

Mess Management System

A comprehensive web-based application built with ASP.NET Core 8 MVC to manage the daily operations, attendance, and billing of a faculty mess. This system automates the calculation of monthly bills based on daily food consumption, fixed water charges, and arrears handling.

Key Features



Admin Portal

- User Management: Register new teachers and manage their accounts (Edit/Delete).
- Menu Planning: Define weekly menus with specific daily rates (e.g., Biryani = 300 PKR).
- Daily Attendance: Mark teachers as "Present" (consumed food) or "Absent".
- Automated Billing:
 - Calculates food cost based on specific days attended.
 - Adds fixed monthly water charges.
 - Automatically carries over unpaid arrears from previous months.
 - Force Password Change: New users are forced to change their default password upon first login.



Teacher Portal

- Dashboard: View current balance, dues, and advance payments.
- Attendance History: View a log of all days marked present/absent.
- Bill Management: View detailed breakdown of monthly bills.
- Online Payment: Integrated **Stripe Payment Gateway** to pay bills securely via Credit/Debit card.



Tech Stack

- Framework: ASP.NET Core 8 MVC
- Database: SQL Server (Entity Framework Core)

- Authentication: JWT (JSON Web Tokens) stored in Secure Cookies + Session Management.
- Frontend: Bootstrap 5, Razor Views.
- Payment Gateway: Stripe API (Test Mode).

Setup & Installation

1. Prerequisites:

Visual Studio 2022

SQL Server Management Studio (SSMS)

.NET 8.0 SDK

2. Database Setup:

Open `appsettings.json` and update the `ConnectionStrings` with your local SQL Server instance.

Run the project to let Entity Framework initialize the connection (or run the SQL script provided in `/Database` folder).

3. Stripe Configuration:

Sign up at [Stripe Dashboard](<https://dashboard.stripe.com/>).

Get your **Publishable Key** and **Secret Key**.

Update `Program.cs` with the Secret Key.

Update `JazzCashGateway.cshtml` with the Publishable Key.

4. Run the Application:

Open the solution in Visual Studio.

Press `F5` or click "Run".

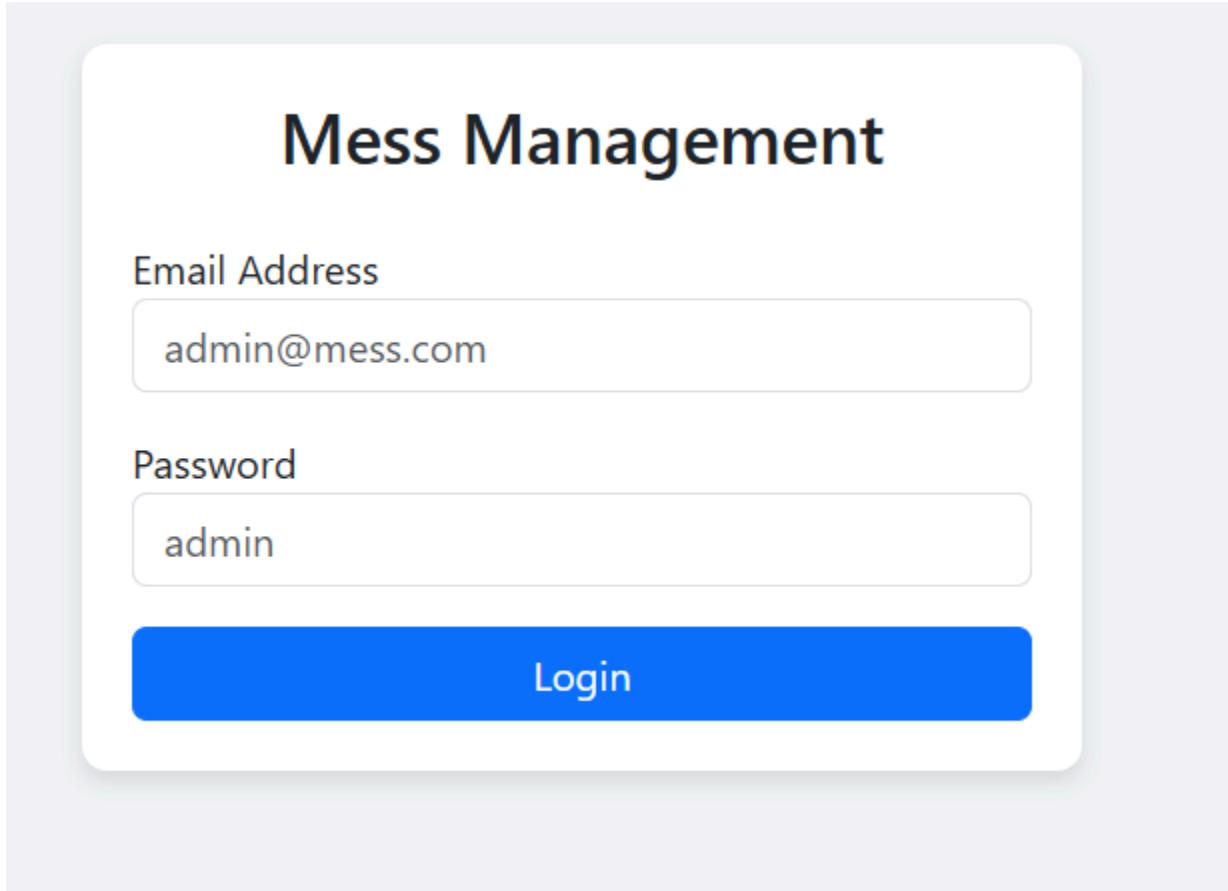
Admin Credentials: `admin@mess.com` / `admin123` (Example).

