**3. SYSTEM REQUIREMENTS**

**3.1 EXTERNAL INTERFACE REQUIREMENT**

**3.1.1 Hardware Interface**

* Processor – i3/i5/i7 x64 Bit Minimum 2.
* Hard Disk – 8 GB + at least 2 GB for Relational Database System
* Memory – 2 GB RAM minimum, 4 GB RAM recommended
* High Speed Internet Access
* LAN Connection with Ethernet.

**3.1.2 Software Interface**

* Linux OS, Ubuntu 14.04 Preferred
* JDK 7 or above
* NetBeans IDE
* Relational Database Server, MYSQL Preferred
* Apache Tomcat Server

**3.2 FUNCTIONAL REQUIREMENTS**

The functional requirement part discusses the functional behavior that should be possessed by the system. Each requirement maps to a higher level function that transforms the given set of input data into output data. The functional requirements can be identified as the modules involved. These modules perform separate functions based on the given input and return output data for the next level. Each module acts as an independent entity acting on its own but the output collected is just an intermediate data for other modules.

Different types of functional requirements possessed by the system are:

1. Introduction Module
2. Registration Module
3. Key Exchange Module
4. ID Generation Module
5. Login Module

**Module 1: Introduction Module**

* Purpose – A brief introduction. It is invented to be engaging and communicate the theme of the cloud application to the user.
* Inputs – No input is necessary.
* Outputs – Immediately load the Main Menu Screen (Registration Screen).

**Module 2: Registration Module**

* Purpose – The central point after connection establishment. The menu responds to user clicks and details are sent to the server.
* Inputs – Username, Mobile Number, Email, DOB fields are displayed, submit button.
* Outputs – Control is passed to key exchange page with a random registration created.

**Module 3: Key Exchange Module**

* Purpose – For ECCDH equivalent key exchange.
* Inputs – Secret Private Key for exchange.
* Outputs –ECDH Key is generated and OTP sent to mail ID.

**Module 4: ID Generation Module**

* Purpose – For user ID generation. Generation of user ID. Accessing the cloud storage. Fresh OTP sent to email ID.
* Inputs – OTP from email ID in the text field. User ID and OTP Request.
* Outputs – Random user ID is generated. OTP verification and redirecting to user account.

**Module 5: Login Module**

* Purpose – To check credentials of the user and log him in if they are correct and grant the access to their account.
* Inputs – User ID and the OTP sent to the user’s email ID.
* Outputs – Immediately load the Profile Screen if the credentials match.

**3.3 NON – FUNCTIONAL REQUIREMENTS**

A careful specification and adherence of non-functional requirements such as performance, security, privacy and availability are crucial to the success or failure of any software system.

**Font adjustment:** The text font size may need to be adjusted up (for high resolution screens) or down (for low resolution screens) so as to keep the text readable.

**Layout tweaks:** The layout may need to be adjusted to increase or decrease the spacing between and around labels and widgets shown on the screen so as to prevent them from getting clustered together on high-res screens or spaced apart too much on low-res screens.

**Image changes:** Any images used in the project have to be provided in two different versions: a large size/high resolution version and a small size/low resolution version so that it properly fills the amount of physical space available on the screen.

**Battery usage:** On mobile devices and laptops, the battery is a scarce and valuable resource. The battery should remain maximally available for the application to perform well. Your application may therefore fall by the wayside or even get uninstalled by the user, if it drains too much battery.

**Maintainability:** There will be no maintenance requirement for the software. The database is provided by the end user and therefore is maintained by the user itself.

**Portability:** The application can be accessed at any place that has Internet connectivity.

**Availability:** This application will be available for all the users within the Internet. The system server should be up for 365 days and the downtime should be minimized in case of any difficulty.

**Security:** Although security is the utmost priority and has been taken care the most but care must be taken against virus threats.