

AMPConnect 2.0 – System Workflow Documentation

Project: AMPConnect 2.0 — B2B Spare Parts Management Dashboard

Version: 2.1

Date: February 2026

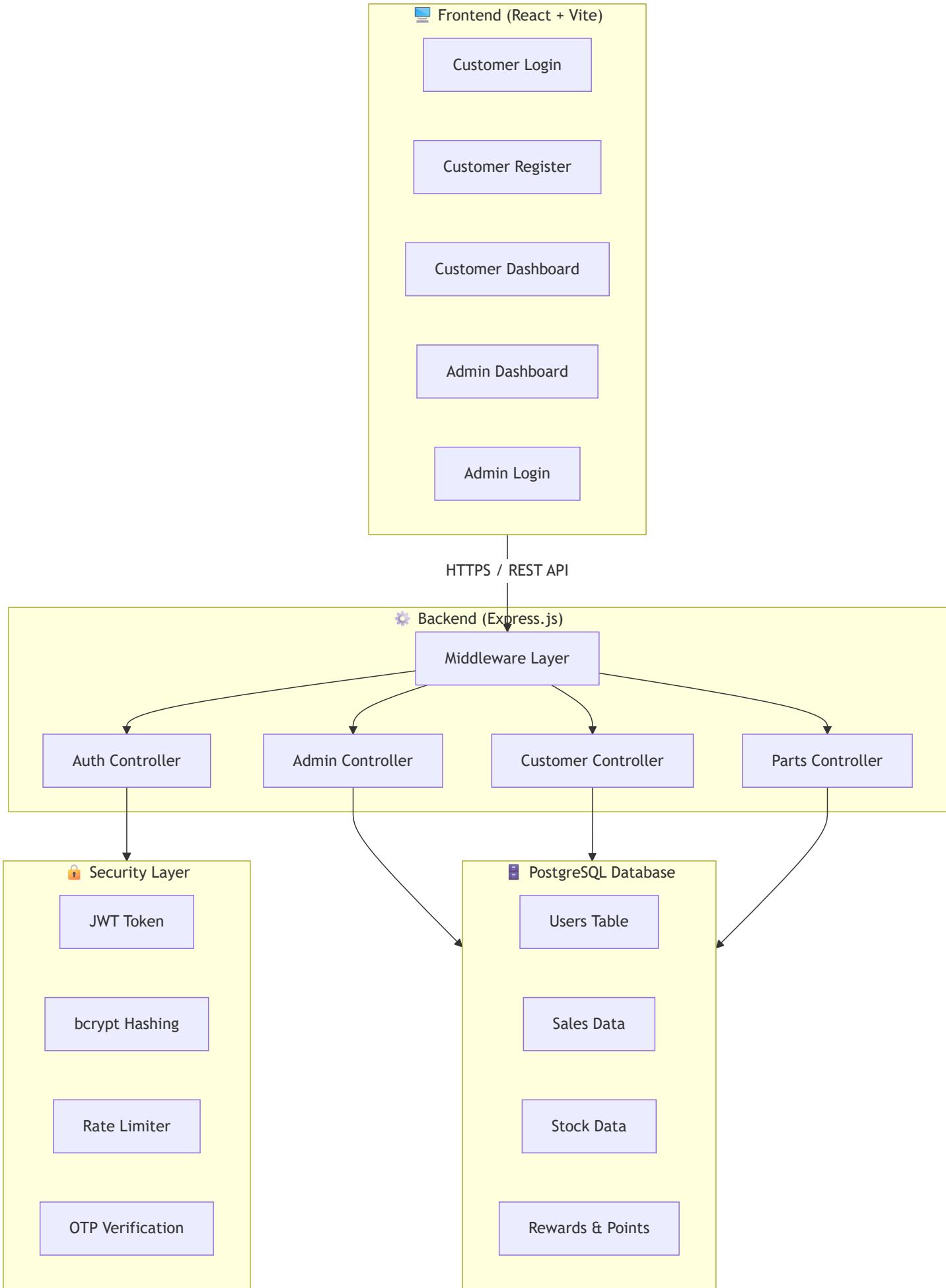
1. System Overview

AMPConnect 2.0 is a **B2B web-based dashboard** for Astra Motor Part Centre (AMPC) Bima that connects administrators and customers through a unified platform for spare parts sales management, analytics, and loyalty rewards.

Technology Stack

Layer	Technology
Frontend	React 18 + Vite
Backend	Node.js + Express
Database	PostgreSQL
Authentication	JWT + bcrypt
Verification	Email OTP
Deployment	Vercel (Frontend) + Render (Backend)
Charts	Chart.js + react-chartjs-2

