DesignCertify - Platform Proposal

DesignCertify is an online platform that connects licensed Professional Engineers (PEs) with clients needing validation, certification, and approval of their engineering design documents. This includes structural, electrical, civil, and mechanical design types. The platform facilitates seamless collaboration, document management, and service payments — creating a unified digital ecosystem for engineering certifications.

Target Audience

• Licensed Professional Engineers across all U.S. states.
• Clients such as architects, designers, contractors, and engineering firms.
• Municipalities and developers needing PE-approved plans.

Project Goals

• Enable PEs to register, verify licenses, and offer services by state and specialty.
• Allow clients to submit different design types for review and approval.
• Implement secure JWT-based authentication for users.
• Include a PE rating and review system based on client feedback.
• Support direct communication between clients and PEs.
• Integrate payment/subscription workflow with small registration fees for PEs.
• Free registration workflow for clients.

System Architecture Overview

Frontend: React + TailwindCSS for responsive and dynamic UI.
Backend: C# ASP.NET Core Web API with Entity Framework for database operations.
Database: SQL Server – maintains users, projects, reviews, and messages.
Authentication: JWT tokens for session management.
Payments: Stripe / PayPal integration for subscription and service fees.
Hosting: Azure or AWS for scalability and reliability.

Database Design

1. **Users** – Stores PEs and Clients with details like name, license, services, and state.
2. **Projects** – Tracks client submissions, design type, status, and assigned PE.
3. **Reviews** – Client reviews and ratings for completed projects.
4. **Messages** – Chat history between PEs and clients.
5. **Payments** – Subscription records and transaction history.

Tech Stack

Frontend	React, React Router, Tailwind CSS

Backend	C# ASP.NET Core Web API
Database	SQL Server with Entity Framework Core
Authentication	JWT Tokens
Payment	Stripe / PayPal
Hosting	Azure / AWS

Implementation Phases

1. **Phase 1:** UI/UX Design, Wireframing, and React Setup
2. **Phase 2:** Backend API Development and JWT Authentication
3. **Phase 3:** Database Schema and Integration
4. **Phase 4:** Payment and Messaging System Integration
5. **Phase 5:** Testing, Deployment, and Maintenance

Branding

Brand Name: **DesignCertify**
Domain: **DesignCertify.com**
A professional, modern identity representing certified design validation by licensed engineers.