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BACHELOR'S OF TECHNOLOGY
IN
COMPUTER SCIENCE & ENGINEERING

SYNOPSIS
ON
Partner Management System

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INTRODUCTION

In today's business environment, organizations collaborate with multiple partners, vendors, and affiliates to expand their reach and improve their services. However, managing partner registrations, approvals, and offer submissions manually can be time-consuming and inefficient. The **Partner Management System** is designed to simplify and automate these processes, providing a seamless and structured workflow for both administrators and partners.

This system serves as a **centralized platform** where businesses can onboard partners, review and approve their applications, and enable them to create and manage offers. The **Admin Panel** provides complete control over partner registration and offer approvals, ensuring that only verified and relevant partners contribute to the company's ecosystem.

Key functionalities of the system include:

1. **Partner Registration** – Prospective partners can register by providing their business and personal details, including Name, Mobile Number, Email ID, Address, and document uploads such as Aadhar Card and PAN Card for verification.
2. **Admin Approval Process** – Once a partner submits an application, the admin reviews the details and decides whether to approve or reject the application. If rejected, the system notifies the partner with the reason for rejection.
3. **Offer Management** – Approved partners gain access to an offer creation module, where they can list multiple offers related to their business. These offers are subject to admin approval to ensure compliance with company policies.
4. **Authentication & Authorization** – The system implements role-based authentication, allowing only authorized users (Admins and Partners) to access relevant functionalities.
5. **Notifications & Logging** – The system provides real-time notifications for approval/rejection of partner applications and offers. Logging mechanisms are implemented for tracking important activities and ensuring system security.

By automating the partner onboarding and offer management process, the **Partner Management System** enhances efficiency, reduces manual effort, and ensures that the company maintains a high standard of partnerships. This solution is built using **ASP.NET Core** for the backend, **MVC architecture** for a modern and user-friendly frontend, and **SQL Server** for robust data storage and management. Security, scalability, and performance have been prioritized to ensure a smooth experience for both administrators and partners.

OBJECTIVE

The **Partner Management System** aims to enhance the efficiency and transparency of partner onboarding and offer management within an organization. By automating the registration, approval, and offer submission processes, the system ensures a structured workflow that reduces manual effort and minimizes errors.

The primary objectives of this project are:

1. **Seamless Partner Registration** – Develop an intuitive registration system where partners can easily submit their details, including personal information (Name, Mobile Number, Email ID, Address) and mandatory document uploads (Aadhar Card, PAN Card) for verification.
2. **Admin Verification & Approval** – Provide an admin dashboard for reviewing partner applications, verifying their authenticity, and approving or rejecting them with a valid reason.
3. **Efficient Offer Management** – Enable approved partners to create and submit multiple offers, which can be reviewed by the admin before final approval, ensuring quality control and compliance with company policies.
4. **Role-Based Authentication & Authorization** – Implement secure user roles, ensuring that only authorized personnel (Admins and Partners) have access to specific features, protecting sensitive business data.
5. **Security, Logging & Error Handling** – Strengthen the system by incorporating security best practices, robust logging mechanisms (using Serilog or a similar tool), and proper error-handling techniques to maintain system reliability.
6. **Automated Notifications** – Integrate real-time email and in-app notifications to keep partners informed about the status of their applications and offer approvals/rejections, enhancing communication and user experience.

By achieving these objectives, the **Partner Management System** aims to provide a **secure, scalable, and user-friendly** solution that optimizes partner engagement, improves administrative control, and ensures a seamless collaboration process between businesses and their partners.

PROJECT CATEGORY

The **Partner Management System** falls under the **Web-Based Application** category. It is a cloud-ready, enterprise-level solution designed to facilitate partner onboarding and offer management in a structured and efficient manner.

This project is developed using **ASP.NET Core MVC**, following the **Model-View-Controller (MVC) design pattern**, which ensures:

1. **Scalability** – The architecture supports future enhancements and growing business requirements without major redesigns.
2. **Maintainability** – Separation of concerns between the Model (data), View (UI), and Controller (business logic) makes debugging, updating, and extending the system easier.
3. **Security** – Built-in authentication and authorization mechanisms protect sensitive partner and admin data.
4. **Performance** – Optimized backend processes and structured database queries using **SQL Server** ensure efficient data handling and quick system response times.
5. **User Experience** – A **modern, responsive UI** ensures a smooth and intuitive experience for both admins and partners.

The **Partner Management System** serves as a **centralized platform**, eliminating the need for manual paperwork and streamlining the verification and approval workflow through a **secure and automated web-based solution**.

