

### 3. SYSTEM REQUIREMENTS STUDY

#### 3.1 USER CHARACTERISTICS

It is important to analyze the aspect of user characteristics for any project. It allows us to clearly define and focus on who the end users are for the project and therefore acts as a continuous reminder on how we interpreting the functional and non functional requirements and also whether we are doing it correctly or not. It moulds the entire procedure to act exclusively towards the need and satisfaction of the end users as it is also the main inevitable aspect for any software development process. Therefore, it is important to analyze the user characteristics for any project and then progress towards meeting the requirements of the user in which lies the real efficiency of a project.

There are two different types of users for the system in consideration.

1. Client
2. **priWAF** admin

##### 3.1.1 Client

A client user interacts with the portal in many ways.

- A client, at first, is required to register himself/herself with the website by providing a valid username which is his/her company specific email address and a strong password, their respective and answer to a security question that is helpful for further reference and manipulation.
- Then the client is required to login with his/her credentials and can then only explore the inner functionalities of the portal.
- Besides, any student irrespective of being registered with the portal can view and analyze the scanner reports information, information about the found vulnerabilities on his/her specific URLs / IPs, details of the attack logs and error logs of web servers by searching his own URL or Customer ID.
- Thus, the client is the main functional user of the portal.

##### 3.1.2 priWAF admin

A WAF user also interacts with the portal in many ways

- The WAF admin acts mainly as the administrator of the portal and is the only manager of the entire content and functionalities.

- The WAF can only and exclusively manage whitelisting of the client's machine IP and thereby activate and allow a registered client to login to the portal.
- The WAF regularly monitor new attacks and rule sets regarding the new vulnerabilities or some other information like the multiple URLs or IPs details and is therefore acts as a focal point of the entire functioning of the portal.
- The WAF also uses the system to uniquely allocate the Customer Id to a client that is a significant part of a client's project details.
- The WAF most importantly can arrange and organize a new Custom rule sets and other relevant procedures for the client through the portal.

## **3.2 HARDWARE AND SOFTWARE REQUIREMENTS**

### **3.2.1 Hardware Requirements**

A machine with:

- Recommended 2-4 GB RAM
- Xeon Processor
- 400GB SSD HDD on VMware' ESX(I) Hypervisor
- Recommended Color Monitor (800\*600 or higher Resolution Display)
- Input Device i.e. Mouse, Keyboard.

### **3.2.2 Software Requirements**

- A web server e.g. LAMP (Apache 2.4.7)(Ubuntu 14)
- A database server e.g. MySQL 5.5.41
- Mod security2 on apache
- A web browser
- A PHP editor

### **3.3 ASSUMPTIONS AND DEPENDENCIES**

#### **3.3.1 Assumptions**

- It is assumed that the internet connection is available 24\*7.
- It is assumed that the web server is running 24\*7 and the portal is available all the time except maintenance as and when required.
- It is assumed that the client contacts the priWAF admin after whitelisting client's machine IP to get himself / herself activated for Login.
- It is assumed that the users have sufficient knowledge of operating the system

#### **3.3.2 Dependencies**

- The time span allocated for completing the project is 4.5 months.
- A database server is needed to store user specific data.
- A layman is assumed to have sufficient knowledge of how to operate and use the system.
- The project has only one working member.
- The output of the system is dependent on the input provided by the user.