

The Gaming Room

# **CS 230 Project Software Design**

Version 3.0

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| Version | Date | Author | Comments |
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| 1.0 | Oct 20, 2024 | Yakuba Conde | This document recommends Linux is the best platform for *Draw It or Lose It* due to its flexibility, security, and ability to scale across multiple environments. |

Recommendations

1. **Operating Platform**: For expanding *Draw It or Lose It* to different environments, I suggest using **Linux** as the operating platform. It's a reliable, flexible, and cost-effective option, well-known for its strong performance in web-based applications. Linux is compatible with various environments, so it’s ideal for supporting a game like this, especially if the goal is to ensure it runs smoothly across multiple platforms.
2. **Operating Systems Architectures**: Linux uses a **monolithic kernel** architecture, were core functions like memory and process management work together efficiently. This setup is ideal for *Draw It or Lose It*, ensuring smooth performance when handling multiple users across different devices.
3. **Storage Management**: For storage, I recommend going with **cloud-based solutions** like Amazon S3 or Google Cloud Storage. These services are known for being scalable and secure. They allow you to store large amounts of data, including user profiles and game states, with high availability. This way, whether a player is on their phone or computer, the game data is quickly accessible, keeping the gameplay smooth and uninterrupted.
4. **Memory Management**: Linux efficiently manages memory using **virtual memory**, which extends RAM by using disk space. This ensures *Draw It or Lose It* runs smoothly, even with heavy user activity.
5. **Distributed Systems and Networks**: To enable cross-platform play**, Docker** can be used to run *Draw It or Lose It* in containers, ensuring consistency across devices. **A Virtual Private Cloud (VPC)** can securely connect these distributed systems, keeping the game stable during high traffic or outages.
6. **Security**: Security is a key concern for any online game. To protect user information, we can use **HTTPS** to encrypt data during transmission. On the server side, Linux’s permission-based system adds another layer of security, ensuring that only authorized users can access sensitive information. Regular updates and patches will help keep the system secure, and additional protection like firewalls and intrusion detection systems will guard against potential attacks.

***Citation***

*Docker, Inc. (n.d.). What is Docker?. Docker* [*https://www.docker.com/what-docker*](https://www.docker.com/what-docker)