

Lost Knight

DESIGN DOCUMENT

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2 Introduction

This is the design document for the game Lost Knight. This document is intended for staff and students of the Computing in Software Development course in GMIT. This document was written for the Mobile Applications Development module. This document should outline the decisions that were made during the design of this game and why they were made. If you have any questions about the game or its design you should refer back to this document.

3 Research

While writing this design document I did some research based on the following game types to help me understand the type of game that I wanted to design. The game types that I enjoy playing the most would be Shooter and Platformer type games.

3.1 Shooters

Shooters are generally characterized as a sub-genre of action game, they are designed to test the players speed and reaction times by having the player shoot opponents and dodge opponents as they are progressing through the game. Shooter games are generally focused around a single avatar or character generally holding some sort of long range weapon that gives them the ability to shoot opponents, players have the ability to die by opponents so the aim of these types of games is to shoot opponents and not die.

3.1.1 Examples

- Space Invaders
- Tyrian
- R-Type

3.2 Platformers

A platform game, or platformer, is a video game genre and subgenre of action game. In a platformer, the goal is for the player to move a character through a series of obstacles or platforms by controlling their direction and jumping from platform to platform. Jumping is one of the main mechanics and control mechanism of a platformer game, often you will have

the ability to double jump in a platform game. Obstacles will appear and certain platforms may even move making the game more challenging as you progress through it.

3.2.1 Examples

- Donkey Kong
- Jump Bug
- Sonic the Hedgehog

3.3 Puzzle

Puzzle video games are a genre of video game that emphasize puzzle solving. The types of puzzles can test many problem-solving skills including logic, pattern recognition, sequence solving, and word completion. The player may have unlimited time or attempts to solve a puzzle, or there may be simple puzzles made difficult by having to complete them in real-time, as in Tetris.

3.3.1 Examples

- Tetris
- Lemmings
- Minesweeper

3.4 Traditional (Board games)

Video game board games are adaptations of traditional board games that have been adapted to work on a broad range of devices. Some of the more popular adaptations would be Chess, Poker and Monopoly.

3.4.1 Examples

- Poker Stars
- Online Chess
- Online Monopoly

4 Game Overview

This section of the document should outline how the design of this game was carried out. It should highlight the key aspects of the game including concept, genre and general game design.

4.1 Concept

You play as the Lost Knight. You wake up in the forgotten forest not knowing who you are or how you got there, you must fight your way through the forest by defeating enemies and eventually killing the Demon that lays dormant at the heart of the forgotten forest.

4.2 Genre

This game falls under the Action game genre and more specifically the platformer sub-genre. This game was inspired by a 2D platformer called Hollow Knight and many other games in this genre.

4.3 Target Audience

Target audience of this game would be for players on mobile devices specifically iOS and Android players. Age range of the audience would be 15-25-year-old males.

4.4 Gameplay

4.4.1 Game Progression

Initially the player will progress through the game in a linear fashion. The player will have to complete levels that will increase in difficulty as they progress through the game. Enemies will be more challenging and more frequent in number requiring the player to manage their resources such as health, weapon and armor durability. Platforms and structures will be more challenging to traverse through and reaching the end of a level will become much more difficult leading up to the end of the game. The last level will be a boss fight, the boss will have different mechanics that will challenge the player and the player will have to use weapons and armor and different abilities that they acquire in the game to help them defeat the boss.

Skill Tree System

The Skill Tree can be accessed in the In-Game menu by going to the character menu, while leveling the player will acquire skill points as their level increases. Players can spend skill points to acquire new skills or enhance existing ones in the game. Some examples would be acquiring double jump or triple jump, or extending the range of the players dash ability. Skill Tree breakdown can be seen below:

Skill Name	Points	Description
Double Jump	1	Increases number of consecutive jumps to 2
Triple Jump	2	Increases number of consecutive jumps to 3
Extended Dash	2	Increases dash distance
Special Ability	3	Massive attack that deals large amount of damage

Leveling System

As the player defeats enemies, they will passively gain experience points. Once the player reaches the maximum amount of experience points for their current level they will be leveled up. When the player levels up they are given one or more skills points and one or more attribute points. These points can be spent in the character menu. A breakdown of the levels can be seen below:

