

Draw it or Lose it

**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 | 11/08/21 | Bethany Coyne | An online guessing game. |

**Executive Summary**

Draw it or lose it, is a multiple choice game where gamer has 30 seconds to answer a question correctly before losing. If player finishes before 15 seconds, the rest of the 15 seconds goes to the rest of the team to answer. Clients want a multiplayer game that allows for more than one Team. Names must be unique in order for there not to be the same name. Only one instance of memory can exist in the game at a given time.

**Design Constraints**

Will have to implement more than one class in order to make this a multiplayer and add a timer, one that will add time to other teams. Name of teams and players must be unique, perhaps unique ones already chosen so there is limited confusion.

**System Architecture View**

**Domain Model**

ProgramDiver uses SingletonTester to keep using only the one memory as they required in game. Game Service, Game, Team, and player extend from Entity which has the id and name as a long and a string inside their class. In Entity it retrieves, and saves the name as well as ID and saves them to a string and a long. Game Service saves all the list of games as well as the Ids for game, team and players. The game saves the game, game id and team name. Team saves all the players within that team as well as the name and id of that team. Player is just the name of the player and extends Entity.



**Evaluation**

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| **Development Requirements** | **Mac** | **Linux** | **Windows** | **Mobile Devices** |
| **Server Side** | For most games you would have to download the right software so that it could run on a Mac. Visual Studio and Unity are great for making it on Mac but would need to be reuploaded to Windows most likely | Linux can be used as it does run very well however there would need to be third party software that would need to be downloaded in order for the code to work. I would only recommend this if the clients are comput savy | Windows would probably be the perfect platform for their game as it is the common system for games as well as hosting | I wouldn't advist using a mobile device to work on or implement as it would be rather difficult and inefficient. |
| **Client Side** | They would need to know how to upload the file to Windows or another software system to upload their finished product. They would also have to download Visual Studio or Unity in order to work on their game. | Linux is more for loyal LInux fans, recommend for those who are already familiar with Linux and if they are aware they would need other software in order to create thier game. | It should be more straight forward and easier on Windows than any other platform as Windows supports everything they are looking for on its own. | Most games will work on most Mobile Devices and are pretty cost effictient. It should be fairly easy especially if the game is made on Windows. |
| **Development Tools** | Would need to use Unity, VIsual Studio, code that would work best is Python which will run well on either Unity or Visual Studio. | Unity, Godot, RPG Maker are some of the tools that would need to be downloaded in order for the game to work on Linux and allow for implementation | Windows will allow most game engines and are most compatable to work with other computers, so Unity, Unreal, Visual Studio any of those work well on Windows | Not practical enough to recommend doing, ie coding on a cellphone. Not recommended. |

**Recommendations**

* **Operating Platform**: The platform that would be the best to work on games would be Windows as it is compatible with most machines and it is easier to operate especially over Mac and Linux as Mac is not very compatable with other machines or networks. Linux is harder to work with other networks and is usually for more advance progammers. Mobile devices work best with other mobile devices, are not typically meant to work beyond that.
* **Operating Systems Architectures**: Windows is a single kernal with abstract layer, drivers and range of services. Mac is more of an extension Operating System that is extended from Apple. Linux is open sourced and uses many within a unix operating System. Mobile Devices have many within their own platforms. Windows is still the recommendation.
* **Storage Management**: The cloud would probably be the best storage software on Windows and it s most effecient as well as stable. Mac uses Imore, Linux uses many different storage Management that is downloaded and mobile devices use MDM which is a secure and safe managment software.
* **Memory Management**: Windows has both physical and virtual memory, if memory becomes unstable and gives an error message it typically means the chip has gone bad and will need to be replaced, which is straight forward. Mobile devices use Memory mapping by keeping the memory in the RAM. Linux uses a subsystem that allows the memory to be stored within the system and Mac uses RAM to store memory.
* **Distributed Systems and Networks**: Windows would be the best platform as it connects and works with many computers, also if it crashes it is much easier to work with and is able to communicate with other networks. Though windows has a tendency to crash more often, Mac is a bit more reliable but not as easier to work with especially with machines outside of Mac. LInux has the same problem, however it is very dependable. Again Linux is great for those that already have a strong understanding of computers. Mobile devices typically work better within other mobile devices but not beyond that.
* **Security**: Mobile devices are not as secure as a Network, So I would advise against a mobile device. Linux is the most secure of the systems and is also easy to see if there are bugs and hacks. Macs are more secure than Windows they are vulnerable to viruses and that does seem to be a growing problem but there is software to help with that but not as good as Windows antivirus. Windows is the least secure, but has good antivirus ware.