TOOLS/PLATFORM

- **Backend:** ASP.NET Core
- **Frontend:** ASP.NET MVC
- **Database:** Microsoft SQL Server
- **IDE:** Visual Studio
- **Authentication:** Role-based authentication
- **Logging:** Serilog or another suitable logging framework
- **Version Control:** Git/GitHub
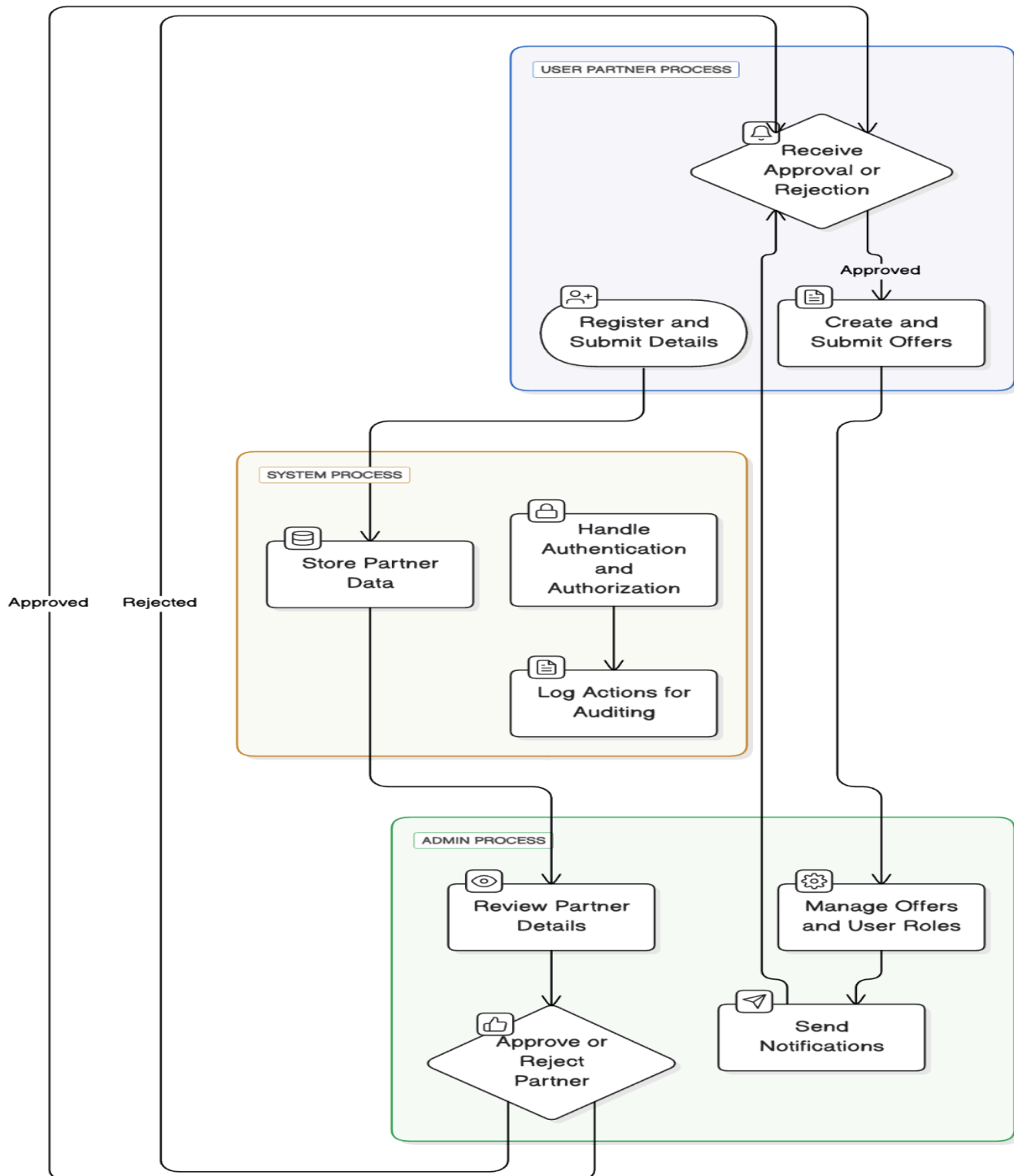
HARDWARE& SOFTWARE REQUIREMENTS

HARDWRE:-

DESCRIPTION	CAPACITY
MODEL	DELL
PROCESSOR	INTEL DUAL CORE 2.3 GHZ
MEMORY (RAM)	4GB
HARD DISK	512GB
KEYBOARD	115 KEY
MOUSE	OPTICAL
MONITOR	LED
USB	Flash usb port

SOFTWARE:-

- **Development Tools:** Visual Studio, SQL Server Management Studio (SSMS)
- **Frameworks & Libraries:** ASP.NET Core, Entity Framework Core
- **Database:** SQL Server
- **Logging & Monitoring:** Serilog

