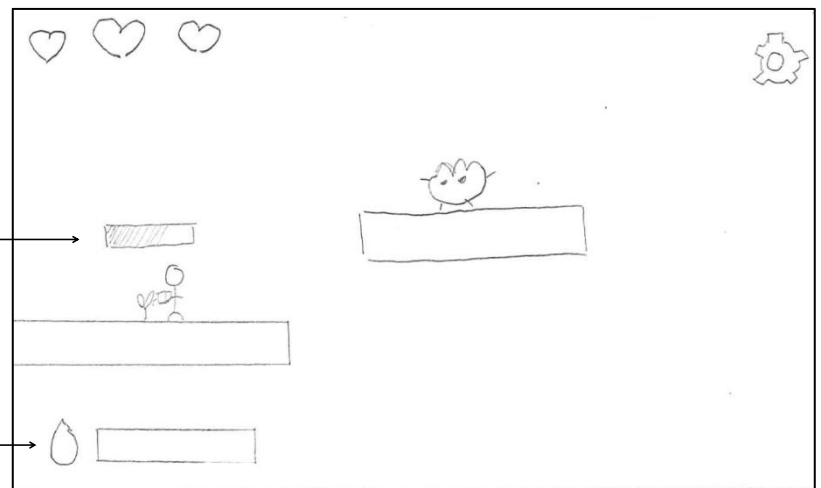
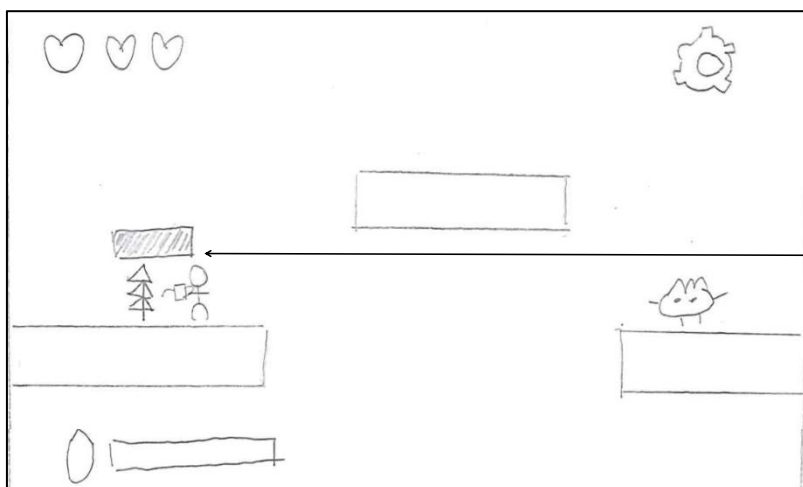


Image 11: Protagonist watering a plant



Progress bar shows the time left needed for the seedling to grow into a mature tree. Upon completion the bar disappears and the tree will mature.

Image 12: A tree maturing.

## City Level

Countdown timer for the specific level.

Level is over once the bar fills up over this limit.

Energy bar (city theme specific) indicating progression of current level.

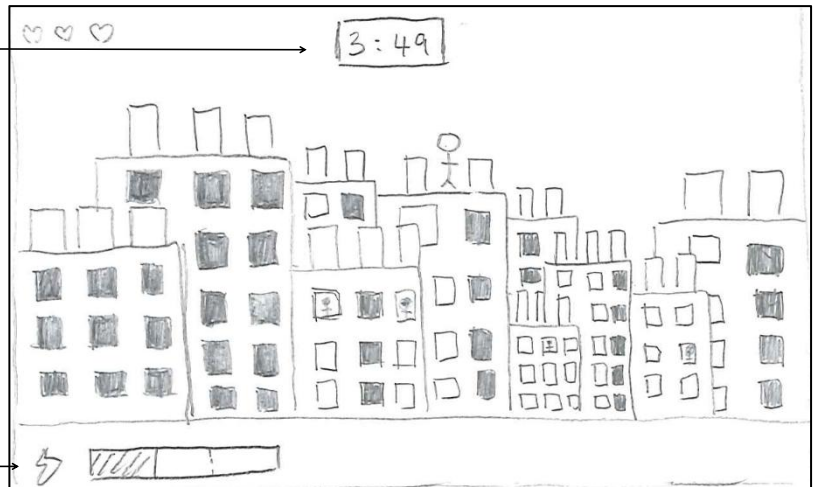
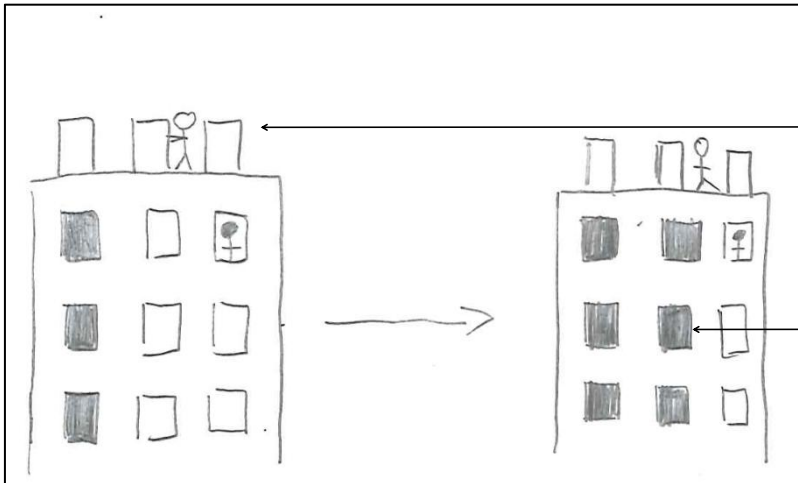