Security Features

- Secure Authentication: Uses JWT tokens with `HttpOnly` cookies to prevent XSS attacks.
- Role-Based Authorization: Strict middleware checks to prevent Students/Teachers from accessing Admin pages.
- Sensitive Data: Passwords should be hashed (recommended for production).

 Screenshots

Login form:



A screenshot of a login form titled "Mess Management". It features two input fields: "Email Address" containing "admin@mess.com" and "Password" containing "admin". A large blue "Login" button is centered below the inputs.

Admin Dashboard:

Mess Admin

Welcome, Administrator

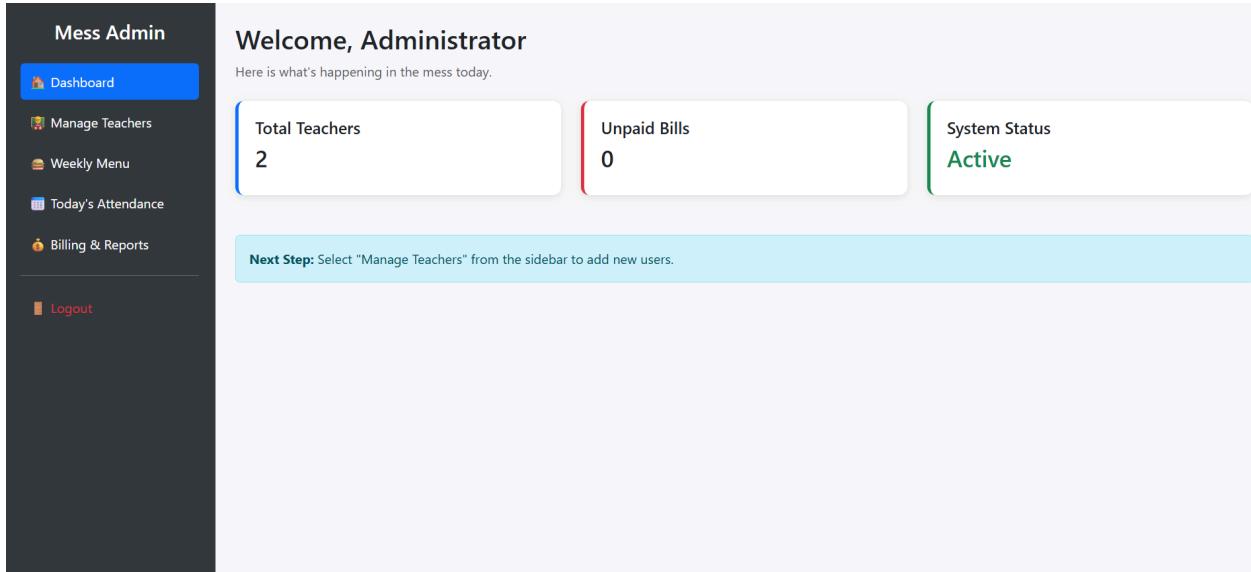
Here is what's happening in the mess today.

