Tentative Backend Development Plan

Milestone 1: User Authentication & RBAC

Objective: Implement a secure authentication system with role-based access control.

Implementation Details:

User registration for Admin, Agent, and Customer.

Secure login and logout system with JWT-based authentication.

Role-Based Access Control (RBAC) to ensure restricted access.

Session management and automatic token expiry handling.

Password recovery and reset functionality via email.

Multi-Factor Authentication (MFA) integration via Twilio for enhanced security.

Audit logging to track login attempts and system access.

Email notifications for successful registrations and password reset requests.

Milestone 2: Ticket Management (Create & Update)

Objective: Enable agents to create and manage tickets with proper workflows.

Implementation Details:

Full ticket lifecycle management: creation, updates, status tracking, and priority setting.

Assigning tickets to agents and re-assigning when required.

Automated email notifications to customers and agents upon ticket updates.

Real-time ticket status updates via WebSocket for better tracking.

Integration with Twilio for SMS alerts when ticket status changes.

Role-based ticket access, ensuring only authorized personnel can view/edit tickets.

Ticket escalation workflow based on time-based or priority-based triggers.

Milestone 3: Customer Management (Added by Agent)

Objective: Allow agents to add and manage customer details efficiently.

Implementation Details:

Agents can create and manage customer.

Secure storage of customer information with access control.

Customers linked to specific agents for better service tracking.

Automated email confirmation upon customer creation.

Cloud storage using AWS S3 Bucket for secure document uploads related to customers.

Real-time data updates using WebSocket for synchronized views across the system.

Milestone 4: Admin Panel with User & Agent Management

Objective: Provide admins with a powerful panel to manage users, roles, and system settings.

Implementation Details:

Comprehensive user and agent management with role assignment and modifications.

Ability to enable/disable user accounts.

View and manage all tickets and customer records.

Access to system-wide audit logs for security tracking.

Secure AWS S3 Bucket integration for centralized document management.

Milestone 5: Admin Dashboard with Analytics & Reports

Objective: Deliver an advanced analytics dashboard with filtering and reporting.

Implementation Details:

Dashboard displaying ticket trends, agent performance, and customer data insights.

Advanced filters for viewing data by date range, status, and priority.

Automated reporting system to generate downloadable reports (CSV/Excel).

Secure cloud-based document storage with AWS S3 Bucket.