The Gaming Room
CS 230 Project Software Design Template
Version 1.0

Table of Contents

Document Revision History

Version	Date	Author	Comments
1.0	09/18/2022	Kenneth Fancher	Providing information pertaining to the system design and further analysis

Instructions
Fill in all bracketed information on page one (the cover page), in the Document Revision History table, and below each header. Under each header, remove the bracketed prompt and write your own paragraph response covering the indicated information.

Executive Summary

The Gaming Room has begun work on a web based game, loosely based on the 1980's game "Win, Lose, or Draw". Currently the game is only available on androidOS but are seeking to make it available across all platforms to serve a higher customer base.

Design Constraints

- Application must be web based
- Game concept will revolve around teams guessing part of the drawing as a phrase, or title
- Game consists of 4 rounds, all at taking one minute
- The game will have one or more teams at a time

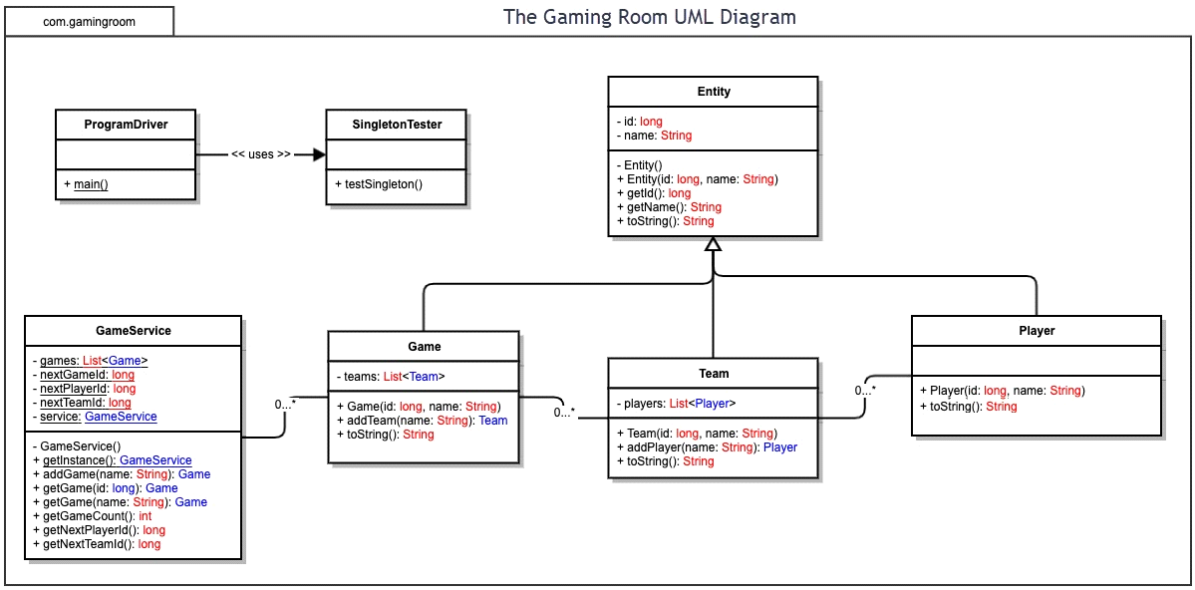
- Game and team names are all unique, users can check if a team name is available
- One instance of the game will be running at a time in memory. This accomplished through unique identifiers
- Drawings must be rendered at a constant rate and completed at the 30 second point

System Architecture View

Please note: There is nothing required here for these projects, but this section serves as a reminder that describing the system and subsystem architecture present in the application, including physical components or tiers, may be required for other projects. A logical topology of the communication and storage aspects is also necessary to understand the overall architecture and should be provided.

Domain Model

Our Entity class is handling our Team, Game, and player class as they all inherit the characteristics from the Entity class. GameService, Game, Team, and Player all interact and reference from eachother. Our ProgramDriver is how we begin the the application and access all of the classes. Our SingletonTester class is designed to allow us follow our Design Constraints and ensure that there is only one instance of a game session at a time.



Evaluation

Using your experience to evaluate the characteristics, advantages, and weaknesses of each operating platform (Linux, Mac, and Windows) as well as mobile devices, consider the requirements outlined below and articulate your findings for each. As you complete the table, keep in mind your client's requirements and look at the situation holistically, as it all has to work together.

In each cell, remove the bracketed prompt and write your own paragraph response covering the indicated information.

Development	Mac	Linux	Windows	Mobile Devices

Requirements				
Server Side	The pricing for a server to run IOS is rather cheap. This server is rather accessible and includes macOS. There are also server resources provided to aid you. Downside is that there are not too many people who use Apple for their main OS for web applications.	A huge upside to Linux is the free license but prices after that vary with what you need running on the server. The downside is that linux is also a letter used server system, so most are unfamiliar with it.	The server price is rather low but you do have to pay for licensing. Windows also carries the highest overall pricing but is also the most heavily used OS and is very familiar to many.	Mobile servers are generally inexpensive but vary depending o the needs of the server.
Client Side	Since Apple client side is not open source, the costs would be much higher than if it was open source. It is also rather user friendly and intuitive, but is not used by the majority of users.	Linux is open sourced, which allows cost to be low and lets anybody use it. It is much less familiar than windows or apple and has a higher barrier of skill to use.	Costs are higher due to it not being open sourced, like apple but windows is used by the vast majority. It is also a generally easy tool to use.	Costs would be rather low due to availability of tools and flexibility. The large majority of the population has a mobile device and use it daily but there is a divisive market due to different operating systems.
Development Tools	Languages: HTML, CSS, and JavaScipt for Frontend. IDE's include: Python, JavaScript, PHP, and Ruby. Development Tools for Mac: PyCharm, Eclipse, Visual Studio, and Notepad++.	Languages: HTML, CSS, and JavaScipt for Frontend. IDE's include: Python, JavaScript, PHP, and Ruby. Development Tools for Linux: PyCharm, Eclipse, Visual Studio, and Notepad++.	Languages: HTML, CSS, and JavaScipt for Frontend. IDE's include: Python, JavaScript, PHP, and Ruby. Development Tools for Windows: PyCharm, Eclipse, Visual Studio, Notepad++, and Command Prompt	Languages: HTML, CSS, and JavaScipt for Frontend. IDE's include: Python, JavaScript, PHP, and Ruby. Development Tools : PyCharm, Eclipse, Visual Studio, and Notepad++.

Recommendations

Analyze the characteristics of and techniques specific to various systems architectures and make a recommendation to The Gaming Room. Specifically, address the following:

- **Operating Platform**: I would personally recommend Windows Servers for Gaming Room's Application. Windows carrys the most intuitve systems, while also reaching the most broad audience. The development carries just as much as the competition and has more than adequate support.

- **Operating Systems Architectures**: Windows server operating system included plenty of ideas that allow control and creativity in the design. It allows any number of ways to reach your final product.

- **Storage Management**: Windows server operating system's memory management options are broad and allow you to store on cloud services or directly on the devices main memory, this allowing faster loading and more reliable service.

- **Memory Management**: Windows server operating system has memory management that allows you you to include virtual and physical address space, totalling up to 4 GB of memory.

- **Distributed Systems and Networks**: Windows operating system as a distributed system has network features that are effective at communication with other systems quite easily. There are ooccasionally some issues such as routing or congestion, however.

- **Security**: Windows gives reigns to the user to determine ingoing and outgoing data, while also providing VPN service capabilities to protect client data. Windows also contains anti-spyware.