Team rgb

# Game Overview

## Target Audience

The target audience we are aiming to appeal to will be those in the casual gamer category, with the target age being 13 and up. We will be focusing on making a game that “Killer” and “Achiever” personas will enjoy.

## Sub-genre

The game will be classified as an action role-playing platformer.

## Storyline

An evil magician has stolen all the colour from the world, plunging everything we know into darkness. One young hero/heroine has been chosen to save the world by challenging all that stands before him/her and defeating the evil magician.

## OVerall Goal

The overall goal of the game is to return color to the world, with various sub goals to maintain the players’ interest.

Sub goals

* Develop the main character’s skill set through gaining experience from destroying enemies
* Progress through the game to gain additional stages
* Beat personal bests for each level (high score and time)

## Central character

The central character will be rather ambiguous, as we wish to allow the player the ability to customize their character in order to appease the role playing game requirements.

Attacking   
The character will have three main attacks – melee (short ranged attack), long-range, and special. The melee attack will utilize the character’s sword, and will attack enemies standing direction in front of the character. The long-range attack will fire a projectile of some sort to attack approaching enemies. Both these attacks will utilize simple one touch buttons displayed on the screen. The special attack will act as a bomb, clearing all visible enemies. This is only usable after a period of charging, after which it can be activated by shaking the device.

Movement  
The player will be able to move the character about the stage in a variety of ways. The screen will display two buttons indicating right and left. Tapping and holding these buttons will cause the character to move in the appropriate direction. Above them will be a button allowing the character to jump, so they may move up and down the surfaces on the stage.

Skills   
The main character comes with a particular set of skills, and the game will encourage players to develop them as they go throughout the game. The initial set of skills includes agility (increases speed of character), strength (improves the damage dealt when using a melee attack), and intelligence (improves the power of the long-ranged attack), mind (reduces the charging time for the special attack) and health (increases the amount of lives). The skills will be improved each time the player destroys an enemy, and the improvement shown to the player at the end of each level to indicate their progress.

## Game world

The game will take place initially in a grey-scale world, in fitting with the storyline. As the player progresses through the levels and collects more color orbs, the world will become more colorful. For the scope of the game at hand, it is intended to have the colour returned to the world in a way that introduces the colours red, green and blue in accordance with the RGB additive colour model, eventually populating the entire game with colours.

The stage layout will be simple, with platforms and the ground available for the character and enemies to interact with. The level will be enclosed, to prevent both the player and enemies from leaving the stage. In the middle of the stage, there will be a hole in which both the player and enemies can fall and spawn on top of the stage as an interesting way to move about the stage. The enemies will spawn at the top of the stage, and gradually work their way down the stage.

## Scoring and lives

The scoring system will utilize enemy deaths as the main method of keeping score. High scores will be stored in local storage, and be available for viewing by the player.

The life system will allow the player to die three times before displaying the game over screen. Random enemy drops will supply extra lives for the player, but will be infrequent to maintain a level of difficulty. Death will occur whenever the player touches an enemy.

## LEvel generation

There will be an expected 4 stages within the game, with each stage consisting of a set number of waves of enemies. At the end of each wave it is intended to have a boss opponent, where upon defeating this opponent, one of the colours from RGB will be added to the game.

The world that will be generated for each of the stages will be fixed.

# design features

* Monetization: Methods of monetizing the game will be investigated and presented.
* High Score: High scores will be maintained in the local storage of the device and be viewable by the player.
* Fixed level Generation: Predefined levels will be created.
* Sound: The game will include a soundtrack, with additional soundbites to help indicate the state of the game to the player.
* Touch/Type/Swipe: The main character will be controlled through the player touching and swiping at visual buttons on the screen.
* Additional Sensor: The game will include the implementation of the special attack, which utilizes the phone sensors to allow the player to shake the phone to charge the attack.

# advanced features

* Character Customisation: Character appearance will be able to be customizable
* Porting to multiple platforms: The game will be available on both Android devices and web
* Progression synced to the cloud: Players will have the ability to sync their progress to the cloud using Microsoft Azure

# Tools and technologies

## github

The game’s development can be viewed on the Github   
<https://github.com/Ofekw/SoftEng-306-Project-2>

Etiquette regarding the Github can be viewed here  
https://github.com/Ofekw/SoftEng-306-Project-2/wiki/Git-Branching-and-Merging-Etiquette

## documentation

Documentation for the project will be available on the Github Wiki  
<https://github.com/Ofekw/SoftEng-306-Project-2/wiki>

## SourceTree

We will be utilizing Sourcetree to manage our local and remote git repository.

## Unity

We will be using Unity to assist in the development of the game.

# https://i.gyazo.com/551b98f5067321af2877a6837356ba82.pngWork Breakdown Structure

# Distribution Plan

Every iteration team members will be assigned new tasks so they are able to gain experience in all aspects of the development process. By doing so we are able to emphasize their strengths, and help distribute knowledge in the group. Through the use of this plan the workload is evenly distributed amongst the team members.

# Risk assessment and management plan

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| --- | --- | --- | --- | --- | --- |
| Risk | Probability | Impact | Exposure | Actions | Warning Signs |
| Learning barrier for new development tools and platform | 4 | 7 | 28 | Encourage peer programming; hold learning sessions; encourage use of tutorials | Inability to use tools effectively, simple tasks take large amount of time |
| Scope Creep | 2 | 7 | 14 | Refine requirements every iteration; encourage communication amongst team members | Tasks not being completed within iteration |
| Bugs or build failures due to programming faults | 8 | 10 | 80 | Thoroughly test code before making pull requests and enforce code reviews before merging pull requests. | Application doesn't behave as intended or does not build |
| Communication Issues | 7 | 10 | 70 | Ensure all team members know how to utilize the communication tools available | Lack of understanding when discussing project, deliverable not completed as expected |
| Failure to meet all deliverables by deadline | 5 | 9 | 45 | Have regular meetings to ensure everything's on schedule. Reallocate and revise schedule if other issues arise | The state of the project is significantly behind the schedule. |
| Team member becomes incapacitated | 2 | 8 | 16 | Employ the "Bus factor", and ensure all individual knowledge is distributed amongst the group | Member fails to respond to messages, deliverables not complete |
| Change in requirements/design | 5 | 9 | 45 | Ensure the project is designed in a way so that it's modifiable for future changes. | Direct communication from client about changes, making new design decisions in meetings |
| Conflicts within the team | 2 | 5 | 10 | Have a meeting to resolve any conflicts immediately through mediation. | Teammates express dissatisfaction about other members |