2. System Architecture

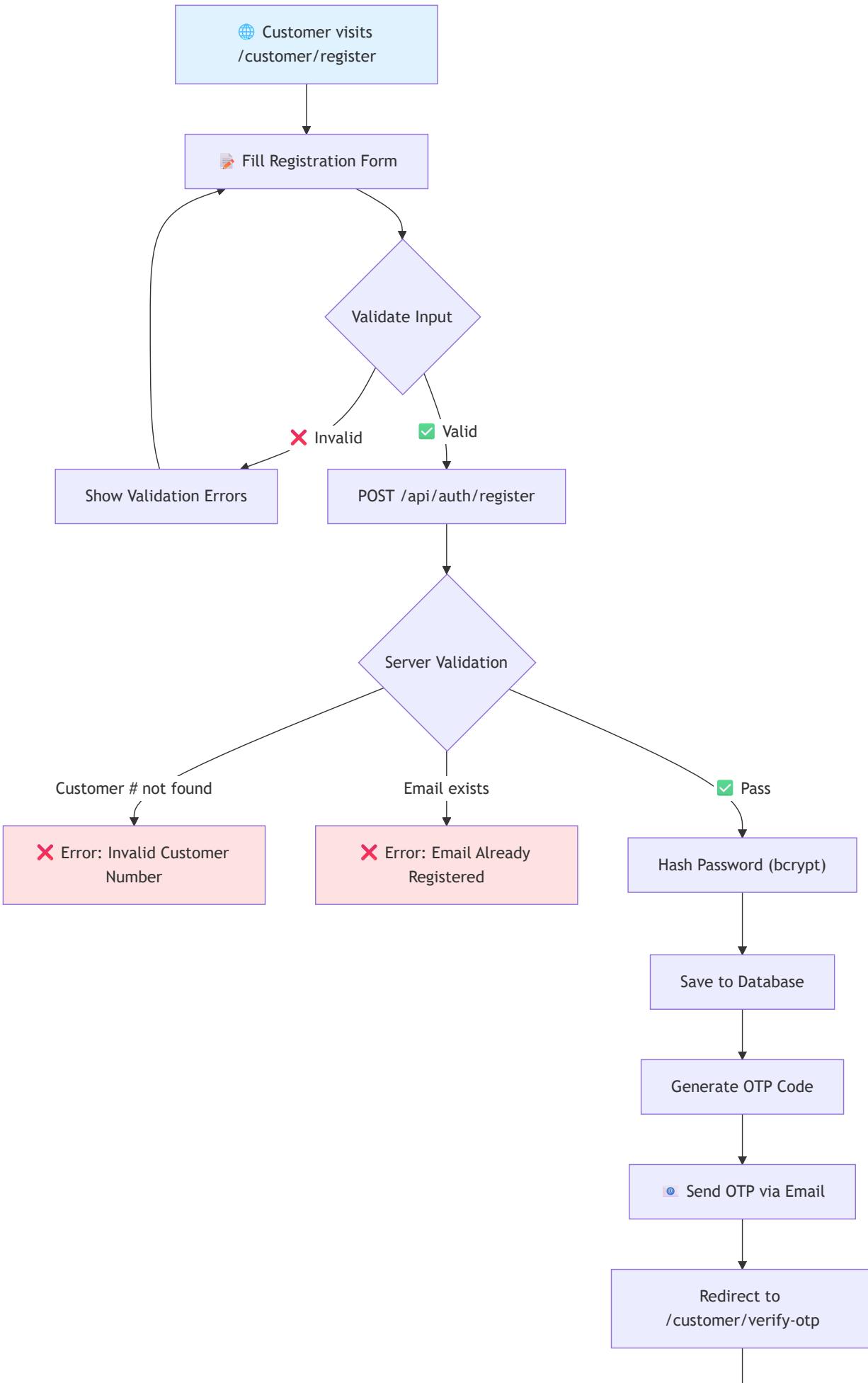


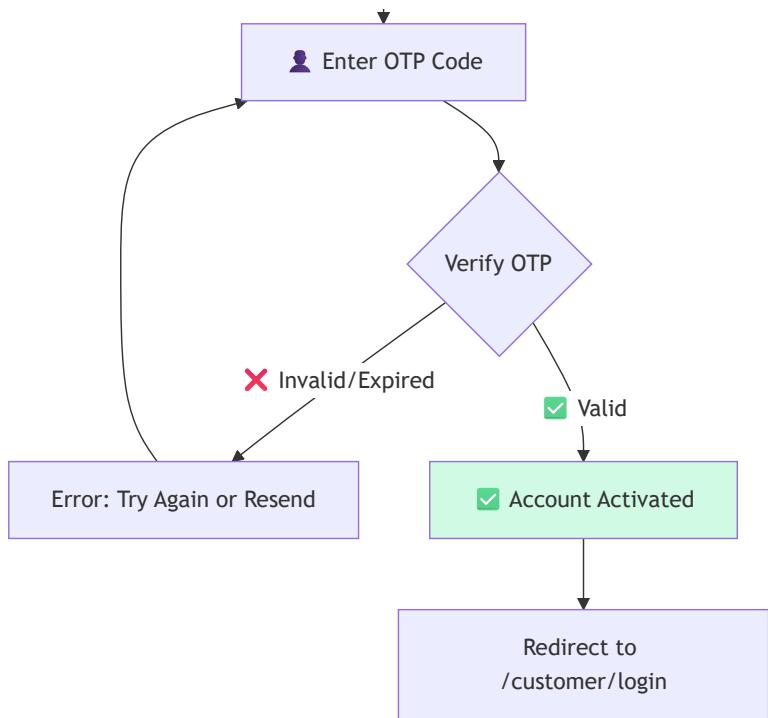
3. User Roles

Role	Access Point	Auth Method	Capabilities
Admin	/admin/login	Username + Password	Full system management, analytics, user control
Customer	/customer/login	Email + Password + OTP	View personal data, analytics, rewards, parts catalog

