

Mobile Game Design - 143406

Whole Hole

Game Genre & Description

Whole Hole is a casual physics puzzle game.

The player takes over the control of a hole and uses it to empty levels.

MDA introduction

Core Game Mechanics

The player engages in different puzzles to solve the task of emptying the presented level. Using mouse, joystick or accelerometer controls the player moves the hole around in the boundaries of the level.

If an object falls in the hole it disappears. It is considered being eaten therefore the hole grows in size while playing an animation. With a bigger hole the player is able to take on even bigger objects and so the game progresses throughout the level.

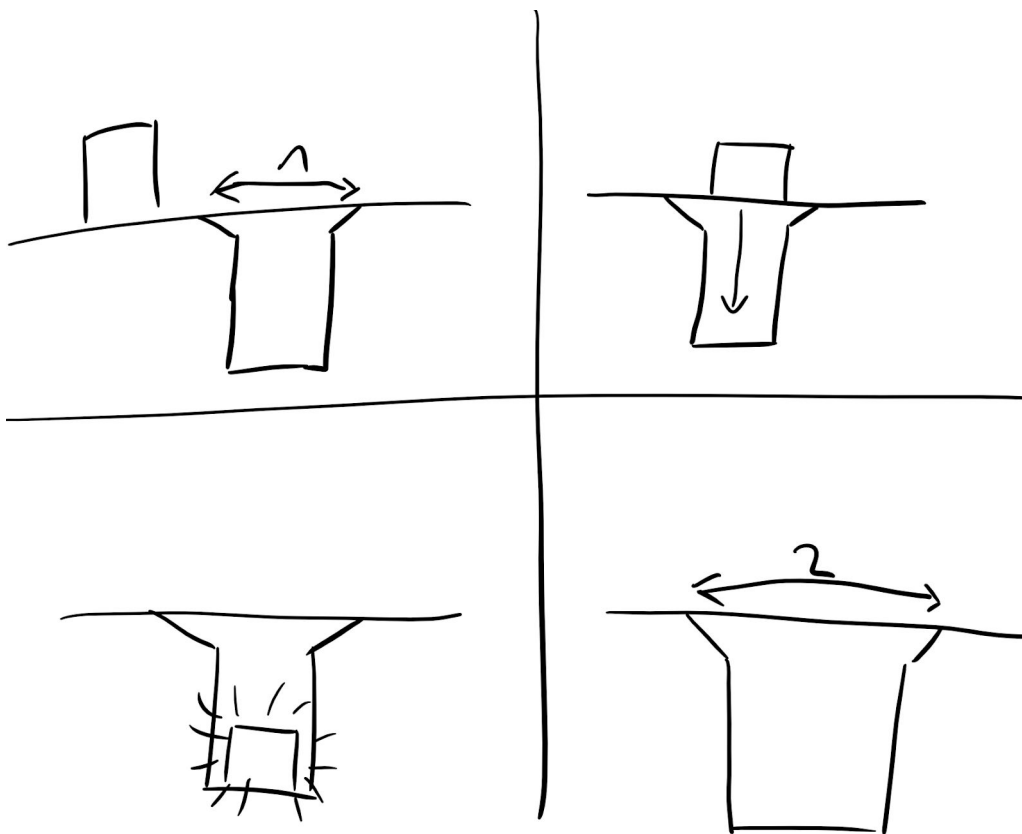
Objects placed in the level interact with the hole in several different ways. The most basic ones will just fall inside and grow the hole. Others might be used to trigger different actions in the level. For example eating a fire will grant the hole the *hot* attribute which can later be used to for example grill chicken.

