



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".

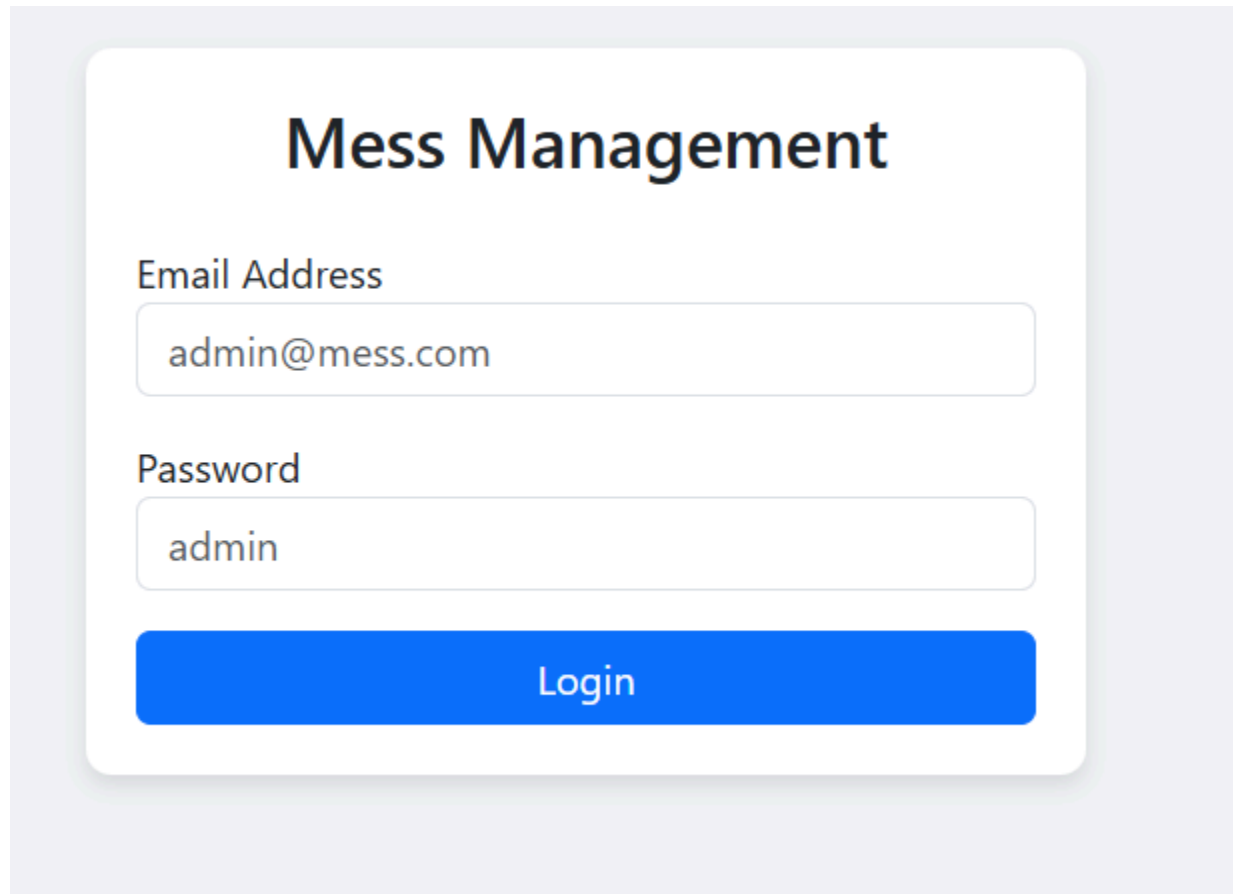
Admin Credentials: `admin@mess.com` / `admin123` (Example).

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:



The screenshot shows a login form titled "Mess Management" centered on a light gray background. The form is contained within a white rounded rectangle with a subtle drop shadow. It features two input fields: "Email Address" with the value "admin@mess.com" and "Password" with the value "admin". Below the fields is a prominent blue "Login" button.

Mess Management

Email Address

Password

Login

Admin Dashboard:

Mess Admin

Dashboard

Manage Teachers

Weekly Menu

Today's Attendance

Billing & Reports

Logout

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	<div>EditDelete</div>
Sir Danish	danish@test.com	0.00	Active	<div>EditDelete</div>

Menu setup:

Add Daily Menu

Select Date

01/01/2026

Breakfast

Pratha with Tea

Lunch

Biryani

Dinner

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	<div>Delete</div>
02 Jan 2026 (Fri)	Pratha with Tea	Daal chawal	keema roti	Rs. 700.00	<div>Delete</div>
03 Jan 2026 (Sat)	Bread jam	surprise	kabab	Rs. 700.00	<div>Delete</div>

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
January

Select Year
2025

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:

Mess Portal

Home

My Attendance

My Bills

Logout

Welcome, Sir Danish

Manage your mess account and payments.

