4.1 Methods, Tools & Techniques

This section details the computer systems, the development methodologies, the structure of the equipment, the programming languages, the tools, the techniques and the methods that will be used to specify, design, build, test, integrate, document, deliver, modify and maintain project standards.

4.1.1 Methods

• Testing Methods

– Black-Box Testing: The software will be tested after completion to test its overall functionality.

• Development Methods

– Programming Style: Developers will be using the object-oriented style.

– Programming Languages: For our web page, the developers must be fluent in Python.

4.1.2 Tools

• Documentation Tools

– Microsoft Word: Software used for the creation of every required document as well as for simultaneous collaboration of the team members.

– Microsoft Power Point: Software used for creation of the required presentations.

– Share Point: Cloud Storage for saving all required documents.

–Office Timeline- Software used for creation of the Gantt Chart.

– LATEX: software used for the final creation of each required document, as well as for the simultaneous collaboration of team members.

• Development Tools

– PyQt5 (Python Module): Software used to create the application GUI.

– Computers: equipment that will be used by team members to complete all tasks.

4.1.3 Techniques

• Smooth transition: this method will ensure that each phase is completely completed, reviewed, tested and approved by the client before making major changes.

• Quality of the service: the quality of the service is an important strategy to execute a functional and reliable system that the user can feel safe and comfortable to use.

**4.2 Software Documentation**

The software documentation to be made is composed of the following IEEE (Institute of Electrical and Electronics Engineers, 1963) Standards:

|  |  |  |
| --- | --- | --- |
| Document | Description | Format |
| SPMP | Software Project Management Plan: Document management refers to the planning of the project, its main stages and its organization. | IEEE 1058-1998 |
| SDD | Software Design Description: Document describing the product design. | IEEE1016-1998 |
| SRS | Software Requirement Specifications: Document defining the requirements and details requested by the client. | IEEE830-1998 |
| STD | Software Test Documentation: Document defining each test and the tester. | IEEE829-1998 |

Other documentation:

• Presentations: The team needs to offer two different presentations with the purpose of describing the system in a detailed manner.

• Weekly Reports: The team should create a weekly report with all the progress made in that week.