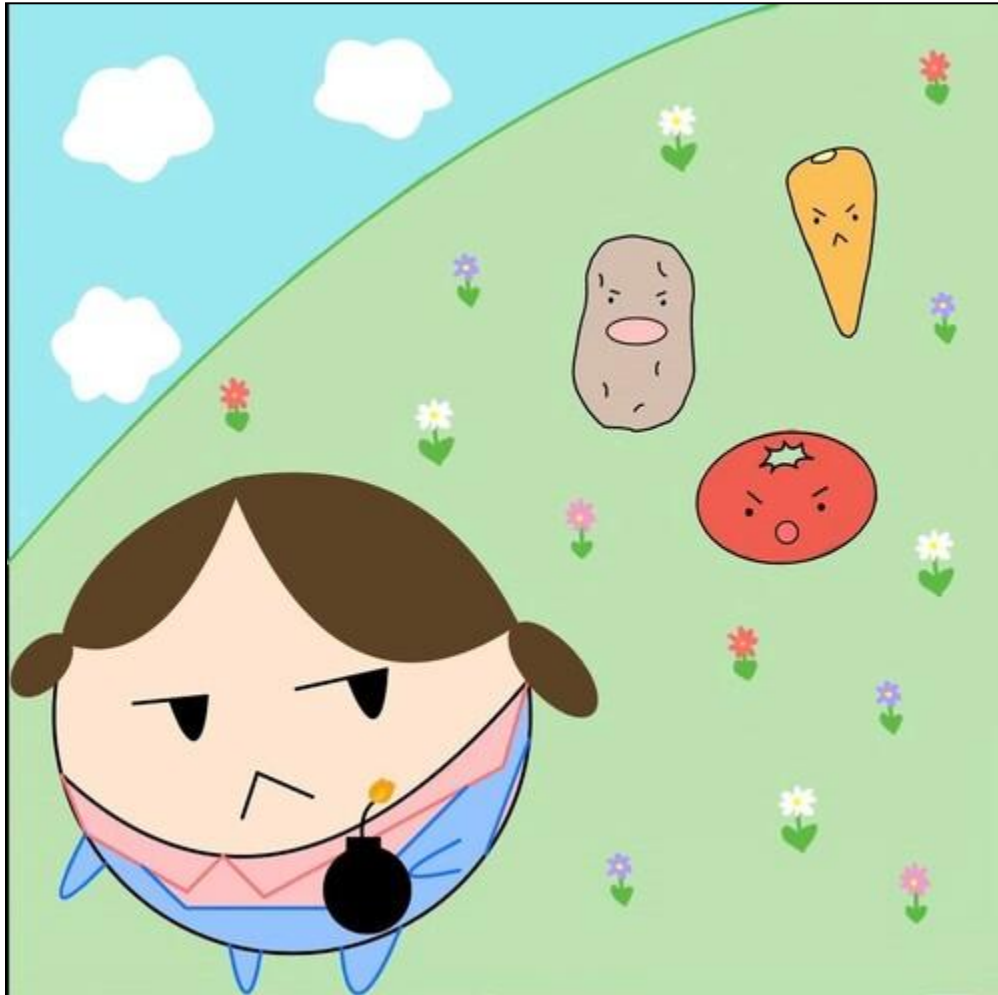


REVENGETABLES User Manual



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Description

Watch out! Infected vegetables are attacking, and it is your mission to safeguard the farm. To fend off the relentless vegetable monsters, tap and drag your farmer to strike them down. As the game progresses, these menacing creatures will grow both in quantity and speed.

But don't lose hope! Each farmer possesses a unique and powerful special ability, hand-crafted for the task. Geraldo the Dasher can leap to any point on the screen with a single tap, vanquishing any monster in his path. Alternatively, Debbie the Demolitionist can trigger massive explosions to send those vegetables flying. After using these abilities, your character turns blue, indicating that the special attacks are inactive. Use them strategically!