4. Authentication & Security Workflow

4.1 Customer Registration Flow



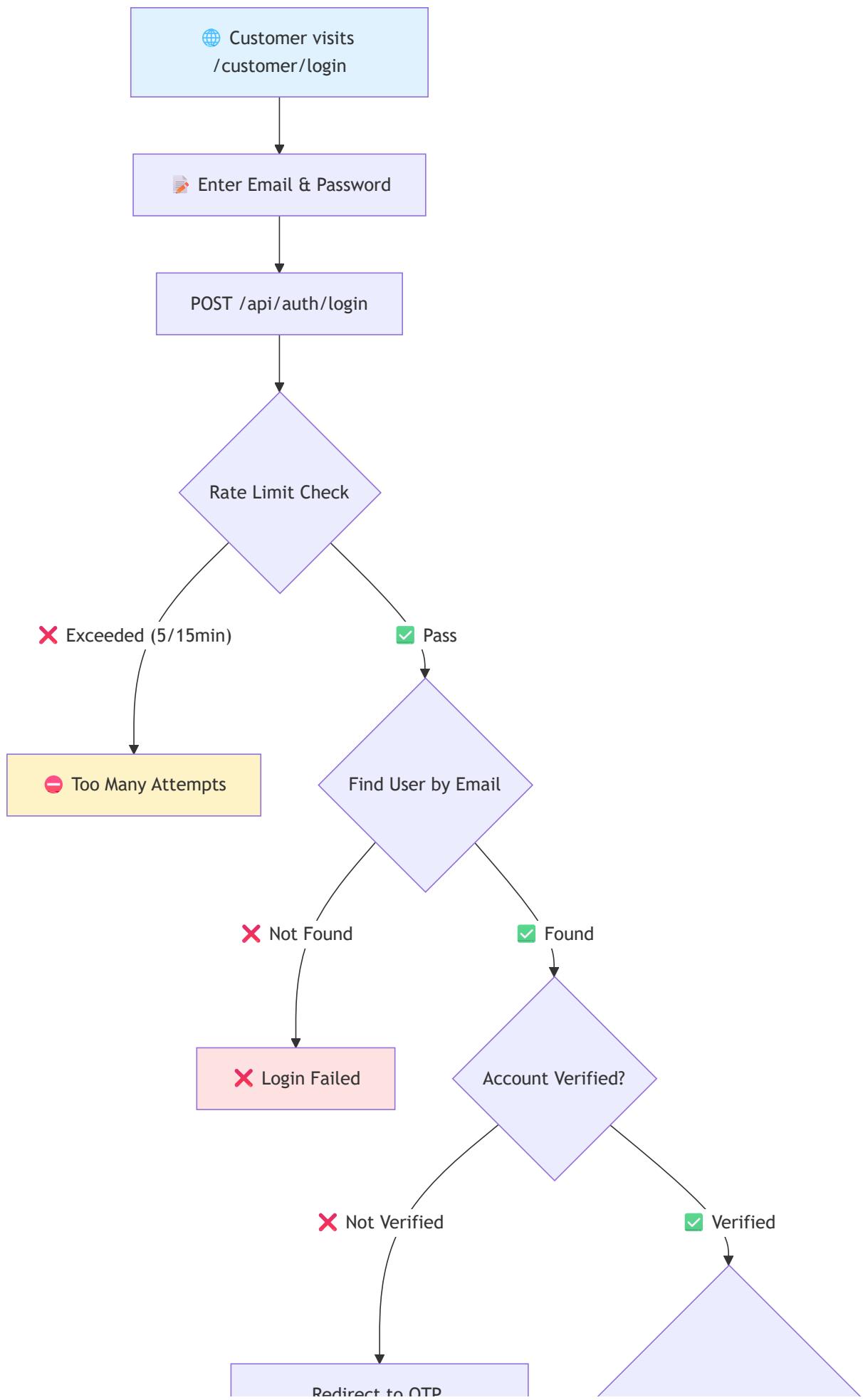


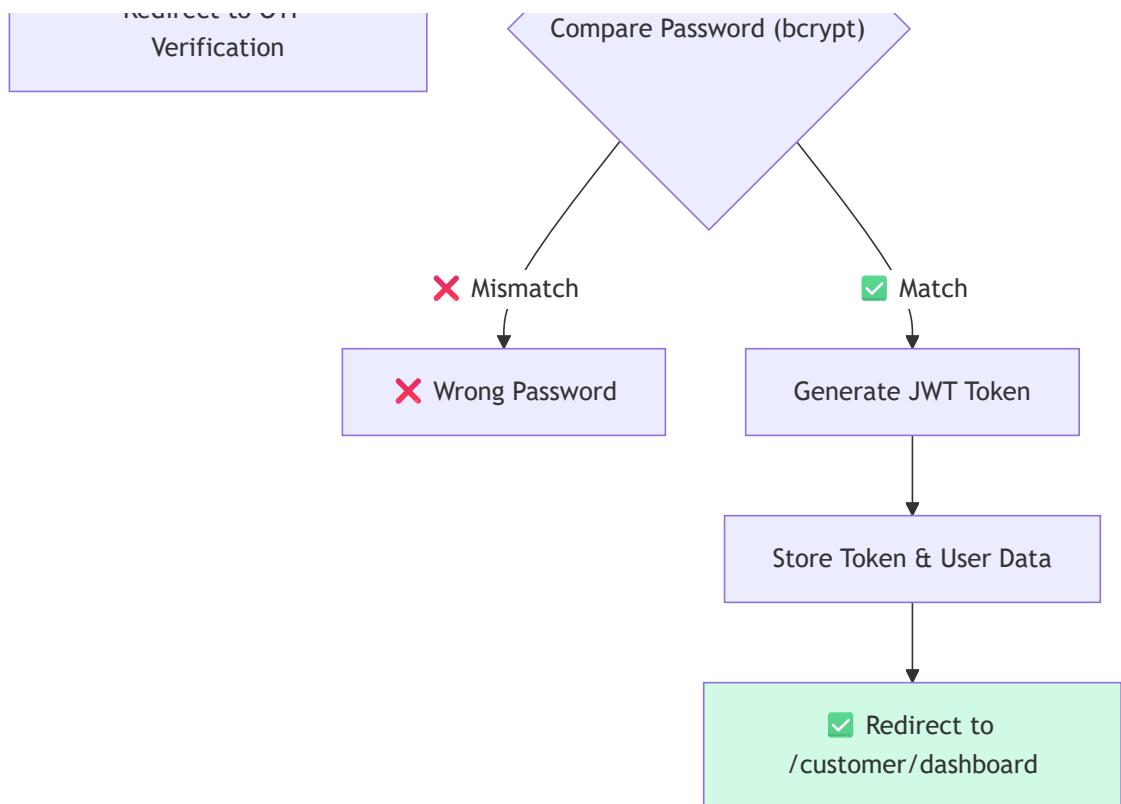
Registration Fields:

- Nomor Customer (from admin)
- Nama Lengkap
- Email
- No. Telepon
- Password (min 8 chars, must contain: uppercase, lowercase, number, special character)
- Konfirmasi Password

