Zombie Farming Game Design Document

AIE Cross Platform Development Assignment 2019  
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# Introduction:

This project is a farming game with a zombie theme. The game takes place on a grid, with several human settlements scattered about. The player can assign zombies to settlements to take control of them, which then require management of its resources and careful placement of auxiliary buildings to maximize new zombie production, with the end goal being to control the entire map and gain enough gold to repay the dark mage’s guild for the purchase of your necronomicon.  
  
The game is loosely based on Facebook farming games such as Farmville and incremental games, with some light RTS mechanics.

# Gameplay:

## Overview:

The player will start with a settlement, with a small amount of humans and zombies at their disposal. The settlement can be selected, then managed from a menu that appears at the bottom of the screen.  
  
After a settlement is taken over, it will have a human and a zombie population. The human population will slowly increase over time, and the zombie population will slowly decrease. If the ratio of zombies to humans becomes too low, the humans will retake the town and you will lose the settlement, along with all the zombies in the settlement. Players can take over additional settlements by selecting them, then choosing another settlement to send zombies from.If the player has no remaining settlements, it results in a game over.

Zombies can be traded in for currency, which is primarily used to purchase upgrades for settlements. Currency can also be used to repay your debt, which

## Mechanics:

### Population change:

The population of a settlement changes over time. The mechanics for population control vary depending on the upgrades of the settlement, but will always follow the general rule of the living population growing and the undead population decaying. The following are the default behaviours of each population, though

Living:

The main factor for living population increases will be the current population of living. The more living you have, the faster your population will grow. This means that converting them to undead immediately will result in a reduction of the population’s growth, disincentivising immediate conversion of living into zombies.

Zombies:

Zombie population will always decay. Ignoring other factors, the zombie population will always decrease by a percentage of its total population. This incentivizes selling zombies early and also adds another variable to consider when managing the ratio of zombie to living populations.  
  
Zombie decay also increases with the living population. This means the more living you have in a settlement, the faster your zombie population will decrease. Zombies can be moved

### Conversion and selling:

Living in a controlled settlement can be turned into zombies at any given time. It takes a short amount of time to convert an individual human into a zombie. This mechanic, combined with the living growth and zombie decay, means that the living population of an area could slowly become unsustainable. However, multiple settlements can convert zombies simultaneously, meaning larger populations become more sustainable the more settlements the player has under their control.  
  
Zombies can also be sold for currency. Zombies sell for a flat amount of gold and any amount of zombies can be sold at any time.

## Buildings:

Various buildings can be placed on any free tiles in the grid.

### Settlement:

The main building in the game. Will naturally spawn around the map. Naturally spawned settlements cannot be destroyed, but can be moved for a cost. Can be upgraded to increase max population

### Market:

Increases the sell price of all zombies. Effect increased based on upgrade level. Only one can be placed.

### Hospital:

Reduces the base decay rate of all zombies. The effect that living in settlements have on zombies will not be affected. Additional levels will reduce decay rate further, with the max level completely removing base decay. Only one can be placed.

### Farm:

Increases the base rate of human population growth in a radius. Upgrading increases the radius and growth multiplier.

### Armory:

Reduces the rate of zombie decay caused by the living population for settlements in a radius around the building. Additional levels will increase the effect to a maximum of 75% reduced zombie decay rate, and will also increase the radius.

### Church:

Doubles zombie conversion speed for settlements in a radius around the building.

### Crypt:

Provides additional zombie storage outside of settlements.

### Barracks:

Increases the ratio of humans to zombies required for humans to take nearby settlements back.

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# Schedule:

## Design pillars:

### Settlement Management:

Settlements with humans and zombies, with the populations of each changing based on their populations. Humans can be converted to zombies, and zombies can be moved from the settlement.

### Auxiliary Buildings:

Buildings that provide varying effects depending on their type. Some buildings only provide an effect in a radius, whilst others

### Upgrades and Modifications:

The ability to move, place and upgrade buildings using gold from sold zombies. Certain buildings can only be placed once, and settlements can only be moved, not placed.

## Weekly Schedule:

Week 1-2:

Basic settlement mechanics in place. Zombie and human populations, as well changing populations for each

Week 3-4:

Core settlement mechanics finished. Work starting on market and crypt mechanics

Week 5-6:  
Market and crypt finished. Work starting on Hospital and barracks. Applying building effects to settlements in radius.

Week 7-8:

Mechanics for all auxiliary buildings should be finished.

Week 9-10:

Work on building placement and upgrades starting.

Week 11-12:  
Balance tweaks and polishing

Week 13-14:

Testing, bug fixes and final build

# Technical Information:

Will be coded in C++ using Visual Studio 2017

## Controls:

### Computer:

The player will be able to pan around the map using the WASD keys or by clicking and dragging over the map. Clicking on a tile will open up a menu at the bottom of the screen, which can be navigated with the mouse. Keyboard shortcuts may also be used to quickly navigate between settlements

### Mobile:

The player will be able to pan around the map by swiping over the map. Touching a tile will open up a menu, which can be navigated via touch. Mobile controls are more limited than computer controls, but should still provide a smooth experience due to the simple, low-intensity nature of the game.