

Non-Functional Requirements:

1) Performance Requirements:

- **Response time:**
 - The system should respond to user requests (e.g., registration, exam access) within an acceptable time frame
- **Scalability:**
 - The system should be able to load balance up to certain user students during registration period.
 - The system should be able to load balance up to certain user students during examination period.

2) Security Requirements:

- **Authentication:**
 - Users will be securely authenticated via OTP through email.
- **Authorization:**
 - For page flows, we will use primary keys as switching key which will ensure student users and admin users can perform actions which are allowed for them.
- **Data Encryption:**
 - We will store sensitive data like email-id, password, results in encrypted form to ensure privacy and security.
- **Session Management:**
 - We will manage session via encrypted keys in session storage of browser to ensure session management and reload functionality are used as they should be.

3) Usability requirements:

- **UI Guidelines:**
 - System will be user friendly for users who knows basics of basics of online testing and browsing through webpages.
- **User Training:**
 - There will be a document provided to help user in navigating our system.
- **Browser Compatibility:**
 - The system will be compatible with browsers like Chrome, Firefox, Brave with latest versions.

4) Reliability Requirements:

- **Availability:**
 - System will be available most of the time and specially during test slots.
- **Backup and disaster management:**

- We will have backup system with minimum functionalities and backup database which will be updated daily EOD.
- At the time of crash of system, our demo system should be available for users.
- **Monitoring:**
- For monitoring admin users' purpose, we will implement audit-log data which will monitor tasks or actions admin is performing on portal.
- During test runtime, we will expand users of audit-log data to all users to ensure monitoring of every student is available for admin users.

5) Maintainability Requirements:

- **Code Maintainability:**
- We will ensure that code is written in well manner with proper comments so in future less maintenance issues will be arisen.
- **Version Control:**
- We will use Git – version control.to track code changes.

6) Compliance Requirements:

- **Documentation:**
- We will maintain documentations which will comply how the system is following standard and regulations.

7) Performance Criteria:

- For now, we are aiming that our system should be able to register concurrent students in less than 1 sec.
- Also, our system might be able to handle concurrent requests with response time of few sec.

9) Usability Testing:

- User groups involved in testing are students, college admins, course instructors, parents.
- We will test our system while considering different scenarios like described above in load-balancing, encryption, session management, load testing and responsiveness.