Zombies VS Plants User Manual

Gameplay

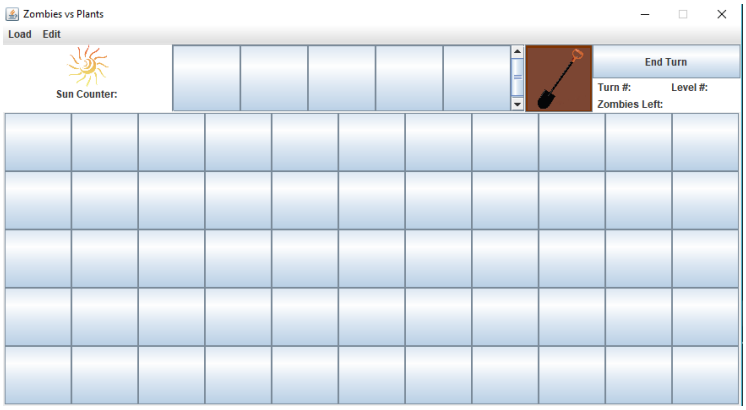
Description Zombies are attempting to cross your yard to eat your brain. To protect yourself, you'll need to fortify your yard with magical plants. Purchase plants using sun counters. You win once you succeeded in clearing the wave. You lose if the zombies reach the end onto the concrete. Except, if there is a lawn mower, consider it as a second chance to protect yourself.

Turns

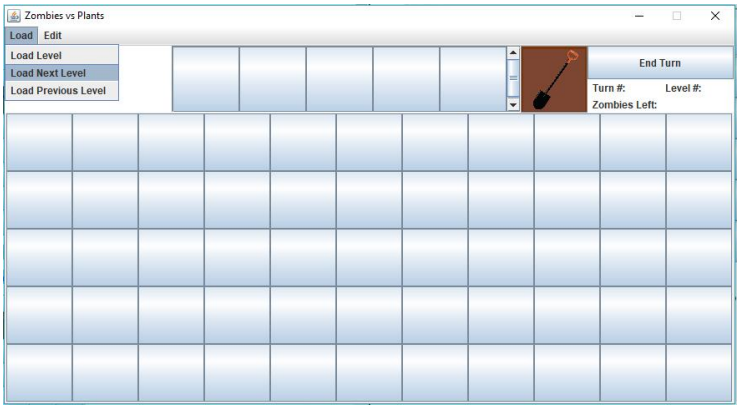
As a turn base game, you'll need to carefully decide how each turn will span out. Click on "End Turn" once you have completed everything you would like during the turn.

