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Concept Idea

# What is the Concept

The concept I chose is a life form-based game. At the start, life forms are created based on sound, so different pitches in sound will create a life form. There can only be a maximum of twenty on the screen at a time and so far there will be only three distinct life forms.

The objective of the game is to create a pattern of life forms which will keep them alive, the longer they are alive the more points you gain. If you have less than five the game is over.

You have a pre-game menu, where the different pitches will create the life forms, then the game starts. You can then choose where to place them and can move them around during the game.

Big Life Forms- They're large, have a short life span and can suck the life out of other life forms if they come too close.

Regular Life Forms- Have an average life span and size, however can recreate up to three life forms. If a regular life form is in the presence of another life form, they can create up to three life forms before dying out. The life forms they spawn will typically be regular life forms, however there is a chance that they can spawn a small or big life form.

Small Life Forms- Small in size, however they have a long life span, don't do much.

Virus (maybe)- Spawn randomly during the game. They rapidly suck the life out of regular and small life forms, move around the screen quickly as well. Only big life forms can destroy them.

# Research Sources and Information

Age of Empires 2 (https://en.wikipedia.org/wiki/Age_of_Empires_II)

Age of Empires 2 is a strategy video game in which you compete with other players or AI in building the largest empire. You command your villagers to collect resources, build buildings or train troops.

It's important as research in relation to my game because of the AI mechanics. You control different types of troops with their own qualities.

Different troops have different abilities and cannot do what other villagers may be able to do (A soldier can't farm, a priest can't fight), like the life forms I am creating, a small life form can't suck life out of others.

Don't Starve (https://www.klei.com/games/dont-starve)

I chose Don't Starve again mainly for the AI mechanics, however this relates mainly to user attributes like life, hunger and sanity. Don't Starve is a survival game in which the player must keep the character he is controlling well fed, mentally stable and healthy. I chose this game in relation to mine since the qualities of survival somewhat pertain to what I am trying to create.

# Similar Works

John Conway's Game of Life- https://bitstorm.org/gameoflife/

The "game" is a zero-player game, meaning that its evolution is determined by its initial state, requiring no further input. One interacts with the Game of Life by creating an initial configuration and observing how it evolves, or, for advanced "players", by creating patterns with particular properties. The Game has been reprogrammed multiple times in various coding languages.

# Limitations

I will see first how complex I can make the AI, I will start by first attempting to make one initial AI. If I can succeed in making the AI interact with others, then I will move onto more complex issues like spawning and procreating. I want to first work on interactivity, making the life forms interact and creating them with sound, as that is the basis of my game. I also added a maybe on the virus aspect, I would like to see how to initially create an AI life form first.

# Best guess

1. Life form gets spawned in
    - Through sound
        - If pitch = X – create X
2. Radius around the Life form to detect other life forms
    - Create a radius
    - If statements
        - If its life form X – do something
        - If its life form Y – do something else
3. Actions
    - Consume life

        - Timers
        - Removing from arrays
- Consume life from other life forms
    - If statements with the radius
    - True-false Booleans
- Procreate
    - Timers and appending arrays
    - True-false Booleans