Image 13: Protagonist in the city level



Turn off this light column by using interaction key.

If no one is occupying any room in the column, all the lights will be turned off with the respective switch.

Image 14: Protagonist switching off a building

If a player accidentally turns off the lights in a column with an NPC, the NPC will become aggravated and turn on all the building lights, increasing energy usage.

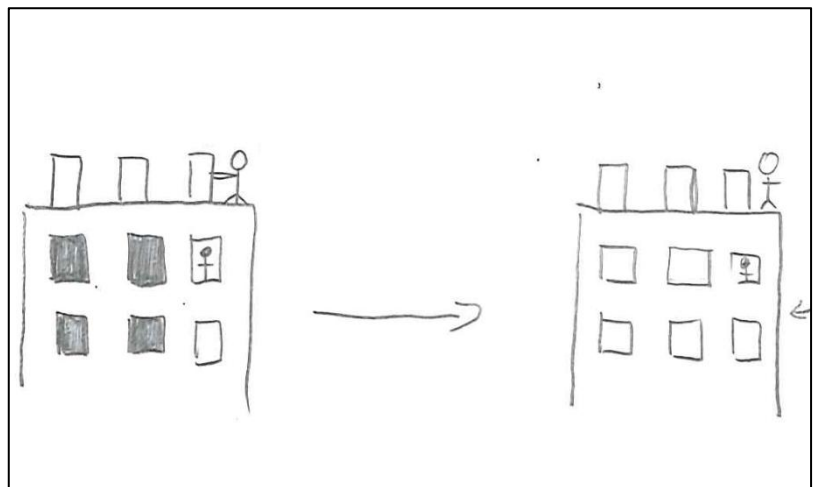
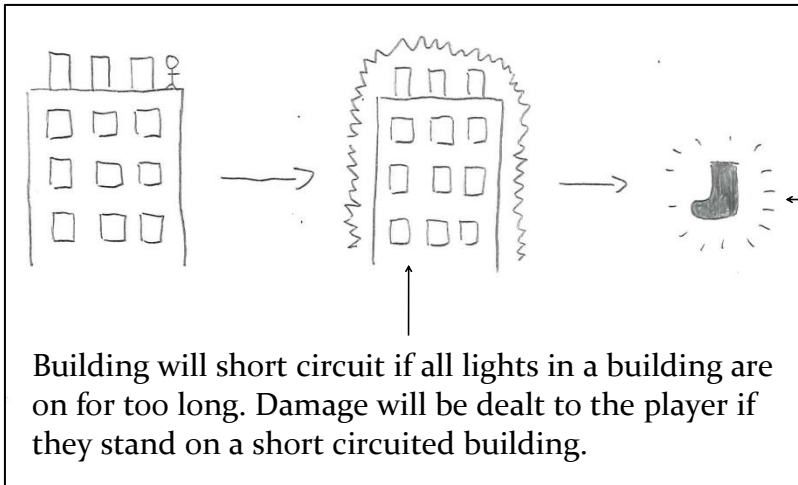


Image 15: NPC turning on all lights





Rubber boots can randomly spawn and be used by the player to jump on short circuited buildings without the negative impact.

Image 16: Short-circuited building