DATA FLOW DIAGRAM

USER PARTNER PROCESS

Receive Approval or Rejection

Register and Submit Details

Create and Submit Offers

Approved

SYSTEM PROCESS

Store Partner Data

Handle Authentication and Authorization

Log Actions for Auditing

Approved   Rejected

ADMIN PROCESS

Review Partner Details

Manage Offers and User Roles

Approve or Reject Partner

Send Notifications

MODULES

The **Partner Management System** is structured into two primary modules, each serving distinct roles and responsibilities within the application:

1. Admin Module

The **Admin Module** is responsible for managing partners, reviewing their applications, and overseeing offer approvals. Admins have full control over the system to ensure compliance, quality, and security.

Key Features:
- **Partner Approval Management:**
  - View, verify, approve, or reject partner applications.
  - Provide rejection reasons and notify partners accordingly.
- **Offer Approval Management:**
  - Review and approve/reject offers submitted by partners.
  - Ensure compliance with company policies before approval.
- **User Role Management:**
  - Assign roles and permissions (Admin, Partner).
  - Manage authentication and authorization using role-based access control (RBAC).
- **System Logging & Security:**
  - Maintain system logs using **Serilog** for tracking approvals, rejections, and errors.
  - Ensure data security through encryption and access controls.
- **Notifications & Alerts:**
  - Send automated **email and in-app notifications** for partner and offer status updates.

2. Partner Module

The **Partner Module** allows registered partners to submit their business details, upload necessary documents, and manage their offers within the system.

Key Features:
- **Partner Registration:**
  - Submit personal and business details (Name, Mobile, Email, Address).
  - Upload required documents (Aadhar Card, PAN Card) for verification.
- **Offer Management:**
  - Create and submit multiple offers for approval.
  - View approval/rejection status with admin feedback.
- **User Dashboard:**
  - View registration status and offer submissions.
  - Receive notifications on approvals, rejections, and system updates.

FUTURE SCOPE

The **Partner Management System** is designed to be scalable and adaptable to future advancements in technology and business needs. The following enhancements and features can be incorporated to improve efficiency, security, and user experience:

1. **Mobile App Integration:**
   - Develop a **mobile application** for partners and admins to manage registrations, approvals, and offers on the go.
   - Enable **push notifications** for real-time updates on approvals, rejections, and system changes.
2. **AI-Based Offer Recommendations:**
   - Implement **machine learning algorithms** to analyze partner activities and provide **personalized offer suggestions** based on past interactions and market trends.
   - Improve offer visibility by suggesting the most relevant deals to customers and partners.
3. **Enhanced Security with Multi-Factor Authentication (MFA):**
   - Strengthen login security by integrating **MFA**, requiring users to verify their identity via OTP, authentication apps, or biometric authentication.
   - Prevent unauthorized access and protect sensitive partner and admin data.
4. **Automated Document Verification using OCR:**
   - Implement **Optical Character Recognition (OCR)** to **automatically extract and verify details** from uploaded Aadhar and PAN cards.
   - Reduce manual verification time and minimize errors in document validation.
5. **Advanced Analytics & Reporting:**
   - Integrate **business intelligence dashboards** to provide admins with valuable insights on partner activities, offer performance, and system usage.
   - Generate **custom reports** for decision-making, compliance tracking, and operational improvements.

By incorporating these **future enhancements**, the **Partner Management System** will evolve into a **more intelligent, secure, and user-friendly platform**, enabling businesses to efficiently manage their partners while improving engagement and operational efficiency.

REFRENCES

1. **Microsoft Documentation: ASP.NET Core & SQL Server**
   - **ASP.NET Core: https://learn.microsoft.com/en-us/aspnet/core/**
   - **SQL Server: https://learn.microsoft.com/en-us/sql/sql-server/**
2. **Serilog Official Documentation**
   - **Serilog: https://serilog.net/**
   - **Serilog GitHub Repository: https://github.com/serilog/serilog**
3. **Stack Overflow (For community discussions & troubleshooting)**
   - **https://stackoverflow.com/**
4. **GitHub Repositories (For open-source projects and best practices)**
   - **ASP.NET Core Repositories: https://github.com/dotnet/aspnetcore**
   - **General .NET Repositories: https://github.com/dotnet**
5. **Various Online Programming Tutorials & Blogs**
   - **C# Corner: https://www.c-sharpcorner.com/**
   - **TutorialsPoint (ASP.NET Core):**
     https://www.tutorialspoint.com/asp.net_core/index.htm
   - **Medium .NET Blog: https://medium.com/tag/dotnet**