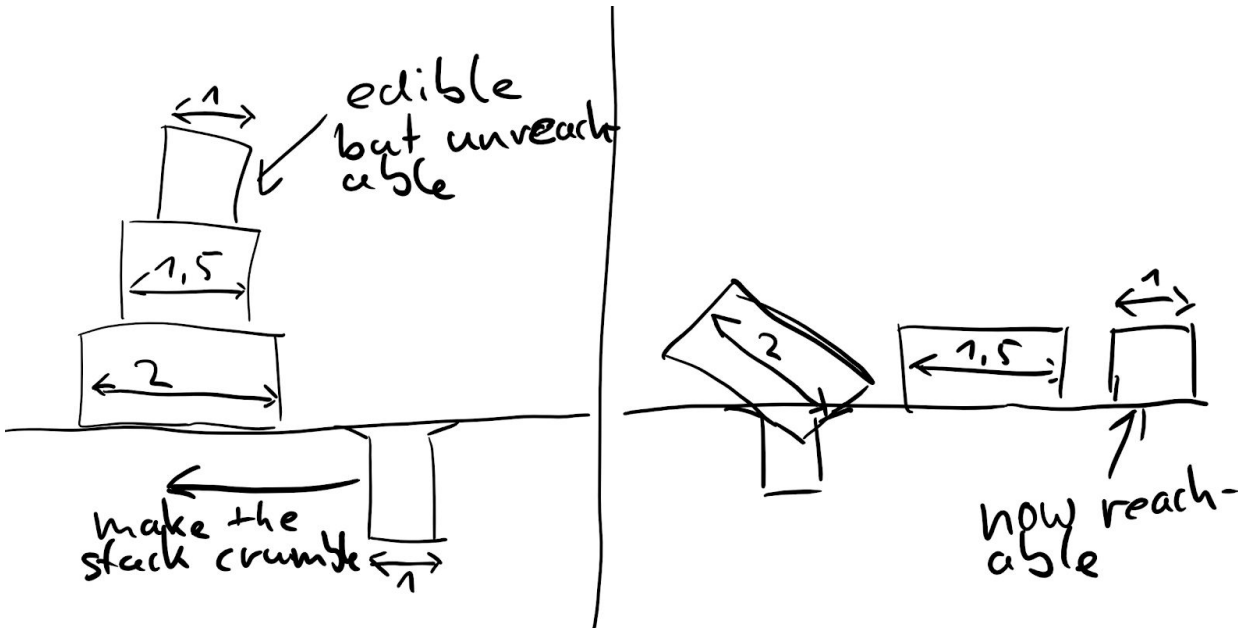
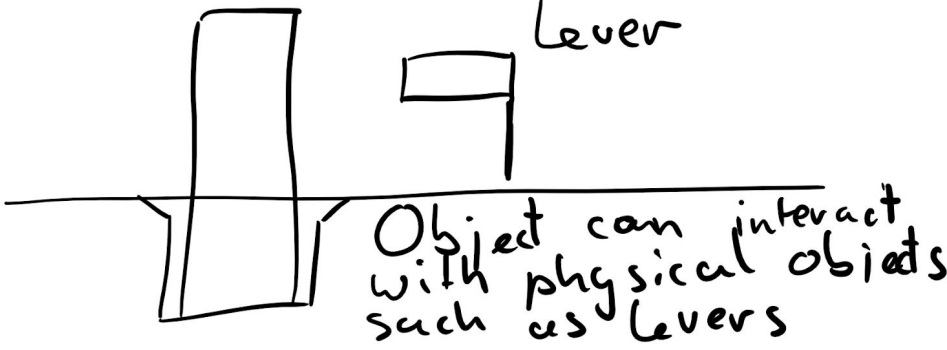
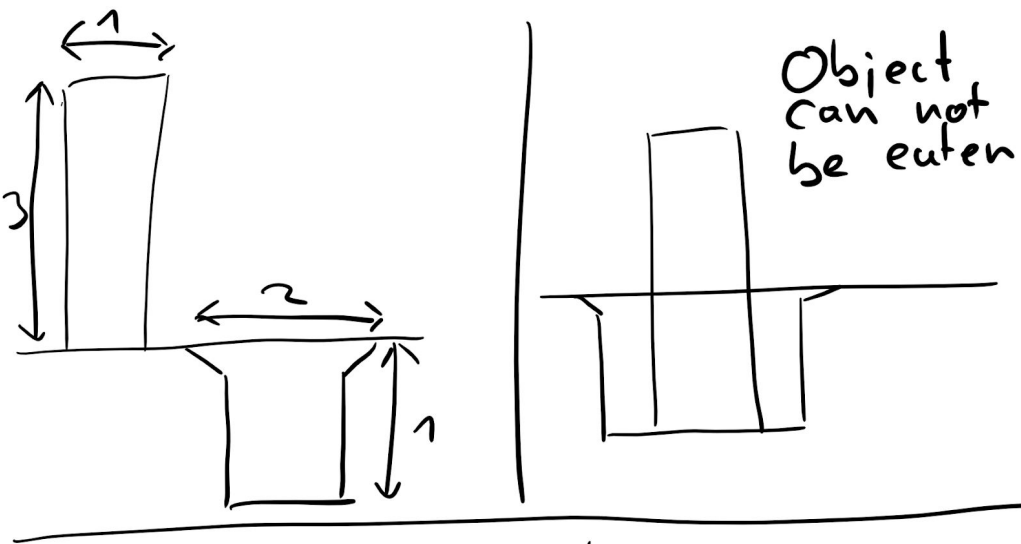
Another example would be water: After eating water the hole has the ability to rust iron therefore making it possible to take on big iron objects

While being a small hole the player is still able to make bigger objects fall. This might be very useful when there aren't any small objects on the ground. The player could try to make a stack of objects collapse and consume the smallest object of them.