Total Teachers
2

Unpaid Bills
0

System Status
Active

Next Step: Select "Manage Teachers" from the sidebar to add new users.

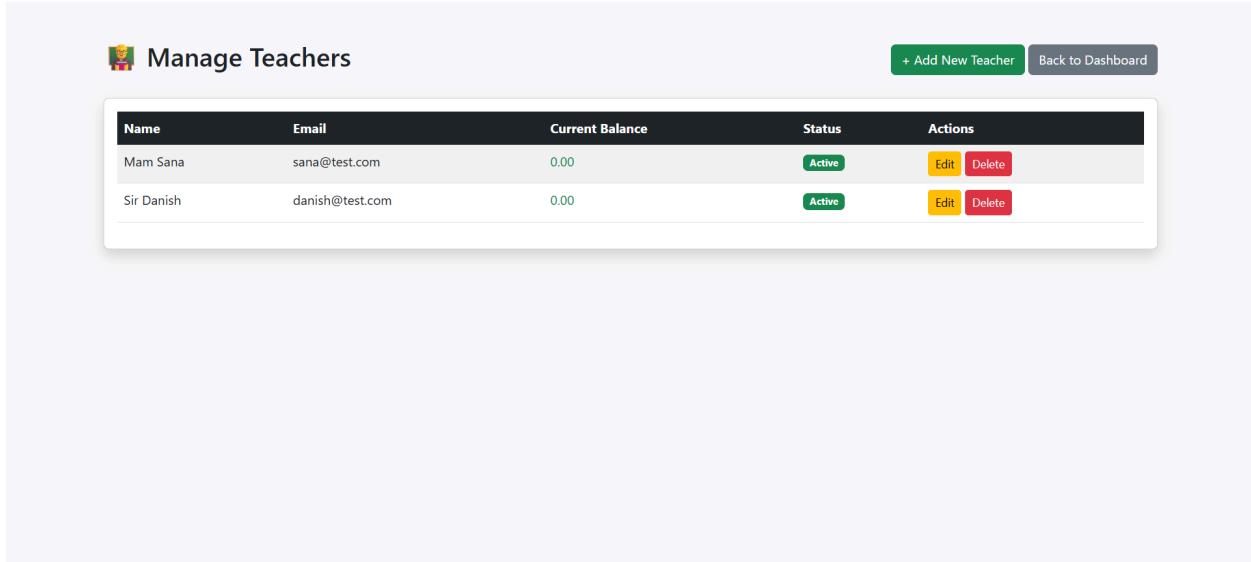


Manage Teachers:

Manage Teachers

[+ Add New Teacher](#) [Back to Dashboard](#)

Name	Email	Current Balance	Status	Actions
Mam Sana	sana@test.com	0.00	Active	Edit Delete
Sir Danish	danish@test.com	0.00	Active	Edit Delete



Menu setup:

Add Daily Menu

Select Date
01/01/2026

Breakfast	Lunch	Dinner
Pratha with Tea	Biryani	Karahi

Total Daily Cost (PKR)
750

This amount will be charged to teachers who attend today.

[Save Menu](#) [Cancel](#)

Menu listing:

Weekly Menu Plans [+ Add Day's Menu](#) [Back to Dashboard](#)

Date	Breakfast	Lunch	Dinner	Daily Cost (PKR)	Action
01 Jan 2026 (Thu)	Pratha with Tea	Biryani	Karahi	Rs. 750.00	Delete
02 Jan 2026 (Fri)	Pratha with Tea	Daal chawal	keema roti	Rs. 700.00	Delete
03 Jan 2026 (Sat)	Bread jam	surprise	kabab	Rs. 700.00	Delete

Teacher attendance:

Daily Attendance

[Back to Dashboard](#)

Today's Menu: Biryani + Karahi (Rs. 750.00)

Teacher Name	Status
Mam Sana sana@test.com	<input checked="" type="checkbox"/> Present (Eat)
Sir Danish danish@test.com	<input type="checkbox"/> Present (Eat)

 [Save Today's Attendance](#)

Bill generation :

Generate Monthly Bills

[Back to Dashboard](#)

This will calculate food costs based on attendance, add the water bill, and generate a final invoice for every teacher.