UI

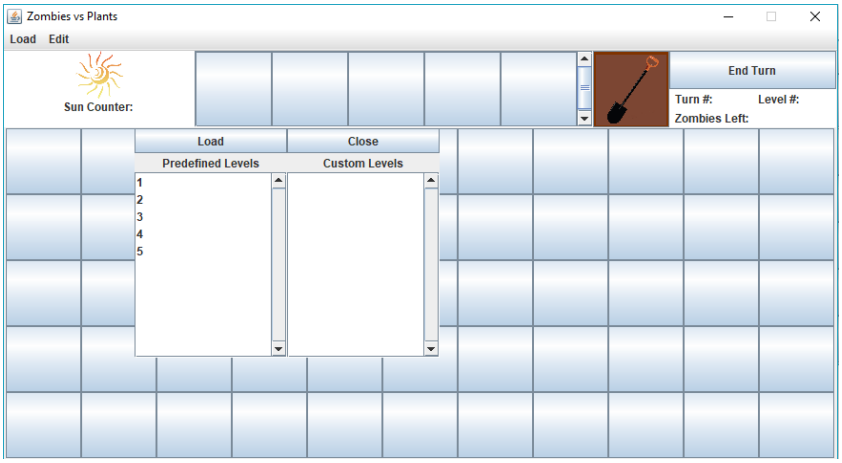
Loading a level

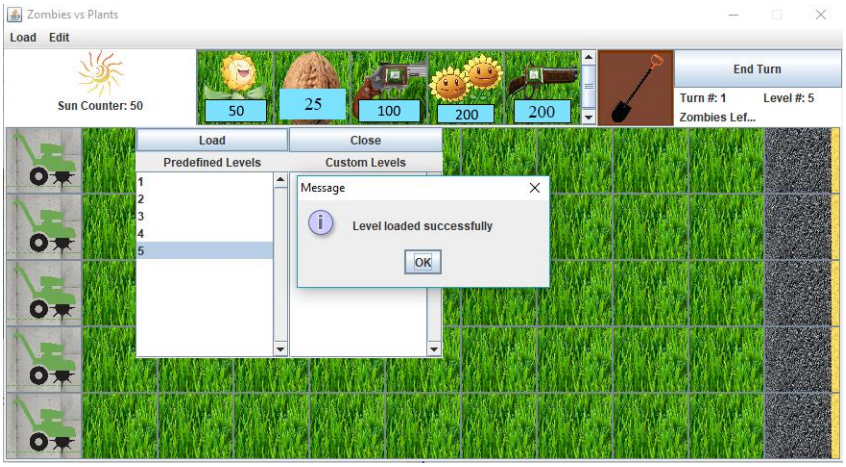


When game is initialize, there is an empty grid.
To start a level, click on "Load" from the menu bar, and select one of the three options. "Load Level" lets the user decide which level they would like to load. "Load Next Level" will load the next level that is yet to be completed. "Load Previous Level" will load the level you loaded earlier.



For "Load Level", you'll have the option to pick from a list of predefined levels or custom levels.





Tiles

- **Grass**

  A grass tile can hold a single plant, or multiple of zombies.

- **Road**

  A road tile is where the zombies come from. Plants cannot be planted on the road.

- **Concrete**

  A concrete tile is where the lawn movers reside, and is the zombies' end goal.

Sun Counter

Displays the in-game currency, which allows you to purchase plants from the shop. The sun counters are generated each turn by the sun, or in addition to sun generating plants.

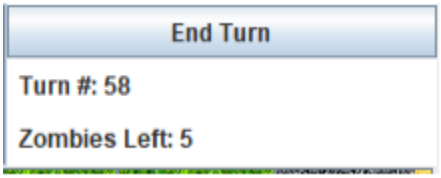
Shop

Displays a list of plants that you can purchase. At the bottom of the plants' icon is the amount of sun counters required to purchase the plant

Shovel

A button that allows you to select a tile to remove a residing plant

Game State



- "End Turn" button allows you to end the current turn, allowing zombies to process their turn, and plants to attack.
- "Turn #" displays the current turn number
- "Zombies Left" shows how many zombies are left till the wave is complete

Lawn Mower

Displays lawn mower, the second chance device, at the zombie's end goal.

Units

Plants

- **Sunflower**
  Cost: 50 sun
  Type: generator
  Generate per turn: 25 sun
- **Wallnut**
  Cost: 25 sun
  Type: shield
- **Peashooter**
  Cost: 100 sun
  Type: attacker
  Damage: 1 pea per turn
- **Duel Sunflower**
  Cost: 200 sun
  Type: generator
  Generate per turn: 50 sun
- **Repeater**
  Cost: 200 sun
  Type: attacker
  Damage: 2 pea per turn

Zombies

- **Walker**
  The basic zombie of the game

- **Cone hat**
  Slower, but stronger than the walker

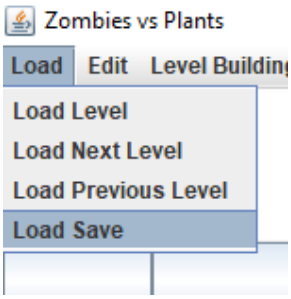
- **Bucket Hat**
  Slower than cone hat, but much stronger than cone hat

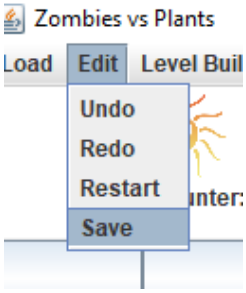
- **Football**
  Fastest zombie, but slightly stronger than walker

