Settlement Management Game

CSC 335 – Final Project

Overview

A Settlement Management game is a style of game where a player manages the welfare of a group of creatures – ranging from Dwarves and Goblins, to Robots or Ants – and builds a successful settlement, colony, or star-base, or hospital. The game *Dwarf Fortress* is probably the single best example of this genre, (in fact, many games in this genre are said to be *Dwarf Fortress*-like games!) but other notable examples include *Dungeon Keeper*, and *Theme Hospital.*

In a Settlement Management game, the player is not in direct control of the occupants of the settlement, but instead issues directives to the settlement as a whole such as building new rooms or buildings, harvesting resources, or fighting monsters or invaders. Every occupant has a set of needs and wants that they seek to fulfill before working on the directives issued by a player. For example, if a townsperson is hungry, then they will find something to eat before doing anything else; if they are tired, then they will find somewhere to sleep. When an agent's needs are fulfilled, they will proceed to work on the directives issued by the player.

Games are typically played on a randomly generated 2D grid, where each cell contains terrain, resources, creatures, items, furniture, or other things. Players manage their settlement's resources and strive to build, grow, and prosper. Many games in the genre incorporate RPG elements such as having an occupant's skill at a task increase with practice, or giving occupants hit points.

Your Task

For this project, you are required to write a fully functional Settlement Management Game. While many Settlement Management games are based on Fantasy or Sci-fi settings, please feel free to branch out into any sort of style. Creativity is highly encouraged; the mechanics, maps, gameplay, and setting are all up to you!

The basic requirements for the Settlement Management Game are listed below

Requirements

Maps:
- Maps must be randomly generated when a new game is made
- Maps must feature at least four different types of terrain/obstacles, and four different resources that can be gathered.
- Maps must be large enough for a player to comfortably expand and build a settlement
    - The vast majority of the map should be undeveloped
- The Map should be larger than can be shown on a single screen. Thus, it must be possible to pan around the map to see different parts of the map.
- Maps must be 2D grids that can be represented in a text format

Agents:
- The player should start with a handful of Agents (not too many, and not too few)
- Agents should have at least three Needs that increase over time that they must fulfill (e.g. Hunger, Thirst, Fatigue)
    - If an Agent can't fulfill a need for an extended period of time, they should die, quit, or otherwise leave the settlement.
- The player should not have direct control over the actions of an Agent (i.e. agents make their own decisions about what to do based on their needs and the command issued by a player)

- o Agents must carry out the actions of the Player if they have fulfilled their needs
- There must be a way for the player to attract or hire new Agents to the settlement either actively, or passively.
- Agents must be able to make use of items and rooms to fulfill their needs or carry out the Player's tasks.
- An Agent must be able to gather resources, but must have a limited amount of resources they can carry.
  - o Agents must be able to deposit resources in a container.
- The player loses if they have no more agents.

Actions:
- The player must be able to issue commands to the settlement
- Players must be able to tell their Agents to harvest resources from the map.
- Players must be able to build at least two types of rooms.
  - o For example a player might be able to build a storeroom to hold food, a dormitory for agents to sleep in, or a bar for Agents to relax in.
- Players must be able to tell Agents to build a container that holds a limited amount of resources.
- In addition to a container, Player must be able to build at least 3 other types of items:
  - o Items should be things like tools (pickaxes, saws) or furniture (beds for sleeping in, barrels, doors between rooms) or anything that an agent can use.
- Building rooms or items must require and subsequently use up resources when being built.

General
- It must be possible to save a game in progress, and load it at a later date.
- The game must play in real-time (not turn based, and without long delays)
- The game must use simple graphics to show the map.
  - o e.g. Sprite graphics to show Agents/Creatures and a tileset for terrain. These don't need to be complex. Animations are not required, but are highly encouraged.
- The game must have a win condition

- o (e.g. the player might win if they amass enough wealth, their settlement grows to a certain size, or if they defeat an opposing force).
- In addition to managing the needs of the agents, the player must cope with some kind of opposition.
  - o This opposition could be anything from natural disasters like an earthquake or blizzard, to an invasion by an angry army of Goblins.
- It goes without saying that if the Player never issues any commands, they will eventually lose.

Wow Factor

Completing the above requirements will earn at most 90% of your grade. To earn the last 10%, your game needs to have a "wow" factor. This could include lots of extra features, how well designed (and fun) the game is, or just good old-fashioned polish—anything that will make your game really stand out!