

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This outdated system results in wasted time, financial inaccuracies, and frustration across the institution.

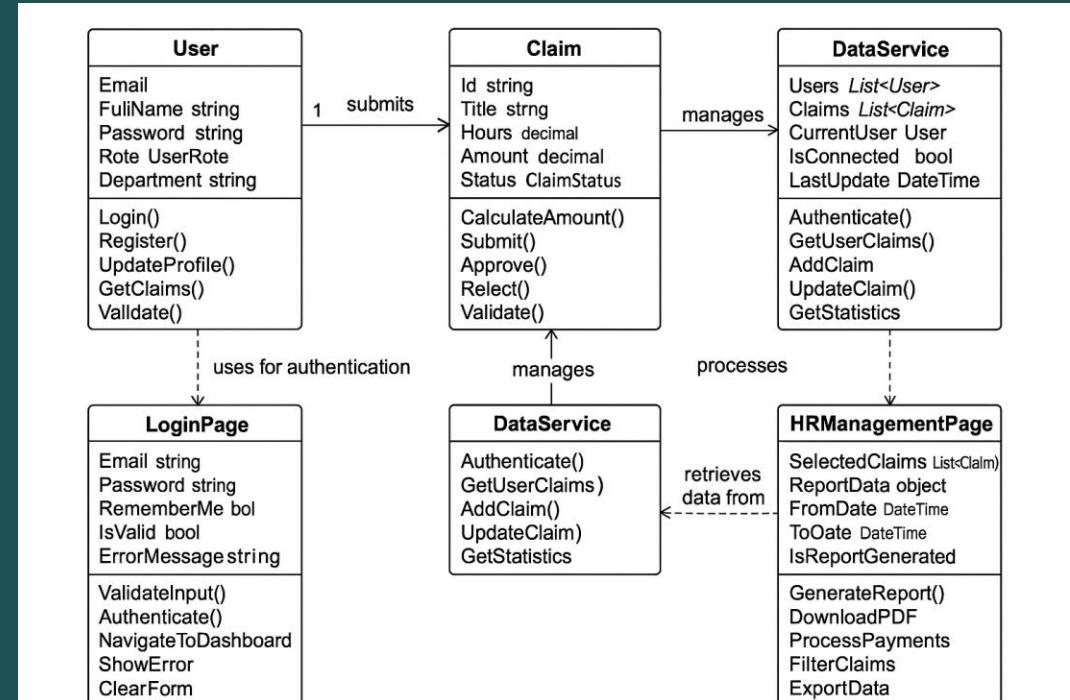
System Architecture

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 shows a web-based application titled "Claim Management System". The main title bar includes the application name, standard window controls, and a user welcome message "Welcome, John Lecturer (Lecturer)" with a "Logout" button. The main content area is titled "Submit New Claim". It contains several input fields: "Claim Title *" (with placeholder "e.g., November 2024 Teaching Hours" and a red border indicating it's required), "Hours Worked *" (value "0"), "Month & Year *" (value "11/1/2025" with a red border), "Hourly Rate (R) *" (value "130.00"), "Description" (text area with placeholder "Describe the work performed, courses taught, etc."), and "Total Amount" (value "R0.00"). Below these fields is a section titled "Supporting Documents" with a file upload interface: "Drop files here or click to upload" (supporting ".pdf, .doc, .docx, .jpg, .jpeg, .png" files up to 10MB each), a "Choose Files" button, and a file input field.

Manager Workflow

The screenshot shows a web-based application titled "Claim Management System". The header includes a logo, a search bar, and navigation links for "Overview", "Submit Claim", "My Claims", and "Manage Claims". A welcome message "Welcome, Admin User (AcademicManager)" and a "Logout" button are also present. The main content area is titled "Manage Claims" and features a search bar, filters for "All Statuses" and "All Departments", and a table listing three claims. Each claim row includes columns for User, Claim Title, Month/Year, Hours, Amount, Status, Submitted, and Actions (Review and Approve buttons). Below the table, a summary message states "Total Claims: 3 | Total Hours: 120h | Total Amount: R15,600".

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	<button>Review</button> <button>Approve</button>
lecturer@university.com	September 2024 Teaching Hours	Sep 2024	40	R5,200	Approved	10/22/2025	<button>Review</button> <button>Approve</button>
lecturer@university.com	November 2024 Teaching Hours	Nov 2024	35	R4,550	Draft		<button>Review</button> <button>Approve</button>

HR Workflow

Claim Management System

Claim Management System

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.