Select Month Select Year

[Run Calculation](#)

[View All Past Bills](#)

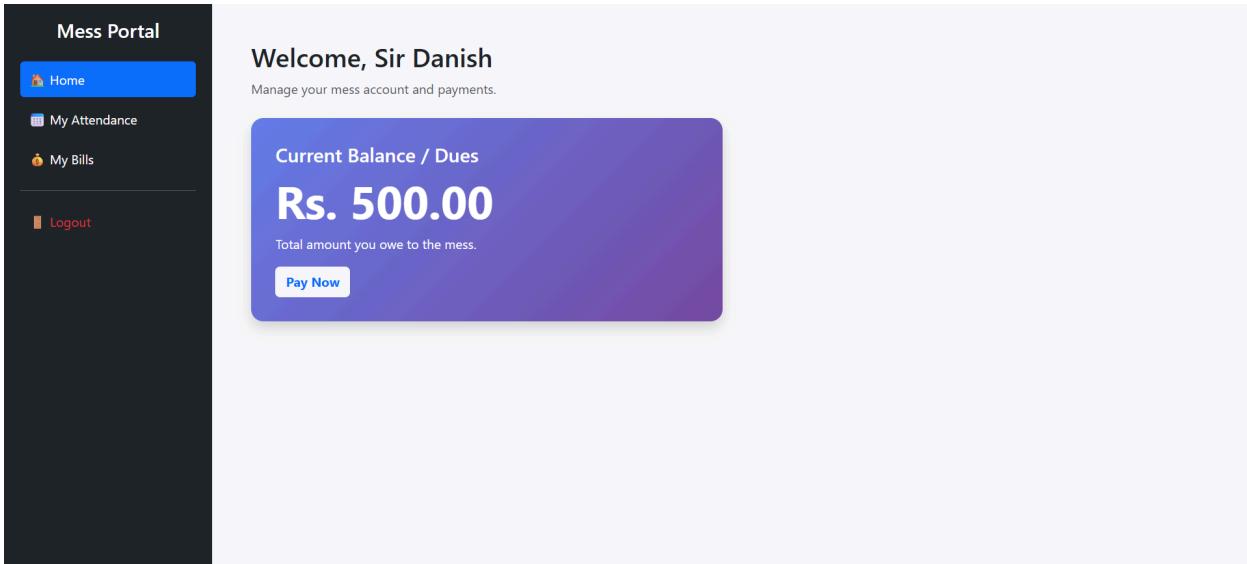
Bill history:

Bill History

Back

Teacher	Month/Year	Food Cost	Water	Arrears	Total	Status
Mam Sana	1 / 2025	0.00	500.00	0.00	500.00	UNPAID
Sir Danish	1 / 2025	0.00	500.00	0.00	500.00	UNPAID

