

Mobile Plan Change & Fulfillment Application.

Business Scenarios

Scenario 1: Customer-Initiated Plan Change

- A customer wants to switch from their existing mobile plan to another plan offered by their provider.

Scenario 2: New Customer Onboarding

- A new customer wants to select and activate a mobile plan for the first time.

Scenario 3: Special Offer or Promotion

- The provider offers a limited-time special discount, and customers wish to quickly activate these promotional plans.

Scenario 4: Plan Customization

- A customer wants to customize a plan, choosing specific data, voice, SMS bundles, and addons.

Scenario 5: Plan Expiry and Auto-Renewal

- Customer's plan is nearing expiry; customer receives a notification and chooses either renewal or plan modification.

Features and Functionalities

1. User Authentication

- Secure login (username/password, OTP verification)
- Password reset via email or SMS

2. Plan Browsing and Selection

- View available plans categorized by data, voice, SMS, roaming, and addons
- Compare plans side-by-side with clear, concise breakdowns of costs and features
- Filters and sorting based on price, data limits, validity, and promotions

3. Plan Details & Customization

- Detailed description of each plan
- Interactive sliders or toggles for customizing data limits, voice/SMS bundles, and addons
- Real-time price updates based on selected customizations

4. Existing Plan Management

- Current plan details clearly displayed (validity, remaining usage, expiry)
- Quick action buttons for plan renewal, modification, or cancellation
- History of plan changes, including timestamps and reasons for changes

5. Promotions & Notifications

- Real-time notifications for new plans, limited-time promotions, or special discounts
- Push notifications for plan expiry reminders and renewal prompts

6. Shopping Cart & Checkout

- Review selections in the cart before finalizing
- Seamless checkout with multiple payment options (credit/debit cards, net banking, wallets, UPI)
- Secure payment integration with transaction history and invoices

7. Order Tracking and Fulfillment

- Real-time updates on plan activation status
- Notifications (SMS/email/in-app) confirming successful activation or any delays/issues
- Integration with backend provisioning systems for immediate fulfillment

8. Customer Support Integration

- In-app chat or quick call options to customer care
- FAQ section and troubleshooting guides
- Ticketing system for issues related to plan activation or changes

9. AI-Based Recommendations

- Intelligent recommendations based on user's historical usage patterns
- Predictive suggestions (e.g., identifying potential savings or better-suited plans)
- Natural language queries supported by Gen AI (e.g., "Recommend me a plan with more international roaming options.")

10. Self-Service and Profile Management

- Profile updates (contact details, payment methods)
- Viewing and managing multiple subscriptions under a single account
- Managing notification preferences

Advanced AI-Driven Features (Generative AI Integration)

These are integrated through backend services and exposed via intuitive frontend interactions:

- **AI Chat Assistant:**
 - Natural language interface answering queries about plans and usage.
 - *Explains complex billing details, usage, and terms in simplified language.*
- **Personalized Plan Generation:**
 - Customers input their needs (e.g., "traveling internationally for a month").
 - AI dynamically assembles and proposes suitable custom plans.

Technical Stack and Fitment (Aligned with Java FSD & Python FSD Training):

Java FSD (Backend):

- Spring Boot: REST API Development, Microservices Architecture
- Spring Security & JWT: User Authentication & Authorization
- Spring Data JPA/Hibernate: Database and persistence management
- JDBC/MySQL: Relational Database

Python FSD (Alternative Backend):

- FastAPI: Rapid API development, auto-validation
- SQLAlchemy: ORM layer for DB interactions
- JWT/FastAPI security: Secure endpoints and authentication

Frontend (Common to Both FSDs):

- React.js: Interactive and responsive user interface
- HTML/CSS/JavaScript: UI scaffolding and interactions
- Fetch/Axios: API interactions with backend services

Cloud Deployment & Infrastructure:

- Azure: App services, database hosting, and cloud deployment
- Azure Blob Storage: Storage for user-generated data/documents

Gen AI Integration:

- ChatGPT/HuggingFace APIs: AI-enhanced customer interaction
- GitHub Copilot: Developer assistance for rapid backend and frontend coding
- Prompt Engineering: Optimizing AI interactions for user-facing features

Why is This App Effective? (Business Perspective):

- Simplifies complex decision-making through clear UI and AI-driven guidance.
- Boosts customer satisfaction and reduces support overhead with automated assistance.
- Enhances customer engagement and upsell opportunities through personalized recommendations and notifications.