Quality Requirements

Overview

USU Operation System: a web-based application to run on desktop or tablet computers for USU officers to manage the USU federation of student unions and realise its functions. The main function for the USU Operation System is Approve New Student Union Registration. This is the key function for USU Operation System: USU managing and approving new customers. Also it is included important factors: security(personal data), performance(number of requests in the same time), reliability and scalability (for number of universities)

Quality Requirements for Approve New Student Union Registration function.

When a university representative applies to join USU, a USU officer must have an interface that enables them to interact with the user and manage their access to the platform. This interface should be implemented as an admin panel. The functionality should include viewing applications, verifying documents and accepting or rejecting applications. Additionally, the system should have a notification feature to inform users of the successful or unsuccessful outcome of their application.

Security and Privacy Protection

The primary objective is to safeguard the personal and organisational data of the applicant ensuring that only authorised officers can make decisions regarding the application. For this purpose authentication, role-based access control and OAuth2 will be utilised. Role-based authorisation would be a reliable option. The hierarchy would be structured as follows: the administrator holds the most significant role with full platform access, enabling them to grant and revoke rights and view the history of officers' decisions. Approval or rejection of decisions must be recorded in a table with timestamps user ID and IP address the officer who made the decision and a view of the officers' activity history. Personal data is only accessible to those with the appropriate rights and this is determined by their role. This will ensure the system's reliability and protect against security breaks risks.

Performance

To ensure fast platform performance, a user-friendly UI is necessary to enable easy manipulation and management of lists. This requires the implementation of list caching pagination and asynchronous processing to allow lists and the platform to operate asynchronously and handle multiple requests simultaneously.

Reliability

System reliability is also a critical consideration as the system must be accessible and data integrity must be maintained in the event of failures. This necessitates the implementation of a backup storage system that will automatically activate in the event of a failure. A daily database backup will enable recovery of the last 24 hours. Error handling and validation will assist users in understanding platform functionality and a retry mechanism for background tasks will improve system resilience.

Scalability

Scalability is contingent upon the database system structure and project architecture. To ensure support and scalability, it is advisable to consider project goals in advance and construct the project according to clear criteria to ensure consistency and logical flow. This approach will facilitate a rapid and efficient system development. Key aspects of scalability include the database, its branching and load. The architecture should incorporate calculated dependencies to manage large data volumes effectively.