# Nucleus

Revision 0.0.1

Written By: Aidan Dearing, Mark Seaman,
Liam Johnston

# Table of Contents

# Overview

## Theme

Nucleus is a cell-based strategy colony game, in which the player will control a grouping of cells through manipulation of tasks to surpass enemy colonies or kill them outright.

## Setting

Nucleus is set within a microscopic view of a petri dish. You play as a scientist studying progressive evolution through conventional means.

## Genre

A colony simulation featuring strategy gameplay.

## Core Gameplay Mechanics(Brief)

### Task Manipulation

Players will be able to manipulate their colony into performing certain tasks.

### Evolution

Cells in Nucleus will experience evolution through their generations.

## Targeted Platforms

Nucleus will be targeted at the PC platform.

## Project Scope

The project scope for Nucleus is set to be a fully functional one to eight player game in which players compete to create the most successful colony. We will have included imported assets and animations as well as sound. There will be a full suite of genetic algorithm based actions for the cells AI. There will also be a fully functional UI for all the players needs.

## Influences

### RimWorld

RimWorld is a colony simulation game focusing on growth. The player is responsible for controlling the colony, building Upgrades, and defending/attacking enemies. Through Successful actions and strategy the colony will expand and Grow.

### Spore

Spore influences Nucleus through its early stages which Feature cell gameplay. The influences from Spore are more Superficial in concept rather than mechanics.

## Project Description

Nucleus is a 1-8 player colony-strategy game. The game will be created by Aidan Dearing, Liam Johnston and Mark Seaman using the Unity Engine. The game will feature C# scripting for actions such as cell control, task manipulation and much more. All actions will be controllable through the player's UI. The game will be 2D with a "sky" view of the playing field. 2D and sound assets will be imported and used within the game from multiple free party sources.

Gameplay for Nucleus will vary based on every game through placement of objectives and evolution. Players will need to adapt their strategy to appeal to their cells or face a definitive loss. No one strategy will work for every game. Players may win through multiple methods such as swarming the opponent, controlling resources or killing their opponent through superior combat. Nucleus is a game that can be played over and over due to it's interactive nature and random generation.

# What sets this Project Apart

## Core Gameplay Mechanics(Detailed)

### Task Manipulation

Task manipulation will be controlled through the player's Interactive UI. Players do not have direct control over the Cells but will dictate their actions through manipulation. By rewarding certain tasks cells will behave as the player Desires, and as such will progress at a much faster rate.

## Evolution

Cells in Nucleus will reach a point during gameplay in which They can go through mitosis. Mitosis is not perfect and can Lead to mutation of traits. These mutations ultimately change The behaviours of individual cells and in total the the Behaviour of the colony. Cells who go through mitosis are not Subject to mutation and can simply reward you with an exact Copy of the original cell. These mutations however, can be Positive or negative, it is ultimately up to the player to see how They deal with these changes and continue playing.

# This is Story

A group of scientists in a lab in germany have started a tournament in which scientists from all over the world can compete to create the ultimate cellular life form. Each scientist begins with a simple colony and will go through the competition until eliminated. Last scientist standing wins the golden lab coat, which is made of actual gold. Very heavy.

# Gameplay

Player vs Player competitive, strategic colony survival. For the golden lab coat.

## Assets

### 2D Assets

- Membrane shaders
- Spline shaders
- Background graphics
- UI elements

### 3D Assets

- Real Golden Lab Coat.

### Sounds

- Background Music
- Ambient Cell Noises
- Mitosis Sound

### Code

- AI
- Shaders
- UI functionality
- Monobehaviours

### Animations

- No Animations Needed

## Schedule

We will be done by the due date.