

# CMCS – Claim Management and Coordination System

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# Introduction:

The Claims Management and Coordination System (CMCS) is a web-based platform created to replace the slow and error-prone manual claim process used by institutions. The system automates key tasks such as claim calculations, validations, approvals, and report generation. It provides separate views for Lecturers, Managers, and HR, helping the institution process claims faster, more accurately, and with better transparency.

# Problem Statement:



## The Need for an Automated Claims Solution

The current process for managing lecturer claims is fragmented, inefficient, and error-prone, creating challenges for all involved:

- **For Lecturers:**
  - **Frustration:** Unclear how to submit claims and who to contact.
  - **Uncertainty:** No confirmation of receipt or status updates, leading to payment delays.
- **For Management (Coordinators & Managers):**
  - **Inefficiency:** Manual verification of every claim (rates, hours, duplicates) is incredibly time-consuming.
  - **Risk:** Human error can lead to overpayments or compliance issues going unnoticed.
- **For HR & Finance:**
  - **Data Entry Hell:** Manually collating approved claims from various sources into reports.
  - **Inconsistency:** Difficulty tracking down missing information and reconciling payments.

This outdated system results in wasted time, financial inaccuracies, and frustration across the institution.

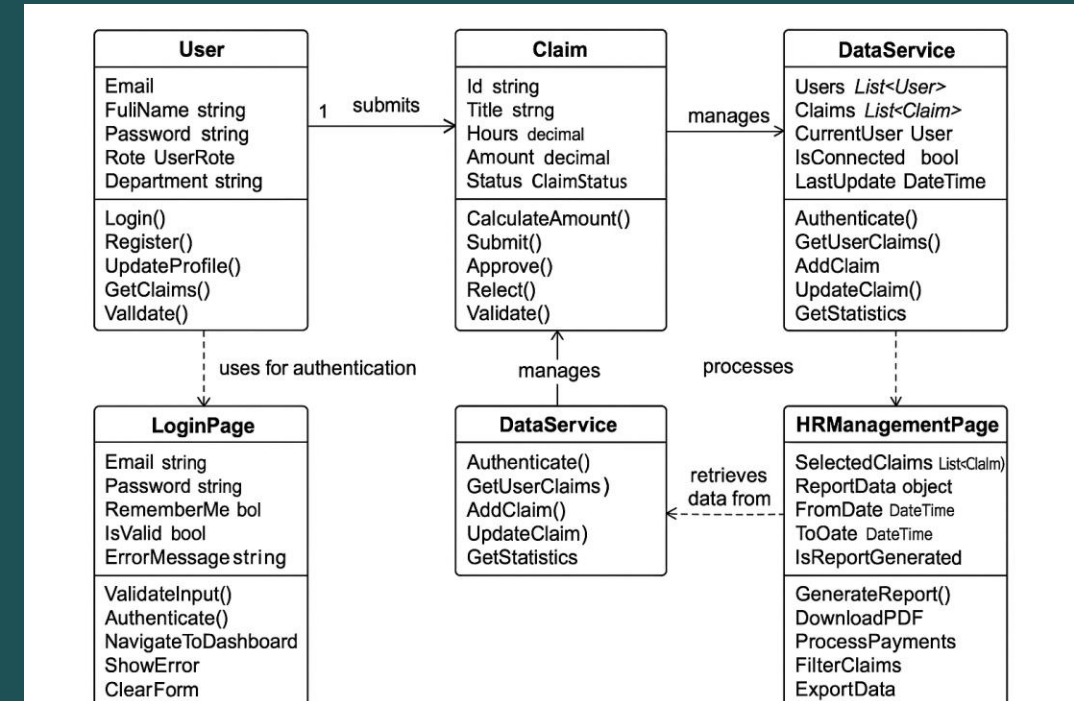
# System Architecture

The diagram visually represents the classes: User, Claim, DataService, LoginPage, and HRManagementPage.

Each class box shows its attributes and methods, and the relationships between them are indicated with arrows.

For example, the User class has a one-to-many relationship with the Claim class, and the DataService class manages collections of users and claims.

The LoginPage and HRManagementPage interact with these core classes as well.