The game encourages the player to play around with physics and have fun trying out different strategies to beat the levels. To meet these criteria the artstyle and sound design need to support this type of goofiness.

Below you will find some general concept scribbles that try to help understanding the overall gameplay concept and the menu flow:





Background Story

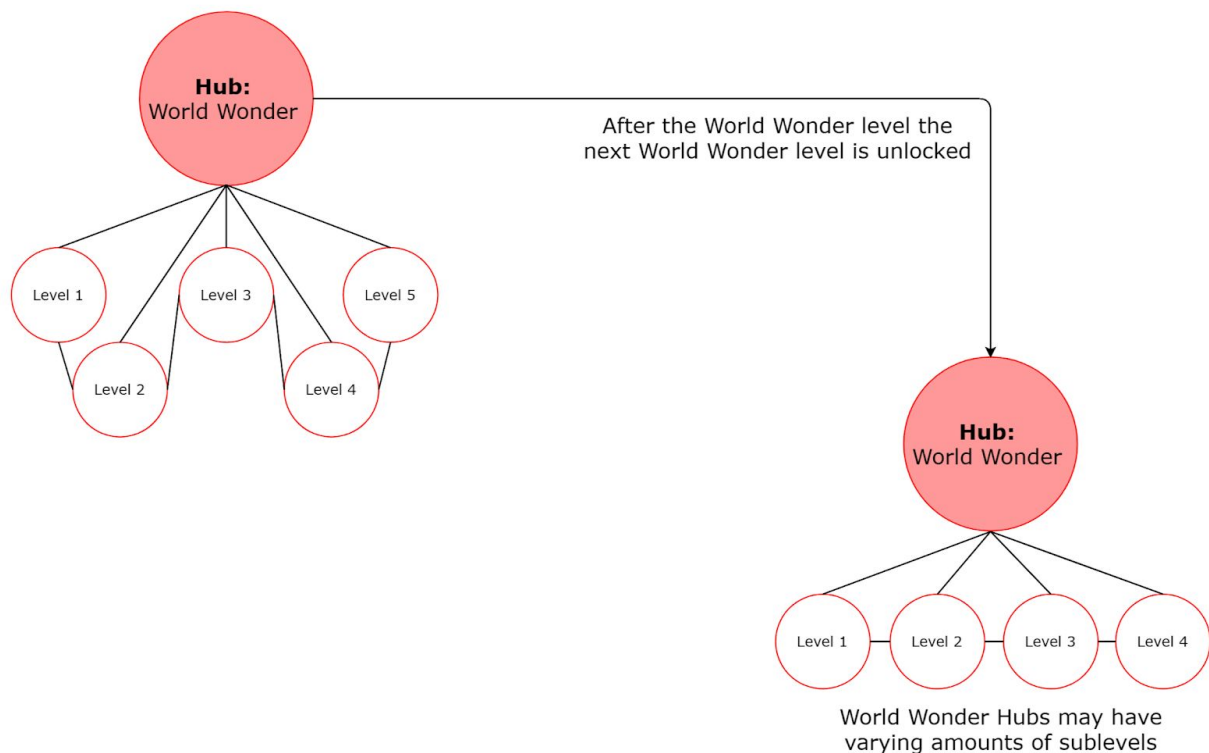
This is not a story driven game. Instead the game wants to give the player some kind of freedom while clearing levels.

Nevertheless there still is a background story: The player takes control of an alien that lives on an empty and therefore boring planet. To make it somewhat interesting for travelers and tourists this alien heads out on a quest to steal objects from planet earth. They heard that humans build very cool and interesting structures that attract different people from all around the universe.


After some research they discover the world wonders and their goal is set: Steal these buildings and everything else they can find on their way there to decorate their home planet.

Progression & Difficulty

Need to complete the small levels in any order before attempting the World Wonder level



The game starts of showing the world wonders on the planet. Each of these world wonders need to be done in a given order. Finishing one will unlock the next one. This is important since the



later levels will be designed in a way that requires the player to being able to apply the game's core rules and dives deep into the physics puzzles.

