Arch Game Design Document

Foreword:

Alien planet, so weird shit there. No breathable air in atmosphere but lots of oxygen to be found in plants and other places, to be exploited. Has water just like on earth.

Goal is to rebuild the ship, and keep crew alive, because scientists, important discoveries etc.

The World :

Environment / Map :

The environment is made up of a map of tiles. Each tile has a biome containing a certain amount of resources. Tiles can also contain structures, which can be destroyed, giving resources.

The map is procedurally generated at each run, using cellular automata, to create areas of a certain biome, eventually making for a big island, with varying biomes and structures.

Construction :

Buildings can be constructed on tiles by the player. Some biomes prevent constructing buildings. Biomes that cannot be built upon cannot have structures on the tile. Tiles containing structures can only be built on if the structure is destroyed. Attempting to place a building on such tile will automatically build instead an excavation building, which will destroy the structure(s) given time.

Constructing a building takes a certain amount of time, which varies depending on the type of buildings. Excavation buildings, for instance, are almost instantaneous to construct. While some more complex buildings will be slower. All in all, no building takes more than 15sec to build.

Buildings cannot be constructed on other buildings. Any tile with a building on it, becomes an obstructed tile.

Excavation :

When excavating a certain structure, the excavation building will start regularly producing resources from the structure. When the structure is finally destroyed, it will give an extra amount of resources, for completion. Some excavating buildings can cost resources to be placed, depending on the biome, and the type of structure.

Destruction :

In order to destroy buildings, the same process as with excavation applies. You essentially excavate your building, just like with a structure. The difference being that it is much quicker, and it does not cost any resources to place the excavating building.

Destruction of buildings is instantaneous, and gives back the resources used to construct it.

The Ship :

The Ship is the goal of the game. It is a building, of two-tile length, that is placed by the player, first thing as the game begins. This building contains the Arch Ship, the key to leaving the planet. In order to complete the construction of the Arch Ship, the player must provide an enormous amount of construction and electronic material. Actually, the amount that needs to be provided is equivalent to the total of material contained in all the ship parts scattered around the map. Since the ship parts are the only way to produce material (apart from trees), in order to construct buildings, the player will have to recycle every single building (and every robot), eventually, to complete the Arch Ship.

Material can be provided to the Arch Ship in two ways. Either by directly giving a certain amount of resources, through a direct transfer. Or by setting up a stream of material contribution. This stream can be set in three ways. Either it will automatically take resources by subtracting them to a threshold. Like taking anything that is above 1500 construction material for instance. Or it will take a certain amount every step. Like taking 4% of the electronic material at every increase of a hundred. Or, lastly, it will take a certain amount, at a certain rate. The rate can be set by the player. Like taking 50 construction material every 40secs.

Colony :

The colony is made up of all the buildings on the map, as well as the ship building, and the crew. Each of these elements consume resources. The bigger the colony, would it be more buildings, more crew, or more investments made to the ship, the greater the resources consumption.

Crew :

The colony is made up, at the start, of 15 4 human crew members, the survivors of the ship’s crash. Buildings can only function to their maximum power if there are people assigned to it. Although, buildings can work without this, they can hold a certain amount of people. Each assignee gives the building a big boost in production speed.

It is possible to increase the crew, by reviving crew members creating robots. They have the same effect as other crew members but are slightly less effective. The player will need to revive all of them in order to finish the game and leave.

Crew members all have a health bar, and can die. Over time, events can get triggered, which can cause a human crew member to lose health directly, or gain an affliction that will make him lose health over time. Robots have the advantage of being less prone to these events, and cannot gain afflictions. They also cost less to heal (repair) than the human crew.

Human crew and robots require some buildings to prevent the likeliness of such events.

Biomes :

When a building is built upon a biome, the resources that biome hold cannot be exploited anymore.

* Water / Sea -> Cannot be built upon. Can retrieve water from it, using a water purifier.
* Lake -> Cannot be built upon. Can retrieve water from it, using a water extractor.
* Field -> Can be built upon. Can retrieve crops from it, using a farm.
* Desert -> Can be built upon. No particular resource available.
* Mountains -> Can be built upon. Excavation and construction processes are much slower. Can retrieve oxygen from it using an oxygen excavator. Buildings are also more expensive.
* Forests -> Can be built upon, once cleared of the trees (structures). Can retrieve meat (animals) and oxygen from them. Forests’ resources range in between oxygen and meat. If there is a high quantity of one of the resources, the other will be much lower, if not non-existent. Can retrieve either of the resources with a hunt camp, or an oxygen gatherer.