Level	Level cap	Attribute points	Skill points
1	100	2	1
2	220	2	1
3	360	4	1
4	480	4	1
5	640	6	1
6	850	6	1
7	1000	8	2
8	1200	8	2

Attribute System

Attributes in the game affect different aspects of the gameplay. Attribute points are gained per level and these points can be spent in the character menu. An outline of how the different attributes interact with the gameplay can be seen below:

Attribute	Description
Strength	Increases damage and attack speed
Dexterity	Increases movement speed and Jump height
Constitution	Increases health

4.4.2 Game World

The game world is set in a dark mysterious forest called the forgotten forest. You start in the tutorial level; this area will tell you how to use the controls of the game. The next level the player goes through is the Creeping Willow, this area will be the first initial platform challenge for the player. The player will have to use the characters jump ability to move around the level, enemies will appear in different areas and so will chests and other items such as coins and different power ups. The breakdown of the different areas in the game can be seen below:

- Tutorial
- Creeping Willow
- Weeping Clearing
- Hallowed Cave
- Fallen Knight's lair (Boss room)

4.4.3 Characters

Lost Knight:

The Lost Knight is the character that the player plays in the game. The Lost Knight has awoken in the forgotten forest, he has no idea as to how he got there but quickly realizes that he is in danger and must fight and kill enemies to survive.

The Wandering Merchant:

A merchant that you find while wandering around in the forgotten forest, he sells you different items that will help progress through the game.

Mysterious Figure:

At the end of the Creeping Willow level the character sees a mysterious figure running away, he must find this person and see if they know anything about this world or who he is.

Fallen Knight:

A great warrior that has fallen into darkness, the lost knight must defeat this enemy to complete the game.

4.4.4 Levels

Level 1 (The Creeping Willow)

Level 2 (Weeping Clearing)

Level 3 (Hallowed Cave)

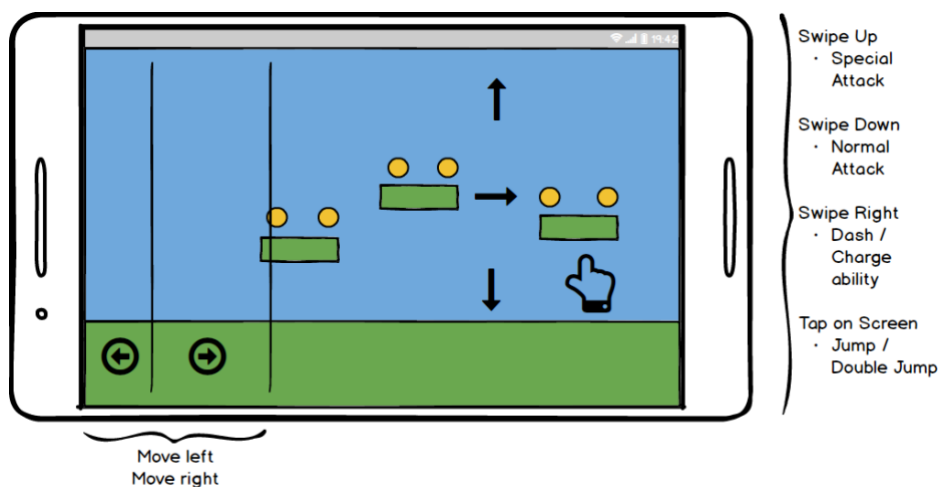
Level 4 (Fallen Knight's lair)

4.5 Mechanics

4.5.1 Control Mechanisms

For the controls, I decided it would be a good idea to utilize the touch screen mechanic that phones have natively. The controls are as follows:






- Left (Move left), Right (Move right)
- Tap once (Jump), Tap twice (Double Jump)
- Swipe Right (Charge)
- Swipe Down (Attack)
- Swipe Up (Special Attack)



3.5.1.1 Character Controls

4.5.2 Objects

Game objects are as follows:

Name	Type	Icon
Coins	Currency	
Chests	Randomly spawned around the game	
Weapons	Acquired from chests or in the item shop	
Armor	Acquired from chests or in the item shop	
Health Potions	Acquired from the item shop	

4.5.3 Combat





The combat in this game can be described as a slash and dash type combat system. The games combat should feel immersive and each hit and attack should feel impactful to the player. I'm hoping to achieve a combat system that feels right to the player in a way that makes them want to keep playing the game. I think to achieve this the combat needs to feel challenging enough that it keeps gameplay interesting but also should be easy enough for the player to not feel overwhelmed.