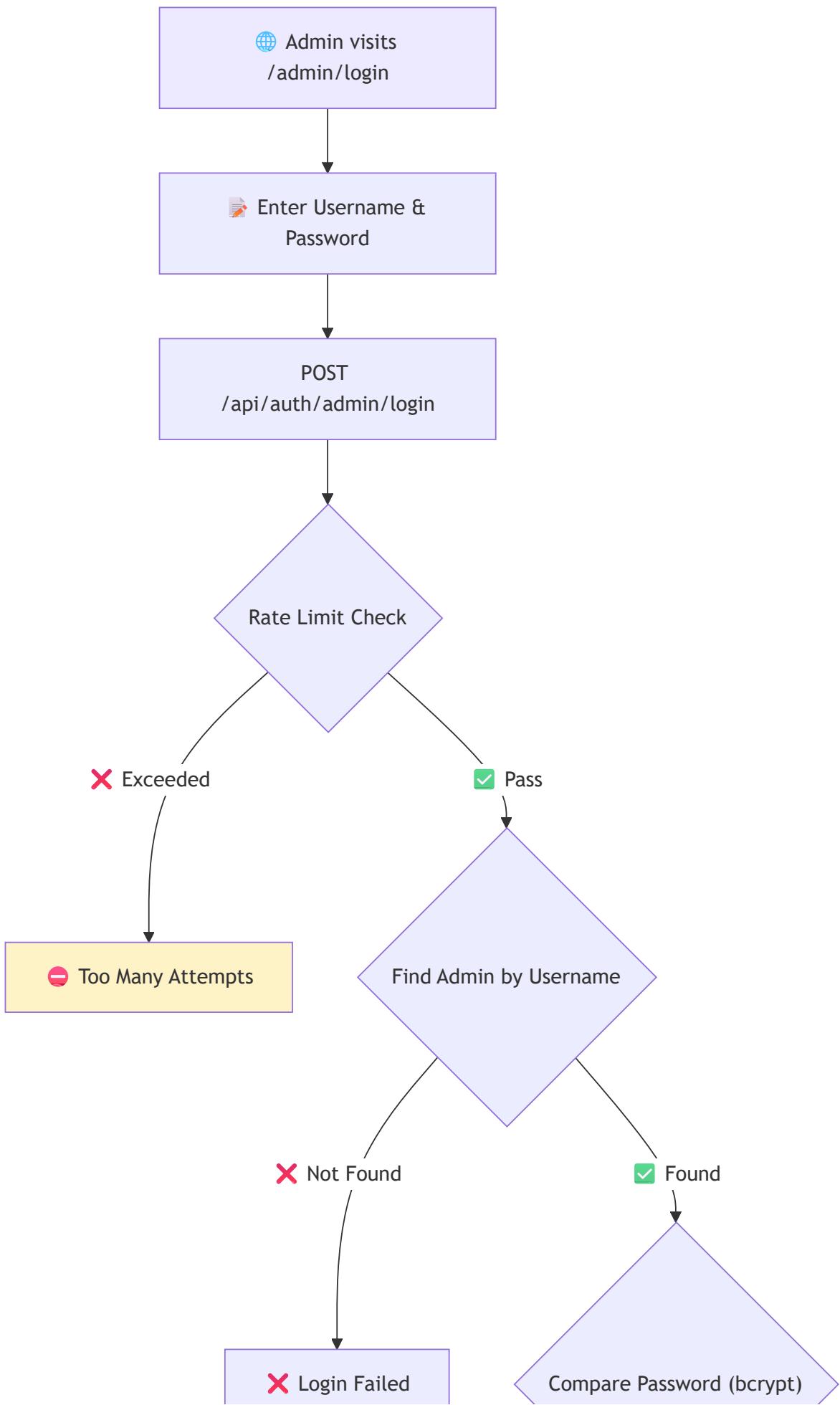
Password Strength Indicator: Visual bar (Weak → Medium → Strong)