Structures :

* Ship parts -> the main form of structures. They can be found in any biome, and have a pseudo random chance of appearance. This random number varies based on the biome. When destroyed, they give a high amount of construction material and electronic material. These structures can range in size, and with it the amount of resources they hold.
* Trees -> destroying the trees from forests gives a certain amount of construction material. Once destroyed, forests cannot be exploited for oxygen nor meat anymore.
* Buildings -> Buildings are structures, as they contain the resources that were spent constructing them in the first place. Destroying a building, will give you back all the resources that have been invested in the building.

\*Both trees and ship parts can cohabit on a same tile. In that case, the excavation process will destroy both structures in the end.\*

Resources :

Resources are either stored globally or locally. For this there are two types of resources. Core resources, and raw resources.

Core resources are stored globally, and will show in the UI on the top of the screen. Each of those resources have a certain maximum storage capacity. This capacity can be increased by building storages. Core resources are used for the functioning of the colony, and can be consumed over time.

On the other hand raw resources are stored locally, inside buildings called sheds. Sheds have their own storage capacity. They will not show on the main UI. Raw resources are used to create core resources through combination.

Core resources :

* Oxygen -> produced through the exploitation of forests or mountains by the appropriate buildings. Oxygen is consumed by buildings and crew. If there is no oxygen at some point, human crews start having a substantial chance of losing health or even instantly dying.
* Rations -> produced through cookeries, using water and some form of food. Rations are consumed by human crew. If there are no rations at some point, the likeliness of the human crew getting afflictions increases substantially, and keeps increasing until rations are produced.
* Construction (material) -> produced through the excavation of ship parts, and in a lesser measure, trees. Construction material is not consumed by buildings, except the ship, which can be set to receive a regular stream of construction material, using a threshold. If there is no construction material, well, you can’t build anything anymore. Construction material is easy to find, and in big quantities.
* Electronics (material) -> produced through the excavation of ship parts. Electronic material is not consumed by buildings, except the ship, when setting streams of resource contribution, just like for construction material. If there is no electronic material, you can’t build robots anymore, nor some major buildings that uses this. Electronic material can be found in lesser quantity than construction material.

Raw resources :

* Water -> produced through the exploitation of seas and lakes by the appropriate buildings. Water is used for creating rations. Large quantities are required by the colony.
* Food -> produced through the exploitation of either fields or forests. Food is used to create rations. Mild quantities are required.
  + Crops -> produced through exploitation by farms, only found in fields.
  + Meat -> produced through exploitation by hunt camps, only found in forests, in wildly varying quantities.
* Plants -> produced through exploitation of fields or forests, disregarding structures. Used as medicinal herbs for the pharmacy building, in order for human crew members to regain health. Also used to remove afflictions from human crew members.

Buildings :

Buildings all have a certain cost to be built. This cost is made of construction and electronic materials. Every single building costs at least a certain amount of construction material. To some degree, some buildings can cost oxygen to be constructed.

Crew members can only be assigned to one building at a time.

\*All buildings that ought to produce raw resources require at least one shed with room to work.\*