4.5.4 Economy

The in-game currency is a simple coin based system where the player picks up coins around the map from chests and defeating enemies. These coins can be spent in the shop that you find while wandering one of the levels in the game. From the shop, the player can purchase different items such as health potions, weapons, armor and other power ups. The difference in weapons and armor depend on how much you spend, these items will increase a player stat such as damage, resistance, health and attack speed.

4.5.5 Enemies

Enemy breakdown can be seen below:

Name	Description	Type	Icon
Wraith	Enemies that spawn in a large number, slow attack speed as they are ranged enemies	Ranged	
Wyvern	Flying enemy that will attack you when jumping between platforms	Ranged	
Slime	Enemies that multiply and attack you while you are running through a level	Melee	
Minotaur	Enemies that you encounter at the end of a level, much more challenging to kill	Melee	

4.5.6 Game Conditions

Level End

The end of level conditions can be only be met by either of the following:

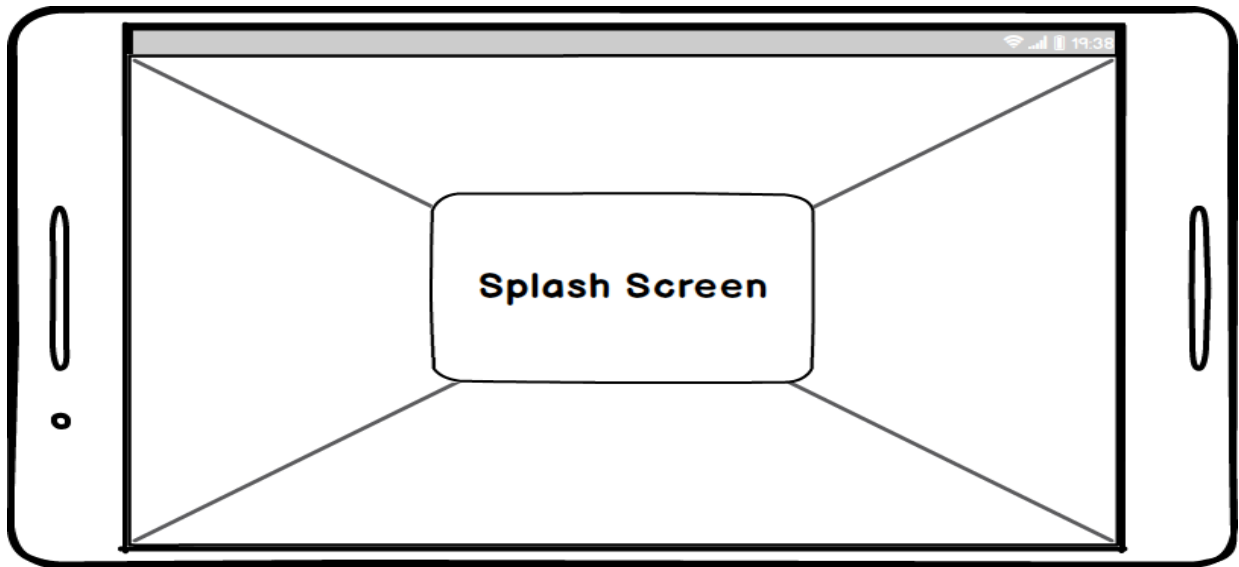
- Player dies In-game
- Player finishes the level
- Player exits the game

If the player dies they level will end, and the player will be given a prompt to retry the level or to exit out of the game. If the player finishes a level they will be told that they have completed the level and they will receive a rating based on their performance, the player will also be prompted to either move onto the next level or to exit to the title screen. If the player exits the game while currently playing a level then the level will end and so will all progress.

