

<Name-of-Software-Application>

**CS 230 Project Software Design Template**

Version 1.0

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**Document Revision History**

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| --- | --- | --- | --- |
| Version | Date | Author | Comments |
| 1.0 | 11/13/2022 | Nate Bennett | <Brief description of changes in this revision> |

**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 plans to create a web-based game that can be played on several devices. The game, "Draw It or Lose It," should only be accessible on Android at this time. This game's objective is to have numerous teams made up of several players go through four rounds at a minute each. One team makes estimates up until the timer goes off when a photo is selected from a library of images. If not, until the allotted 15 seconds have passed, each member of the opposing side may respond.

**Design Constraints**

The game requires one or more teams to participate, each team should have many players, the game and team names should be unique so users can check if the name is available, only one instance of the game should exist at any given moment, and the game should function on several platforms.

**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**

The Entity establishes a connection between the classes of Game, Team, and Player. This implies that they all receive information from the Entity or inherit it. We can demonstrate this using inheritance in UML. Therefore, common references like "name" and "id" will be shared by each class. creating a superclass for the Entity. Team and Player are a "has a" type when we examine their relationship. GameService has Games, while Game has a Team. When using UML, we refer to it as aggregation, HAS-A. When it is said that a user "has a," this should mean that they have both an instance of one class and a reference to another class's instance. This diagram shows that GameService has a reference to Games, Games has a reference to Tea, and Team has a reference to Players.



**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 Requirements** | **Mac** | **Linux** | **Windows** | **Mobile Devices** |
| **Server Side** | Usually, flexible terminal commands to access, modify, or configure the server. Characteristics In web hosting, it is common. Advantages It may be upgraded, and it offers a range of alternatives for diverse web hosting needs. Disadvantages are that usually less people favor it for web hosting services. | Usually, the same is true for Mac, plus they're less expensive. Characteristics most recommended, safe. Advantages The best option for web hosting services since security problems are discovered before they cause a problem. Disadvantages are that finding programs to meet the needs of web hosting is more challenging. | Usually, compared to other OSs, there is more software available. Characteristics Compared to other platforms, it is dominant. compact platform. Advantages High comfortability, low loading times, and resource requirements. Disadvantages are that there can be simple virus vulnerability, inadequate tech support | Usually, it is preferable if the server is stationary and can only be found in one location. Other devices have superior specifications. Characteristics More widespread and highly portable. Advantages must be more widespread, compatible, and economical. Disadvantages are that it is really picky when it comes to different smart mobile devices. Lack of security. |
| **Client Side** | Usually, time and moderate competence are needed. similar in price to windows What steps must be taken during the application development process to guarantee that the app is compatible with all mobile and web browser platforms? | Usually, maximum skill and effort are needed. Minimum price. What steps must be taken during the application development process to guarantee that the app is compatible with all mobile and web browser platforms? | Usually, minimum time and skill needed. similar to mac in price. What steps must be taken during the application development process to guarantee that the app is compatible with all mobile and web browser platforms? | Usually, allows clients or even developers the flexibility to see updates wherever they are. a little more challenging to use than other devices. |
| **Development Tools** | Usually, Swift is the more preferred option for executing languages on a Mac. while incorporating pleasant tools like notepad++. Although all languages can be run on Macs. Languages supported by libraries for frontend and general-purpose languages include but are not limited to HTML, CSS, and JavaScript. These include Ruby, PHP, Python, and Java. | Usually, Linux users can use notepad++, Eclipse, and Visual Studio to create a good and user-friendly program. together with numerous additional tools and languages. Languages supported by libraries for frontend and general-purpose languages include but are not limited to HTML, CSS, and JavaScript. These include Ruby, PHP, Python, and Java. | Usually, Linux is more user-friendly, yet it can perform similarly. As a result, two of the various languages are visual studio and eclipse. Additionally, notepad++ is an easy-to-use application with a variety of tools. Languages supported by libraries for frontend and general-purpose languages include but are not limited to HTML, CSS, and JavaScript. These include Ruby, PHP, Python, and Java. | Usually, numerous apps may be made utilizing Swift and Android. On all three devices, it is possible to run software and languages. Languages supported by libraries for frontend and general-purpose languages include but are not limited to HTML, CSS, and JavaScript. These include Ruby, PHP, Python, and Java. |

**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**: Windows devices should be the best choice for The Gaming Room to start on because they have more software options and require less setup time and money. There won't be a shortage of IDEs available either.
* **Operating Systems Architectures**: All Windows-based applications pretty much rely on the services provided by Windows, which let them access system resources, display a Graphical User Interface (GUI), and much more. Additionally, communications, web services, and graphics and multimedia are all included in these programs. Both a user account and a server can be used to access these services.
* **Storage Management**: Storage sense is a useful feature that comes with Windows 10. This gives you the ability to examine and manage the files on your hard disk as well as how much space they use. Other features include the option to save app locations, which makes them simpler to find. You can use the cloud to save data exactly like with previous dives. Large projects can easily be organized into files using the built-in storage system, preventing loss or accidental deletion.
* **Memory Management**: One should build a database or picture library when making this game. Pictures can be conveniently stored outside of the normal photo folder thanks to the memory allocation. This enables you to retain your entire project on your computer in a more secure location. This applies to using your IDE to create the game and opening files from it.
* **Distributed Systems and Networks**: Because every operating system differs, I looked at ways to distribute the game so that it should work on all platforms. I discovered Develop 4, which permits the building of cross-platform games. It is an IDE that works with any system. As soon as the game is finished, you can easily export the game file for use on the web, iOS, Android, and a variety of other platforms that support cross-play. Dependencies will be aided by this. The organization needs to make sure that its servers are powerful enough to manage huge player volumes and have backup power in case of power failures in order to avoid other issues like outages or connection.
* **Security**: Windows already has security software installed. However, it could be advised to use a different source in order to secure user data and information. However, if we're talking about the software on the computer, Windows is already protected. This system is being checked for viruses, malware (malicious software), and security risks. This this takes place in real-time, and because threats evolve, the system updates itself automatically to protect user data and the system.