

## Day 1 — Requirement Analysis for a Mobile Recharge Web Application (MERN Stack)

### Title:

Requirement Analysis for a Mobile Recharge Web Application (MERN Stack)

### Description:

The purpose of this document is to define and analyze the requirements needed to build a Mobile Recharge

Web Application using the MERN stack (MongoDB, Express.js, React.js, Node.js). The analysis includes

functional requirements, non-functional requirements, user roles, features, and UI/UX flow.

### 1. Functional Requirements

- User Signup and Login
- Enter mobile number for recharge
- Select operator
- Choose prepaid/postpaid
- Browse available recharge plans
- View plan details (price, data, validity)
- Select plan and proceed
- Payment simulation
- Recharge confirmation
- View recharge history
- Logout

### Admin Functionalities:

- Admin Login
- Add recharge plans
- Edit recharge plans
- Delete plans
- View users and recharge history
- Manage operator list

### 2. Non-Functional Requirements

- Performance – Fast loading (1–2 sec)
- Usability – Clean UI, mobile responsive
- Security – JWT, encrypted passwords
- Reliability – System must not fail on bad input
- Scalability – Capable of handling multiple users
- Maintainability – Code structure must be modular

### 3. User Roles & Use Cases

#### User:

- Signup, Login
- Enter number, browse plans
- Recharge process
- View history

#### Admin:

- Manage plans
- View system activity
- Edit/delete plans

#### 4. Feature List

Core Features:

- Mobile number validation
- Operator selection
- Prepaid/Postpaid plans
- Payment simulation
- Recharge summary
- Dashboard history

Advanced (optional):

- Wallet
- Real payment integration
- Offer recommendations

#### 5. UI/UX Wireframes (Conceptual)

Screens:

- Login
- Signup
- Number Input
- Operator Selection
- Plans Page
- Payment Page
- Success Page
- User Dashboard
- Admin Dashboard

#### 6. User Navigation Flow

Login → Home → Enter Number → Select Plan → Payment → Success → Dashboard

Admin Flow:

Admin Login → Dashboard → Manage Plans → Logs

Deliverables Completed:

- Documented requirement analysis
- Functional & non-functional requirements
- User roles & use cases
- Feature List
- Wireframe descriptions