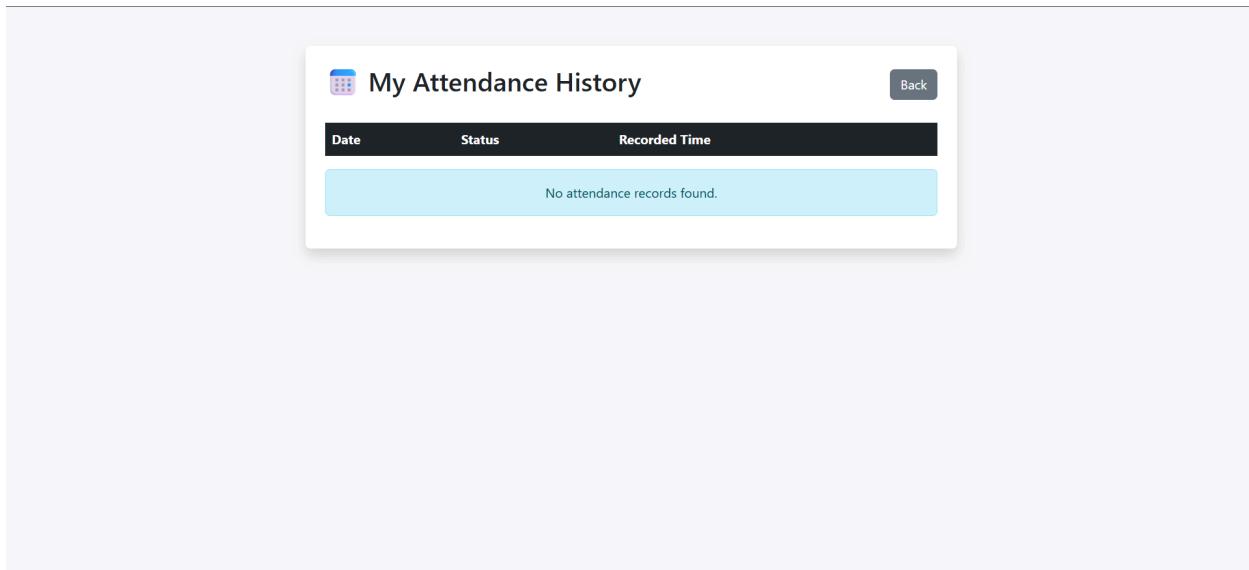
Teacher's Dashboard:



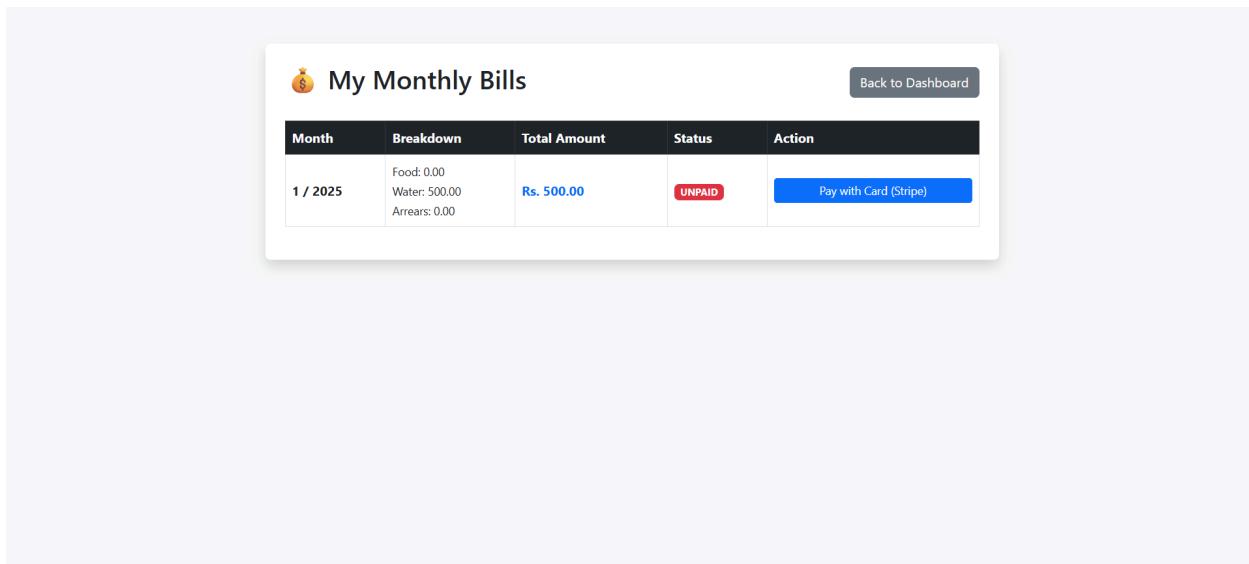
The dashboard features a sidebar on the left with a dark background and white text, containing links for Home, My Attendance, My Bills, and Logout.

The main area has a light gray background. It displays a welcome message "Welcome, Sir Danish" and a sub-message "Manage your mess account and payments." Below this is a large purple rectangular box with rounded corners. It shows the current balance "Current Balance / Dues" as "Rs. 500.00" in large white text, followed by the sub-message "Total amount you owe to the mess." At the bottom of this box is a blue "Pay Now" button.

Teacher attendance history:



Teacher monthly bills and payment:



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Semester Project: Enterprise Application Development*