4.6 Menus

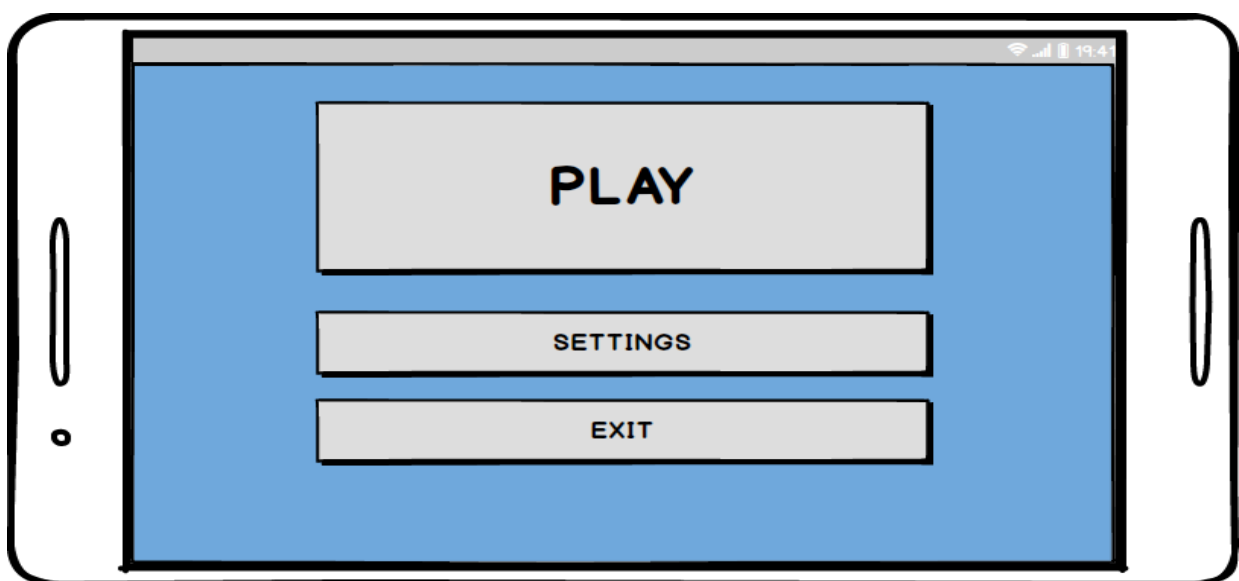
4.6.1 Front End Menus

The first menu the player encounters is the splash screen. This is the screen that appears on start-up.



