Academic Section Management System

CS346 - Software Engineering Lab Assignment 2

Project Report 1 - 19 Feb 2024

Group 10B - Group members

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Summary : Progress to Date

- Initial design and report completed
- Database Setup done
- Login/Register functionality added
- Admin Registration approval added
- Student Course View/Enroll done
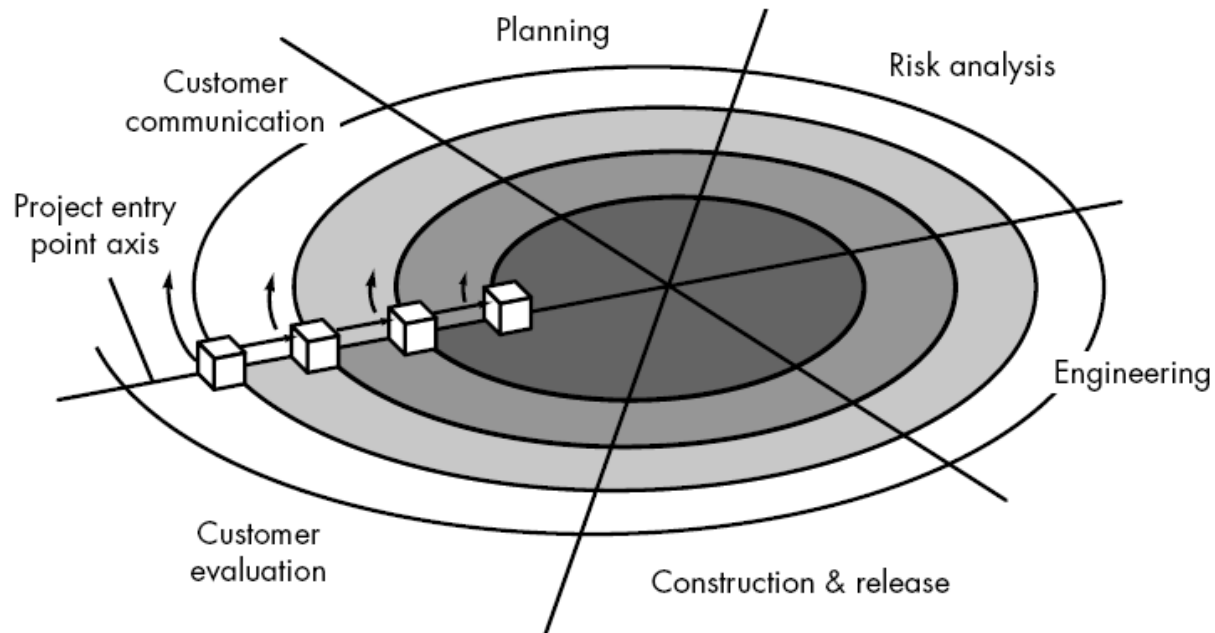- Faculty course Adding functionality added

Project objectives

Develop a software that manages various academic section activities of the institute. The system must cater to the requirements of different users like Dean, Registrar, Faculty, Students, Administrators and Officials for performing their assigned tasks.

Start Date - 5 Feb 2024
Target Date - 4 Mar 2024

Methodology employed

We have employed the **Spiral model** for our Software Development Life Cycle **(SDLC)** model. It provides a systematic and iterative approach to software development.
So far we have run one iteration of the spiral model. The following activities have been carried out in the different phases -

1. Customer Communication

- Project objective communicated through Facebook on 5 Feb 2024.
- Some clarifications done regarding the platform for development of the software solution.

2. Planning

- Planning started on 7 Feb. Formed Whatsapp group for communication among group members. Decided on using Visual C++ and mysql database for development.
- Meet 9 Feb **:**
  - Started by discussing the type of users and their respective privileges. Finalized three types of entities - student, faculty, and admin.
  - Created a rough plan of the workflow and the features/functions associated with each type of user.
  - Finalized the data models and the corresponding fields for each data entity. Tried to minimize redundancy and create an efficient database structure.
  - Talked about the DFDs and decided to list down all the functions/features and then divide the work accordingly.
- Meet 10 Feb :

- - Completed creation of Level 0, Level 1 and Level 2 DFDs on MIRO
    - Decided on some simplifying assumptions
    - Enrollment status in course added in student-grade-course db
  - Completed creation of the basic UI visualizations
  - Made the Report with Software Requirement Specifications(SRS) and the possible solution discussed.
  - Submitted initial report on 12 feb.

3. Risk Analysis and management

- Technical risks -
  - Database connectivity issues discovered
  - Navigation and workflow issues listed
- Management risks -
  - Assigned different parts of the prototype to smaller groups.
  - Some modules needed to be completed before others could start working.
  - GitHub repository made for easier management and version controlling of the software.

4. Engineering

- Finished making the initial database on remote mysql server
- Finished making the login/signup page and the logout page
- Configured the initial navigation from the landing page(Login page) to the other pages as per user identity.
- Smaller Groups worked in parallel on different modules
- Finished implementing basic functionalities of the faculty, admin and student users separately.

5. Construction and release

- Currently smaller groups have implemented different functionalities in local repositories. Merging will be done through pull requests.

6. Customer evaluation

- Progress evaluation on 19 Feb 2024.

Challenges solved till now -

- No IntelliSense(code editing features or assist) on Visual Studio 2010 - changed to using Visual Studio 2013.
- No direct support for MySQL database connection - installed MySQL workbench for database manipulation and MySQL Connector for connecting to the project on Visual Studio 2013.

Work division till now -

- Database Setup and login/logout window workflow - Aditya and Soumyadeep
- Student page functionalities - Akshit
- Faculty page functionalities - Sri Vallabh and Nitish
- Admin page functionalities - Mihit and Vijesh
- Future work division may change based on progress speed and requirements.
- Time table generation and seating plan work division to be decided in second iteration planning phase.

Future work plan -

- With the progress evaluation on 19 Feb, the first iteration of the spiral model will be complete.
- Some assumptions will be discussed again and implementation planned.
- The goal of the next iteration will be to include the functionality for timetable generation and for exam seating plan generation.
- Also according to the time constraints, functions implemented inside the project as C++ code may be moved into the database as procedures.
- The second iteration is scheduled to be done by 25 Feb.
- After the mid-semester exams are over, a third iteration will start on 1 Mar.
- The goal of the third iteration will be to further enhance the UI and do a final bug testing.

Conclusion -

- Schedule -
  - On-track.
  - The project is 30% complete.
- Risks/Issues -
  - Database migration to Microsoft SQL server from current MySQL server might raise some issues since Visual Studio 2013 only supports SQL Server version 14
  - No other major issues.