SCS3214 / IS3113 Group Project II:

Group 42: Final individual self-reflection report

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Myself

Critical thinking, Supportive, Flexible , Self-motivated, Quick-learning

Learning Outcomes

- How to adapt to build a project with zero domain knowledge and complex scope
- Adjust scope according to time and capability of team members.
- React component-state life cycle
- How to divide and perform tasks as a group without having blocking tasks
- Handling of SQL data types and overcoming challenges of converting them to the form needed.

Group work experience and contribution

The project we had was to develop a construction project management system and initially we had no idea whatsoever. But after gathering requirements from domain experts in the construction industry and reevaluating the entire process we were able to solidify the requirements. It was a great experience and even though it was a complex

Contribution:

Developed the following main component: **CORE TOOLS** with following sub-components both frontend and backend.

- **Profile:** Made the permission displaying and role descriptions based on logging in for the user
- **Admin's Dashboard:** A simplified homepage for the administrator which shows all settings simplified with details from every aspect (Projects, Employees, Cost codes etc.)
- **Employees:** CRUD functionality to Add, Delete, Update, View Employees with validation and database structures
- **Project User Assigning:** Assigning existing users with their respective roles to projects and customize them according to project
- **Subcontractors:** CRUD functionality to Add, Delete, Update, View subcontractors in the System along with search and filter options.

- **Vendors:** CRUD functionality to Add, Delete, Update, View vendors in the System along with search and filter options.
- **Cost Codes:** Functionality to Add, Assign and delete cost codes for a selected project.
- **Report:** PDF generation of following aspect using jsPDF,
  - An overall report of the basic statistics (ongoing projects, total number of employees, vendor, and subcontractor stats, etc.) of ongoing projects.
  - A report per project when needed on the statistics start date, end date, employees assigned, description etc.)
- **Email notification:** Based on registering, resetting password and changing password an email notification will be sent to the user's email.

Complications, what went well and how to improve in the future

What went well:

- Easy state update and front-end management using React gave flexibility for the web design part.
- Desired front-end design aesthetic could be easily obtained by the integration of both Bootstrap and Material UI.
- The project scope was well aligned after the interim presentation so each and every user's components could be easily distinguishable.
- The interface and design language for the system was finalized early on and it helped.

What went wrong:

- There were several conflicts in the main repository when working was done using git.
- Issues in SQL and difficulty in restructuring tables when change is needed.
- Schedule issues and more work overload during the later part of the project due to the pandemic situation

How to improve in future:

- Finalize the structure of tables such as attributes, relations and constraints early on as modification after time is hard.
- Study more and learn shortcuts of the tech stack so that functionalities could be developed easily with less time.
- Try to cover most of the parts as soon as possible and keep on working according to the timetable of the project.