

Kauwgombal Misère Requirements

Group 16

Luke Prananta, 4288386
Jasper van Esveld, 4372581
Arjan van Schendel, 4366212
Bart Ziengs, 4391799
Matthias Tavasszy, 4368401

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1 Functional requirements

1.1 Must have

- The game must initially show a startup screen that enables to player to:
 - Start a new game
 - Exit the game
- The game must display an empty room when the game starts
- The game must put the playable character in the bottom-center of the room
- The player must be able to move the playable character left and right by pressing the left and right arrow keys
- The player must be able to shoot projectiles vertically from the position of the playable character by pressing the spacebar
- These projectiles must extend until they reach the ceiling of the room
- These projectiles must disappear once they touch the ceiling of the room
- These projectiles must disappear when they collide with a bubble
- The player must not be able to shoot a projectile while another projectile is in the room
- The game must spawn a bubble in the room, in a random horizontal position, but always on its peak bouncing height above the ground
- The bubbles must move with a fixed horizontal speed
- The bubbles bouncing height will depend on the size/mass of the bubble
- The bubbles radius must be always be a the minimum radius multiplied by a power of two
- The bubbles minimum radius/size must be determined based on the screen resolution
- These bubbles must bounce from the walls and floor
- These bubbles must not lose any momentum
- The bubbles must split into two smaller bubbles if a projectile collided with the bubble and the bubble is not the minimum size
- The bubbles must disappear if a projectile collided with the bubble and the bubble is the minimum size
- The game must end if a bubble collides with the playable character

1.2 Should have

- The player should be able to start a new game
- The player should be able to pause and stop the game
- The game should start at level 1
- The game should spawn a new bubble(s) when all bubbles are destroyed
- The game should increase in level with each spawn
- The game should display and track the score based on bubbles destroyed and split
- The game should display a game over screen when the game ends, displaying the achieved score

- The game should have sprite based graphics

1.3 Could have

- The game could play epic theme songs during play
- The game could play a sound effects when a projectile is shot
- The game could play a sound effects when a bubble is hit
- The game could have a time limit for each level
- The game could keep track of a score wherein points are obtained if bubbles are destroyed.
- The game could play a sound effects when a level is completed
- The game could play a sound effects when the player dies
- The game could be suited with multiple level for the playable character
- The game could be playable by two players locally
- The game could have sound mute settings for both music and sound effects
- The game could have scalable resolution settings
- The game could have rebindable keys
- The game could increase in difficulty after each level by spawning more bubbles, increasing the spawned bubble size or by changing the layout of the room
- The game could be playable at 60 frames per second
- The sprites could be animated
- The game could spawn power ups during the course of the game

1.4 Would/Won't have

- The game won't have a online multiplayer functionality
- The game would not be playable with a controller

2 Non-functional requirements

- The game should be playable on Windows 7 to 10
- The game will be implemented using the Java programming language
- Git will be used during the development of the game for version control and teamwork
- A fully working first version will be delivered on september 11, 2015
- The game will be developed by a group of 5 people
- Trello platform is used to assign tasks within the team
- Scrum will be applied