

# ReadMe

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Made by Youssef Saghbini

Zombies have landed onto your planet and want to take over the whole world. The only way to defend yourself is to use your plants! Supplied with alien-like plants like sunflowers and peashooters, you will need to act fast and plant fast. For you and your plants are the only ones who can save this world!

## Milestone 4

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### Contributions

Contributors	Effort
Ryan Boucher	Design Decision Document, Real-Time Add-on & Refined Redo/Undo
Ryan Gaudreault	Sequence Diagram, Refactored code, Added comments & Added Menu page
Muneeb Nasir	UML Diagram, Refined Unit Testing & Added Level Builder
Youssef Saghbini	User Manual, ReadMe & Added Save/Load Functionality

## Files

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- Main.java - Start up file for the game to run
- MainMenu.java - Title page of the game
- View.java - The display of the game
- Controller.java - Manipulation of the game with zombieMoves, hitUpdates, etc.

- Square.java - Square Class stores information of the Pieces and Coordinates
- Coordinate.java - The Coordinate class is used to identify the rows and columns of the game
- GameLevels.java - The game level builder that implements different levels of the game
- XMLParser.java - Used to convert a XML file from a saved file onto the game
- Piece.java - Super class for each plant and zombie in the game
  - Plants
    - PEASHOOTER Piece is an offensive plant
    - REPEATER Piece is an offensive plant, stronger than the PEASHOOTER
    - THREEPEATER Piece is an offensive plant, stronger than the REPEATER
    - SUNFLOWER Piece is a non-offensive plant piece that can aide the player by granting money to the play per turn
    - TWINSUNFLOWER Piece is a non-offensive plant and can aide the player by granting money to the play per turn, more money than the SUNFLOWER
    - GIANTSUNFLOWER Piece is a friendly non-offensive entity and can aide the player by granting money to the play per turn, more money than the TWINSUNFLOWER
  - Zombies
    - ZOMBIE Piece is an offensive enemy that can move and will attack plants pieces in its way until it reaches the end of the board, defeating the player
    - The CONEHEADZOMBIE is an offensive enemy, stronger than the ZOMBIE
    - The BUCKETZOMBIE Piece is an offensive enemy, stronger than the CONEHEADZOMBIE
- Testing Package - Contains all JUnit Testing for Model, View and Controller

## User Changes

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- Added Save/Load functionality using Serialize
- Refined Undo/Redo functionality
- Added Game Level save using XML
- Added Menu page
- Refactored code
- Added more comments

## Known Issues

## Future Plans

- Enjoy the game

## Milestone 3

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### Contributions

Contributors	Effort
Ryan Boucher	Design Decision Document & Redo/Undo Functionality
Ryan Gaudreault	Sequence Diagram, Added more Plants/Zombies with Unit Testing
Muneeb Nasir	UML Diagram, Unit Testing for View, Controller and Models
Youssef Saghbini	User Manual, ReadMe, Updated View and Refactored Classes

## Files

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- Main.java - Start up file for the game to run
- View.java - The display of the game
- Controller.java - Manipulation of the game with zombieMoves, hitUpdates, etc.
- Square.java - Square Class stores information of the Pieces and Coordinates
- Coordinate.java - The Coordinate class is used to identify the rows and columns of the game
- Piece.java - Super class for each plant and zombie in the game
  - Plants
    - PEASHOOTER Piece is an offensive plant
    - REPEATER Piece is an offensive plant, stronger than the PEASHOOTER
    - THREEPEATER Piece is an offensive plant, stronger than the REPEATER
    - SUNFLOWER Piece is a non-offensive plant piece that can aide the player by granting money to the play per turn

- TWINSUNFLOWER Piece is a non-offensive plant and can aide the player by granting money to the play per turn, more money than the SUNFLOWER
- GIANTSUNFLOWER Piece is a friendly non-offensive entity and can aide the player by granting money to the play per turn, more money than the TWINSUNFLOWER
- Zombies
  - ZOMBIE Piece is an offensive enemy that can move and will attack plants pieces in its way until it reaches the end of the board, defeating the player
  - The CONEHEADZOMBIE is an offensive enemy, stronger than the ZOMBIE
  - The BUCKETZOMBIE Piece is an offensive enemy, stronger than the CONEHEADZOMBIE
- Testing Package - Contains all JUnit Testing for Model, View and Controller

## User Changes

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- Added more game pieces
- Changed layout of the gameplay
- Added JMenuBar for Redo/Undo
- Refactored Controller and Model

## Known Issues

- Nothing happens when all squares are filled
- If no more sun points then game can not be continued
- When plant is added on the last column on the right, zombie can't be spawned
- Undos is up to n-1
- Undo/Redos does not affect money

## Future Plans

- Implement Save/Load Functionality
- Apply Real-Time
- Fix bugs and known issues
- Add title page to the game
- Update documents

# Milestone 2 - Completed

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## Contributions

Contributors	Ryan Boucher	Ryan Gaudreault	Muneeb Nasir	Youssef Saghbini
	Controller	Model	Unit Testing	View
	Updated Design Decision Document	Added Plants/Zombie Classes	Generated JUnit Testing	Generated View.java
	Modified Gameboard.java into Controller.java	Update Sequence Diagram	Updated UML	Update ReadMe
				Updated User Manual

## Future Plans and Known Issues

- ~~1. Optimize/Refactor Code ~~
- 2. ~~Capture any "Smelly" code~~
- 3. Add Title Page in the beginning of the game
- 4. ~~Add Win/Lose Pop-Up when necessary~~
- 5. ~~Add Redo/Undo Functionality~~
- 6. ~~Add more Plants/Zombie units~~
- 7. Up date any documents

# Milestone 1 - Completed

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## Contributions

<b>Contributors</b>	<b>Effort</b>
Ryan Boucher	Design Decision Document & Main.java
Ryan Gaudreault	Sequence Diagram, Model.Piece.java & Pieces.java
Muneeb Nasir	UML, Model.Coordinate.java and Model.Square.java
Youssef Saghbini	User Manual & GameBoard.java

## Future Plans

1. Optimize Code
2. ~~Update any documents, if necessary~~
3. ~~GUI-Based Version of this Version~~
4. ~~Tests will be used with JUnit~~
5. Add more to more ReadMe