



EMPTI WORLD

Forager, but fighting the harsh consequences of climate change

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Empti World is the tale of the main character "Empti" who is the seemingly sole survivor on his planet. Climate change has destroyed most life and made it incredibly hard for Empti to survive. While spring and fall are relatively mild times of the year, he needs to prepare to survive the winter and summer. In these critical seasons of the year the temperature reaches its limits and different types of storms ravage the lands. So Empti needs to collect resources and water to prepare himself for the harsh times ahead in the endless struggle of survival.

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1 Overview

1.1 Main Concept

Starting off in an empty field, the player takes control over Empti's life in an attempt to survive the harsh climate on the planet. To do so he needs to collect food and water, but also gather resources to further craft tools and buildings to protect him and increase his chances of making it through all 4 seasons. Fill water buckets, plant and gather food in spring and fall, build protective gear or a safe shelter to protect yourself. It is the tale of a lonely being just trying to survive another day.

1.2 Unique Selling Point

It takes you through a heart-wrenching story of survival of a lonely life form in an empty(i) world. The entire game can be played within half an hour, which makes it an exciting quick journey, that can be replayed at any time.

2 References

2.1 Forager

The art style and core mechanics of Forager serve as a good starting point for our game. Our setting is different and it aims to be a survival game and death is a key component which ends the game [1] [2].

2.2 Frost Punk

This game inspired us with its climate based survival aspect [3]. It is also part of Empti World to survive the harsh cold winter, but not only that. In summer the heat and vicious sand storms cause big problems.

2.3 Animal Crossing

This game has a similar game-loop. Here the day-change leads to tiny chores spread around the map. In our case that change is represented by changing weather [5].

2.4 Terraria

Crafting works similar to the way it works in Terraria. Once you have the right resources in your inventory you can simply click a button and you will have crafted a new item. [6].

2.5 Don't Starve

Don't Starve (together) focuses on survival over multiple seasons. The difficulty varies through the different seasons, which is an aim of "Empti world" as well. Don't Starve together differs from Don't Starve in it's player count. Don't Starve together can be player online with up to four players where as "Empti World" focuses on single player offline game play [7] [8].

2.6 Stardew Valley

The art style and farming aspect of it can be found in Empti World. Other than that the gameplay is fundamentally different as our game is a rather sad and lonely game, which aims to provoke emotional responses from the players [4].

3 Specification

Our target group is the indie-2d-crowd as well as climate change invested people. The target platform is PC and we use pixel art for the graphics style.

3.1 Player(s) / Target-group

Climate aware people, survival-fans, 2d-indie fans

3.2 Genre

Survival 2-D game.

3.3 Art Style

16-Bit-style graphics similar Forager. The colors for the sprites are not as bright to give the game a bit more of a serious tone and emphasize the game's rather sad nature.

We decided on the color palette "Lost Century" as can be seen in [3.1](#) which fits the art style we were going for quite well.

3.4 Forms of Engagement

- Fantasy - Game as make-believe
- Discovery - Game as uncharted territory
- Expression - Game as self-discovery



Figure 3.1: Lost Century color palette by CalmRadish



Figure 3.2: The spring season



Figure 3.3: The winter season

4 Gameplay and Game Setting

Most of the time will be spent on harvesting different resources. In the beginning the player will have to gather resources found in nature. These resources can be gathered by clicking on different objects in the world. This will take a few seconds.

With the help of these resources the player can craft either resources that help with gathering or surviving the incoming storms. The aim of the game is to survive the incoming storms coming in at summer and winter with help of a house and its upgrade.

4.1 Mood and Emotions

The game starts off with a bright and positive setting during springtime. As the seasons progress, the mood changes.

Specifically during summer and winter it should feel like the player is barely surviving and the player should be kept on the edge of their seat. The environment colors should reflect the change in the seasons. Autumn should feel less harsh the summer that came right before, but still more dangerous than spring.

4.2 Story

The player plays as Empti, the last survivor of his species. The environment is harsh and he is trying to survive the challenges the different season pose by harvesting the resources around him and crafting different structures to survive.

4.3 World/Environment

The world is devoid of other intelligent life forms, but rich in nature. There are rocks and bodies of water. However, most of the environment is made of empty grass tiles.

The player will spawn inside a predefined base in the center of the map.