Also keep an eye on the red hearts in the upper right corner, as they represent your total number of lives. Beware! A gray heart signifies the loss of a life after a monster reaches the barn. Once all lives are depleted, the game ends. Modify the difficulty level in the settings to alter the vegetables' speed and your number of lives. Harder difficulty means higher score bonuses, but also more enemies! Embrace the challenge, have a blast, and defend your barn from the wicked vegetable invasion!

How to Play

Upon pressing the “Start” button in the menu, the user will be taken to the game screen, where they will be greeted by their selected farmer and a barn. Shortly, vegetables will begin spawning from the top of the screen. The user can dispatch of these vegetables by swiping across the screen to control their farmer, and bump the vegetables off the top.

If the user lets go of the screen and taps elsewhere on the screen, this will trigger the farmer's special ability. Special abilities are powerful and can knock many monsters off the screen, but will go on cooldown after use, indicated by a blue farmer.

When a vegetable reaches the bottom of the screen, the user will lose a life. Reach zero and the game ends. There is no way to win a game of REVENGETABLES, as difficulty will increase over time. The goal is to

attain as high a score as possible, which can be done by surviving a longer period of time or swiping more monsters off the screen.

Settings

Inside the settings menu, which can be navigated to through the home screen, the user has a variety of options to customize their game experience. This includes an option to turn music on or off, farmer selection, and difficulty selection.

Farmer Selection

The user can pick between 2 different farmers, the Dasher and Exploder.

The Dasher is more nimble than the Exploder, and moves at a speed of 75 px/tick. Upon ability activation, the Dasher runs to the exact position the player taps, dealing with all monsters on the way.

The Exploder moves slower, with a speed of 50 px/tick, but make up for it with her powerful ability. Upon ability activation, the Exploder moves quickly to the target position and sets off a huge explosion.

Difficulty Selection

Three difficulty options are available: Easy, Medium, and Hard.

Easy:

Less monsters spawn, and monsters move slower. The user gets seven lives. The user gets 5 points every 2 seconds.

Monster	Points
Potato	50
Tomato	150
Carrot	300

Medium:

Monsters spawn at a normal rate and move at an average speed. The user gets 5 lives. The user gets 10 points every 2 seconds.

Monster	Points
Potato	100
Tomato	300
Carrot	600

Hard:

More monsters spawn, and they move faster. The user gets 3 lives. The user gets 15 points every 2 seconds.

Monster	Points
Potato	150
Tomato	450
Carrot	900

High Score

Each time the user completes a game, their score goes on a high score board if higher than the 10 highest scores. This high score board displays that user's top scores, and does not go away when the user closes the app. This high score board can be viewed on the gameover screen, or from the home screen using the "High Scores" button.

System Testing

The system was tested mostly using instrumented tests. This is because some properties of systems like the Farmer and Vegetables were managed in the same class as their display functions, meaning that they couldn't be tested without app "Contexts." Tests were run in much the same way as regular unit tests, which included testing all edge cases to make sure

that code would work as intended in unexpected scenarios. This ensures that any app expansions or updates remain on a stable foundation.

Unit and Interface Tests

For unit and interface tests, we made sure to test the Monster, Knight, Scoreboard, Settings, Game Management (LifeView) Classes. To test each class, we tested all public functions of the class, excluding drawing functions, as well as some getters and setters. To test functions with an output, we tested both expected and unexpected cases to ensure robustness. Many of the void functions in the game are used to calculate and set different values within a class. In order to test these functions, we ran them with inputs that we set, and watched to make sure the outputs were as expected, or within a certain range for randomized functions. C++ functions were tested via the java APIs, using the java functions that call them.

System Tests

To conduct system testing, we played the game and tried to create unintended behavior through inputs. This included rapidly swiping the screen during gameplay to trigger unintended abilities and movement. During system testing, there were also attempts to play the game in unorthodox ways, including keeping the player character by the top and bottom of the screen. Both methods did not work in prolonging the game or artificially inflating score. We also tested all button inputs to make sure they map to the right places, and used black-box testing to ensure the high score board works as intended. Finally, we tested all characters and difficulties to ensure that special abilities, score counting, and life loss are working correctly. We believe that REVENGETABLES has been thoroughly tested, and is free of all but uncommon, hard-to-trigger bugs.