



**CSC 710 – SOFTWARE ENGINEERING**  
(Prof. Zhanyang Zhang)

**Beat Me GO!**

**Final – Software Requirements Document**

**Version: 1.0**

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# **1. Preface:**

Beat Me Go! is real-time multiplayer Android OS game. Version 1.0 of this game contains basic functionalities of game including registering, multiplayer match and leaderboard support.

## **1.1. Modification History**

Date	Version	Author	Summary of Changes
11-20-2017	v1.0	Beat Me Go! Inc.	Started document

## **1.2. Intended Audience**

Our game is designed to play by any one. 4inRow game is quick puzzle game therefore, any age or gender of people love to play.

Moreover, we used real-time multiplayer concept to build this game, so user can find opponent from any place in the world.

Additionally, we made light weight game without using heavy algorithm which makes game to runs on smaller devices without getting crashed.

# **2. Introduction:**

Beat Me Go is Android OS mobile game based on 4 in Row board game. In this game, a player can invite an opponent to start the game and challenge him/her to compete in a cloud room created by Google Play Service. Beat Me Go will be a local multiplayer game for which the players will play according to regions. Top players will be listed on leader's board.

The whole game runs on Google Play Game Service; therefore, there are not much APIs to use rather than to get user profile data, which are stored on MySQL database.

## 2.1. Purpose of the Requirement document

This document provides basic information about project with its hardware and software requirements. Project diagram model provides functionalities of the game and process to use them.

## 2.2. Scope of the project

On current mobile app market, games are very popular and making more money than normal functional app.

Right now, 70% games are based on real-time multiplayer functionality which provides better gaming experience with contacting different players around the world.

Our game is also providing same functionality with the help of Google Play Game Services, which are highly in demand by big mobile app companies.

## 2.3. Reference

Our game is based on 4inRow board game algorithm. Game uses Google Play Game services which can be used by creating project in Google Play Console.

4inRow – [https://en.wikipedia.org/wiki/Connect\\_Four](https://en.wikipedia.org/wiki/Connect_Four)

Google Play Game Services - <https://developers.google.com/games/services/>

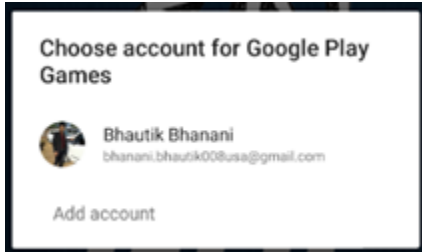
## 3. Glossary:

Term	Meaning
Player	User who will use this app and play with other users.
SFx	These are the sound files used for effects in games. User can on/off it in settings.
Google Play Account	Google account of user, by which he/she can login into game

## **4. User Requirement Definition:**

The basic services provided by game to users are as follow:

- Google Play Login: login by Google Account to access game functionality



(Figure 4.0)

- Leaderboard: to check top player and their scores
- Game Session: to play game with other player online

Non-functional requirements are as follow:

- The system should fall under the policy compliance of the provider.
- The system should be able to be easily updated and should be able to extend/replicate in future.
- The system should follow the testing policy every now and then to report issues.
- The system should manage the leader board functionalities.

## **5. System Requirements Specification:**

Basic software requirements to run the game are as follow:

- Android OS: Android 4.2 JellyBean or higher
- Google Play Game: Play Game app in device to access user data
- Google Play Store: Play Store to download and install the game

Basic system requirements are as follow:

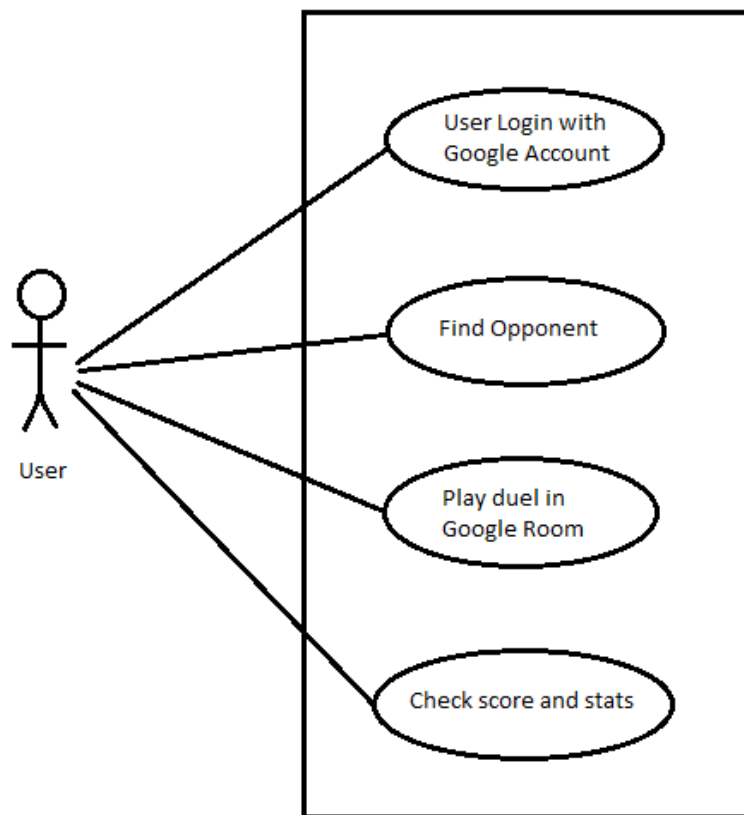
- System should provide option to login and logout from system.

- User must login for first time to enter into game.
- System should provide access to check score.
- System should connect at least two players to start game session.
- User should have option to leave running game session.

## **6. System Models:**

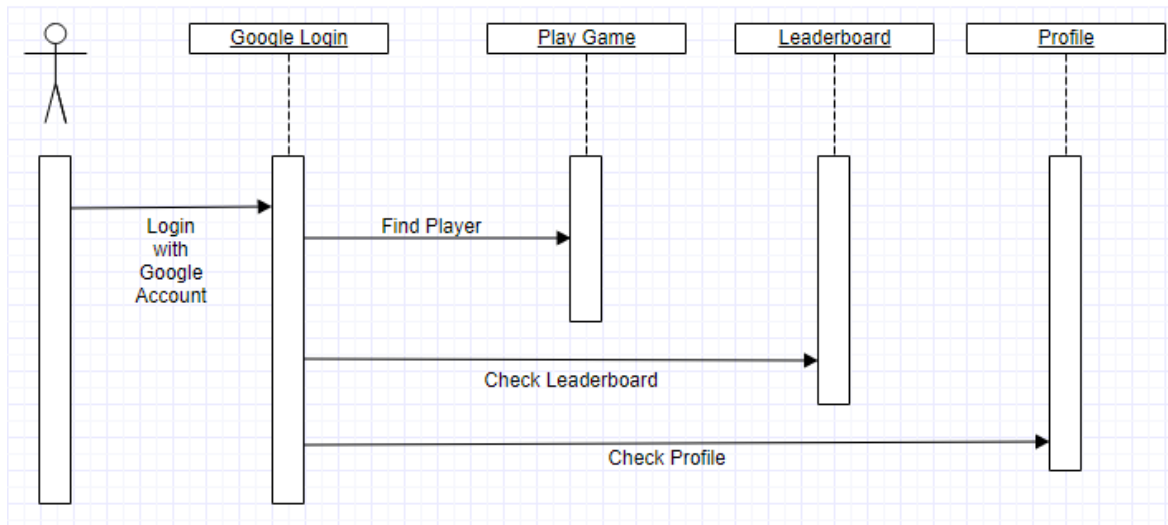
System diagrams for the project are shown below:

