

Requirements Pinball

TI2206 Software Engineering Methods
of the Computer Science bachelor curriculum

Delft University of Technology



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Delft, TU Delft, 2017

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1 Functional Requirements

The functionality and service requirements for the game Pinball are discussed in *Functional Requirements*. The Functional requirements can be categorized into four groups.

1.1 Must Haves

- One ball, two flippers and 4 bumpers on the board shall be shown before the game starts.
- The game's board shall be 800 by 600 pixels big.
- The game's board shall have a (small) opening between the two flippers.
- The player shall be able to move the two flippers, independently from each other, up and down.
- The game shall not allow the ball to be moved (partly) out of the screen, except for the opening between the two flippers.
- The ball shall move in the opposite direction in case it collides with the border of the screen, except for the opening.
- The ball shall be decelerated (in velocity) in case it collides with the border of the screen, except for the opening.
- The ball shall be accelerated in case it collides with a "moving" flipper.
- The ball shall be accelerated in case it collides with one of the bumpers.
- The player shall lose the game in case the ball is going through the opening between the two flippers.
- The game shall place a new ball on the board in case the player loses the game.

1.2 Should Haves

- The player shall be able to start a new game of Pinball.
- The player shall be able to end a game of Pinball which is in progress.
- The game shall end in case the player loses or stops the game.
- The game shall give the ball and flippers a color (chosen by the game makers).
- The game shall have an initial player's score of 0.
- 100 points shall be added to the score in case the ball hits the bumper.
- The game shall show the score of the player after the game is finished.
- The game shall reset the score when the game ends.

1.3 Could Haves

- The game could play music when the game is in progress.
- The game could play a sound when the ball hits a bumper.
- The game could play a sound when the ball is hit by one of the flippers.
- The game could play a sound when the flipper is moved.
- The player could be able to switch the music and sounds on and off.
- The player could be able to pause the game while in progress.
- The game could have two balls on the board.

1.4 Would/won't haves

- The game won't have a high-score list with all the saved scores of the players.
- The player won't be able to change the color of the background or the color of the ball.
- The player won't be able to change the speed of the ball.

2 Non-Functional Requirements

The non- functional requirements indicate the constraints that apply to the development process of the system.

- The Game shall be playable on Windows (7 or higher), Mac OS X(10.8 and higher) and Linux.
- The game shall be programmed with Java.
- The first full working version of the game shall be delivered at September 15, 2017.
- For the iterations after the delivery of the game, the scrum methodology will be applied.