By selecting one world wonder the camera zooms to that part of the planet and reveals several small levels that need to be played first but can be approached in any order as the player pleases.

While the player doesn't finish all of the small levels the final level (the actual world wonder level) stays locked. Only after finishing them this level will become playable.

Throughout the game the player first gets to learn the basic concepts of the game such as moving around the world and consuming objects. As the player progresses through the game this mechanic will get stale over time. Therefore small puzzles get introduced. As described above the player will have to combine different objects with the hole before approaching other objects first or triggering actions on objects to make them break and then being able to consume their parts.

But these puzzles require the knowledge of controlling the hole and the understanding of the concepts of the game. That's why it is necessary to restrict access to these levels first.

The core game mechanic of emptying the level delivers the feeling of making progress to the player directly. Some play testers noted that they would want a progress bar or some kind of count to visualize this emptying progress further. During the discussion another problem was analyzed: Because in early stages of the game the levels were not very populated by objects and the surroundings weren't very visually attractive the players didn't know when a level was empty. In the final form there are more objects to collect and also a "level completed" condition therefore this situation should not happen anymore.

Tutorials

The game tries to encourage the players to try out the game on their own and explore it themselves. Tutorials and explanations should be as limited as possible.

We tested whether possible players might understand the game even without any explanations. It showed that even people without any great gaming history were able to start with the game right away and even had fun playing it.



Winning & Losing

To finish a level the player needs to clear it completely using the hole.

The game has no built-in losing condition. There are no time limits or any other factors that might force the player to quit the level and consider it a failure. The only difficulty they have to overcome is to find the solution to the puzzles. They can continue a level and restart levels as often as they desire.

If a player wants to restart a level they have to exit the current level and start it from the beginning again.

Aesthetics

The artstyle of the game features goofy looking low poly objects and a colourful environment. The player shall never be put into any type of stressful situation and should never feel pressured.

To emphasize this atmosphere even more all the animal sound effects are generated by imitating the sounds using the human voice. This leads to even less seriousness and therefore a more relaxing gameplay experience.

The game wants to generate a stressless, fun and diverting atmosphere.

Player Types

Achievers

Achievers want to do anything possible in any game they play. Whole Hole attracts this player type because clearing out levels is rewarding for them. Collecting every world wonder from earth is something they desire. Giving out achievements is also an option that can be implemented in the game to make it even more interesting for achievers.

As the game is also some kind of physics sandbox some alternative ways of play could emerge that make it interesting for speedrunners. Speedrunners are also a special subgroup of the achiever player type since they want to find all ways of beating games and then perfecting the fastest possible way.



Explorers

Since the game features several visually different locations the game also attracts the explorer player type. These people want to see every last bit a game world has to offer and want to explore any boundary within the game.

With the setting of collecting the world wonders and the different sublevels all located in different locations there is a lot to explore.

