

Draw It or Lose It

# **CS 230 Project Software Design Template**

Version 1.0

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## [Document Revision History](#_grjogdjh5fi8)

| Version | Date | Author | Comments |
| --- | --- | --- | --- |
| 1.0 | 05/21/2022 | Dhiren Gurung | This version is the first web-based format game of the Draw It or Lose It. |

**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](#_sbfa50wo7nsh)

The client name The Gaming Room wants to develop a web-based game and currently the game called Draw It or Lose It available only in Android app version. Based on client’s information, the problem is the app is only works in Android devices but the if the web-based version lunch then the problem of only Android version would be addressed, and the certain users would be multiple users around the world.

## [Design Constraints](#_2et92p0)

The design constraints for the developing the game application in a web-based format would be complicated to design the software that fits to all devices and operating system such as Apple, Windows, Linux etc., To address the issue, more teams would be involved to create the project and the testing of the software would be time consuming because it must work on multiple platforms.

## [System Architecture View](#_ilbxbyevv6b6)

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](#_8h2ehzxfam4o)

There is relationship between Entity, Game, Team, and Player classes. Game, Team, and Player classes are inherited from Entity class which means they can get the attributes and method of the Entity class. There is the references between the classes such as GameService has the reference of Game, Game has the reference of Team, and Team has a reference of Player.

**"The Gaming Room UML diagram. The top of the diagram is labeled as com dot gamingroom. Test boxes are placed in two layers. The first layer has three text boxes and the second layer has four of them. In the first layer, the 'ProgramDriver' textbox points to 'SingletonTester' textbox. The 'ProgramDriver' textbox contains the text 'asterisk main round brackets.' The 'SingletonTester' textbox contains the text 'asterisk testSingleton round brackets.' The arrow between these two text boxes are labeled 'open two angle brackets uses close two angle brackets'. In the second layer, there are 'GameService', 'Game', 'Team', and 'Player' text boxes. The 'GameService' textbox has texts arranged in two layers. The first layer contains games colon List open angle bracket Game close angle bracket, nextGamesId colon long, nextPlayer Id colon long, nextTeamId colon long, and service colon GameService. The second layer contains GameService round brackets, getinstance round brackets colon GameService, addGame open parenthesis name colon String close parenthesis colon Game, getGame open parenthesis id colon long close open parenthesis colon Game, getGame open open parenthesis name colon String close open parenthesis colon Game, getGameCount round brackets colon int, getNextPlayerID round brackets colon long, and getNextTeamId round brackets colon long. The 'GameService' box is connected with the 'Game' textbox with a line labeled 'zero dot dt dot asterisk'.  The 'Game' textbox also contains text in two layers. The first layers contains the text teams colon List open angle bracket Team close angle bracket. The second layer has Game open round bracket id colon long comma name colon String close parenthesis, addTeam open parenthesis name colon String close parenthesis Team, toString round brackets colon String. The 'Game' textbox is connected with the 'Team' textbox with a line labeled 'zero dot dt dot asterisk'. The 'Team' textbox also contains text in two layers. The first layers contains the text players colon List open angle bracket Player close angle bracket. The second layer has Team open parenthesis id colon long comma name colon String close parenthesis, addPlayer open parenthesis name colon String close parenthesis colon Player, and toString round brackets colon String. The 'Team' textbox is connected with the 'Player' textbox with a line labeled 'zero dot dt dot asterisk'. It contains the text Player open parenthesis id colon long comma name colon String close parenthesis and toString round brackets colon String. The 'Game', the 'Team, and the 'Player' boxes point to the 'Entity' textbox in first layer. The 'Entity' textbox contains text in two layers. The first layer has the text id colon long and name colon String. The second layer has Entity round brackets, Entity open parenthesis id colon long comma name colon String close parenthesis, getId round brackets colon long, getName round brackets colon String, toString round brackets colon String.**

## [Evaluation](#_2o15spng8stw)

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 Requirements** | **Mac** | **Linux** | **Windows** | **Mobile Devices** |
| --- | --- | --- | --- | --- |
| **Server Side** | To configure the server, it can use the terminal with the commands and make changes. Characteristics of the web pages in Mac is best and it can upgrade the host and disadvantage is that the web hosting would not block the program. | It has free configuration in the Linux and the characteristic would be secure. For the security purpose the advantages is the secure in Linux and disadvantage would be less supporting the web hosting. | Software compatible is more available, and it has characteristics of easy installing and removing the app and the advantage would be more resources available and disadvantage is poor in security. | Compatible and easy to use by downloading the app and the characteristics is more popular and advantage would be better compatible and easily accessible, and disadvantage would be lack of support of the format and need more spaces. |
| **Client Side** | The cost would be like the Windows and moderate expertise and time required. To make compatible needs to ensure the application that works in web browser. | The cost would be less that Windows and Mac and maximum expertise and time required. It should be ensured that the application works in the web browsers. | The cost is similar to the Mac and minimum expertise and time required. It should be ensured that the application works in the web browsers. | Less expertise, cost, and time required and must develop app that works in different platform mostly IOs and Android. |
| **Development Tools** | For the Mac operating system the popular programming language would be Swift. | For the Linux there would be multiple programming language that support in Linux such as Visual Studio tool with the java, C++, HTML/CSS, JavaScript etc. | For the Windows there would be multiple programming language that support in Linux such as Visual Studio tool with the java, C++, HTML/CSS, JavaScript etc. | Using Swift, java, C++ languages, the mobile app can be created and test and run in different IOs and Android. |

## Recommendations

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

1. **Operating Platform**: To allow The Gaming Room to expand Draw It or Lose, I would recommend the Windows operating platform because the IDE and programming language would have multiple resources available.
2. **Operating Systems Architectures**: The operating system come with the 32-bit and 64-bit which have the protected and supervisor mode. Access the file system and multitasking operating system.
3. **Storage Management**: storage management in the Windows operating system would be easier than Mac and able to do the fragmentation based on user requirements.
4. **Memory Management**: to store the required documentation and files, the Windows operating system allows to allocate the memory and store the required application.
5. **Distributed Systems and Networks**: using windows server the distributed system can be established in multiple computers and with the help of networking the server can control all the nodes. The strong server system can result the good connectivity between the computers and help to solve the problem of outages etc.
6. **Security**: Windows has the pre-equipped with the protection and there is multiple security software available that are compatible to the windows to protect from the virus and security threat. Doing automotive updates of the operating system help to protect the user data as well.