Technical Document

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# Project Overview

## Game concept

In the game the player will take on the role of a pirate as part of a pirate crew. They can either play solo by themselves or online co-op with friends as part of a crew. The player may choose to progress through story based quests or explore the world and battle other crews.

## Technical goals

The following are technical goals we wish to achieve in the game:

Primary Goals:

* Groundbreaking 3D graphics.
* A large dense open world.
* High Quality water effects and realistic physics.
* Immersive sound design.
* Well-designed user interface.
* Collision physics.
* Smooth controls for operating boat.
* Competent AI.
* Detailed character models and animations.

Secondary Goals:

* Realistic boat collision physics.
* High Quality AI.
* Custom camera settings.

Tertiary Goals:

* Custom graphic settings on console (FOV, framerate).
* Mod support.

## Technical risks

* Having realistic water physics may be difficult to optimise for all platforms.

## Platforms

Current platform goals:

* Windows
* Mac OS
* Playstation 4
* Xbox One

# Gameplay

## Game structures/game objects

* The game will feature interactable objects such as guns and a ships control which the player will allow the player to manoeuvre and defeat enemy units and ships. Players are able to move around and explore their ship/Homebase and interact with NPC characters and world objects in the same way outside of missions.

## Physics

## Player Actions

## Goals

* The goals the player will be given will be to progress through the story and defeating enemies as they go. They will able to upgrade skills however they however they choose to aid them as the game progresses and allow them to defeat enemies further into the game. The player will be able to play the game at their own pace and the game will feature a linear story arc.

## Skill trees

* Each character will share the same skill tree. However each unique character has one trait that only they can obtain (they start with). Every other skill can be accessed by all players in any order and at any time they choose. The skills will alter game play such as the repair skill will allow a player to repair broken areas of the ship at a higher rate when compared to other players. The Skills available are as follows:
* Repair: Every Point (up to 10) increased the speed at which the user repairs by 5%. At 5 points the user is able to repair by simply being near damaged objects but with 20 percent efficiency.
* Gunner: Every Point (up to 10) increased the fire rate and damage per shot by 5% while using a ships weapon.
* Medic: Every point (up to 10) allows a player to heal other players and interactable NPCS. The healing per second is increased by 10 percent up until level 5. From level every point results in an aura heal that heals per second.

# Game World

## Design

## Game Objects

### Human

### Creatures

### Ships

## Water

## Ship Collisions

# Weapons

## Player Weapons

### Pistol

* The pistol is the player’s standard ranged weapon. At very close range the pistol will deal around 50% damage.
* The damage will be reduced by a certain amount the further the player is away from the target.
* The default pistol will also take a few seconds to reload and is only capable of firing a single shot at a time.
* Potential in-game upgrades may increase damage and reduce reload times.

### Fists

* Most basic starting weapon.
* Each time attack button is pressed the player will swing one punch, can be pressed rapidly for quick attacks.
* Each individual attack will deal around 5% damage without upgrades.
* Can be blocked by the opponent.

### Sword

* Advanced melee weapon.
* Functions the same as the “fists” weapon but with different animations.
* Each individual attack will deal around 20% damage without upgrades.

### Hook Hand

* Advanced melee weapon.
* Functions the same as the “fists” weapon but with different animations.
* Each individual attack will deal around 15% damage without upgrades.

### Parrot

* Functions as a remote control “drone” type tool.
* Allows player to fly around the area and mark enemies and objectives.

## Boat Weapons

### Cannons

* Player can approach cannon and press the interact button to use it.
* Cannon can be aimed by rotating left and right or tilting up and down.
* Rotating and tilting speed is slow but may be improved with upgrades.
* Cannon fires cannonballs in an arc so the player must aim their shots well.
* Cannon takes around 10 seconds to reload by default.
* Each individual cannonball can provide up to 10% damage depending on the impact area.

### Mortar strikes

* Fired in an upwards arc
* More range than a standard cannon.
* Takes 20 seconds to reload by default.
* Deals up to 10% damage.