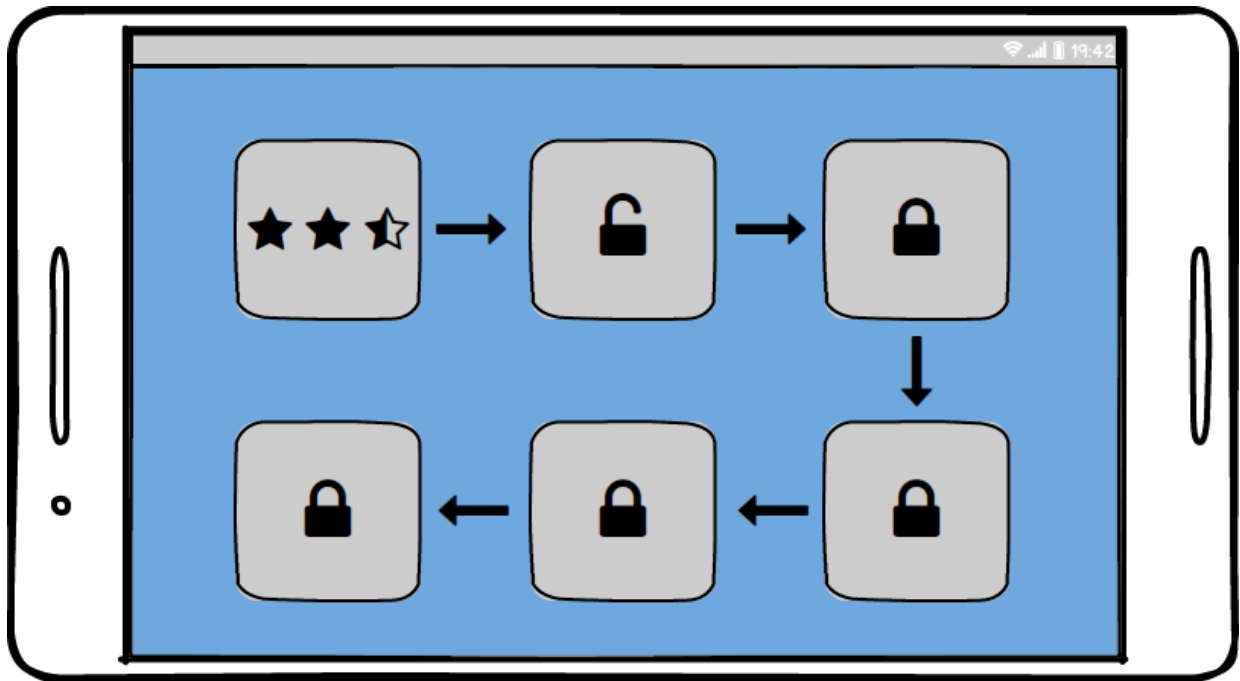
3.6.1.1 Splash Screen

After the splash screen the player is met with the Title Screen. The three options are Play, Settings and Exit. If the player clicks the play button they will be navigated to the level select menu, if the player clicks the settings menu they will be navigated to the settings menu.

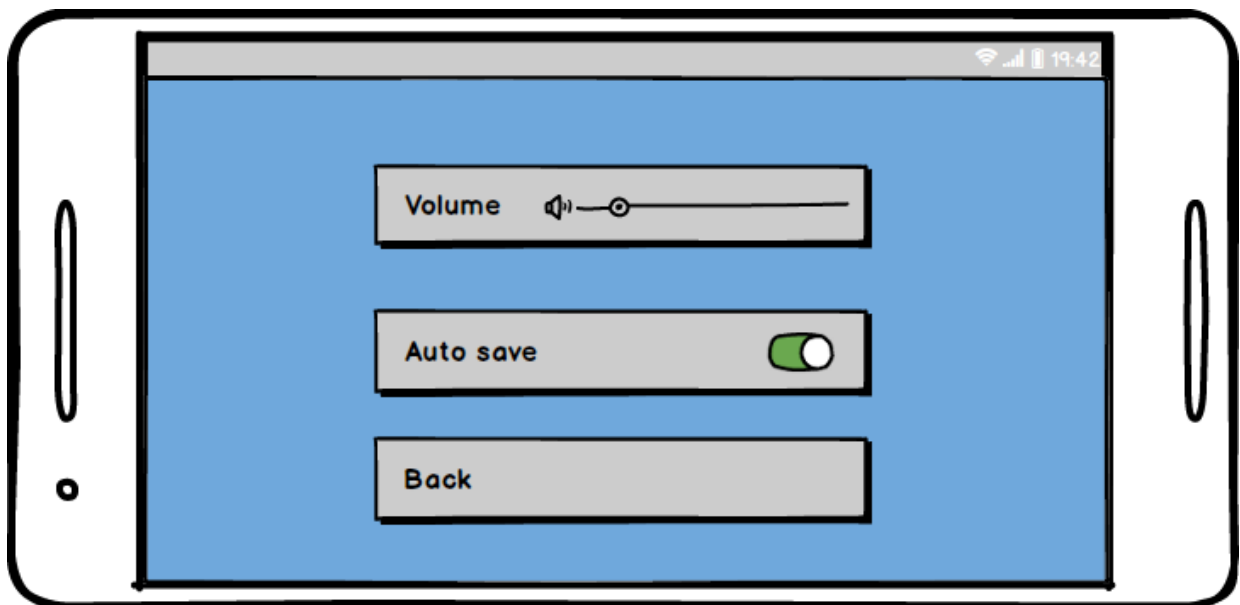


3.6.1.2 Title Screen

From the title screen, you will be navigated to the level select screen. When a player selects a level, they will enter the game and the level will start up. The player cannot skip levels they can only go to the next level after completing the previous level.



