

Game Engine

# **CS 230 Project Software Design Template**

Version 1.0

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| Version | Date | Author | Comments |
| --- | --- | --- | --- |
| 1.0 | 05/23/2021 | Dustin N | Initial Submission |

## Executive Summary

*Chat away is currently using a fully functional website for there chatting software. Currently chat away is looking to move forward and expand upon there chat system with mobile applications. Chat away has stated that they wish to have both iPhone and Android (IOS and Android) applications.*

## Requirements

*Using the existing chat away website structure and looks. Chat away would like to have a IOS and Android application developed for use in tandem with there currently functional and operational website.*

## Design Constraints

Chat away has requested that the application be developed alongside there currently functional website. The request was made to have the application be usable by both users of android and apple products. It has been requested that there is a budget restraint in place to get this project done. The application should be a user-friendly version of there website and use the methods and API’s that are already in place on the website.To meet this request to develop a application for both platforms it is strongly suggested that the application be developed in a cross platform developer as to not have the cost of two separately developed applications.

## Rationale

*Chat away has expressed that they currently have a functioning website that is being used by there customers. Chat away stated that in hopes to grow there market to a higher number of customers they are requesting that a application be build that uses the same ideas and structures as the already successful website. They requested that in order to reach the highest number of customers that they application be able to be downloaded by not only apple users but also android users.*

| **Development Requirements** | **Mac** | **Linux** | **Windows** | **Mobile Devices** |
| --- | --- | --- | --- | --- |
| **Server Side** | Flexible terminal commands to configure different server settings, access, and or make changes | Same idea as mac but the cost is much more beneficial and hardware cost less as well. Also higher security by nature. | Most easily available and known software compared to most other known Operating systems. Also less secure then Linux or Mac. Also more frequent updates which could mean more down time. | It works better if servers are not on mobile devices. The power demands and hardware restraints on mobile make it a poor choice. |
| **Client Side** | Moderate expertise and some time may be required to develop for Mac Operating system when compared to others. | Rather minimum expertise is required to develop a application or website for use on Linux systems. Minimum cost can be see with development for Linux. | Windows out of all operating systems it the easiest and quickest for development in most cases. | Providing that there are many screen sizes and shapes on the market for mobile devices. It may be slightly difficult to include them all. |
| **Development Tools** | When it comes to Mac development it is required to use there IDE and language IE swift unless it is a web based application. This can run into some extra cost as it is a rather custom language and IDE requiring some further expertise. | Linux can work on almost any programming language and IDE making it a rather easy to develop on or with platform. With nearly limitless options. | Easier then linux as it requires less command line knowledge. Again all modern languages can be used and developed on windows. Making it ideal for development environments. | You can create a countless number of applications for mobile using either Swift (IOS) or android. Both languages and software can be run on three OS listed however more work may be required for IOS development. |

## 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**: It would be recommended to use a windows OS for the Gaming Room’s “Draw it or Lose it” application. It is easy to maintain and the cost is low. It has a rather large range of software that can be run on It. The needed knowledge for maintenance is lower then that of a Linux or Mac operating system. More specifically it would be recommended to use Windows server as it is intended to be used for applications such as this.
2. **Operating Systems Architectures**: Windows server Operating system is designed to include a large verity of tools including file management that allows users to control and manage without the need of command line knowledge things like system memory and usage. It is also a large provider for developers that know how to use windows and could lead to a lower cost of development.
3. **Storage Management**: Windows server allows for great memory management. Windows also has the ability to use cloud storage and servers to increase storage space at a rather low cost to owner.
4. **Memory Management**: Windows has great memory management allowing for options to use virtual and physical addressed space allowing between two-four gig’s of memory in addition to running applications effectively and efficiently.
5. **Distributed Systems and Networks**: using a windows server OS as the distribution system and network features offer a rather simple communication system between one or many processors between many different workspaces. You can use multiple client systems to reach the same system without the need to do a bunch of expensive custom work.
6. **Security**: Windows servers offer clients many different security options form requiring certificates, or using a SSH/ VPS connection. There any many ways that you can protect yourself and your customers rather easily with a widows server setup.