**KHUMO TWALA**

**ST10382111**

**PROG212 PART 1**

**DOCUMENTATION**

**Introduction**

The CMCS, Contact Monthly Claim System is a web solution project that uses SQLite as its backend developed using ASP.NET Core MVC. As per specification, the main goal of this web solution is to make the submitting process and the approval of monthly claims for Independent contractors lecturers to be easier. This will make sure that there is overall accountability for each stage while promoting transparency, because the system will put an end to ineffectiveness discovered in manual claim submissions. This structured workflow will give lecturer log hours, administrators will authenticate verifying details and the academic executives will give the final approval. The parameters of this part 1 focus on project planning and creating visual representation demonstrating the layout, workflow and system design.

**Design Choices**

A role based structure is used for the design of the Contact Monthly Claim System. Lecturers can create new claims through access to a dashboard that also permits them to view claim history. Each group of users can directly interact with the system. Furthermore being present is a dashboard set apart for administrative coordinators and executive managers which allows them to approve workflows. Because of this structure, clarity is ensured and the chances of errors is drastically reduced if not illuminated.

For the layout design, a menu for navigation is promoting convenience in availability and consistency. To reduce user effort, all buttons as well as forms are rationally grouped with also an addition of a simple modest colour scheme. Furthermore, green is used when claims are approved, red is used when claims are rejected, the background is white with navy blue headers and menu. With this visual presence, cognitive load is decreased and the colour scheme makes sure that updates are visible to any user that is using the web.

SQLite was the preferable database that was chosen because it satisfies the demands of prototyping at the same time leaving room for scalability in the future. On top of that, the entire database is one file which makes it a simple database to use, also it is has coherent integration with application that are .NET based (Dodds, 2024). These are the agile tools used to manage project management: Jira and ClickUp. With Jira, Kanban Board was used for tracking tasks, ClickUp as well was used for Gantt Charts and the timeline. With these tools, best software development practices are achieved because of a schedule drafted in detail and an iterative workflow (Atlassian, 2025).

**Assumptions:**

Approvals are made in honest intentions by the administrative coordinators and executive managers, as the Lecturers are in good faith expected to enter hours honestly

**Constraints:**

All uploaded files have to be in either .pdf, .docx, or .xlsx formats whereby all claims are subject to one single month.

**UML Class Diagram**

The Five key entities are as follows:

Lecturer, Claim, ProgrammeCoordinator, AcademicManager and SupportingDocuments.

The relationship between entities makes sure that a Lecturer can submit many claims and with each claim, there being a document that is supporting the claim.

For approval, each claim firstly goes through the administrative coordinator then secondly to the executve manager. The diagram aligns with INTEGER, TEXT, DATENTIME and REAL, promoting integrity of data and compatibility with SQLite. Furthemore giving an auditable design structure having verification in multiple stages.

