Creative Technology Solutions

CS 230 Project Software Design Template

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Version 1.0

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Document Revision History

Version	Date	Author	Comments
1.0	07/15/2023	Savion Peebles	Our client, the gaming room wanted us to work on their application "Draw it or Lose it". The changes we were hoping to make were making the app multi-platform and work with the team and player characteristics.
1.1	07/30/2023	Savion Peebles	Added more to evaluation and worked on Recommendations.
1.2	8/11/2023	Savion Peebles	Finished the recommendations portion.

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 largest challenge that we will be facing is taking this application onto a web-based server. It will be vital for us to maintain the appearance and features of the android app when we make the change because they have had a great dela of success with the current format they are working in. A way we could go about making sure the web-based app is as good as the android app is testing multiple users who have used the app before on the android server and having them compare the similarities and differences to see where we can improve.

Requirements

The client has listed their important requirements such as Budget, Timeline and keeping the layout as similar as possible. If we do all of these things and manage them well, we will have a happy client with happy customers and a successful project.

Design Constraints

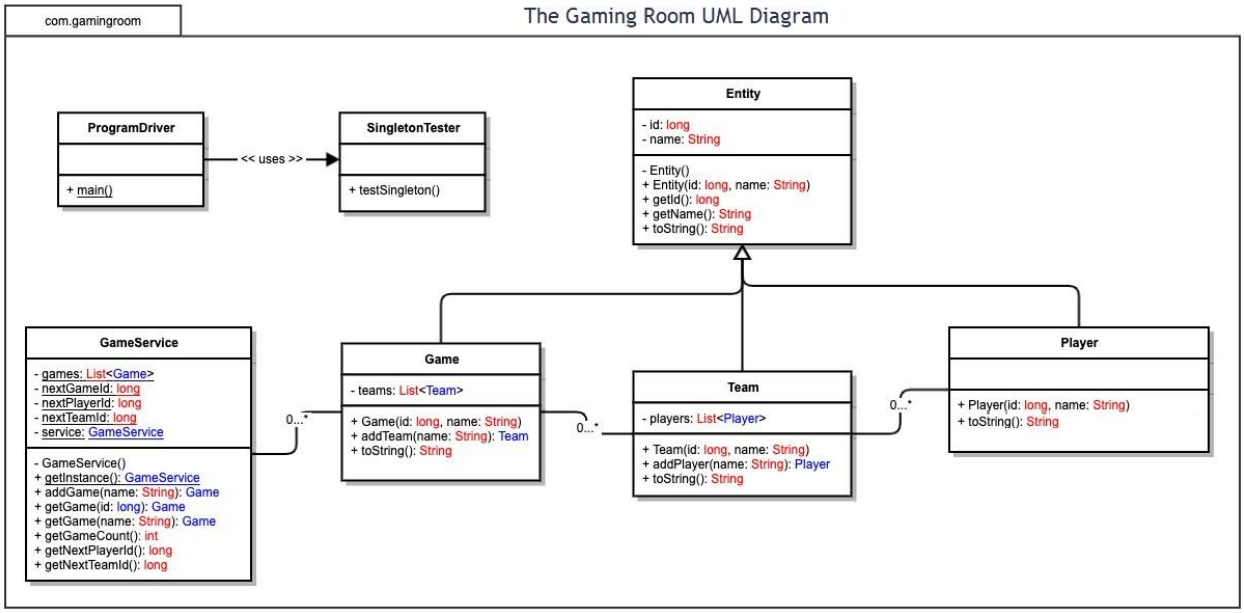
The constraints are very similar to the requirements whereas we have to maintain the layout and features of the android app the best we can so there is no user confusion, maintaining the budget and staying within our confines so that we do not upset the client by underworking or overworking and arguably the most important part which is staying on the timeline that has been provided to us by the client. As said above if we meet these expectations and follow through we will have an astounding product.

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 OOP principle that was used in this project the most was by far Inheritance. There are many examples of this such as the player class inheriting from the team class and the team inheriting from the game class and so on and so forth. There is abstraction with the variety of public and private methods throughout the program and since the implementation of the details is hidden from the user it is showing abstraction firsthand. The diagram was very straightforward and gave me all the required details I needed in order to plan out my process for this program.