* Water Extractor -> Needs to be built next to a lake. Has a two-tile deep area of effect. Produces water. The more lake tiles in the area, the more water production.
* Water Purifier -> Needs to be built next to a water tile (sea). Produces an even greater amount of water, but at a slower rate. Costs more to be built.
* Oxygen Gatherer -> Has a two-tile deep area of effect. Produces oxygen. At least one tile in the area needs to be a forest containing oxygen for the building to be constructed. The more forest tiles containing oxygen in the area, the more oxygen production. Can be built upon a forest tile containing oxygen, without destroying its structure, neither having to.
* Oxygen Excavator -> Needs to be constructed on a mountain tile. Produces an even greater amount of oxygen. Costs more to build.
* Farm -> Has a two-tile deep area of effect. At least one tile in the area needs to be a field for the building to be constructed. The more fields in the area, the more crop production. Farms also produce a certain amount of plants. Farms also produce some amount of plants.
* Hunt Camp -> Has a one-tile deep area of effect. At least one tile in the area needs to be a forest with animals for the building to be constructed. The more forests with animals in the area, the more meat production. Can be built upon a forest tile with animals, without destroying its structure, neither having to. Hunt camps also produce some amount of plants.
* Cookery -> Produces rations. Requires water and food to work. Rations can be produced in two recipes. Either meat and water, or crops and water. The Former produces slightly more rations than the latter.
* Storage -> Increases the quantity that can be stored for each core resource. The increase may be different for each resource.
* Shed -> Is used to store raw resources. Has a limited capacity. Player can see the quantities for each resource stored.
* Prefabs -> Limits the likeliness of dangerous events, health loss and afflictions for up to three crew members. Human crew members can be assigned to prefabs on top of their current assignment to another building.
* Drone Bay -> Allows the creation of robots/drones. The player has to create them manually. Creating a robot takes a short amount of time to complete. Limits the likeliness of dangerous events and health loss for up to three robots. Robot crew members can be assigned to drone bays on top of their current assignment to another building. Allows to repair a robot crew member.
* Pharmacy -> Allows to heal a human crew member, at up to +60% health. Can also cure afflictions. Healing and Curing actions cost plants.
* Excavation Grounds -> Will destroy a structure/building over time, retrieving the resources.
* Research Center ?

Ideas :

-> Power Plant System : Forcing the colony and buildings to be powered, by adding extra structures/buildings around the map, serving as power lines towers. With an extra other building, the power plant, to produce the energy required. Using water, and later oxygen, or geothermic grounds.

-> Fog System : Having only a handful of tiles shown, having to use either a new building/structure, to place on tiles, or using the power towers, to uncover the surroundings.

-> Research Center : Having to research new buildings, taking time and resources, as well as researching for the several steps of the Arch Ship reconstruction. Having to build specific parts of the ship, but researching them first in the research center.

New Theta Rules /

Buildings only work if at least one crew member is affected to it. This will force to create new crew members via the drone bay.

Constructing excavation buildings, will cost a fair amount of oxygen and rations, especially for ship parts excavation. Moreover, this cost will increase with every excavation building built throughout the game. So use them carefully, if you want to destroy some buildings. And, furthermore, the excavation process will consume oxygen and food over time, until completion. Just like with the initial construction cost, consumption will increase with every excavation built throughout the game.

Also, every crew member affected to a building will consume more oxygen and rations. This consumption increase will be different for each building. Excavation buildings having the highest consumption increase. Some buildings will just be negligible to this rule for a certain resource, such as oxygen production buildings, with no oxygen consumption increase (essentially it’s taken into account in the base production value, since it cannot work without a crew member). Some goes for the cookery, for ration consumption. (And the same could also go for the farm and hunt camps, just to be nice to the player, once).

The Arch Ship will have a slightly different functioning, as the resources given to it will not automatically be used to construct the ship. Just like with other buildings, it will require crew members, at least two, to proceed with the construction. The Arch Ship building also has, with the excavation, the highest consumption increase for crew member affectation. This means it’s essentially very draining in oxygen and food to construct the ship.

In addition, just like with the excavation grounds, the consumption will increase throughout the game. This time, it will increase with every step of the ship completed. Which is to say, every 10%. At every step, the consumption will almost double.

In order for this to work, now the construction and electronics materials found throughout the island will be enough to build the Arch Ship AND other buildings. Otherwise, there would be no way for the player (or it would require him to accumulate an enormous amount of oxygen and food), to complete the ship while destroying the buildings, that essentially provide him with these vital resources, e.g. oxygen and food. (Anyway, this could change, but it’s more of a balancing thing than anything else, making it hard but not too much)

New Alpha Rules /

Construction : is instantaneous

Destruction : is also instantaneous

Excavation : is exclusive to ship parts, there is no excavation of forests, nor is there any excavation triggered by constructing buildings on top of forests.

Therefore, there is the excavation building, that you place on tiles with structures, e.g. ship parts. It then produces, just like other buildings, resources. In this case, construction as well as electronics, at the same time. On top of that, the building has a progress bar, indicating its finite nature, and to track how much longer the material flow will continue.

Essentially, forests as structures don’t exist anymore. Forests without trees would not be beneficial to players. They essentially disable forests from producing oxygen or meat, only to gain a tiny extra resources.

New

Names :

Azeron

Denia

Casper

Banuk

Sami

Alastor

Ursa

Oska

Novi

Kylo

Limo

Onuq

Astelan

Deya

Qwae