Bouncy Balls: Specifications

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1 Introduction

1.1 Scope

This software is a game which will keep the user entertained while the programs are compiling or executing. The game consists of the balls bouncing around the window in an entertaining way.

1.2 Software Features

- The game will keep the user entertained while the user is waiting for the program to compile or run.

- The user can have a goal to reach a specific number of balls in the game.

1.3 Entry and Exit Points

- The bouncy ball game will be triggered by the event from IDE when the program is compiling, which will be the entry point of the game.

- The user will start the game using the play button.

- The window will be closed when the user clicks the close (X) on the pop up window or when the code finishes compiling.

1.4 Input

The user can give an input using the mouse.

- The user can enter the number of balls inside the text field to start with.

- After entering the number of balls the user can press enter and click the play button. The click button will change to pause button.

- The user can press the pause button to stop the game.

- The user can also click on the add button to add balls to the screen.

- The user can click the subtract button to remove balls from the screen.

1.5 Output

- The output of the game will be the balls of different sizes and speeds bouncing around the screen.

1.6 User Characteristics

- The user of the game should have the basic understanding of the laws of general physics to play the game.

- The user needs to read the help/info section of the game to learn about the mechanics of the game.

- The user does not need to be of a specific education level to play the game.

- The user need not have any specific or technical experience before playing the game.

- The game does not have any age restrictions.

1.7 Constraints

- The game should be in Java which executes when the program is compiling or running.

1.8 Assumptions and dependencies

- The background program takes long enough to compile or run.

2 Functional Specifications

- The user will be presented with a window having a play button, which needs to be clicked to start the game. There will also be an input text field to enter the number of balls to start with.

- The user can have a look at the help/info instructions before starting the game.

- If the user puts an invalid entry into the text field which is not an integer the game will start with the default of 50 balls.

- The user is only allowed to fill the space with up to 1000 balls in the start. If the user puts more than that in the text field the balls will be set to 1000.

- When the user enters the starting number of balls in the text field, the user needs to press the enter button and click the play button.

- When the user hits the play button the screen is presented with balls of different sizes and velocities moving around and a counter on top to display the number of balls.

- The user can also add more balls and remove balls from the screen using the add and subtract buttons. The maximum amount of balls in the screen can be 1050 (1000 max in the start and then the user can add 50 more).

- The user can stop and restart the game by pressing the pause button.

- The text field on the start screen gets replaced by the count of the balls, add and subtract buttons when the user presses the play button.

- The default number of balls on the screen is 50.

- The background of the balls panel changes to black on mouse over and changes back to white on mouse exit, while playing the game.
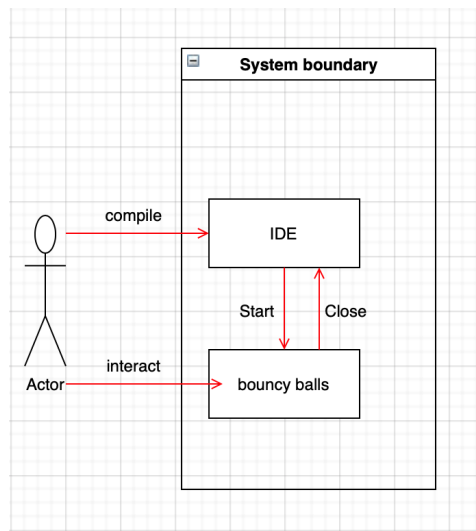
3   Use Case Diagram

Figure 1: Use Case Diagram

4   Non Functional Specifications

- The size of the executable module should be less than 100mbs.

- The game should start in milliseconds.

5   UI Specifications

- The default window size should 400 by 500 pixels.

- The balls added on the screen are of random colors. The balls can be of random sizes from 10 to 30 and placed at random position 0 to window height and window width.

- The start button is a play icon at the top left of the screen. The play button gets replaced by the stop button when game starts.

- The background color is white.

- The maximum number of balls on the screen can be 1050.