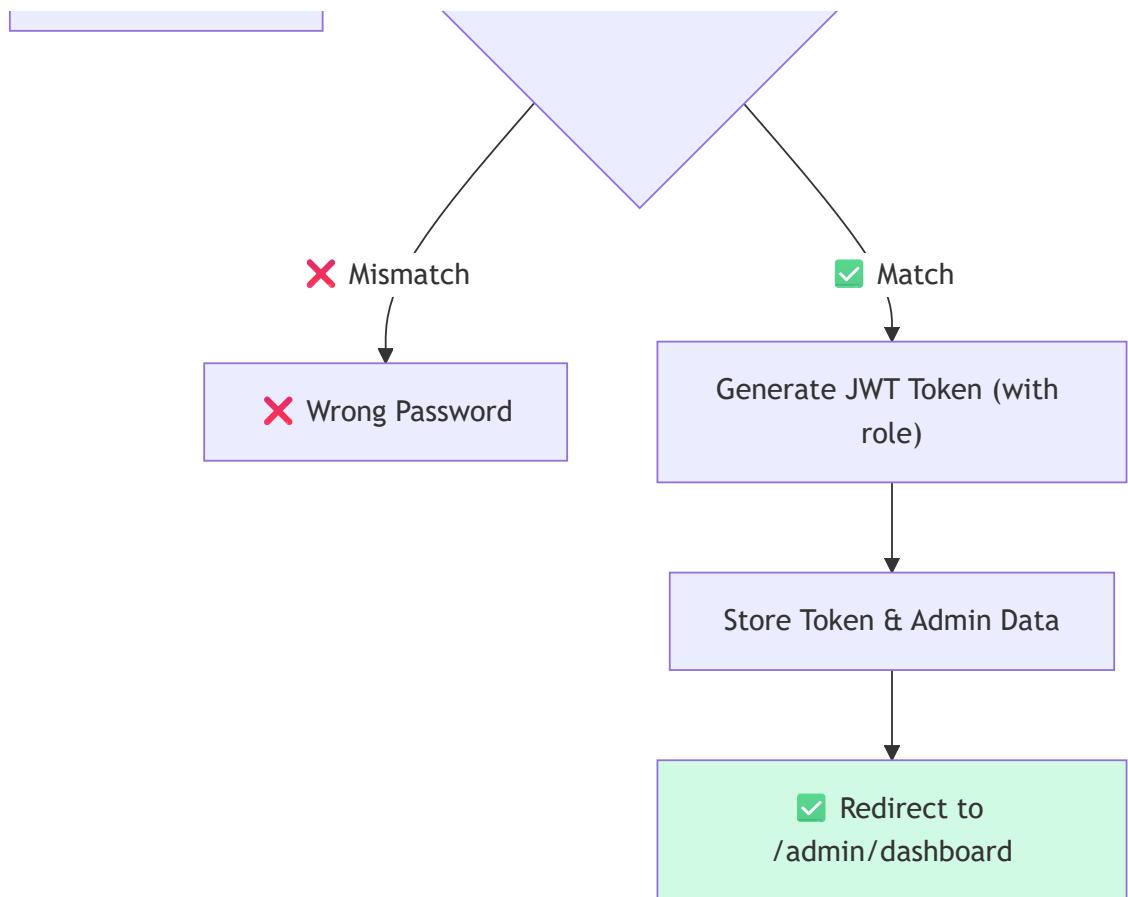
4.2 Customer Login Flow



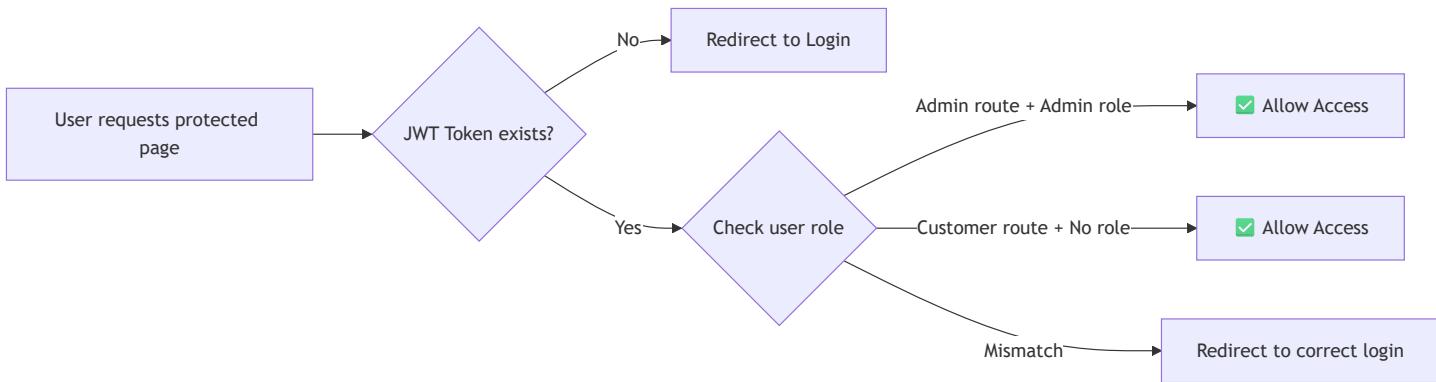


4.3 Admin Login Flow





4.4 Route Protection



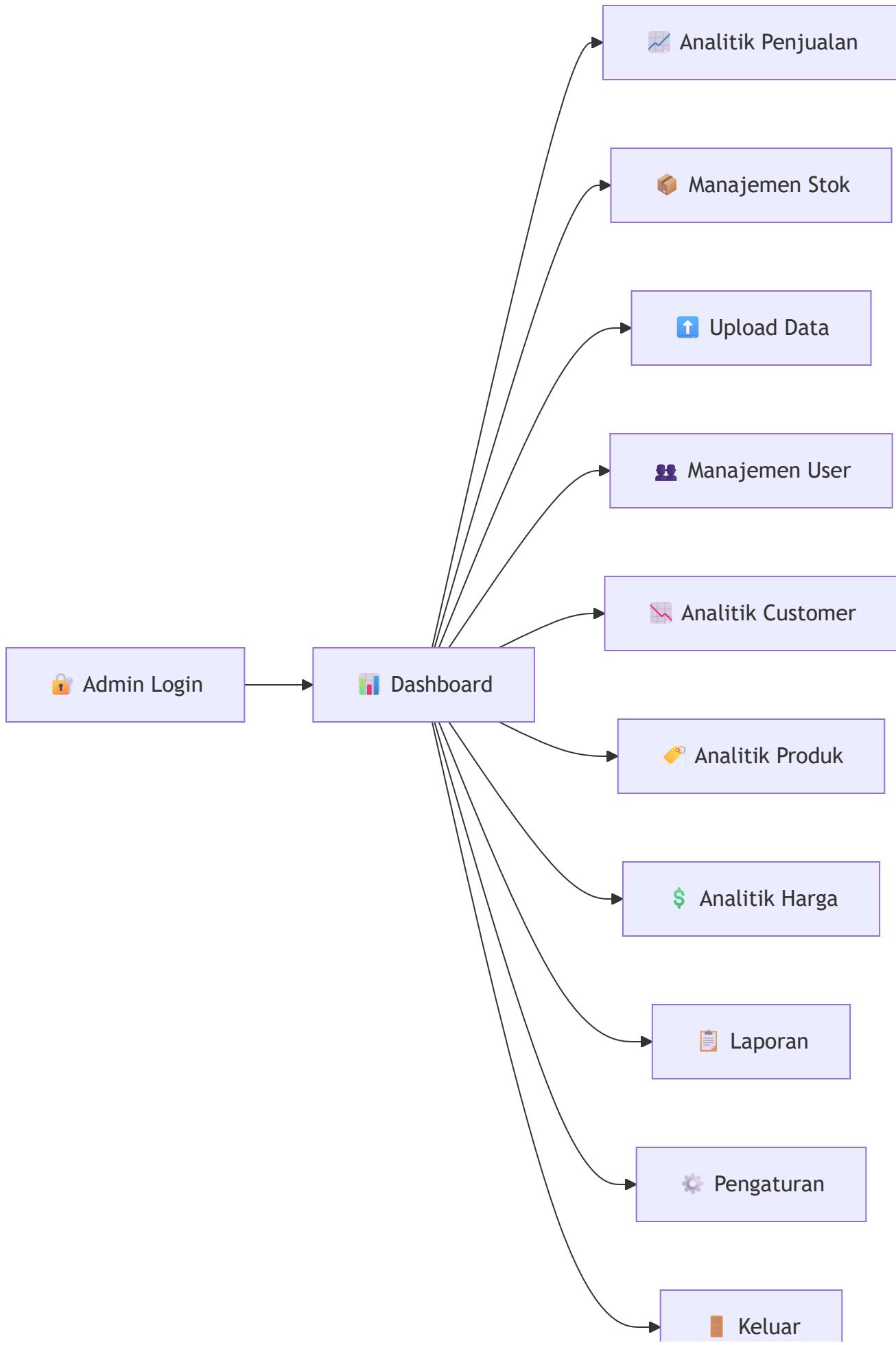
4.5 Rate Limiting Policy

Endpoint	Max Attempts	Window	Cooldown Message
Login	5	15 minutes	"Terlalu banyak percobaan login"
OTP Resend	3	10 minutes	"Terlalu banyak permintaan OTP"