4.4 Objects in the Game

Aside from the objects that make up the world, the player will be able to craft new objects, such as workbenches. The player can plant and harvest crops to survive. On the concept of the crafting tree you can see every resource currently designed and implemented [5.1](#).

4.5 Characters in the Game

Empti - the one and only character in this game. A genderless blob of sadness.

4.6 Main Objective

Survival - Survive the temperature and the storms in order to live another day. The way to achieve this is by reaching milestones to overcome certain threats. There are some

milestones that are needed to survive. This gives the player a goal to work towards and also introduces survival and crafting mechanics.

4.6.1 Construction

Milestone 1: House

Empti builds a house on a predefined spot. He is able to hide inside and be safe from outside danger, but he cannot leave until the threat is gone.

Milestone 2: Mine

Empti build a Mine on a predefined spot. The mine will periodically drop ressources, thus compensating the loss while idling in the house.

Milestones 3: Sawmill & Heater-Upgrade for House

Empti can build a Sawmill similiar to the mine, but instead dropping wood. Also the Heater-Upgrade will prevent Empti inside the House from cold.

4.7 Weather Mechanics

The game consists of 4 seasons. You start the game in Spring and move on through the year as usual until you arrive at winter. Spring and fall are milder seasons during which nothing bad can happen, they are there to gather resources and prepare for the harsher seasons that stand before you. During summer and winter the temperatures and conditions get critical and from time to time there are sand/snow storms that damage your health if you are not prepared. There are multiple measures in the game of how to circumvent the damage, but this measures have to be taken in advance or you will suffer the wrath of climate change.

4.8 Controls

Very simple controls, 4 directional keys in order to move on the 2D world and 1 or possibly 2 keys to interact with other objects within the world. All selections within menus are done via a cursor.

