

# Plants v/s Zombies

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# Implementation and Design

This game is a restructured implementation of the classic Plants Vs Zombies game. The whole project was implemented using JDK11 and Scene Builder Gluon. The game opens up to a main menu which gives the player the options of playing new game, resuming game, choosing a level, viewing the leaderboard and quitting the game. With proceeding to a new game, the player has to enter his name and then has to select plants for the game. With this, the player proceeds to main game. The game Screen consists of In game menu button, progress bar, and the top bar. The top bar contains the player's name, sun score, the plant tiles he had selected on the previous screen. The in game menu contains options for resuming, saving and exiting. Apart from this the sound and back buttons appears whole during the process of proceeding towards the game. The game play consists of multiple distinct levels with different formation of zombies of different kinds approaching towards the home every moment. The aim of the player is to kill all the zombies before they reach the home. Player is aided by the plants which has different capabilities and help the Player in different ways. There are even Lawn Mowers in each row which are used when a player is not able to protect a particular row in a game.

# Work Division

DEADLINE - 1 : Deadline 1 was completed with both of us sitting and brainstorming together. All concepts were mutually discussed and implemented.

DEADLINE - 2 : In the beginning, Navneet explored and learnt about the Scene Builder and started the process and Sarthak worked upon making the GUI elements. Later, Sarthak concluded the work on the scene builder by compiling the elements and Scenes. Animations were implemented by Navneet. Overall, it was a well coordinated and successful work distribution.

DEADLINE - 3 : The most important part of the project had gone well hand in hand by both team members. PLant and Zombie creation was handled by both Navneet and Sarthak. Dragging and selecting the plants was implemented by Navneet. The concept of using Timelines and Transitions was undertaken by Sarthak. The inter scene linking was done by navneet and level creation and mapping was done by Sarthak. Collisions and object interactions were handled by Sarthak and Serialization-Deserialization was done by Navneet. The whole project was well maintained on GitHub on a Private repository.

# Bonus

**Plant Almanac** : A guided description of Plants is provided with the main menu so that player can be guided on to which plant he should choose and decide upon his strategy.

**Sound** : Special sound and visual effects on clicking buttons. Background sound for the game is also added for a natural experience to the player.

**Plant Selection before game** : An interactive menu for selecting plants before starting the game is provided.

**Plough** : The feature of plough is also provided in our game so that a player can remove a plant and plant a new plant at that place.

**Drag and Drop** : All the plants that can be planted can just simply be dragged and then drop down to the location the payer wants to place them.