System Design requirements

**Second Pass of requirements**

I've reviewed your updated requirements document, and it's significantly improved! You've addressed many of the previous concerns. Here are the remaining items that need clarification to enable me to create the first prototype:

**Critical Missing Information**

**1. Database Schema Details**

While you've specified the entities, I need more detailed schema information:

**Customer Table:**

* Primary key field (CustomerID?)
* Data types and lengths (e.g., FirstName VARCHAR(50)?)
* Which fields are required vs optional
* Email format validation rules

**Email Log Table:**

* Primary key field
* Foreign key to Customer table
* Data types for each field
* Should this include user who sent the email?

**User/Authentication Table:**

* Table name and structure for local authentication
* Username field specifications
* Password hashing method (bcrypt, PBKDF2, etc.)
* Role field structure

**2. Missing User Stories in Section 3.2**

The functional requirements section is still mostly empty. I need specific user stories like:

* "As an administrator, I can view a list of all customers with pagination"
* "As a user, I can edit customer information and save changes"
* "As an administrator, I can generate an AI email for a selected customer"

**3. Email Configuration Specifics**

* SMTP server details (use localhost SMTP for now?)
* Email sender address configuration
* Email template format/structure
* How to handle email sending failures

**4. GenAI Integration Details**

* Specific OpenAI model to use (GPT-3.5-turbo?)
* Maximum token limits for email generation
* Prompt template structure for email personalization
* How to handle AI service unavailability

**5. Web UI Specifications**

* Basic layout structure (navigation menu, main content area)
* Form field specifications for customer entry
* Table display format for customer listings
* Login page design requirements

**Minor Clarifications Needed**

**1. User Role Clarification**

You mention both "Power user/Customer manager" and "administrator/standard user" - are these the same roles or different? Please clarify the role names and permissions.

**2. Repository Pattern Implementation**

How should the system detect whether to use SQL Server or mock data? Environment variable? Config file? Connection string availability?

**3. Error Handling Specifics**

* Error log file location and naming convention
* What constitutes a "critical" vs "warning" error
* User-facing error message format

**Recommendations for Quick Prototype**

To unblock development, I suggest we proceed with these assumptions (you can confirm/correct):

1. **Database Schema:**

Customers: CustomerID (int PK), FirstName (varchar50), LastName (varchar50),

          CompanyName (varchar100), Title (varchar50), Email (varchar100),

          LinkedInURL (varchar200), IsActive (bit)

1. **Simple Authentication:** Start with hardcoded admin user for prototype
2. **Basic Email:** Use simple SMTP with localhost for testing
3. **Minimal UI:** Simple HTML forms with basic CSS styling

Would you like me to:

1. **Proceed with these assumptions** and create the first prototype layer (database + basic services)?
2. **Wait for you to clarify** the missing details first?
3. **Create a more detailed requirements template** for the missing sections?

The current requirements are sufficient for me to start building the database layer and basic service structure. I can make reasonable assumptions for the prototype and refine based on your feedback.

**First pass of review by Chat**

Prompt: I am writing a set of requirements for you to use as the basis for generating a complete application. Can you please review the requirements in the "requirements.md" file for completeness. Let me know what information is missing or if you see any inconsistencies. Please ignore all text in comments.

Response:

I've reviewed your requirements document for the MyCRM application. Overall, it's a well-structured document that provides a solid foundation for application development. However, there are several areas that need clarification or additional information to enable complete application generation:

## Critical Missing Information

### 1. \*\*Authentication & Authorization Details\*\*

- You mention two user roles (Power user, Customer manager) but provide no details on:

- How users log in (local accounts, Active Directory, OAuth, etc.)

- User registration process

- Password requirements

- Session management

- Role assignment mechanism

### 2. \*\*Email Sending Implementation\*\*

- No specification of email service provider (SMTP server, SendGrid, Azure Communication Services, etc.)

- Missing email configuration requirements

- No details on email authentication/credentials storage

### 3. \*\*Detailed Functional Requirements (Section 3.2)\*\*

- This critical section is completely empty

- Need specific functional requirements with unique identifiers

- Should include detailed user stories or use cases

- Missing input validation rules

- No error handling specifications

### 4. \*\*User Interface Specifications (Section 3.1.1)\*\*

- No UI/UX requirements

- Missing screen layouts or wireframes

- No navigation flow specification

- No responsive design requirements

## Inconsistencies Found

### 1. \*\*Deployment Environment Contradiction\*\*

- Section 2.1 states: "deployed on Microsoft Azure's cloud"

- Section 2.5 states: "hosted on Windows Server and deployed on locally managed servers"

- Need clarification on initial deployment target

### 2. \*\*Compliance Confusion\*\*

- References both "Microsoft's responsible AI principles" and "HIPAA regulations"

- HIPAA is for healthcare data protection - is this a healthcare CRM?

- Need clarification on which compliance standards apply

### 3. \*\*Database Design Inconsistency\*\*

- Customer table missing "soft delete" flag field

- Email log table references "HIPAA compliance" but earlier mentions "responsible AI principles"

## Sections Needing Completion

### 1. \*\*Missing Database Schema Details\*\*

- Primary key specifications

- Foreign key relationships

- Data types and constraints

- Indexing requirements

- Audit trail fields (created\_date, modified\_date, etc.)

### 2. \*\*GenAI Integration Specifics\*\*

- OpenAI model to use (GPT-3.5, GPT-4, etc.)

- Prompt engineering requirements

- Token limits and cost considerations

- Fallback behavior if AI service is unavailable

### 3. \*\*Performance Monitoring Requirements\*\*

- You mention TTFB/TTLB tracking but need:

- Specific metrics to collect

- Reporting dashboard requirements

- Alerting thresholds

## Recommendations for Completion

1. \*\*Add specific functional requirements\*\* with format like:

```

REQ-001: The system SHALL allow users to create new customers

REQ-002: Customer email addresses SHALL be validated for proper format

```

2. \*\*Define user authentication flow\*\* - perhaps a simple form-based login initially

3. \*\*Specify email service\*\* - recommend starting with SMTP for simplicity

4. \*\*Clarify compliance requirements\*\* - remove HIPAA if not healthcare-related

5. \*\*Add UI mockups or wireframes\*\* for key screens

6. \*\*Define error handling standards\*\* and user feedback mechanisms

7. \*\*Specify deployment configuration\*\* requirements (environment variables, config files, etc.)

Would you like me to help you fill in any of these missing sections, or would you prefer to complete them yourself before I begin application generation?