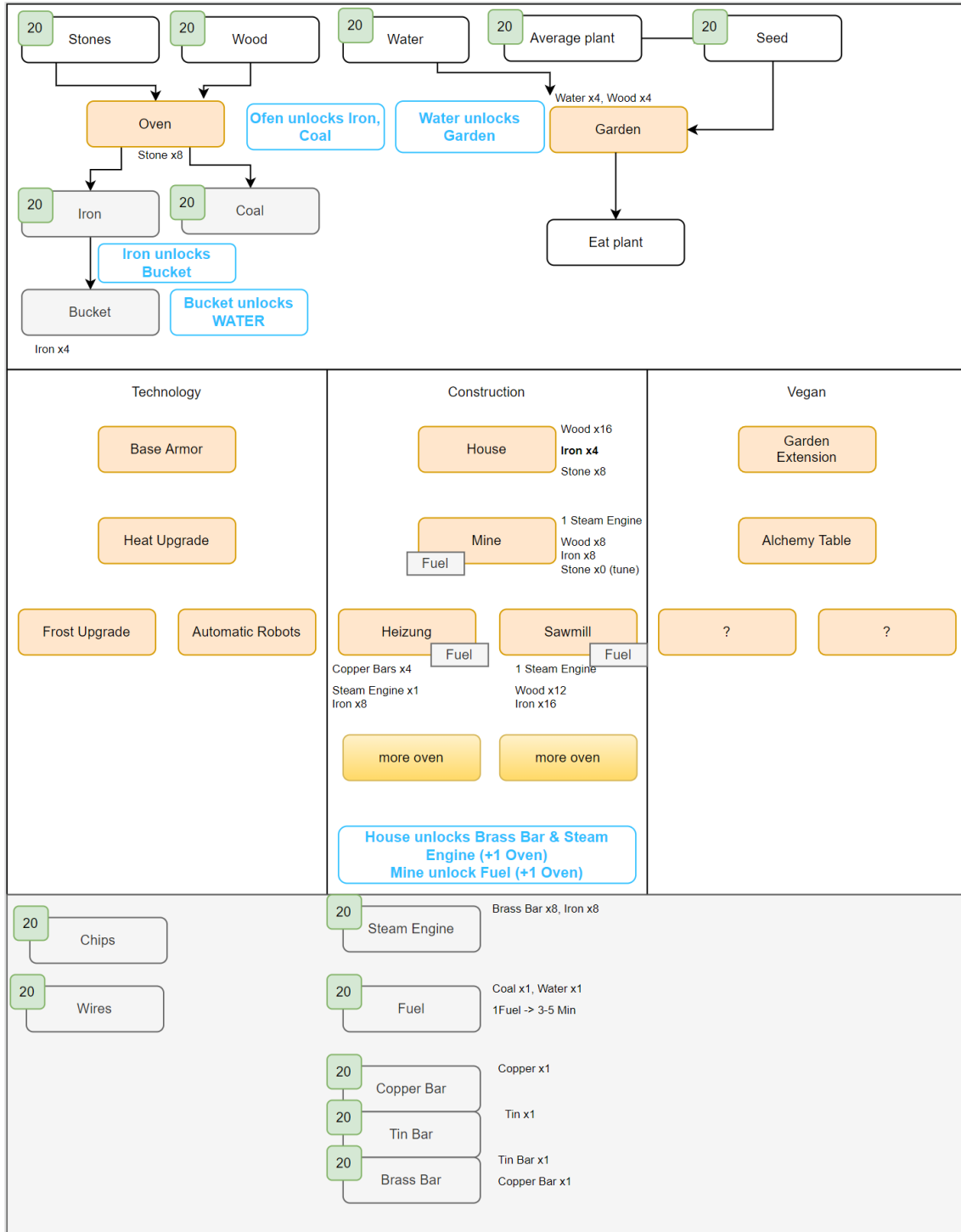


Figure 4.1: Original concept of the Crafting tree (not fully implemented in game)

5 Front End

The front end art style is being kept simple and minimalist. The screens are used for interaction during the game play or for pausing the game.

5.1 Start Screen

The start screen gives the player the options to start a new game if there is no data saved or to continue their started game. The player can toggle the overall volume. As an option feature the game can be quit, this feature, however, is not relevant for the web version and will only end the game while remaining on the website.

5.2 Menus

The game consist of multiple screens. An inventory menu helps the player keep track of the items they can store and what they can craft out of them. It also shows the necessary items to finish the game within the crafting tree. The inventory is also used to craft items like bars or coal that can be used to craft further items. To craft these items, the player has to hold a specific amount of mandatory items and click on the icon of the item he wants to use. For example, a player can use an oven to make coal out of wood. To support the player on keeping track of required items, tool tips that appear when hovering over the icons are being displayed.

5.3 End Screen

The end screen is only shown when the player dies. The player's death is final which results in an end screen. The end screen gives the option to go back to the main menu where a new game can be started or to quit the game.

5.4 Pause Screen

By pressing escape, the game will be paused as long as the player started the game through the main menu. If the inventory is open, pressing escape will first close it and after pressing again the pause screen will be displayed. The volume can be adjusted and the game can be quit while being on the pause screen. While the screen is open, the player can not be moved and the game time is frozen.

5.5 Health and Hunger Bar

While playing the user can keep track of their characters state through a health and hunger bar. Once the health bar reached zero the player dies. Empti is damaged if a storm appears and no shelter is built yet or if the hunger bar reaches zero. In order to reduce hunger the player has to eat food that he harvested from a field beforehand. Health will be regained automatically after some time.

