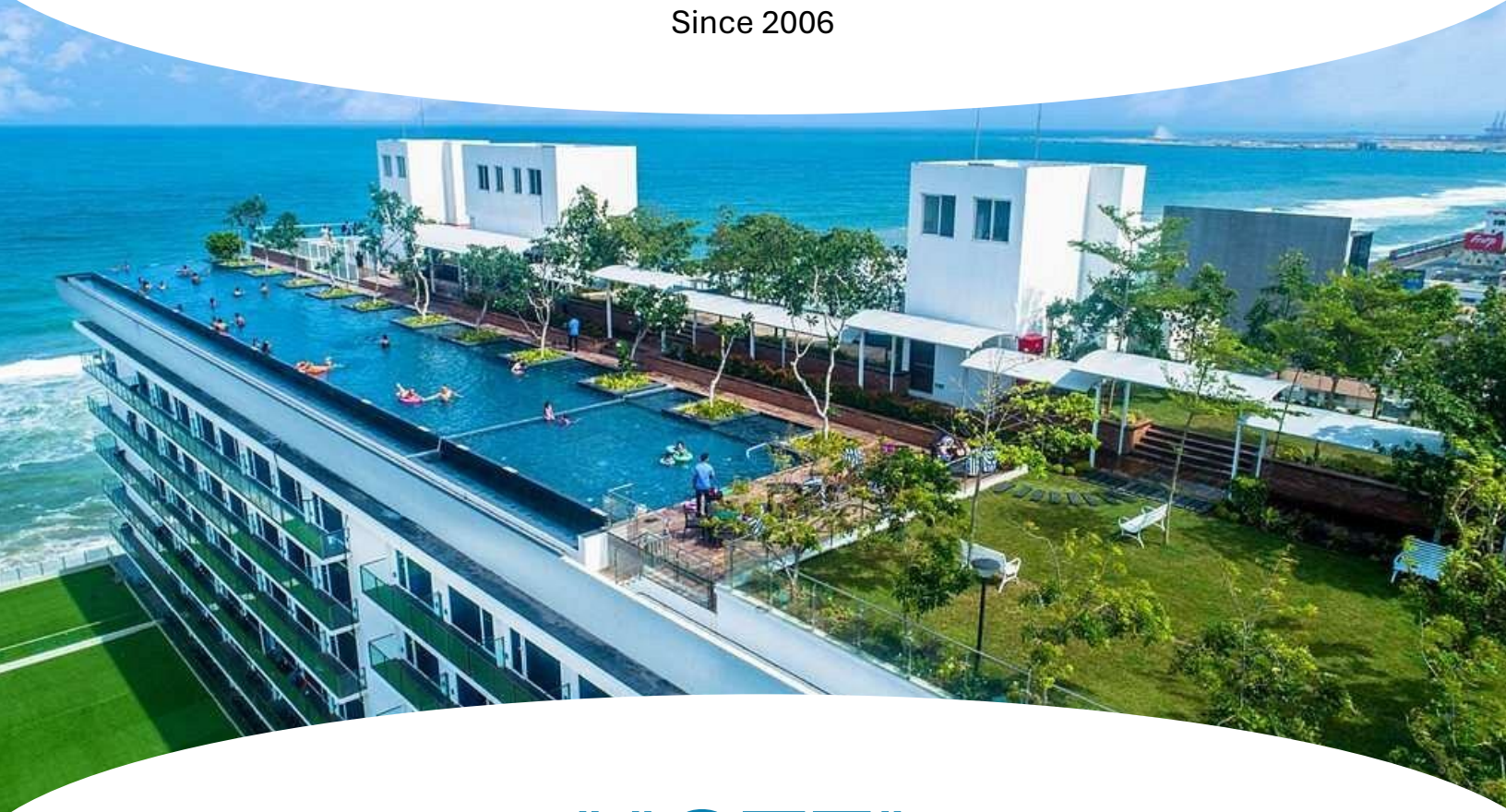




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# HOTEL TRANSYLVANIA

Maintenance System

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# Project Overview

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## Introduction

The Hotel Maintenance System is a web-based platform designed to streamline maintenance workflows within hotel operations. It enables staff to report, manage, and resolve room-related issues in a structured manner. The system coordinates between cleaners, supervisors, help desks, and maintenance departments to ensure timely resolution of complaints. It improves operational transparency, reduces downtime, and ensures rooms are quickly restored for guest use. This system supports scalability and integrates with existing hotel management tools.