- **Newspaper**
  Faster than bucket hat, but slightly weaker than bucket hat

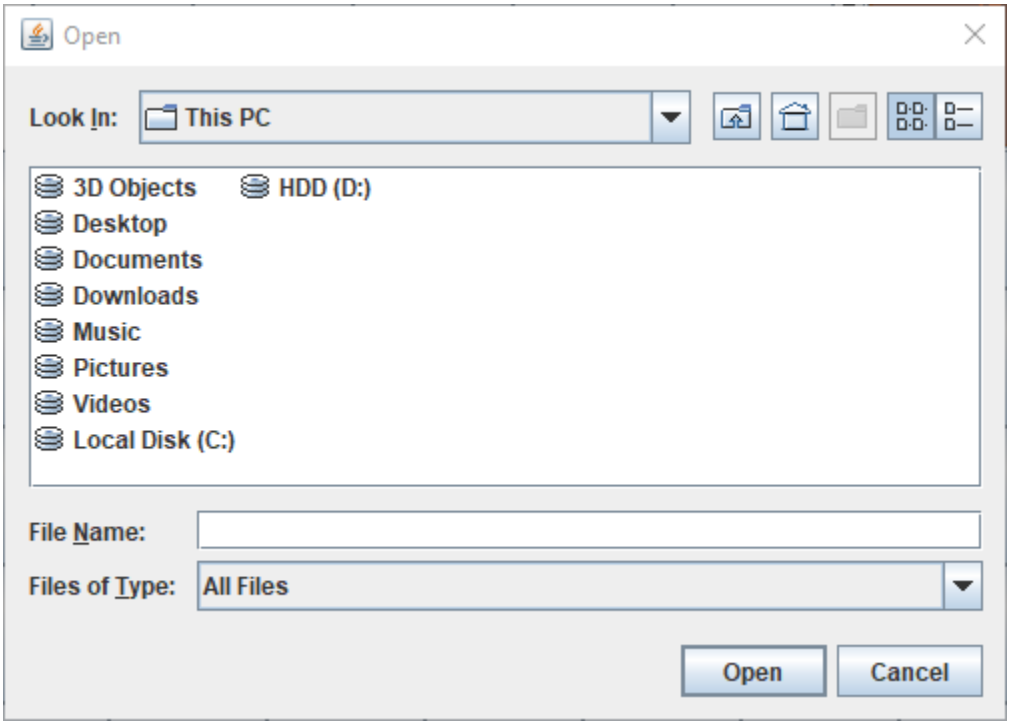
Save/Load

Games can be loaded through the load menu and saved through the edit menu. The file generated from saving is a .ser file, the same file extension is required for loads.



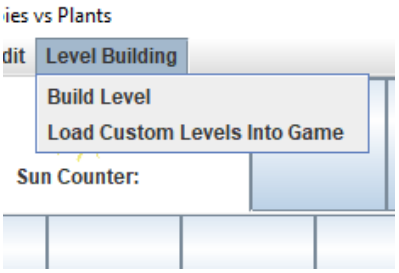


The user is prompted to select a file to save/loads.