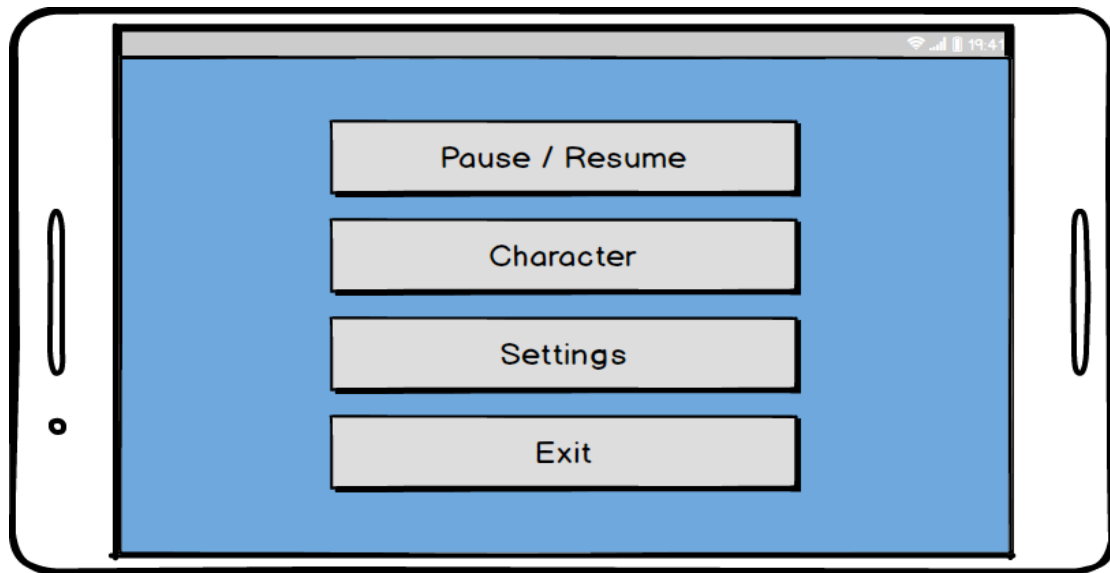
3.6.1.3 Level Select Screen



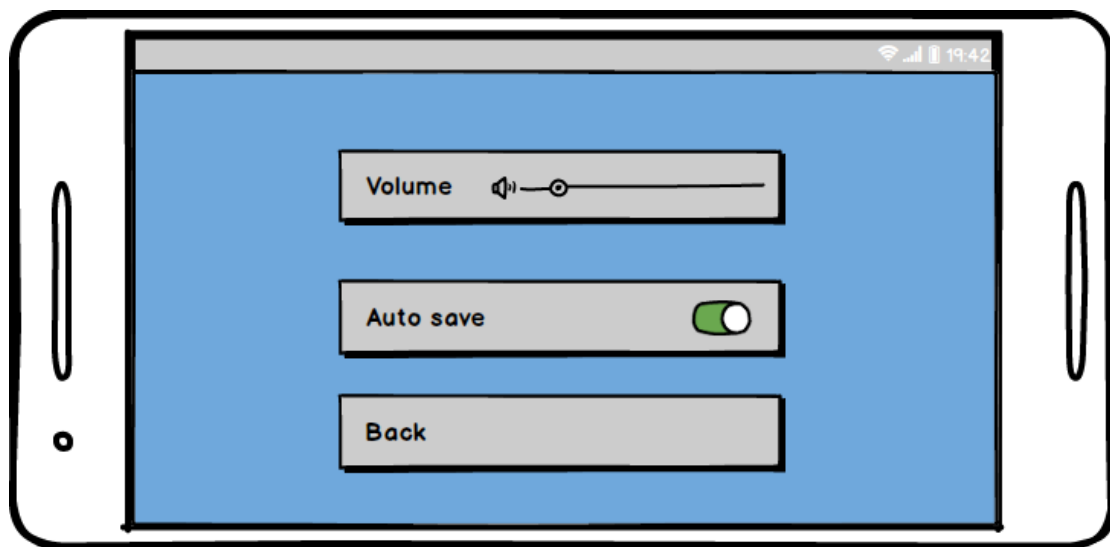
3.6.1.4 Settings Screen (From Title screen)

4.6.2 In-Game Menus

When the player pauses the game, they will be met with the pause screen. This screen allows the player to view their character information by clicking onto the character menu. They have the ability to change settings while in game and they also have the ability to exit to the title screen.

