TECHNICAL DESIGN DOCUMENT

1. <u>Features List</u>

The game will have the following features :
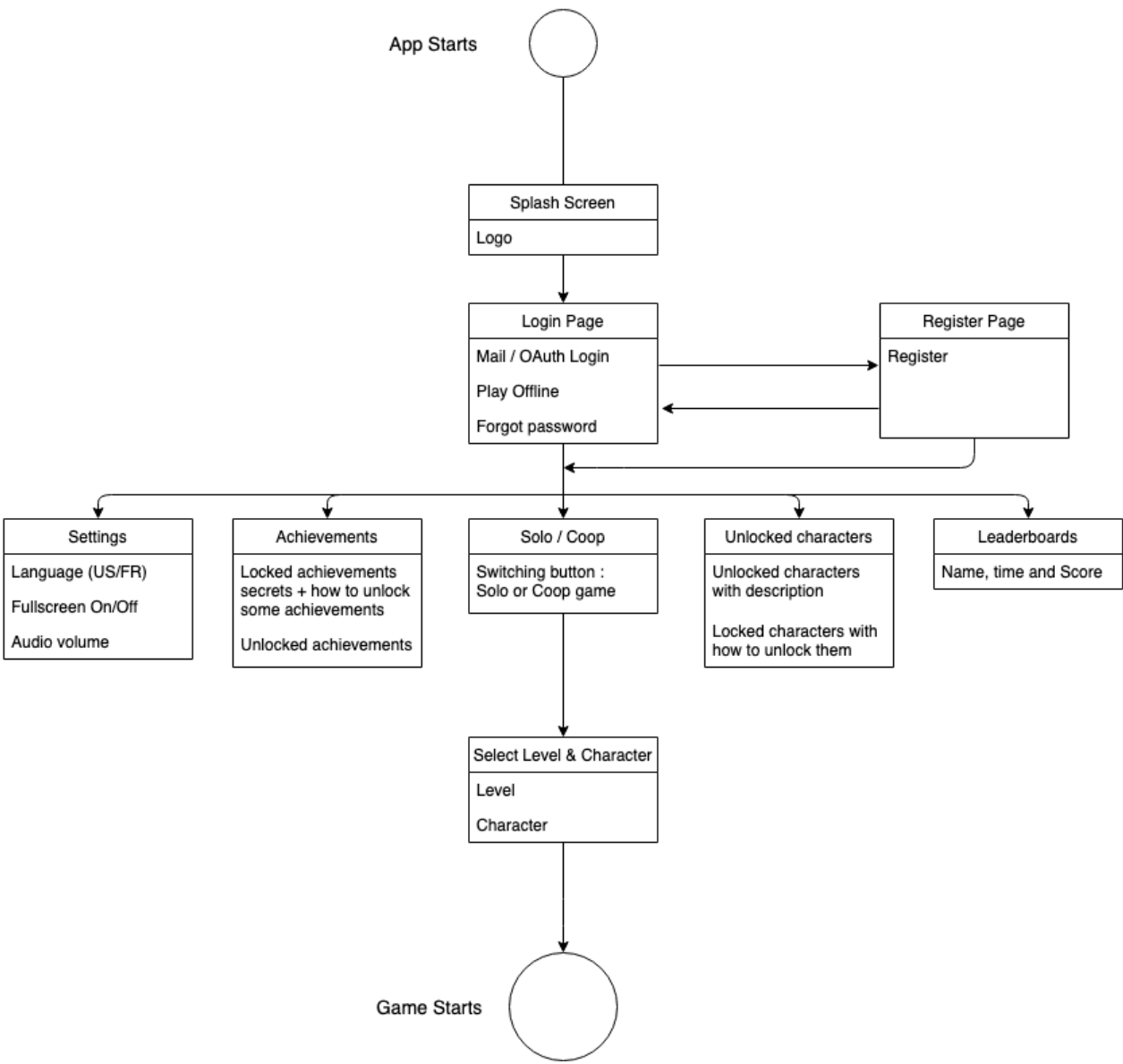
a. Register & Login
b. Multiplayer
c. Personalize character
d. Run game (endless)
e. Unlocked weapons screen
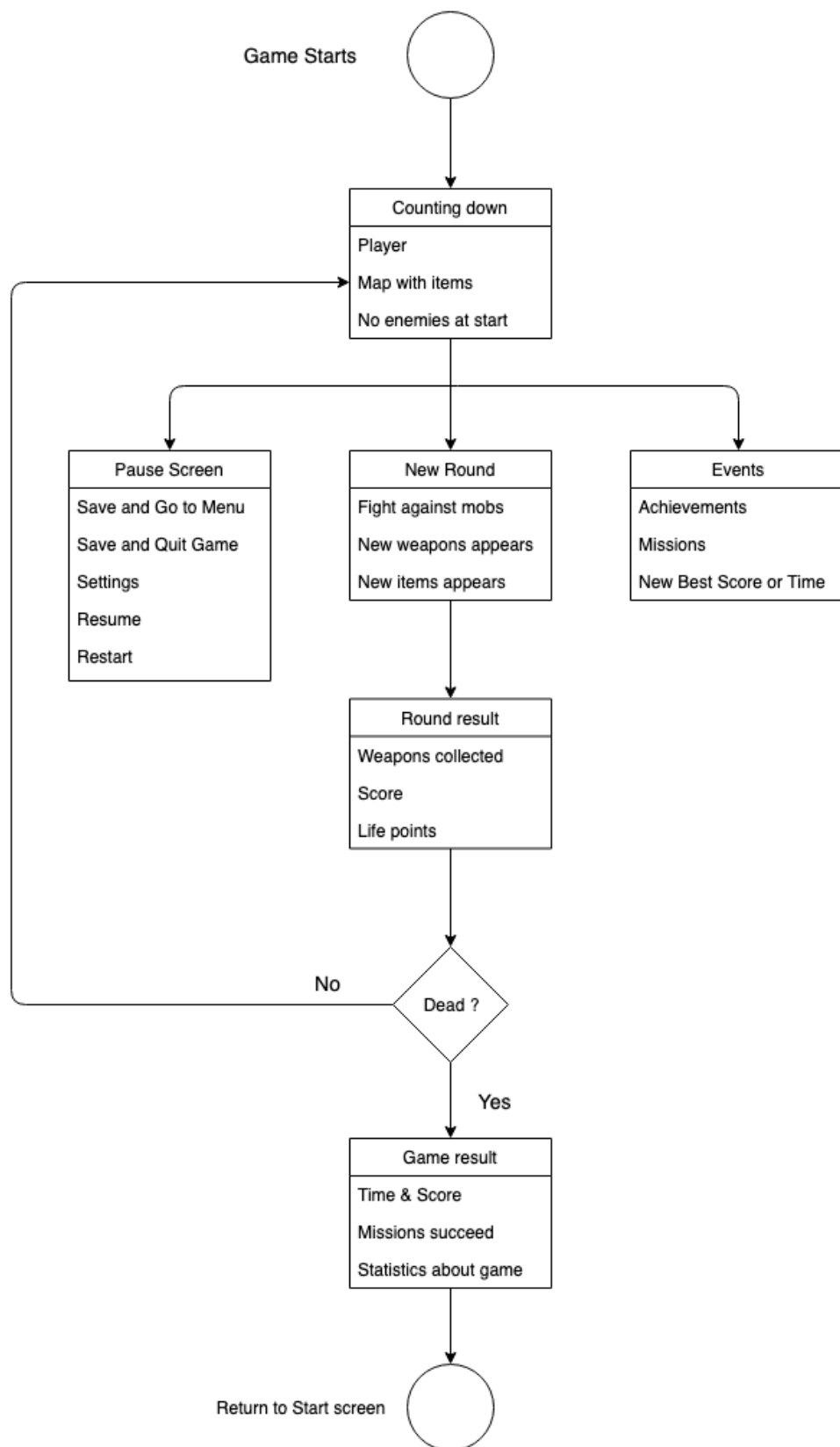
2. <u>Technology</u>