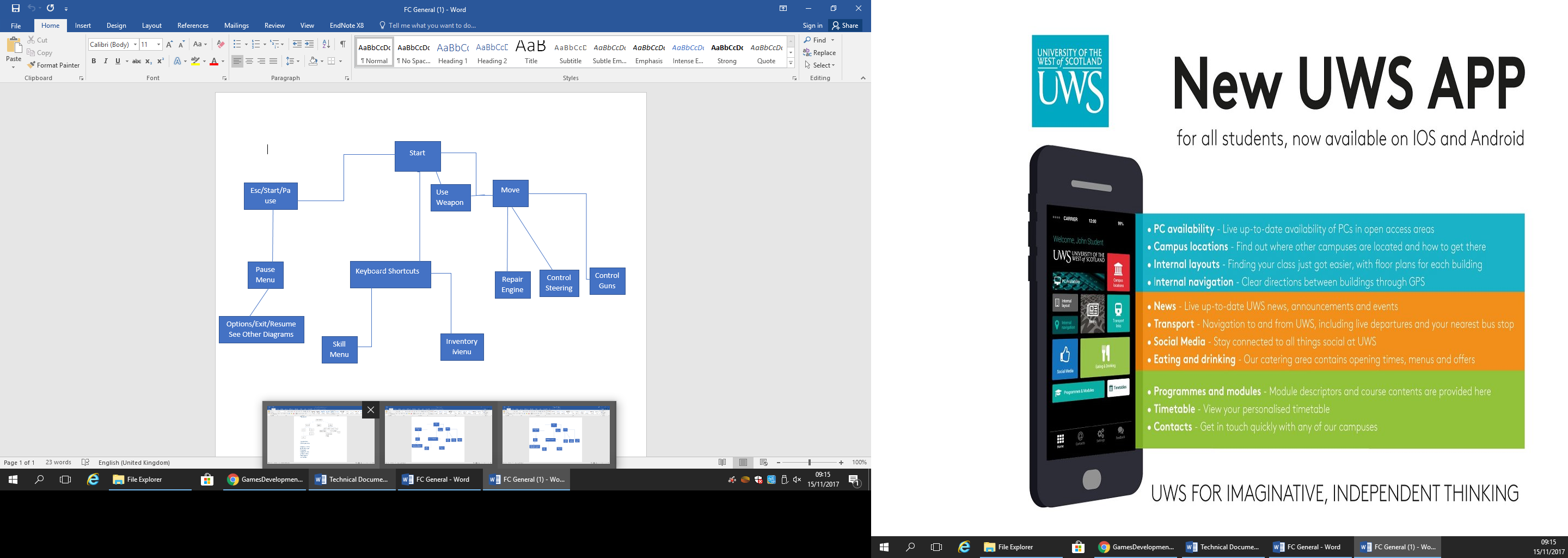
# Multiplayer

# User interface

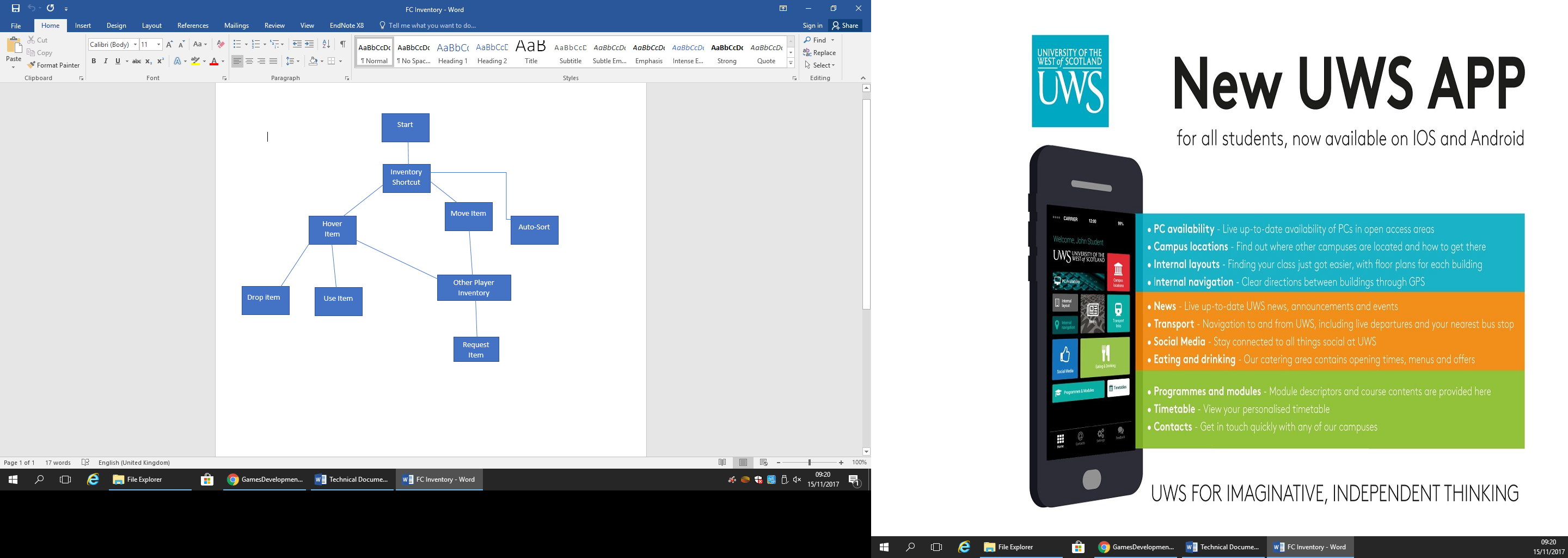
## Game Menus

### Main Menuhttps://raw.githubusercontent.com/StephenGault/GamesDevelopmentGroupWork/master/Menu%20flow%20chart.png

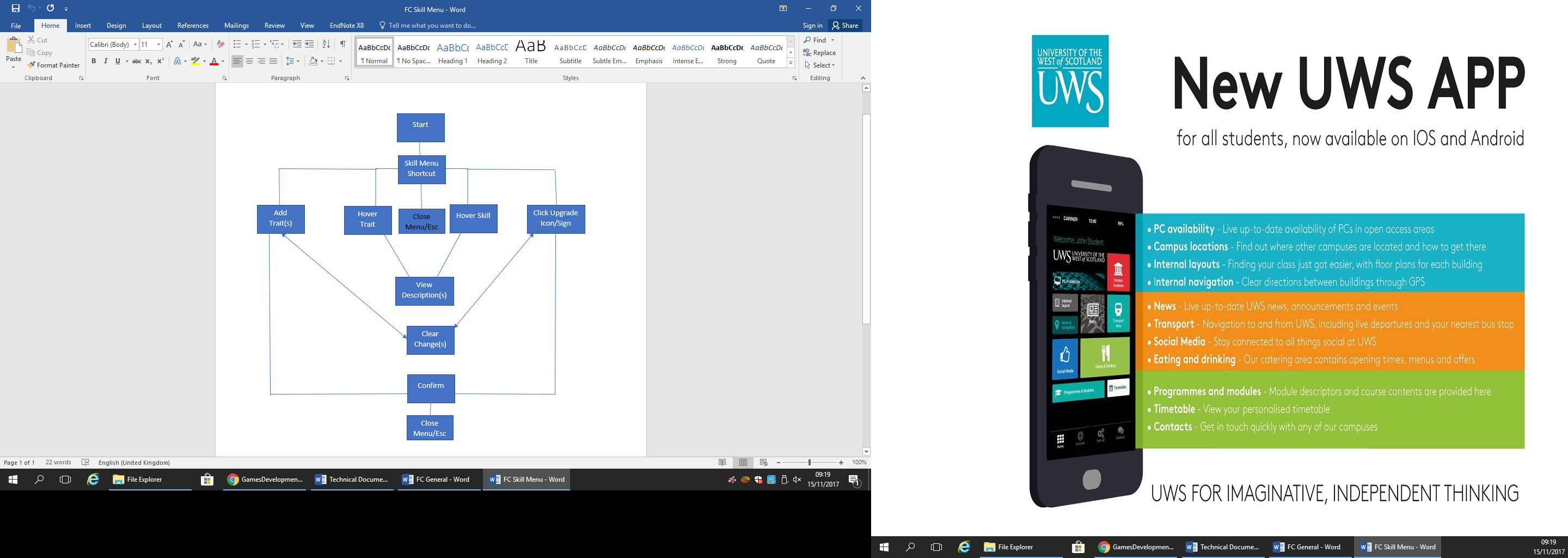
### Options menu



### Player Inventory



### Skill trees



### In-game controls

### Controller maps

### Movement

### Looking Around

### In-Game menu

### Death screen

### Win Screen

# Audio

## Features

* 2D/3D sound
* Full customisation of sound settings such as master volume, voice volume, music volume and general sound effects.
* Dynamic sound effects.
* Appropriate music for action moments.

### Volume control

The player will be able to access the volume control menu through the game settings. They will be able to customise volume settings through the use of sliders. The player can choose custom volume levels for in-game voices, sound effects, music and menu sounds. The player will also be able to choose speaker settings and be able to toggle subtitles for dialogue on and off.

### Speaker settings

The player will be able to choose what speaker set up they are using so the game can output its sound correctly. They will be able to choose between options such as TV speakers, external surround sound or headphones. The player will also be able to customise their microphone settings such as input volume and sensitivity.

### Headphones

If the player has chosen headphones as their output option they will be able to select the type of headphones they are using in order to maximise audio quality.

# Appendices