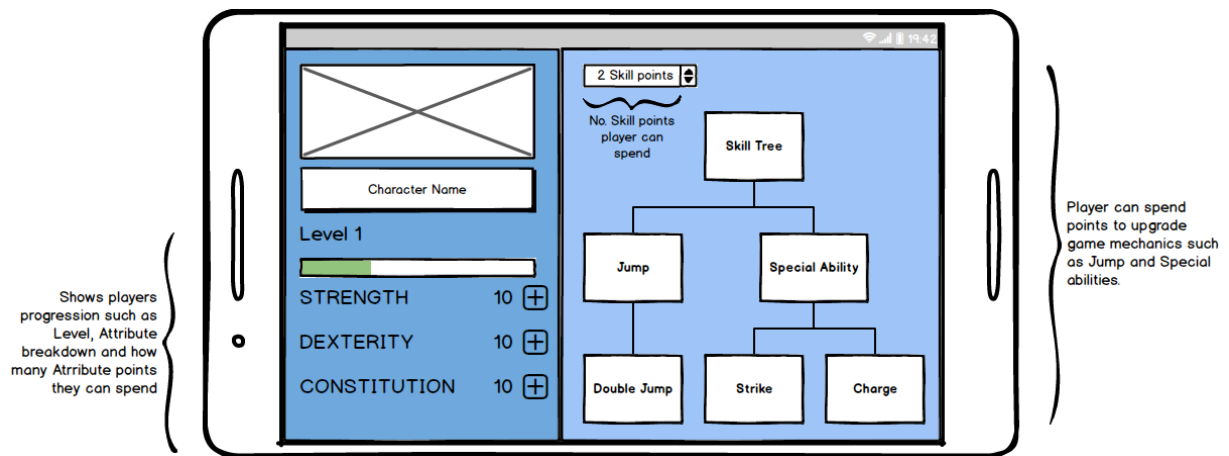


3.6.2.1 Pause Screen

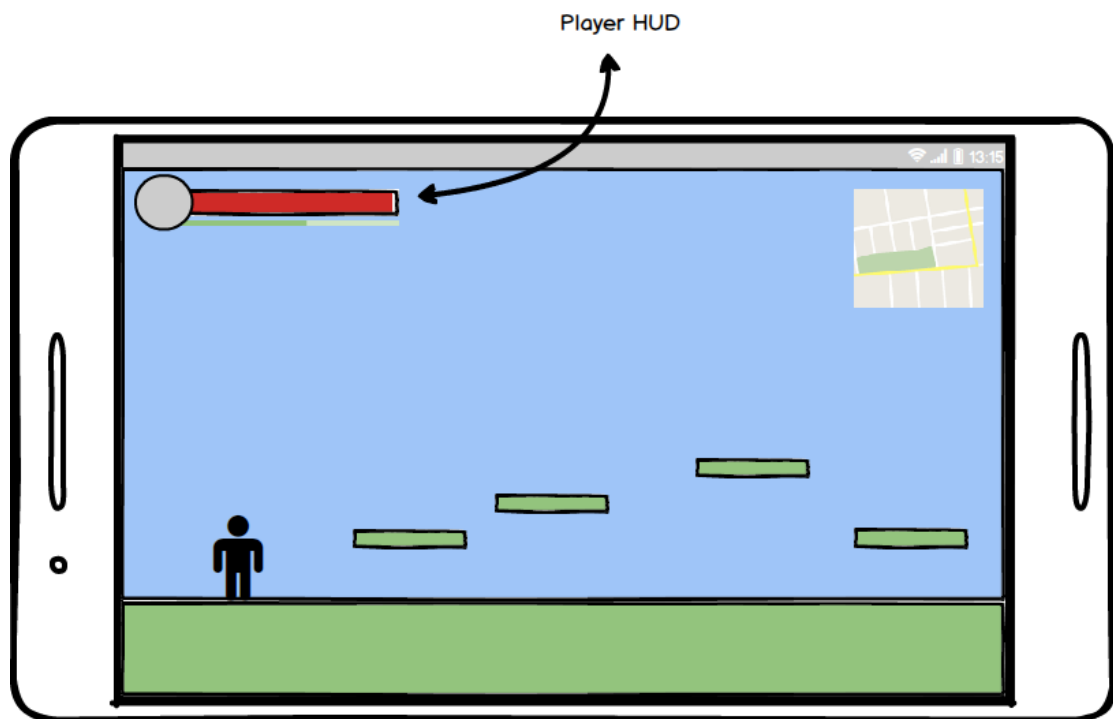


3.6.2.2 Settings Screen (In-game)

The character menu shows the player useful information about their character such as current level and level progress, attribute point breakdown and the players skill tree. Players are able to spend points as they progress through the game to



3.6.2.3 Character Screen



3.6.2.4 Player HUD

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