**Team 11 Skills and Resources Audit**

**Project overview**

Project name: Document Matcher

Project description: Develop a web application which automates the process of detecting common RSID codes in Microsoft Word documents to highlight evidence of collusion, or cheating.

Solid audit of what the team has versus what will be required for the project

**Objective of this document:**

* Assess skills needed to complete the project
* What to learn, and from where

**Skills required**

Programming skills

File handling

* Handling .docx documents, changing them to .zip to access and extract xml data

XML parsing

* Parsing and manipulating XML data, particularly RSID codes

Python: Used for data processing, flask backend

* Data processing and creating flask backend
* Error handling, input validation

Implementing security measures

* Implementing HTTPS, CRSF protection, and XSS prevention

Data analysis

RSID comparison

* Comparing RSID save codes to find commonality between saves and documents

Testing

User acceptance testing

* Project tested by client
* Test cases based on real world scenarios

System testing

* Test complete / integrated application to ensure met requirements

Functional testing

* Testing functions to ensure they work as intended

Integration testing

* Test interaction between different parts of application

Unit testing

* Writing test cases for components of code to test correctness

Performance testing

* Test applications performance under different scenarios

Web development (Full stack)

Frontend

* Frontend skills to develop web interface
* HTML, Jinja, CSS, AJAX, JavaScript / jQuery

Flask

* Backend development (REST API)

**Resources required**

Development Tools

IDE

* Development environments for coding

Libraries / Frameworks

Flask

* Developing web application, implementing security features

Python-docx

* Work with word documents in python

Xml parsing

* XML element tree library for parsing

Sample documents

* Word documents to validate application

Version control & Documentation

Git & Github

* to manage documentation, code collaboration and changes

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| * **Skill Area** | * **Current Capability (1 = Low, 3 = High)** | | | | | | | |
| * **Elijah** | * **Lok** | * **Louis** | * **Aidan** | * **Fin** | * **Jack** | * **AVG** | * **Value** |
| * **Python Programming** | * **3** | * **2** | * **2** | * **2** | * **2** | * **2** | * **2.166666667** | * **Medium** |
| * **Flask Backend** | * **3** | * **2** | * **2** | * **2** | * **2** | * **3** | * **2.333333333** | * **Medium** |
| * **Frontend (HTML, CSS, Jinja)** | * **2** | * **3** | * **1** | * **1** | * **2** | * **2** | * **1.833333333** | * **Medium** |
| * **Data Analysis (RSID comparison)** | * **2** | * **2** | * **2** | * **2** | * **2** | * **2** | * **2** | * **Medium** |
| * **XML Parsing** | * **1** | * **1** | * **2** | * **2** | * **1** | * **1** | * **1.333333333** | * **Low** |
| * **File Handling** | * **3** | * **1** | * **2** | * **2** | * **1** | * **1** | * **1.666666667** | * **Medium** |
| * **Security Implementation** | * **1.5** | * **2** | * **1** | * **2** | * **2** | * **2** | * **1.75** | * **Medium** |
| * **Testing** | * **1** | * **3** | * **1** | * **1** | * **1** | * **1** | * **1.333333333** | * **Low** |

**Skill comparison**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Skill area** | **Required for project** | **Current capability** | **Gap** | **Comments** |
| Python programming | 2 | 2 | 0 | Team has solid foundation,s ufficient for project requirements. Practice in flask and data analysis could further strengthen this |
| Flask Backend | 2 | 2 | 0 | Adequate skill, beneficial to implement best practices in Flask including error and security measures. |
| Frontend (HTML, Jinja, CSS) | 2 | 2 | 0 | Sufficient, Can learn through freeCodeCamp, MDN or Coursera. |
| Data analysis (RSID comparison) | 3 | 2 | -1 | There is a gap, this is needed to analyze the RSID codes. Can learn on DataCamp |
| XML parsing | 2 | 1 | -1 | Need improvement, Prioritize learning XML parsing for RSID extraction and familiarization with RSID framework. Can learn on W3Schools or geekforgeeks |
| File handling | 2 | 2 | 0 | Adequate for project, can learn on Coursera |
| Security implementation | 2 | 2 | 0 | Adequate for web security. Can learn on OWASP, Coursera, and Udemy. |
| Testing | 2 | 1 | -1 | Gap in testing abilities, prioritize learning unit testing, integration, and performance testing. Can learn on Udemy |

**Resources comparison**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Resource** | **Required for project** | **Availability** | **Gap** | **Comments** |
| IDEs | Yes | Available | None | Majority of team uses VSCode, ensure everyone comfortable with IDE |
| Git | Yes | Available | None | Git and Github used for version control. Team already uses and understands branching, merging and pull requests |
| Flask framework | Yes | Available | None | Flask is available, team has already set up main files and routing. |
| XML libraries | Yes | Available | None | Xml.etree library used for parsing files. Make sure team comfortable |
| Sample documents | Yes | Available | None | Sample docx needed to test validity of application, client has provided with some and a gen.py was made to create sample documents |