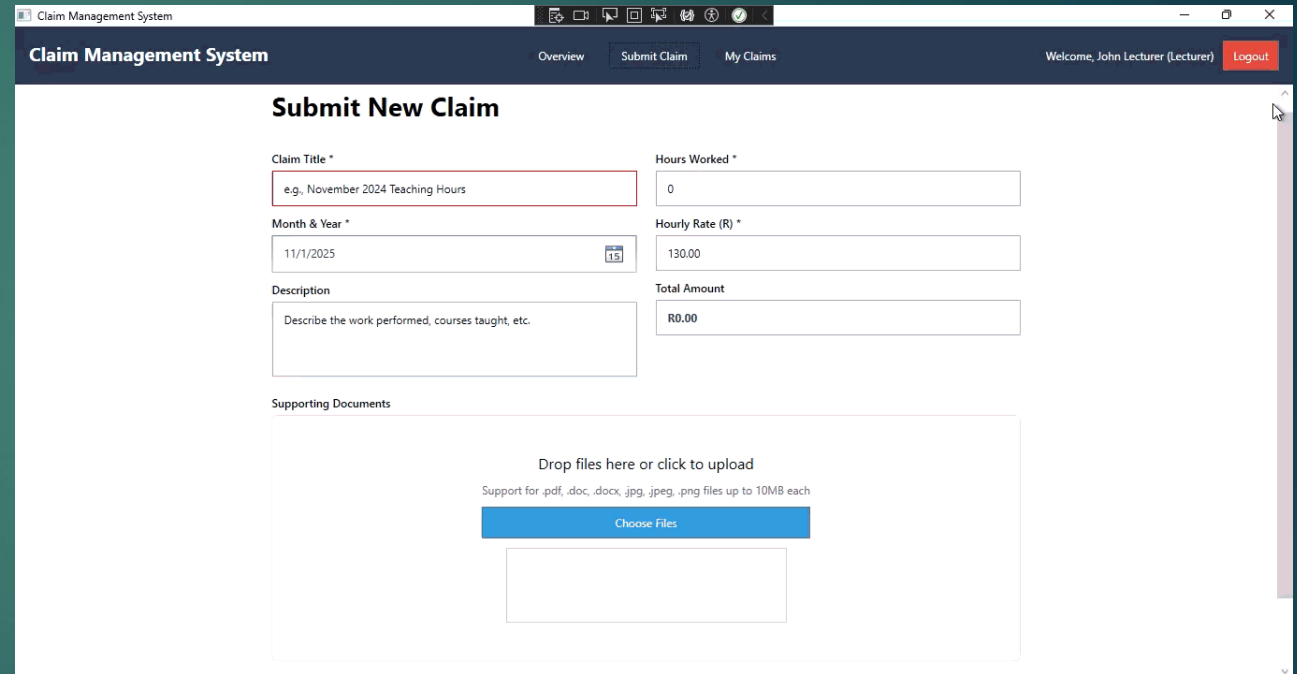
# Lecture Workflow Automation

## Auto-Calculation Features:

- **Real-time Amount Calculation:** The system automatically calculates the total claim amount by multiplying hours worked by hourly rate, updating instantly as users input values to prevent manual calculation errors

## Validation Features:

- **Comprehensive Input Validation:** Implements real-time validation checks for required fields, numeric ranges, and data formats with visual feedback (colored borders, error messages) to ensure data integrity before submission



The screenshot displays a web application titled "Claim Management System". The navigation bar includes links for "Overview", "Submit Claim", and "My Claims", along with a user greeting "Welcome, John Lecturer (Lecturer)" and a "Logout" button. The main content area is titled "Submit New Claim" and contains a form with the following fields:

- Claim Title \***: A text input field containing "e.g., November 2024 Teaching Hours".
- Hours Worked \***: A numeric input field containing "0".
- Month & Year \***: A date input field showing "11/1/2025" with a calendar icon.
- Hourly Rate (R) \***: A numeric input field containing "130.00".
- Description**: A text area with the placeholder "Describe the work performed, courses taught, etc.".
- Total Amount**: A numeric input field containing "R0.00".

Below the form is a section for "Supporting Documents" with a file upload area. It includes the text "Drop files here or click to upload" and "Support for .pdf, .doc, .docx, .jpg, .jpeg, .png files up to 10MB each". A blue "Choose Files" button is present, and a file selection dialog box is visible below it.

# Manager Workflow

Claim Management System

Overview

Submit Claim

My Claims

Manage Claims

Welcome, Admin User (AcademicManager)Logout

## Manage Claims

Search claims...

All Statuses

All Departments

User	Claim Title	Month/Year	Hours	Amount	Status	Submitted	Actions
lecturer@university.com	October 2024 Teaching Hours	Oct 2024	45	R5,850	UnderReview	11/11/2025	<div>ReviewApprove</div>
lecturer@university.com	September 2024 Teaching Hours	Sep 2024	40	R5,200	Approved	10/22/2025	<div>ReviewApprove</div>
lecturer@university.com	November 2024 Teaching Hours	Nov 2024	35	R4,550	Draft		<div>ReviewApprove</div>

Total Claims: 3 | Total Hours: 120h | Total Amount: R15,600

# HR Workflow

Claim Management System

Claim Management System

OverviewHR Management

Welcome, HR Manager (HRManager)Logout

## HR Management

Payment Report Generation

From Date

10/1/2025

To Date

11/30/2025

Generate Payment Report

Download Report as CSV

Export All Approved Claims to CSV

Lecturer Management

Name	Email	Department	Role	Active
ondela	ondela@31	Computer Science	Lecturer	<input checked="" type="checkbox"/>
hlela	hlela@31	HR	Lecturer	<input checked="" type="checkbox"/>
amangile	amie@21	HR	Lecturer	<input checked="" type="checkbox"/>
Luzile	luzie@65	Administration	Lecturer	<input checked="" type="checkbox"/>
luzile	luzile@65	HR	Lecturer	<input checked="" type="checkbox"/>

Add New Lecturer

Deactivate User

Payment Processing

Lecturer	Title	Amount	Approved Date
lecturer@university.com	September 2024 Teaching Hours	R5,200.00	11/01/2025



# Technical Highlights

- ▶ Core Technologies:
- ▶ ASP.NET Core MVC
- ▶ Entity Framework Core
- ▶ jQuery & jQuery Validation
- ▶ ASP.NET Core Identity
- ▶ Reporting Libraries:
- ▶ QuestPDF (for PDFs) / ClosedXML (for Excel)
- ▶ Development Practices:
- ▶ Version Control with Git & GitHub



# Benefits & Value Proposition

- ▶ **Boost Efficiency:** Slash claim processing time and eliminate manual follow-ups.
- ▶ **Ensure Accuracy:** Automate calculations and validations to virtually eliminate costly errors.
- ▶ **Enhance Transparency:** Give every user real-time visibility into claim status from start to finish.
- ▶ **Empower Your Team:** Free managers and HR from repetitive tasks to focus on strategic initiatives.