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	Mac's operating system is very user-friendly, accessibility and server wise. One of the biggest problems is it only works with apple products, but the features of the system are very high quality, things such as their GUI and terminal are very flexible. Some paid add ons, some free.	Linux is a mostly open-source operating system that is nearly free to use. Slightly harder to access than the other operating systems and it uses a command shell for its server configurations.	Windows is another very user-friendly operating system and you can do a variety of different things with it. It is middle of the pack cost wise being less expensive than Apple but more expensive than Linux, the reasoning behind that is because Windows has licensing fees when Linux does not. Is compatible with some server services.	Things with mobile devices are slightly more complicated because servers can vary from device to device with different companies using different things for their mobile servers. Having a newer or older phone can also affect this because newer technology is developed everyday. Most mobile devices are not cross platform.

Client Side	Mac's operating system was created by the company Apple. While they are considered to be more of a mobile device company now, they account for about 10% of the market for computers. Their security systems make them less vulnerable to attack than the others. The customization with apple products is not as broad as it is with other products because Apple is a very independent company and rarely ever indulges in cross platform. It is also probably the most expensive brand out of this bunch.	Linux is a mostly open-source operating system that is nearly free to use. They have a lot of options for customization compared to the other brands but learning to use Linux can be difficult and steer some people away compared to some of the other options that are listed. Linux is most definitely used more for people who are in a computer career field or something along those lines, but it is still an extremely good product and system.	Windows is another very user-friendly operating system and you can do a variety of different things with it. It is probably the most commonly used OS and system we see in the present day. The software compatibility Is exceptional, and it brings a variety of hardware and software customization capabilities. The only real expense with windows is the licensing fees but besides that there are many pros that come with windows systems.	Mobile devices are not equipped with the same type of hardware as computers which limits their ability handle and develop software as a traditional computer would, but phones are much more logical and convenient than computers at times. They bring a variety of things through entertainment, photography and connectibility at a fraction of the size of a computer.

Development Tools	Apple has a few coding languages that they have developed such as Swift and Objective C. They build the majority of all their products in these languages and both of them are rapidly evolving. An IDE that I have personally used with Apple is Xcode which is essentially Apple's version of Visual Studio. Apple also uses a terminal app where command line codes can be input.	Linux 's kernel is written in C but it can support a variety of languages such as Python, C++, Java and more. It seems that the consensus best language to use with Linux is Python though. I am not as familiar with Linux but some IDEs it supports is Sublime Text which is a text editor with a variety of plug ins and Atom which is developed by GitHub.	Windows is a very versatile operating system that can handle many languages and has many IDEs. I am most familiar with C++ and C# which can both be used on their IDE Visual studio. I really like visual studio because I feel it is easy to navigate and get a hang of just as a lot of their programs and products are.	Mobile devices are still slightly behind the curve when it comes to developing and creating code on mobile devices but there are some apps that will allow you to practice and learn code so that you can develop on other IDEs on computers. Some of these apps include SoloLearn and Grasshopper.

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**: If I were to choose an operating system for The Gaming Room to use I would choose Windows. It is the most user friendly, has the most customization, has amazing compatibility and it is the most widely used system they could use.

2. **Operating Systems Architectures**: Windows has an API that is used for the programming interface of its operating system. It has a variety of features that come from other windows-based apps. It will allow you to incorporate audio, graphics and a GUI, web services and component services.

3. **Storage Management**: The storage management system to use is going to be just like our other options and use some embedded features in windows. There is a feature called storage sense that will allow you to get rid of old files and programs that you do not use to provide optimal storage and performance.

4. **Memory Management**: For memory management Windows has a process called swapping where they swap or move a program from the hard disk to the RAM and use swap outs where they move the program from the RAM to the hard disk. This copies everything not in use to one area which cleans up cluttered data and allows the program to run more efficiently.

5. **Distributed Systems and Networks**: It seems like the best course of action for this would be using HTTP so that you can use hyperlinks to load the web pages. This allows the information to be transferred through devices on the network, this will also let the clients and servers interact and transfer data.

6. **Security**: Windows does not offer basic protection from viruses and other malware, but it can be purchased and installed through other third-party services which can both be beneficial and hurtful at the same time. Some other companies like Apple just have security software built in but with Windows you can choose the best option that fits your needs which is a good thing.