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# Contract Monthly Claim System

### Introduction

The Contract Monthly Claim System (CMCS) is a software prototype designed to manage contractor claims monthly. Traditional claim processes are often manual, paper-based, and prone to errors such as delays, duplication, or miscalculations. This project aims to digitalize and streamline the process using a user-friendly interface and a logical backend structure.

The prototype is developed using C# with WPF for the frontend and will later integrate a database for data storage. The system is modular in design, following principles of object-oriented programming.

### Project Objectives

The key objectives of the CMCS are:

1. To design a prototype application that allows users to enter and manage contract claims.
2. To create a UML Class Diagram that represents the structure and relationships between classes.
3. To build a WPF graphical interface that provides a clean and navigable user experience.
4. To produce a Project Plan with a Gantt Chart to guide development.
5. To demonstrate an understanding of advanced C# programming and system design principles.

### System Design

UML Class Diagram

The system consists of the following key classes:

* Lecturer
* Claim
* Supporting Document
* Programme Coordinator
* Academic Manger

### User Interface Design

The frontend of CMCS is developed in WPF. The design focuses on clarity, minimalism, and easy navigation.

Key Screens:

1. Main Dashboard – Provides access to contracts, claims, and reports.
2. Lecturer Dashboard – Provides all information of there current contracts.
3. Coordinator Dashboard – Allows the coordinators to allocate contracts.
4. Manager Dashboard – Manages all current contracts and fixes issues.
5. Contract Entry Page – Allows users to add or update contract details.
6. Monthly Claims Page – Enables users to submit or manage monthly claims.

Navigation is enabled via a scrollable menu with buttons on the left side.

## Constraints

* Technical Constraints:
  + The system will be developed in C# .NET 5 with WPF.
  + The prototype database will be implemented in SQL Server Express.
  + Runs only on Windows OS for the prototype stage.
  + Requires internet connectivity for cloud-based deployment.
* Business Constraints:
  + The system must be developed and delivered within 6 weeks.
  + Limited budget, so only essential features will be implemented in the prototype.
  + Compliance with company policies for data handling and financial reporting.
* User Constraints:
  + Contractors must have basic digital literacy to use the system.
  + Access is limited to authorized users with valid login credentials.
  + Only one claim can be submitted per contractor per month.

## Conclusion

The Contract Monthly Claim System provides a prototype framework for digitalizing the contract claim process. The UML diagram demonstrates the logical structure of the system, while the WPF frontend ensures user-friendly interaction. The project plan ensures timely development with milestones aligned to the deliverables.

This assignment has successfully showcased advanced C# programming, UML modelling, and project planning techniques, forming the foundation for a fully functional contract claim system in future iterations.

GitHub link : <https://github.com/egrunewald0710/CMCS>

## UML Class Diagram

A computer screen shot of a diagram

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# Project Plan

# A screenshot of a graph AI-generated content may be incorrect.s

# GUI

A screenshot of a computer

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