

# Requirements - "Scrumbledore"

## Sprint 5, Week 1.8

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Software Engineering Methods, 2015-2016

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### Group 12

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# 1. FUNCTIONAL REQUIREMENTS

## 1.1. MUST HAVES

1. The player shall be able to pick up power-ups in the game, which will cast a temporal effect on the player meant to increase the ease with which the current level can be completed.
2. Three different types of power-ups shall be introduced, each with a different effect on the player: Blueberry Bubble, Pyro Pepper and Chili Chicken.
3. A power-up will be dropped with a characteristic probability distribution when an enemy is killed.
4. The chance of an enemy dropping a Blueberry Bubble power-up shall be 10%.
5. The chance of an enemy dropping an Chili Chicken or Pyro Pepper power-up shall be 5%.
6. The Blueberry Bubble power-up shall provide the player the ability to shoot enlarged bubbles for 10 seconds after picked-up.
7. The Chili Chicken power-up shall provide the player with invulnerability for 5 seconds after picked-up, meaning the player will not die upon collision with an enemy.
8. The Pyro Pepper power-up shall provide the player the ability to shoot fireball projectiles for 5 seconds after picked-up.
9. A Blueberry Bubble power-up shall be able to encapsulate up to three enemies at the same time.
10. A Blueberry Bubble power-up shall only be destroyed when it hits a wall or platform.
11. The physics of the Blueberry Bubble bubble shall be identical to the normal bubble.
12. A Fireball projectile shall instantly kill all enemies on collision.
13. A Fireball projectile shall move horizontally in a straight line.
14. A Fireball projectile will be destroyed when hitting a wall or a platform.
15. The Chili Chicken power-up shall give invulnerability so that the player will not die when colliding with enemies for 5 seconds.
16. The current power-up of the player shall be overridden by another power-up if it is being picked up or shall give bonus points to the score of the player(s).
17. A new type of enemy will be introduced next to the current type of enemy *Zen-Chan*, namely the *Mighta* enemy.
18. The *Mighta* enemy will not be affected by Gravity, and will therefore be floating through the level in a non-deterministic manner.
19. The *Mighta* enemy will only be introduced in the last 50% of the levels of the game.

## 1.2. SHOULD HAVES

1. All levels should be modified to ensure that power-ups spawn within the level by default.
2. A player should not be able to climb the walls or move against the underside of a platform by taking advantage of a bug in the game.
3. The enemies should jump randomly to enable them to climb up stairs and move up to platforms.

## 1.3. COULD HAVES

1. CSS for the keybinding options in the settings menu could be adjusted in such a way that tabs are equally aligned.

## 1.4. WON'T HAVES

1. The Collision Level Modifier class will not be refactored during Sprint 5.

# 2. NON-FUNCTIONAL REQUIREMENTS

1. The total production codebase, excluding code for the Graphical User Interface implementation, shall have a line test coverage of at least 80%.
2. No fixable CheckStyle/FindBugs/PMD warnings shall be left unfixed at the moment of hand-in on October 23rd 2015.
3. All the issues assigned for Sprint 5 should be fixed before October 23rd 2015.