**TECHNICAL DESIGN DOCUMENT**

1. **Features List**

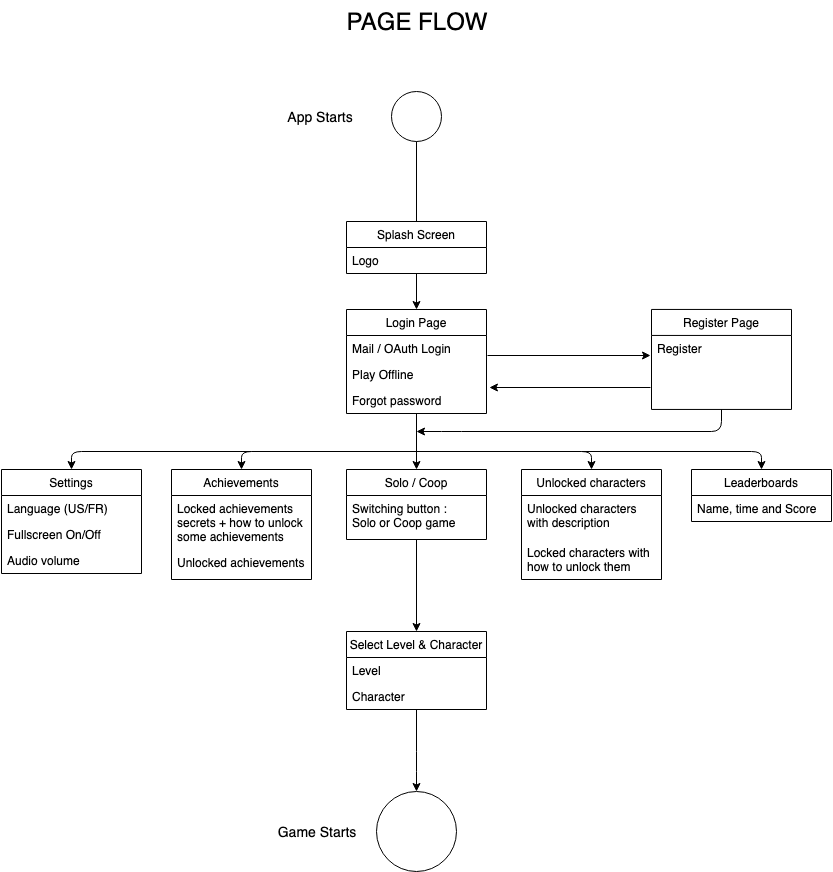
The game will have the following features :

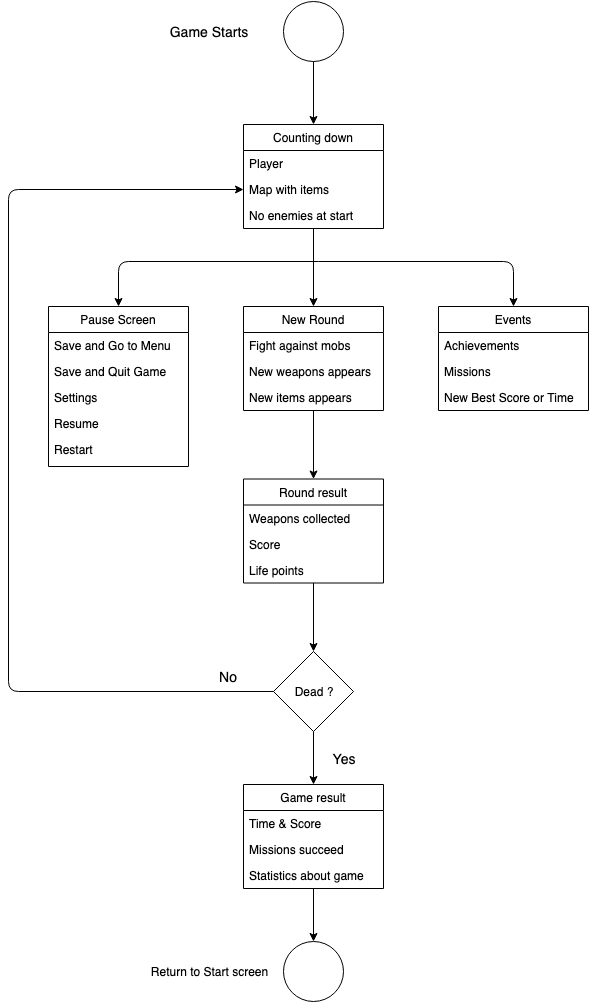
* 1. Register & Login
  2. Multiplayer
  3. Personalize character
  4. Run game (endless)
  5. Unlocked weapons screen