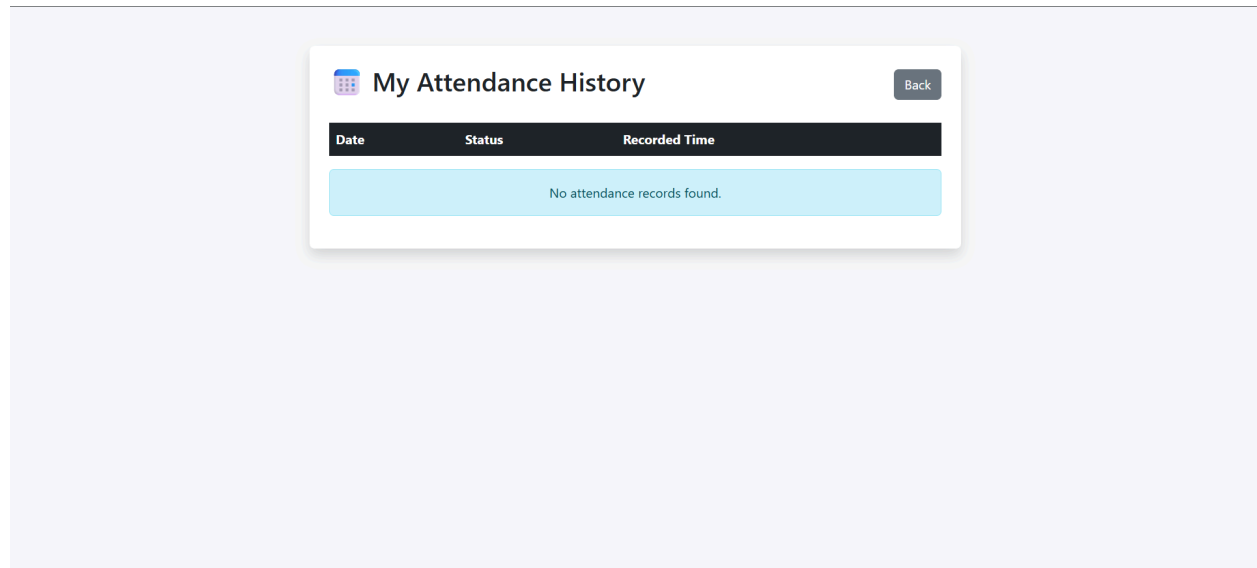
Current Balance / Dues

Rs. 500.00

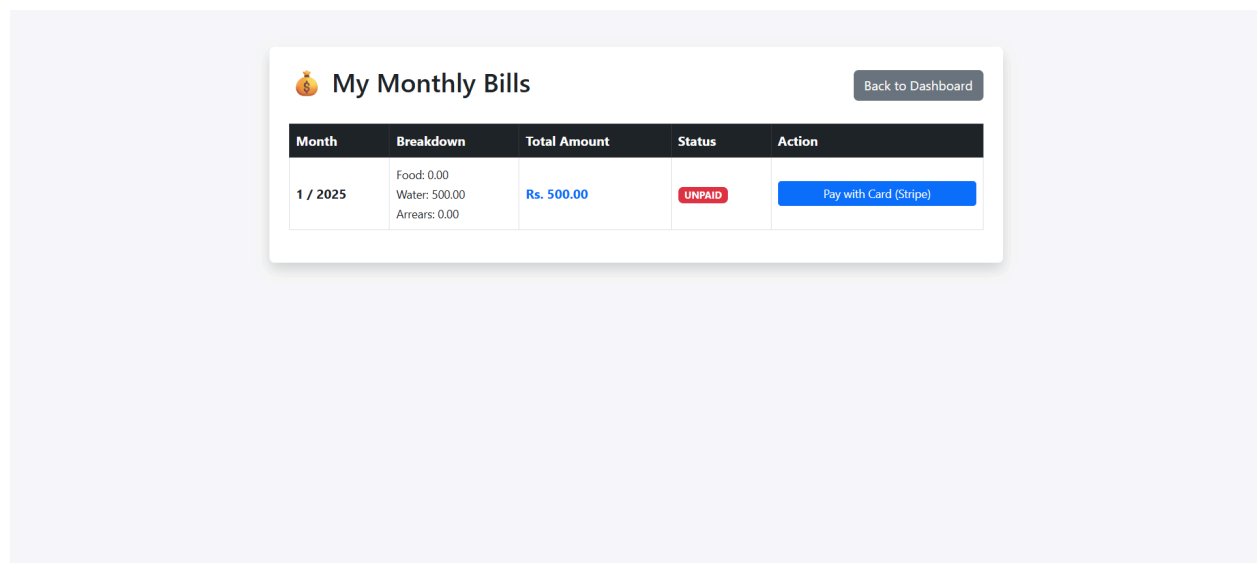
Total amount you owe to the mess.

Pay Now

Teacher attendance history:



Teacher monthly bills and payment:



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Semester Project: Enterprise Application Development