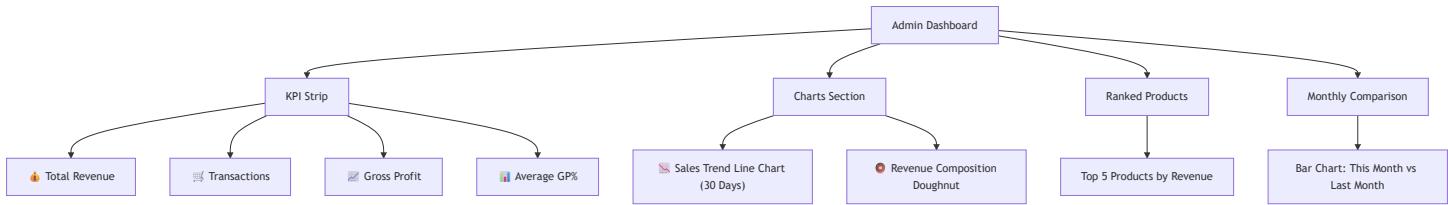
Endpoint	Max Attempts	Window	Cooldown Message
File Upload	10	1 hour	"Terlalu banyak upload"
General API	100	15 minutes	"Terlalu banyak permintaan"

5. Admin Portal Workflow

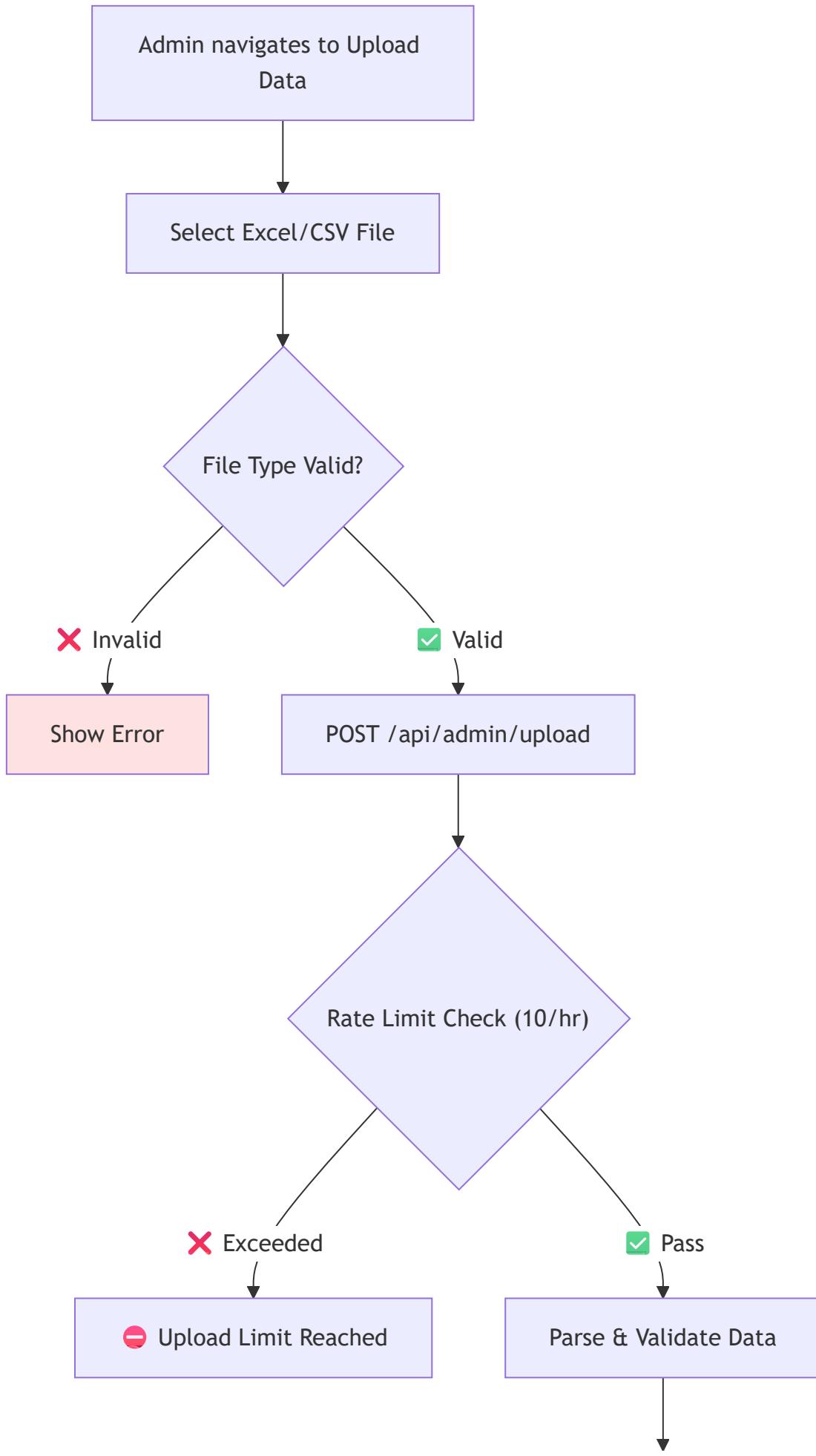
5.1 Admin Navigation Structure

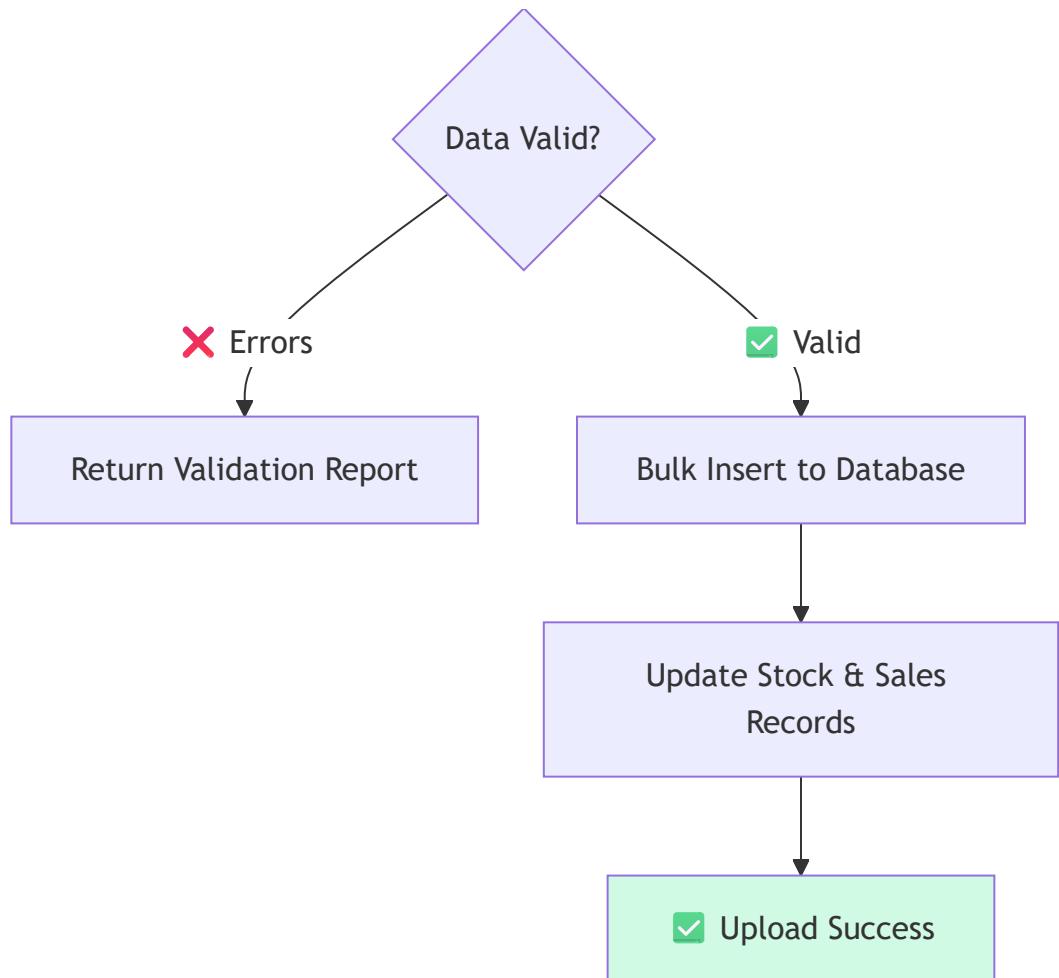


5.2 Admin Dashboard Features



5.3 Data Upload Pipeline





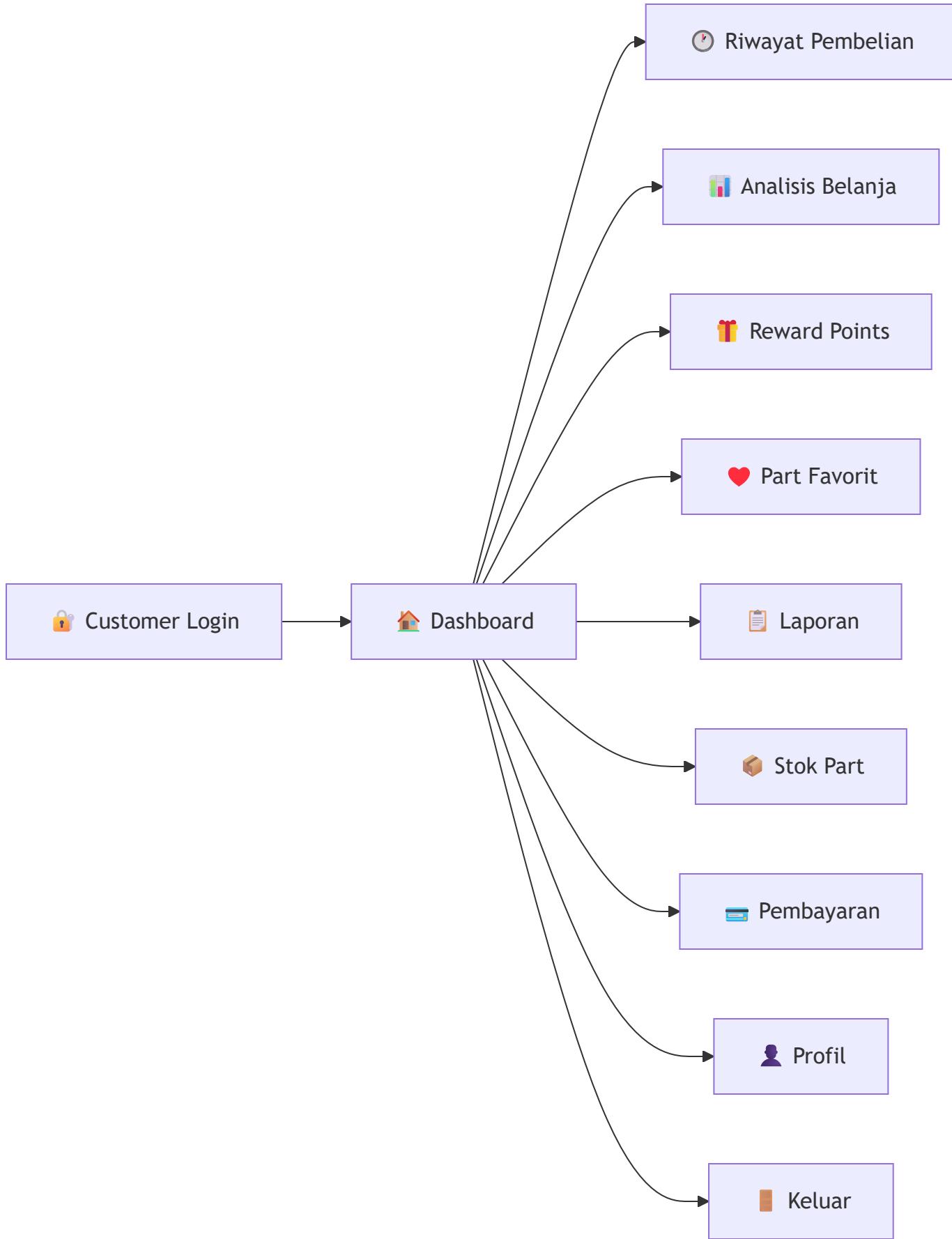
5.4 Admin Feature Summary

Page	Key Features