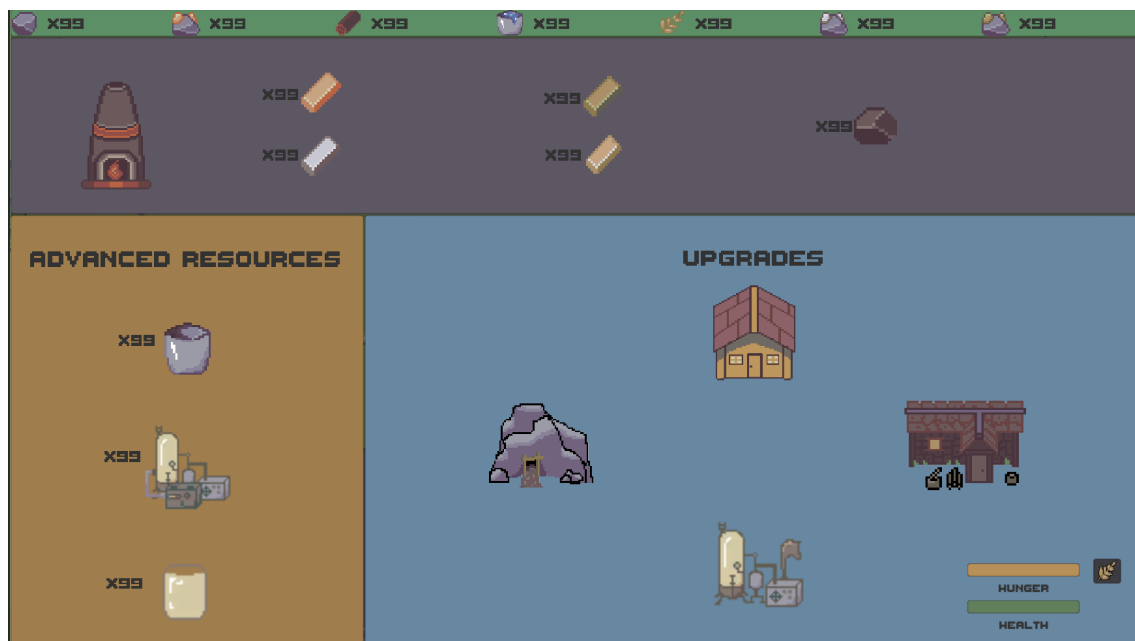


Figure 5.1: Inventory



Figure 5.2: Health bar

6 Technology

The game is designed for PC players with a mouse and a keyboard. The keyboard is used to navigate and interact while the mouse is used for pointing at objects that can be interacted with and the usage of menus like the inventory.

6.1 Target Systems

The game will be made for PC, as a web application. We decided against our original idea of porting the game to mobile phones due to a lack of time.

6.2 Hardware

The game can be played with mouse and keyboard. Both are necessary to fully play the game.

6.3 Development Systems/Tools

For the game engine Unity will be used

As a tool for the sprite art Aseprite and the free online website 'www.piskelapp.com' will be used.

For Sound design and Soundtrack creation we used

We used github projects to distribute the tasks to each developer and to share and merge code fragments.

7 Topic and Inclusion

7.1 Main Theme

The main theme is centered around the idea that the climate on the planet has become so harrowing that survival has become a difficult task. Shifting and harsh weather conditions should emphasize the critical condition the planet is in. Further more the fact that the player does not meet any other people during most of the game should give a sense of loneliness in this world.

7.2 Inclusion

The lecture requires us to include two features from a list that was provided by the lecturers.

7.2.1 Diversity

We do not give the player much choice in player creation and the preset player is supposed to be race- and gender-less.

7.2.2 Accessibility

Subtitles for sounds(no important information will be transmitted by sound), clear text, intuitive controls, volume control

8 Marketing and Publishing Strategy

- Friends
- Family
- Itch.io Page
- "Game Jam"
- Twitch (@joeyprink)

9 Timeline and Cost Estimation

Milestone	Description	Date
	Official Start Date	16.11.20
1	Empty 2D-map + movable character	01.12.20
2	Object Interaction + World Design + Crafting + Crop harvesting + Seasons	15.12.20
3	Finish up Inventory	20.01.21
4	Story + Special features and tuning	27.01.21
	End of Project	04.03.21

Table 9.1: Empti World Schedule.

9.1 Time Estimation

Per person 8h/week for 3 months.

40 hours per week for 12 Weeks equals 480 hours. Adding 20 hours for any unexpected extra work we arrive at a total estimation of 500 hours for our game.

9.2 Cost Estimation

Estimated cost per person for a full-time job: 5.000.-€

Actual work time: 1 day a week

Resulting cost per person, per month: 1.000.-€

Number of developers: 5

Resulting project cost per month: 5.000.-€

Estimated project time: 3 months

Total Project Cost Estimation: 15.000.-€

This estimation was made before the first version of this document was handed in. It turned out to be relatively accurate.

10 Team and Credits

Project Management: Christopher Oser
Lead Programming: Markus Ruplitsch
Lead Artist: Theresa Dietinger
Lead Designer: Benedikt Groß
Sound: Fabian Ceolotto

Bibliography

- [1] Forager. <https://hopfrogsa.net/forager>.
- [2] Forager on steam. <https://store.steampowered.com/app/751780/Forager/>.
- [3] Frost punk. <https://www.frostpunkgame.com/>.
- [4] Stardew valley. <https://www.stardewvalley.net/>.
- [5] Animal crossing. <https://animal-crossing.com/>.
- [6] Terraria. <https://terraria.org/>.
- [7] Don't starve together. https://store.steampowered.com/app/322330/Dont_Starve_Together/.
- [8] Don't starve together. <https://www.klei.com/games/dont-starve-together>.