Metaplayers

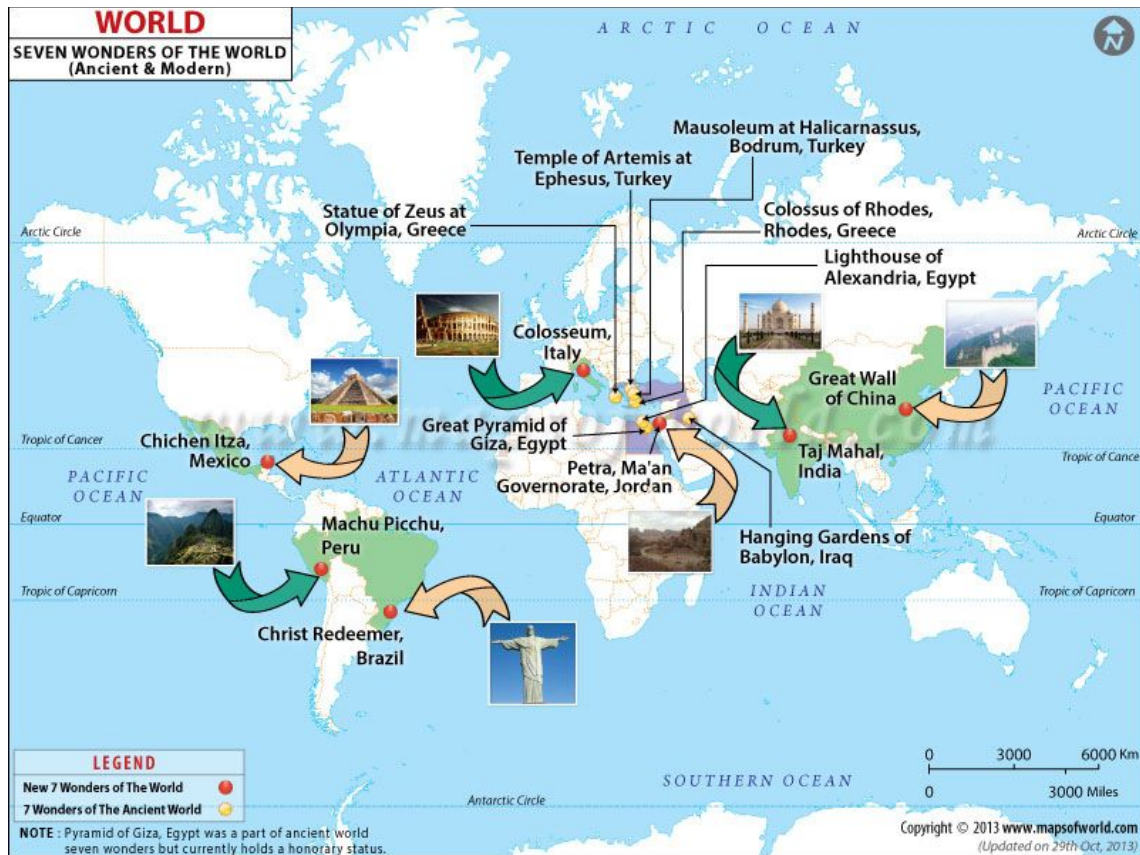
A Metaplayer is not a known part of the typical player types. They can even be any of these types. Metaplayers are a niche group of players who play games to “break” them. Explore beyond the boundaries of what developers wanted players to see and therefore abusing bugs or physic glitches to generate unusual outcomes: According to the motto: “What happens if we play the game the way we want it and the developer didn’t think of?”

This is not an official and is more of a secondary player type.

As a physics sandbox game with unusual gameplay this attracts players of that motivation since physics are always fun to “break” since this generates interesting results. They might try to beat the game by throwing objects out of levels for example.

Game Map

Following the story the game takes place on planet earth. The aim of the game is to steal all of the seven new world wonders (source: <https://www.mapsofworld.com/world-seven-wonders.htm>):



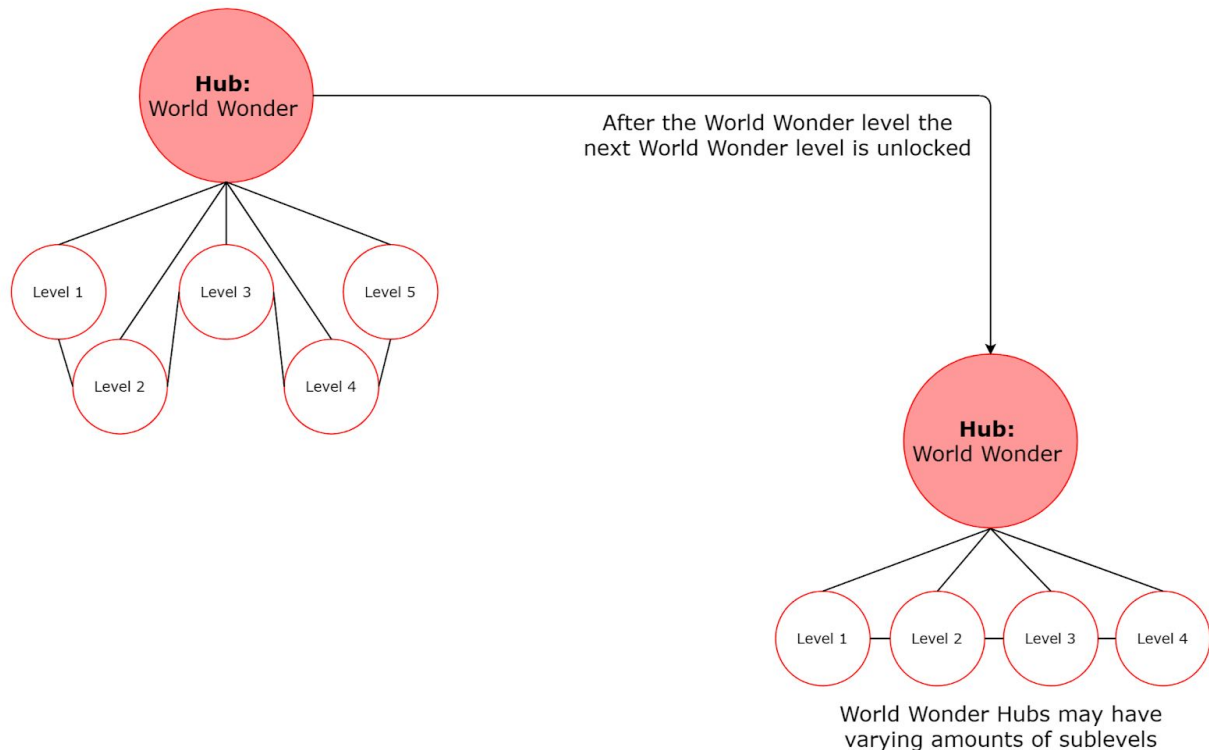
Initially we wanted to go with the ancient world wonders (yellow dots) but as seen in this image these aren't well distributed around the globe. Therefore we went with the new ones (red dots) as these have at least some distance between them.