1. **Technology**

The game will be developed with Unity C#. Targeted platforms are Windows, then Linux but it is not a priority. Server-side database with MySQL on Unity and client-side database for local game with MySQL too.

1. **Diagrams**





1. **Database design**

|  |  |
| --- | --- |
| **Table : Player** | |
| Player ID | Integer |
| Player Name | Varchar 20 |
| FB ID | Varchar 64 |
| Google ID | Varchar 64 |
| Current Gold | Integer |
| Mission Done | Integer |
| Highest Score | Integer |

|  |  |
| --- | --- |
| **Table : Character** | |
| Character Name | Varchar 20 |
| Total HP | Integer |
| Max Level | Integer |

|  |  |
| --- | --- |
| **Table : Weapons** | |
| Weapon ID | Integer |
| Weapon Name | Varchar 20 |
| Low Damage | Integer |
| High Damage | Integer |

|  |  |
| --- | --- |
| **Table : Challenges** | |
| Challenge ID | Integer |
| Challenge Name | Varchar 50 |
| Challenge Brief | Text |
| Is Completed | Boolean |
| Is Repeatable | Boolean |
| Is Unlocked | Boolean |

|  |  |
| --- | --- |
| **Table : Items** | |
| Item ID | Integer |
| Item Name | Varchar 50 |
| Destroyable | Boolean |
| Starting HP | Integer |

|  |  |
| --- | --- |
| **Table : Enemy** | |
| Enemy ID | Integer |
| Enemy Name | Varchar 50 |
| Starting HP | Integer |
| Difficulty Class | Integer |
| Low Damage | Integer |
| High Damage | Integer |

|  |  |
| --- | --- |
| **Table : Enemy Action** | |
| Action ID | Integer |
| Action Name | Varchar 50 |
| Enemy ID | Integer |
| Trigger Chance | Integer |
| Effect ID | Integer |

1. **Features breakdown & functions list**

In this game you will play a character in the middle of an arena. The player starts with a basic weapon and waves of enemies arrive. When the player succeeds a wave, a new weapon appears on the screen and new items as life points and ammunitions.

It is an endless game with infinite number of rounds. Player has a number of achievements he can unlock during games and also ‘meta-achievements’.

* 1. Register & Login

When app starts, check if a user is already registered locally, else login with FB / Google / Mail (OAuth).

User can register via FB, Google, Mail or locally.

* 1. Multiplayer

On the main screen, player can choose if he wants to play solo / coop. It appears as a switching button

* 1. Personalize character (Main page)

Player can choose what gun is equipped

You can see best score (time and score)

* 1. Run game (endless)

A button on the bottom-center to run the game. Player starts in the middle of the screen with his selected weapon. Ammunitions and new weapons frequently pop on the screen.

* 1. Unlocked characters

Player can see unlocked characters and a little description about them.

He can also see how many characters he can still unlock.

Characters are only here to allow the player to modify the game’s look.

Player can unlock some with virtual money won with achievements.

* 1. Achievements screen

Secret locked achievements and normal achievements with an explanation on how to unlock them.

Unlocked achievements on to of the list.

They are related to the gameplay but also there are also “meta successes”.

* 1. Leaderboards

This screen shows the name, time and score as a list.

1. **Convention**

The team will use exclusively English and will use CamelCase as naming convention.