

<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 | 05/22/22 | Jacob Lisacki | 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 Gaming Room desires a game called “Draw it or Lose It” which is a web-based game that should have the ability to run on multiple platforms. The game has teams competing in four rounds in a Pictionary style game.

## [Design Constraints](#_2et92p0)

Game must consist of multiple people on multiple teams. The name of the Game and teams must be not be one that is already in use. Only a single instance of the game can exist. Must be able to run on different 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)

The Entity class makes a relationship with the three classes player, team and game. The UML shows how this breaks down. All classes share some references which in turn makes Entity the “SUPER” class.

**"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** | Characteristics is that it is popular among users. An advantage is it has many options in regards to web hosting. Disadvantage is preference for web hosting. | Linux is not as popular as others however it is more cost effective. Linux is harder to find applications for. | Windows have more software than the others. It is more popular in many different places. Ie school workplace. It is also prone to virus’s | The most popular device of the four. Easily portable. The security of mobile devices are questionable. |
| **Client Side** | Most users need experience when using a mac. Its hard to switch from another OS. Less cost effective to Linux. Less time efficient than windows. | The most amount of time and experience needed to use. It is the most cost effective. | The best in terms of expertise and not as cost effective as Linux. Also time efficient. | Limited in terms of capability however convenient in terms of updates. |
| **Development Tools** | Mac has the ability to run swift. Macs are capable of running all languages however some languages may have different requirements to use them. | Linux has capabilitys for visual studio and eclipse which is the preferred IDE for a lot of people. | The easiest to run all languages which is why most workplaces and schools are windows oriented. | Can use android and swift. Capable of running java, python CPP |

## 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**: I recommend using windows as it is the easiest of all choices to use. It also is minimal in cost and doesn’t take an abundance of expertise.
2. **Operating Systems Architectures**: Windows has OS based apps that show GUI. These apps can be used with user accounts or a server.
3. **Storage Management**: Windows has a built in storage system That should be more than enough for any thing that’s required and if its not there are many web based storage systems like git you can resource to.
4. **Memory Management**: This game will need a database or library with a space to hold all of the pictures. There should be more than enough memory to hold all of the needs.
5. **Distributed Systems and Networks**: The Best way to publish the game is through the unity platform. Unity is a game developing software that has built in tools and a very good asset store.
6. **Security**: Windows comes with built in software that helps with security measures that run in real time to stay up with the continuing security concerns.