### **6.1 Use Case Diagram:**



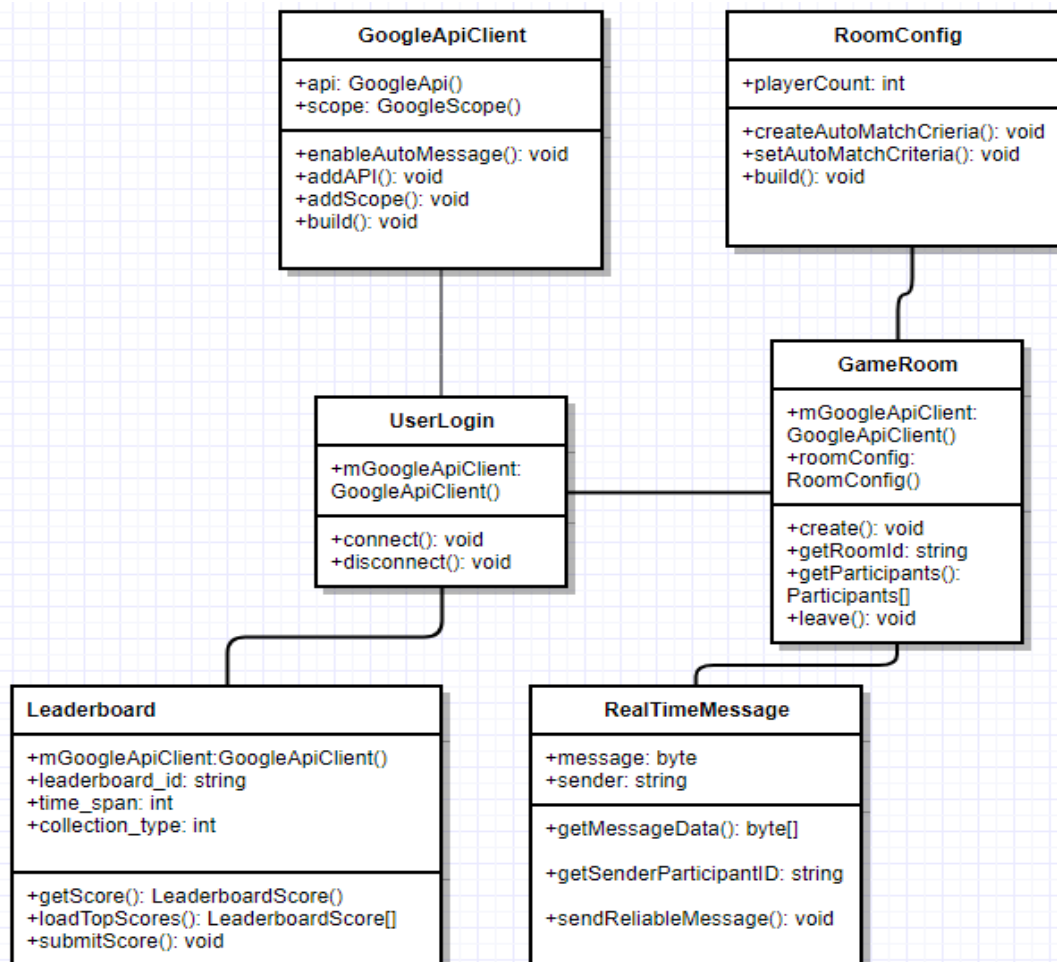
(Figure 6.1)

## 6.2 Sequence Diagram:



(Figure 6.2)

## 6.3 Class Diagram:



(Figure 6.3)



## **7. System Evolution:**

Our game runs on Android OS and any supporting device which runs on Android OS. We have built game functionality to support Android 4.0 Kitkat and higher. Therefore, all latest devices can support our game.

However, Android XML design is challenging to support in all different device resolutions. For that, we needed to change all UI layouts and supported icons and images to works on 4inch device screen to higher resolution screen.

We have created light weight GUI, which can load and refresh fast and doesn't require high memory in RAM. We used Android Fragment library to build every pages inside game, which works on single memory thread and doesn't require more than one activity to run the game.