*Software Design Template*

Version 1.0

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Document Revision History

Version

Date

Author

Comments

1.0

mm/dd/yyyy

Ahlaam

First draft

Instructions: Fill in all bracketed information on page one (the cover page), in the Document Revision History table, in the footer, 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 wants to bring Draw It or Lose It to more platforms, They need to figure out the best way to make it work on both desktop and mobile without any major issues. This document looks at different operating systems, security, costs, and tools to help decide what makes the most sense for them.

Requirements

• The game should be accessible through web browsers across desktop and mobile.

• Development tools that allow efficient deployment across different platforms.

• A plan that considers licensing costs, security, and compatibility.

Design Constraints

**1** The game needs a hosting option that works well for web based games Linux, Windows, or Mac.

1 The game should be accessible through web browsers across desktop and mobile.

2 Development tools that allow efficient deployment across different platforms.

3 A plan that considers licensing costs, security, and compatibility.

4

5 Development Tools: The programming languages and tools should be cross-platform (JavaScript, Python, C#) and work across different operating systems.

Rationale

• Linux is the best choice because it's free, secure, and commonly used for cloud hosting.

• Windows Server is an option if the team prefers Microsoft tools, but it has licensing costs.

• MacOS Server isn’t really used for hosting big web apps and requires Apple hardware, so it’s not the best option.

**Evaluation**

**1. Server Side Evaluation**

Feature

Linux

Windows

Mac

**Kernel Type**

Open-source, UNIX-based

Proprietary, hybrid

UNIX-based, closed-source

**Licensing**

Free and open-source

Paid, requires Windows Server

Paid, requires Mac hardware

**Virtualization**

Supports Docker, VMs, Kubernetes

Supports Hyper-V, Docker, VMs

Supports Parallels, limited Docker support

**Security**

Strong access control, widely used for servers

Secure but targeted frequently

Secure but not optimized for large scale servers

**Cloud Support**

Works with AWS, Azure, Google Cloud

Works with Azure, AWS

Less commonly used for cloud hosting

**Ease of Setup**

Requires CLI knowledge, strong community support

GUI-based, beginner-friendly

Requires Apple ecosystem

**2. Client Side Evaluation**

Feature

Windows

Mac

Linux

iOS

Android

**Browser Support**

Chrome, Edge, Firefox

Safari, Chrome, Firefox

Chrome, Firefox

Safari (WebKit)

Chrome, Firefox

**Market Share**

Largest desktop market

Preferred by creative professionals

Less common for gaming

Large in the U.S.

Largest mobile market share worldwide

**Compatibility**

Works well with web apps

Strong web support

Requires additional setup

Uses WebKit for rendering

Optimized for Chrome based applications

**3. Development Tools**

Tool Type

Windows

Mac

Linux

**IDEs**

Visual Studio, VS Code, JetBrains

Xcode, VS Code, JetBrains

VS Code, JetBrains, Eclipse

**Languages**

C#, JavaScript, Python

Swift, JavaScript, Python

JavaScript, Python, C++

**Licensing**

Some tools require paid licenses

Xcode is free but requires Mac hardware

Mostly open-source tools

**Virtualization**

Supports Hyper-V, Docker

Supports Parallels, Docker

Supports Docker, Kubernetes

Conclusion

Linux stands out as the best hosting option due to its scalability, security, and low costs. A web based version built with HTML5 and JavaScript ensures that the game runs efficiently on any device. By using cross-platform and cost-effective development tools, the team can streamline deployment, minimize expenses, and ensure a smooth user experience. This setup provides a sustainable way for Draw It or Lose It to expand successfully.