Each of these world wonders serves as a hub for smaller levels. These smaller levels can be done in any order. There can be varying numbers of sub levels to a world wonder hub.

Before attempting the world wonder level itself the player has to complete all the smaller levels in that hub. The world wonder level itself serves as some kind of boss level which once completed will unlock the next world wonder.

In between world wonders there is a linear progression. In the smaller sub levels of a world wonder hub is a pyramid progression:

Need to complete the small levels in any order before attempting the World Wonder level



This will go on until the player collected all of the seven world wonders. Each level is replayable at any time and nothing will be different. This is to empower the replayability of the game.

The different world wonders sub levels feature a distinct art style or color palette to make them resemble each other and communicate a clear demarcation to levels of other world wonder hubs.

Rules Of Play

As described above the game does not have a defined losing condition. In testing groups it was discussed whether a time limit would make the game more exciting but the idea was denied since that would ruin the relaxing and enjoyable atmosphere that the game should have.

The only way to "lose" in the game is to not being able to continue with the level anymore because the player doesn't find an object to eat that fits inside.

A level is won by emptying it by solving the puzzle provided.

The hole may also get special powers from eating different objects:

Object	Power-Up
Campfire	Acquire the <i>hot</i> attribute. If the hole has the <i>wet</i> attribute eating this will have no effect. While being <i>hot</i> the hole can grill animals and burn wood or melt ice. This attribute will stop if the hole gets in touch with water.
Water (River/Lake)	Acquire the <i>wet</i> attribute. Acquiring this attribute will replace the <i>hot</i> attribute. While being <i>wet</i> the hole can rust iron and put out fires.
Oil	Acquire the <i>slow</i> attribute. The hole will move slower than usual but is slippery which may make it easier to eat objects. This attribute will stop if the hole acquires the <i>fast</i> attribute.
Coffee/Energy Drink	Acquire the <i>fast</i> attribute. The hole will move faster but trembles occasionally. Because of moving <i>fast</i> it may be possible to avoid eating an object which alters an attribute. This attribute will stop if the hole acquires the <i>slow</i> attribute.

Feature List

Feature	Owner	Rating
Controllable (mouse) hole into which objects can fall	Development	Must have
Hole scales after eating an object	Development	Must have
Accelerometer & Joystick controls	Development	Must have
3D earth model with world wonders	Art	Must have
Power-Ups	Game Design	Must have
3D models of different objects with animations and bones	Art	Must have
Defined weights for the objects	Game Design	Should have
Randomly walking NPCs	Development	Nice to have
Ragdolls upon death of creature	Development	Nice to have
Soundtrack	Art	Nice to have
Sounds for each creature	Art	Should have
Level Design	Game Design	Must have
NPCs running away from the hole when the hole is close	Development	Nice to have

Proof Of Concept

Task/Mechanic	Result	Change Request	Owner	Rating
Are players able to control the game without any explanation?	After a very short moment of confusion (might also be caused by the testing scenario) the testers were able to control the game without any problems.	-	Game Design	Must have
Is the game fun?	All testers said that the game was a enjoyable experience even though they sometimes didn't exactly know the purpose of what they were doing. Half of the testers even had loud laughters during gameplay while playing around with physics.	-	Game Design	Must have

Game Assets

Name	Author/License	Link
Low Poly Water GPU	Jolix	https://assetstore.unity.com/packages/vfx/shaders/substances/low-poly-water-gpu-79255
Waves Sound Effect	Creative Commons Attribution 4.0 International License	http://www.orangefreesounds.com/waves-sound-effect/