FIKILE SEKATI

ST10158923

**Programming2B-PROG6212**

**Portfolio of Evidence (PoE)\_Part 3**

# GROUP 15

**Yonela Nuba**

# Title Page

* **Project Title**: Contract Monthly Claim System
* **Subtitle**: Developed using ASP.NET Core MVC
* **Author**: Fikile Sekati
* **Date**: 22 November 2024

# Table of Contents

* Use Word's built-in Table of Contents feature for auto-generated headers. Include:
  + Introduction
  + Features
  + System Design
  + Implementation
  + Testing
  + Challenges and Solutions
  + Future Enhancements
  + Conclusion
  + References
  + Appendix

# 1. Introduction

"The Contract Monthly Claim System was developed to streamline the submission and approval of claims for lecturers and coordinators in an educational institution. By leveraging ASP.NET Core MVC, the system ensures accuracy, transparency, and efficiency."

# 2. Features

* List the main features in a bullet or numbered format:
  + Lecturers claim submission with a user-friendly form.
  + File upload for supporting documents.
  + Real-time claim status tracking.
  + Approval workflows for coordinators and managers.
  + Automated invoicing and reporting for HR.

# 3. System Design

"The system employs the Model-View-Controller (MVC) pattern, where the Model represents the data layer, the View handles the user interface, and the Controller manages interactions."

* Insert a diagram of your database schema (e.g., using tools like Microsoft Visio or draw.io).
* Mention any external libraries or frameworks used (e.g., SignalR, Entity Framework Core).

# 4. Implementation

* Break down the implementation process into steps:
  + Setting up the project environment.
  + Creating models, views, and controllers.
  + Integrating database using Entity Framework Core.
  + Configuring SignalR for real-time updates.
  + Implementing file uploads and validation.
* Use screenshots of your application interface to demonstrate key features.

# 5. Testing

* Describe the testing process, highlighting the focus on:
  + Form validations.
  + Database operations.
  + Real-time update functionality.
* Include sample test cases and results, such as:

Test Case: Submit a claim with invalid data (e.g., empty fields).

Expected Result: The form displays appropriate error messages.

# 6. Challenges and Solutions

* Detail two or three significant challenges faced during development and how they were addressed:
  + **Challenge**: Configuring SignalR for live status updates.
    - **Solution**: Implemented detailed logging and used Microsoft's documentation to troubleshoot.
  + **Challenge**: Validating file uploads.
    - **Solution**: Integrated client-side validation using JavaScript libraries like jQuery.

# 7. Future Enhancements

* Suggest features to improve the system:
  + Mobile app integration for on-the-go access.
  + AI-driven fraud detection for claim submissions.
  + Multi-language support for broader accessibility.

# 8. Conclusion

* Summarize the project’s success and impact:

"The Contract Monthly Claim System has transformed the claim management process, ensuring efficiency and transparency. This project serves as a robust foundation for further enhancements to meet evolving needs."

# 9. References

* List resources like:
  + Microsoft ASP.NET Core Documentation
  + Entity Framework Core Documentation
  + Tutorials and guides used during development

# 10. Appendix

* Include supplementary materials, such as:
  + Code snippets of critical functionality.
  + Screenshots of the application in action.
  + Additional diagrams or flowcharts.