SharpInvoice Project Overview

**1. Project Vision & Mission**

SharpInvoice aims to empower freelancers and small businesses with a fast, reliable, and professional invoicing solution. Our mission is to streamline billing processes, reduce manual effort, and help users get paid faster through automation and intuitive design.

**2. Executive Summary**

SharpInvoice is a full-stack web application built using ASP.NET Core Web API and Razor Pages. It provides users with the ability to manage clients, generate invoices, accept payments, and analyze financial performance—all in a single, modern solution. By leveraging custom authentication with JWT and supporting external logins, SharpInvoice ensures flexibility, security, and scalability.

**3. Key Objectives**

- Build a reliable invoicing system with essential business features

- Provide secure and customizable authentication with JWT

- Enable invoice payments via Stripe integration

- Deliver a seamless user experience with Razor Pages

- Provide analytics and reporting tools for informed business decisions

**4. Feature List (MVP)**

**Authentication & Security**

* - Email & Password registration and login (custom logic)
* - JWT-based access tokens for authentication
* - Refresh token system (recommended)
* - Google and Facebook login (OAuth 2.0)
* - Email confirmation with SMTP
* - Two-Factor Authentication (via email or authenticator app)
* - Secure password hashing with BCrypt.Net
* - Role-based authorization (Admin, User, etc.)
* - Rate-limited login attempts (brute-force protection)

**Invoice & Client Management**

* - Create, edit, and delete invoices
* - Add clients and link invoices to clients
* - Multi-currency support (USD, EUR, NGN, etc.)
* - Invoice notes, terms, and custom footer
* - Unique invoice number generation
* - Filter invoices by client, date, or payment status

**Payments & Delivery**

* - Stripe integration for online invoice payments
* - Public invoice view (via secure link)
* - Download invoice as PDF
* - Share invoice via email
* - Invoice status: draft, sent, paid, overdue

**User & Team Features**

* - User profile with avatar, contact info, and settings
* - Invite team members (optional roles: Admin, Editor, Viewer)
* - Organization-wide branding (logo, theme color, address)
* - Role management system via custom EF tables

**Analytics & Reporting**

* - Income vs expenses dashboard
* - Paid vs unpaid invoice breakdown
* - Monthly/Yearly revenue tracking
* - Export reports to CSV or PDF
* - Top clients and best-performing months

**UI & UX (Razor Pages)**

* - Responsive UI with Bootstrap or TailwindCSS
* - Razor Pages-based layout with clean, modular structure
* - Animated transitions using @section Scripts + JS (or Alpine.js)
* - Dark mode (optional with Tailwind + Razor toggle)
* - Custom error pages (404, 401, etc.)

**Storage & File Management**

* - Upload business logo, company assets (stored locally or in blob storage)
* - Razor Page to manage uploaded files
* - File type/size validation

**Global & Local Features**

* - Multi-currency formatting (user-selected locale)
* - Localization-ready Razor Pages
* - Dynamic date/time formatting

**System Infrastructure**

* - ASP.NET Core middleware for auth, logging, CORS
* - EF Core migrations and seeding (default admin user)
* - Custom User and ExternalLogin tables
* - Service layer (Application + Infrastructure separation)
* - Dependency injection for clean architecture

**5. Target Audience**

SharpInvoice is designed for freelancers, solo entrepreneurs, small business owners, consultants, and independent contractors who need a simple, professional tool to manage billing and payments efficiently.

**6. Tech Stack**

- Frontend: Razor Pages (ASP.NET Core)

- Backend: ASP.NET Core Web API

- ORM: Entity Framework Core

- Database: SQL Server

- Authentication: Custom JWT-based system

- External Login: OAuth 2.0 (Google, Facebook)

- Styling: TailwindCSS or Bootstrap

- PDF Generator: QuestPDF