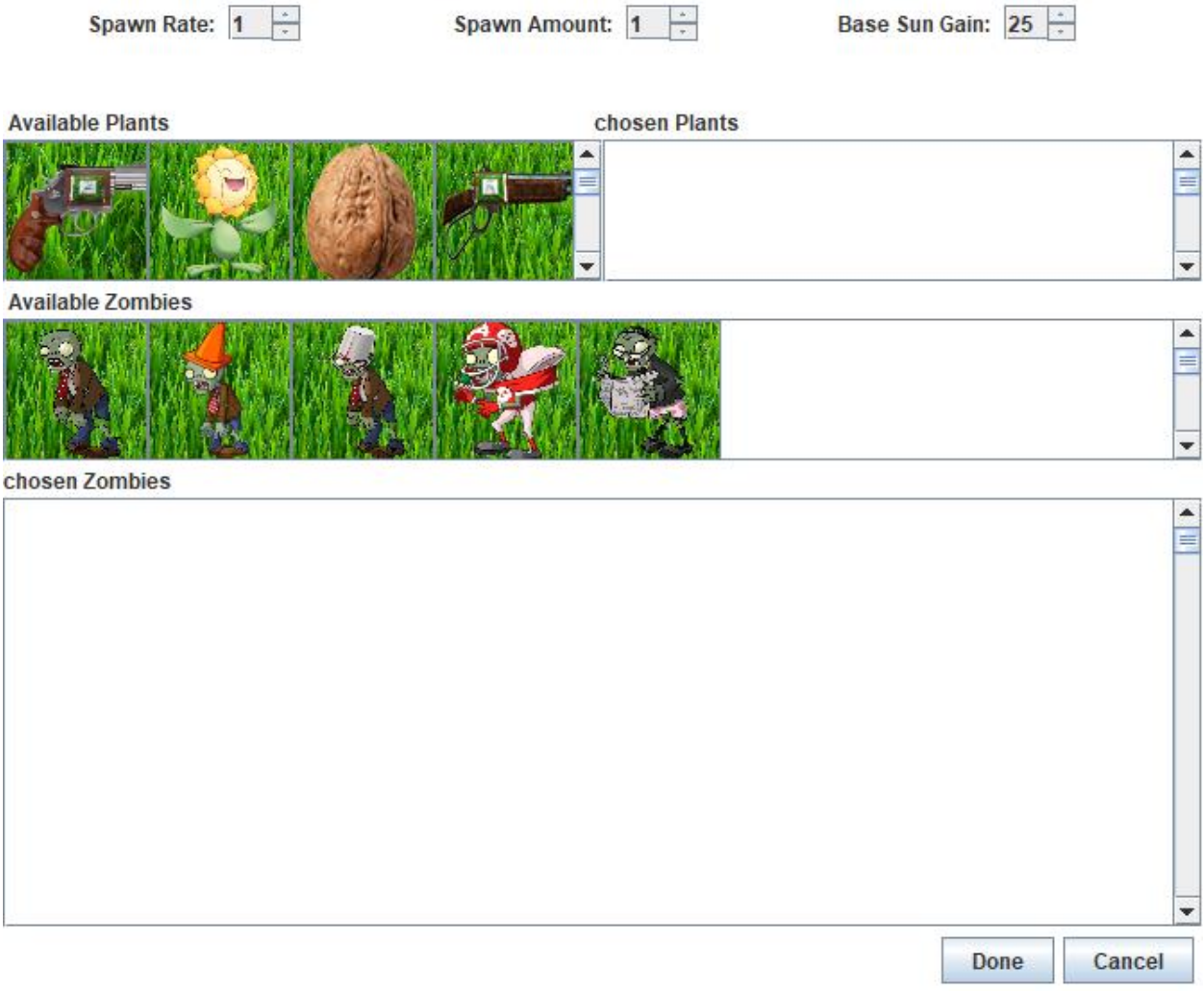


Custom Level Builder

The user can build custom levels and load said levels into the game through the Level Building menu.



The user can change all details related to level design through the gui below, which can be accessed through the “Build Level” option.



The user can then import the custom levels into the game (which allows custom levels to be sharable across different systems) and load the levels through the load level menu.

Reflection on Project Experience

Requirements for milestones were not well presented on the project explanation pdf. The only way to obtain the required information is by looking at the rubric. The rubric is not detailed leading to confusion over vague terms such as bogus parameters. Another issue is that feedback for milestones were given after the next milestone was due, meaning we were unable to use the feedback to improve the project. We've lost marks for the same error repeatedly as feedback is not clear and concise. The testing of the view is also somewhat unreasonable.

Reflection on Project Design Decisions

The design decisions are mostly well suited for the project. The team had little trouble adding more functionality to the project as the game developed. One thing that could be implemented slightly better is the way combat is processed. During an attempt to implement new plants with special attributes, the team ran into some problems regarding concurrent modification of objects on tiles. A new way of handling plant/zombie actions was derived but implementation would require major refactoring of the code already done, and this was later into milestone 3, it is simply not worth doing. This method would break plant/zombie actions into even smaller turns (which are of course automated) and would allow the implementation of mines. A precedence of which actions occur would have to be set and the actions would occur in that order, meaning no 2 things would ever occur at the same time (i.e zombie and plant dying together, the case with the potato mine). The process would be as follows: if there is a plant in front of the zombie, the zombie would attempt to attack it, if it's a mine, call a potatoMineAction method, deal damage to the calling zombie and iterate through the tile which that zombie is on, dealing damage to all zombies on that tile, the plant would be deleted, then the zombies which are dead would be marked for deleted, the zombies would continue taking their mini turn.