Software Engineering Lab
Implementation Report II - Build II

Automated Lab Program Evaluator

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1. Basic Information

We have implemented a new functional requirements, which would enhance the user experience and also extend the project's scope.

2. Pending / New Functional Requirements (Implemented)

FRID	NAME	Type (Pending OR New)	Description
FR1	Connect to a central MySQL server	New	This functional requirement allows the user to connect to a central MySQL server not just the Localhost bound Server.
FR2	Delete Question	New	Teacher can delete a question that he/she had added for the exam

3. Functional Requirements (Not Implemented)

All the Functional requirements mentioned in the SRS have been completed.

4. Screenshots of Functional Requirements Implemented in this Build

4.1. FRID:FR1 Connect to the central MySQL server

4.2. FRID:FR2 Delete Question

5. Non-functional Requirements Considered

NFRID	NAME	Description
NFR1	The system should support at least 5 concurrent user requests	During an exam, since many Students would be submitting solutions and querying results and questions, the server must be able to handle atleast 5 concurrent requests. The MySQL server that we are utilising has the ability to handle 10 concurrent queries.
NFR2	The system must be able to recognise erroneous programmes submitted by students	There might be programmes that the students submit which might run into infinite loop, hence this system must recognise them. We compile each submitted file and also check for runtime errors before actually accepting the submission. Our system is immune to both compilation errors and runtime errors.
NFR3	The system must be able to complete the testing process for a particular test file in at most the time allotted to that question	This ensures faster result analysis and gives a sense of reliability of the system.
NFR4	An Authorisation mechanism	This is the mechanism, that is required to authorise a user as either an ADMIN or a STUDENT or as a TEACHER.
NFR5	A Login mechanism	This mechanism is necessary since each of the user of the system is required to be logged in before interacting with the system interface. This is because, an user who is not logged in is not yet recognised as either ADMIN, STUDENT or TEACHER.
NFR6	Usability	As far as possible, the system should provide a simple, responsive interface. A system is be considered to meet this requirement as it has a single administrative interface rather than individual links for editing each page.

NFR7	Availability	The system should be available 24 hours a day, 7 days a week. Our System does guarantee this since the central MySQL server is allowed to run all throughout the day
NFR8	Performance	The system is capable of supporting at least 5 concurrent users.

6. Screenshots of Non-Functional Requirements

6.1.1 NFRID:NFR2 The system must be able to recognise erroneous programmes submitted by student - Compile Time Error

6.1.2 NFRID:NFR2 The system must be able to recognise erroneous programmes submitted by student - Runtime Error

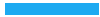## 6.2. NFRID:NFR4 and NFR5 The Authorization mechanism and Login mechanism

6.3. NFRID:NFR6 Usability
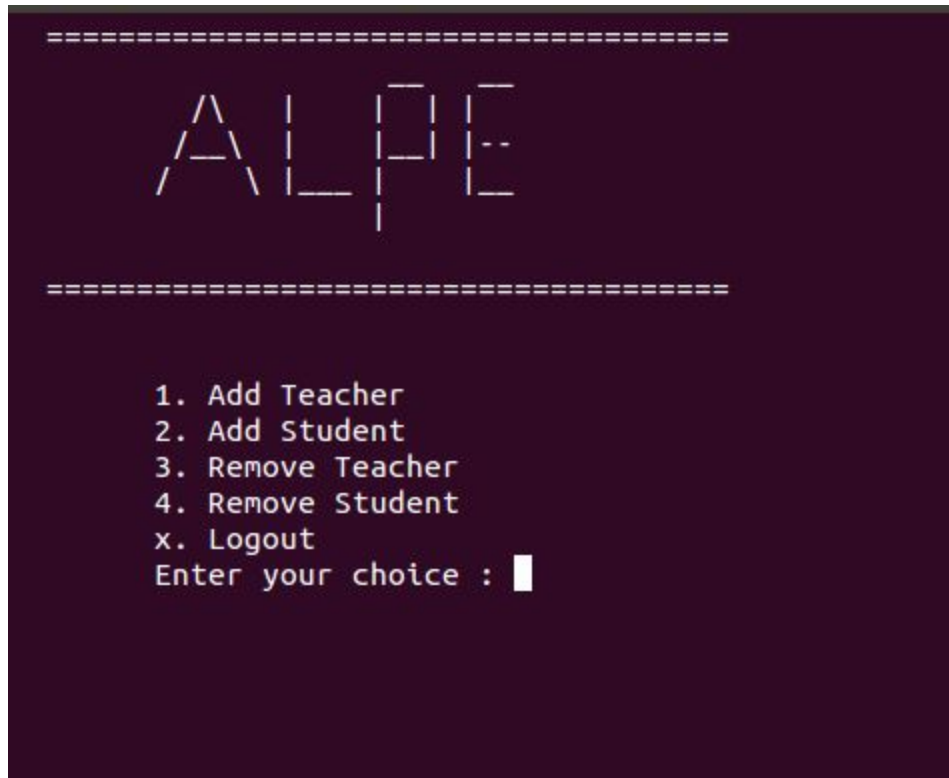
7. Summary of Test Plan

- ● Functional requirements to be tested:
    - ○ Registration
    - ○ Login/Logout
    - ○ View Question
    - ○ Submit Solution
    - ○ View Submissions
    - ○ Add Question
    - ○ View Result
- ● Non Functional requirements:
    - ○ Compile Time Error

- ○ Runtime Error
- ○ Authorization
- ○ Usability
- Type of testing : Unit testing and system testing
- Testing Tool : CPPUnit

8. Summary

This report includes:
1. Basic information about change in functional requirements, introduction of new functional requirements, and Non-functional requirements.
2. Pending functional requirements from previous build, and new functional requirements introduced.
3. Functional Requirements not implemented.
4. Screenshots of functional requirements implemented in this build.
5. Non Functional Requirements considered.
6. Screenshots of non functional requirements.
7. Summary of Test Plan.