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.

3. <u>Diagrams</u>

PAGE FLOW

App Starts ( )

Splash Screen
Logo

Login Page
Mail / OAuth Login
Play Offline
Forgot password

Register Page
Register

Settings
Language (US/FR)
Fullscreen On/Off
Audio volume

Achievements
Locked achievements secrets + how to unlock some achievements
Unlocked achievements

Solo / Coop
Switching button : Solo or Coop game

Unlocked characters
Unlocked characters with description
Locked characters with how to unlock them

Leaderboards
Name, time and Score

Select Level & Character
Level
Character

Game Starts ( )

Game Starts ◯

Counting down

Player

Map with items

No enemies at start

Pause Screen

Save and Go to Menu

Save and Quit Game

Settings

Resume

Restart

New Round

Fight against mobs

New weapons appears

New items appears

Events

Achievements

Missions

New Best Score or Time

Round result

Weapons collected

Score

Life points

No ◇ Dead ?

Yes

Game result

Time & Score

Missions succeed

Statistics about game

Return to Start screen ◯

4. 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

5. <u>Features breakdown & functions list</u>

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'.

a. 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.

b. Multiplayer

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

c. Personalize character (Main page)
Player can choose what gun is equipped
You can see best score (time and score)

d. 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.

e. 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.

f. 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".

g. Leaderboards

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

6. <u>Convention</u>

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