Group 7

Bubble Bobble Requirements

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1. Functional Requirements

The functional requirements for the game Bubble Bobble are listed using the MoSCoW Model[1], a model which separates the requirements based on their priorities.

1.1 Must Haves

- The game shall have a single level to play.
- The game shall show a game over screen when the player dies.
- The game shall have a field where the character and monsters can move around.
- The player shall have the ability to win the game when they have killed all the monsters.
- The player shall lose the game when a monster touches the character.
- The player's character must be able to move around horizontally.
- The player's character must be able to jump, both straight up and diagnoally.
- The player's character shall be able to shoot bubbles.
- The monsters shall walk around horizontally, and when they hit a wall they will change direction.
- A monster shall be trapped in a bubble when the player shoots a bubble at it.
- A monsters shall die when it is caught in a bubble and the character collides with that bubble.

1.2 Should Haves

- The game shall have a start up screen.
- The game shall have multiple levels to play on.
- The game shall keep a track of the player's score.
- The game shall have the ability to pause.
- The game shall have the ability to unpause after the pause button have been pressed.
- The game shall have the ability to stop, which closes the game.
- The game shall have a help screen that will inform the player about the controls and powerups.
- The player shall have the ability to start a new game.
- The player shall have multiple lives.
- The player shall lose a life, when a monster touches the character.
- The monsters shall be able to drop items when they die.
- The player shall have the ability to pick up items which will increase their score.
- The powerups shall increase the speed of the bubble, the distance the bubble travels or the walking speed of the character.

[1] https://en.wikipedia.org/wiki/MoSCoW_method

1.3 Could Haves

- The game shall have the ability to restart, which will return the game to it's original state.
- The game shall play a theme song when the player is playing the game.
- The game shall play a different song when the player dies.
- The game shall play a third song when the level is won.
- The game shall keep a list of previous scores.
- The monsters shall have the ability know where the character is, therefore will walk closer to the character.
- The monsters and character shall be animated, so the image will change when they walk around and jump.

1.4 Would/Won't Haves

- The game shall be able to be played with multiple players.
- The game shall have a coin based model to get more lives, where the monsters sometimes drop a coin which gives the character an extra life when they collide with it.
- The player shall have the ability to change the colour or form of the character.
- The player shall be able to change the background of the game.
- The player shall have the ability to save the game.

2. Non-Functional Requirements

The non-functional requirements are the requirements that are based on the operation of the system, instead of the functions and behaviour of the game itself.

- A working version of the game must be delivered September 11th, 2015.
- SCRUM will be used for every iteration, after the original working version is delivered.
- The player should be able to understand the controls almost immediately, so have the ability to play the game properly within three attempts of the game.
- The game should be able to run on Windows (7 or higher), Mac OS X (10.8 and higher) and Linux.
- The game will be implemented in Java.
- The working version delivered will have at least 75% line coverage in Cobertura, where the tests are meaningful. Meaningful means that they do not only execute functions, but actually test the game.