**ANALYSIS OF ALTERNATIVES (AoA)**

**1. PROGRAMMING LANGUAGE:  
  
Terms of reference:**We are choosing between:  
A. Python  
B. JavaScript  
C. Java  
  
The criteria on which we would be deciding which language to use are:  
A. Experience in the language relevant to the project platform (web based)   
B. How applicable the language is to platform the project is built on  
C. Ease of programming

D. Ease of learning  
 **A. Python:**Our team members have all worked with Python before, and are moderately experienced with the programming language as a whole. However, since our program is going to be a web application, Python is going to be less suitable, as we would also require a suitable web framework to make it work on a web-based platform. We are willing to invest time to learn foreign language concepts. **B. JavaScript:**Most of the team members (4 out of the 5) have used JS to build web based applications before. Therefore, JS conforms to the knowledge and experience aspects of the criteria.  
The team is planning on making a web app, so the JavaScript is the most relevant language to use out of the possible options.  
The team members have agreed to spend some extra time to brush up their JS skills and have agreed to learn new concepts in the language if the project requires the team to do so.  
 **C. Java:**Some members of the team have lightly touched on Java programming. The experience that they have, however, has nothing related to web based applications. Whilst Java also possesses a web-plugin that allows its applications to be used in a web browser, it is less familiar to the majority of our members and hence, our preference lies with Javascript.

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| **Criteria** | **Experience in language relative to platform**  **(Criteria A)** | **Applicable to the project platform?**  **(Criteria B)** | **Ease of programming**  **(Criteria C)** | **Ease of learning**  **(Criteria D)** |
| **Python** | Low | Yes | High | Medium |
| **JavaScript** | Medium | Yes | High | Medium |
| **Java** | Low | Yes | Low | Medium |

**Recommended Programming Language:** JavaScript

**2. OPERATING SYSTEM:  
  
Terms of reference:  
   
We are considering:**A. Windows OS  
B. Mac OS  
C. Linux  
D. Chrome OS  
 **The criteria on which we would be deciding which OS to use are:**A. The relevance of the application with the OS.  
B. Familiarity with the OS in terms of general use  
C. Applicability of the OS to the software being created

D. Availability of the OSThe team has decided to make a web application. This means that the OS of the system on which the app is being programmed or the OS on which the application is going to be run will be the OS of choice. Intuitively, Windows OS is the priority for the application to be built upon, because all the developers are using a Windows OS system, but this is of little importance, considering that each OS listed should be able to handle the web application.

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| **Operating System** | **Relevant with OS (Criteria A)** | **Familiar with OS**  **(Criteria B)** | **Applicable to OS (Criteria C)** | **Availability**  **of the OS**  **(Criteria D)** |
| Windows OS | Yes | Yes | Yes | Yes |
| Mac OS | Yes | No | Yes | Yes |
| Linux | Yes | No | Yes | No |
| Chrome OS | Yes | No | Yes | No |

**Recommended Operating System:** Windows OS

**3. PLATFORM:   
  
Terms of reference:  
We are choosing between**A. Web application  
B. Desktop application  
C. Mobile application **The criteria on which we would be deciding which platform to use are:**A. Resource usage intensity  
B. Level of resemblance between the program requirements and the platform type  
C. Level of familiarity with the platform  
 **A. Web application:**Considering that our group has decided to work on the gitinspector app, it would be safe to assume that the resource usage intensity would not be too much and as a result, it can be created on a web-based platform.  
Since the gitinspector that the group has decided to create works on Google Drive, the relation between the program requirements and the platform type becomes easy to understand.  
Since all the team members have used web apps extensively, everyone is comfortable with creating a web app.

Additionally, Google Drive is mostly used as a Web App. So it would be safe to assume that the GitInspector for Google Drive would also be used as a web app.  
 **B. Desktop application:**Desktop applications are undoubtedly the most familiar type of application to every member of our team - their use, in the context of requirements, however, are arguably not as applicable as web applications in the case of GitInspector.   
 **C. Mobile application:**In terms of development familiarity, collectively we are not very experienced when it comes to developing a mobile application. The program requirements would be achievable, but it would certainly be more difficult to do so and whether the team would be able to meet the deadline requirements would be questionable. So in this case, a mobile application would be something that we could extend to rather than something to start on.

**Recommended Platform:** Web Application

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| **PLATFORM** | **High Resource Usage Intensity** | **Resemblance b/w the requirements and the platform** | **Familiarity with the Platform** |
| Web Application | No | Yes | Yes |
| Desktop Application | Yes | No | Yes |
| Mobile Application | Yes | Yes | Yes |

**4. BROWSER:  
  
Terms of reference:  
  
We are considering:**A. Internet Explorer  
B. Google Chrome  
C. Mozilla Firefox  
D. Safari   
 **The criteria to which we would use to decide which browser our software would target:**A. Familiarity with the browser  
B. The overall popularity of browser  
C. Compatibility between the browser and proposed softwareMuch like the operating system, there is little importance in the need for only one specific browser to be chosen. More relevant is the need to consider all of them, considering they all see relative use by stakeholders. Therefore, the developers would conduct cross-browser testing once the app is complete.

However, the recommended browser for this app would be As a web application, it’s reasonable that the mainstream web browsers would all be compatible. But for the developmental stage, the developers are using Google Chrome.

**Recommended Browser for the Web Application:** All of the above mentioned browsers.

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| **Browser** | **Familiar** | **Popular** | **Compatible** |
| Internet Explorer | Yes | Yes | Yes |
| Google Chrome | Yes | Yes | Yes |
| Mozilla Firefox | Yes | Yes | Yes |
| Safari | Yes | Yes | Yes |

**5. SERVER:**

**Terms of reference:**

**We are considering:**A. Local server

B. Renting a server

**The criteria to which we would use to decide on the server used:**

A. Whether the server is paid or free  
B. Whether the server is local or public

C. Ease of usage by the team members

None of the team members have experience with renting and using a server for a web app. Therefore, the team has decided to use a local server which would be created using Node.js to host the web app being created by the team.

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| **Server** | **Paid/Free** | **Local/Public** | **Ease of use** |
| **Local server** | Free | Local | Yes |
| **Renting a server** | Paid | Public | No |