## Purpose of the System

The primary objective is to automate the hotel's internal maintenance lifecycle. From identifying room issues to resolution and room availability updates, the system ensures accountability and efficiency. It serves as a centralized platform for complaint logging, job creation, assignment, and completion tracking. The system also enforces role-based permissions to protect data integrity and prevent unauthorized access. It helps reduce operational costs while maintaining high-quality standards.

## Scope of the Project

This system focuses on internal hotel maintenance workflows and does not include guest-facing or financial operations. Key modules include complaint reporting, job categorization, task assignment, and maintenance tracking. Users are limited to staff members such as cleaners, supervisors, help desk agents, maintenance personnel, and administrators. It is designed to operate across multiple hotel branches, with centralized data management and standardized procedures. External integrations like booking systems or payment gateways are out of scope for this version.

### Technology Stack:

- **Frontend:** React.js
- **Backend:** .NET 9 Web API
- **Database:** SQL Server (Code First using Entity Framework Core)
- **Authentication:** ASP.NET Identity

**Access Roles:** Cleaner, Supervisor, Help Desk, Maintenance Staff, Admin

## System Features

The Hotel Maintenance System is a web-based application designed to streamline internal maintenance operations in a hotel. It enables smooth coordination between cleaners, supervisors, help desk staff, and maintenance personnel. Through secure role-based access, the system ensures timely issue reporting, job tracking, and efficient room recovery after repairs.

### Role-Based Access Overview

| Role                | Permissions  |
|---------------------|--|
| Cleaner             | <ul style="list-style-type: none"><li>• View assigned rooms for cleaning</li><li>• Create complains</li><li>• View own complains</li></ul>       |
| Supervisor          | <ul style="list-style-type: none"><li>• Create complains</li><li>• View own complains</li></ul>  |
| Help Desk           | <ul style="list-style-type: none"><li>• View all complaints</li><li>• Convert complaints into jobs</li><li>• Prioritize jobs</li></ul>           |
| Maintenance         | <ul style="list-style-type: none"><li>• Update job status (In Progress, Completed)</li><li>• Mark rooms as available after maintenance</li></ul> |
| Admin               | <ul style="list-style-type: none"><li>• Manage user accounts and assign roles</li></ul>  |
| Maintenance Manager | <ul style="list-style-type: none"><li>• Assign maintenance job</li><li>• View all jobs</li></ul>   |

## Functional Requirement

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The Hotel Maintenance System is designed to support role-specific functions across hotel departments to streamline maintenance operations.

### *Cleaner Functional Requirements*

- Cleaners must be able to view their assigned rooms for cleaning.
- Cleaners must be able to report room-related complains through a digital form.
- Cleaners must be able to view the own complains.

### *Supervisor Functional Requirements*

- Supervisors must be able to create complains.
- Supervisors must be able to view own complains

### *Help Desk Functional Requirements*

- Help Desk staff must be able to view all complaints submitted by supervisors and cleaners.
- Help Desk must be able to create maintenance jobs based on complaints.
- Help Desk must be able to set job priority.
- Help Desk must be able to close job.

### *Maintenance Staff Functional Requirements*

- Maintenance staff must be able to update job status (e.g., In Progress, Completed).
- Maintenance staff must be able to mark a room as available once repairs are completed.

### *Admin Functional Requirements*

- Admins must be able to manage user accounts (create, edit, delete).
- Admins must be able to assign and update user roles.

### *Maintenance Manager*

- Maintenance manager must be able to assign jobs to the correct maintenance department.
- Maintenance manager must be able to view all jobs.

## Use Case Diagram



## ER Diagram