Dashboard	KPI cards (Revenue, Transactions, Gross Profit, GP%), Sales Trend chart, Revenue Composition donut, Top Products ranking, Monthly Comparison bar chart
Analitik Penjualan	Transaction list with search/filter, date range picker, sales analytics with trend and bar charts, transaction detail modal
Manajemen Stok	Stock listing with search/filter by group, stock status indicators (Normal/Low/Critical), stock adjustment dialog, summary cards, CSV export
Upload Data	Excel/CSV file upload, data validation, bulk import to database
Manajemen User	Customer list, create/edit/disable accounts, role management
Analitik Customer	Customer spending patterns, segmentation analysis

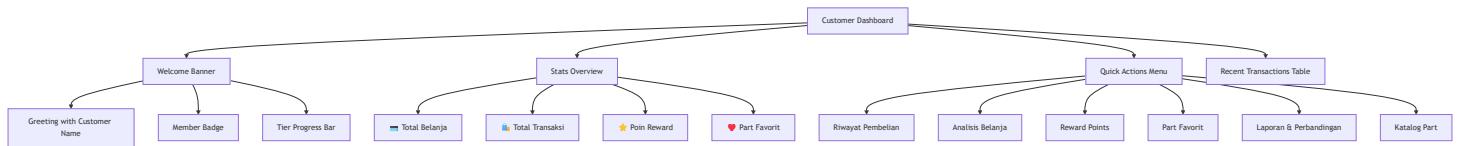
Page	Key Features
Analitik Produk	Product performance, category analysis, margin scatter plots
Analitik Harga	Pricing trends, discount analysis, GP% by category
Laporan	Report generation, data export
Pengaturan	System configuration

6. Customer Portal Workflow

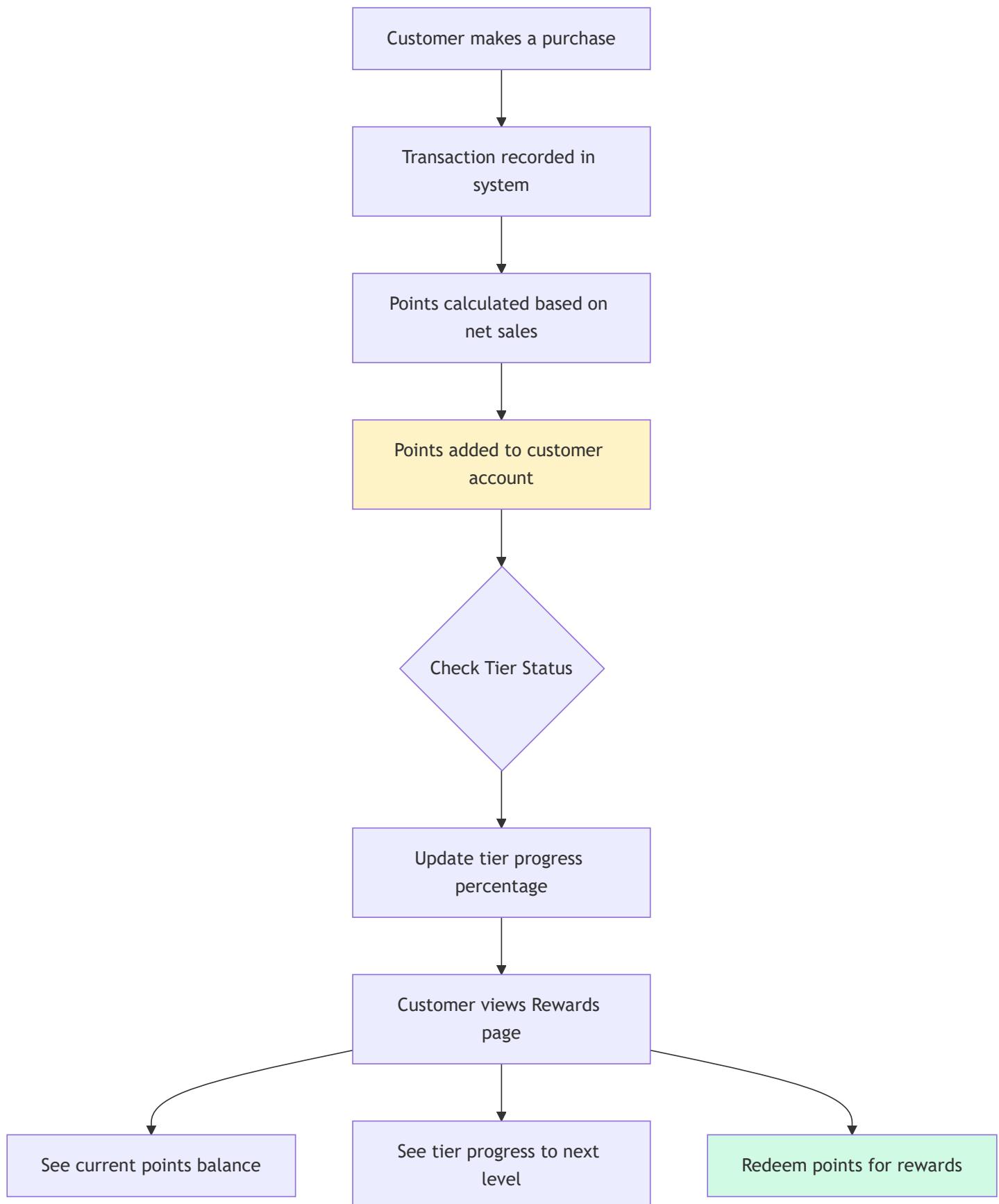
6.1 Customer Navigation Structure



6.2 Customer Dashboard Features



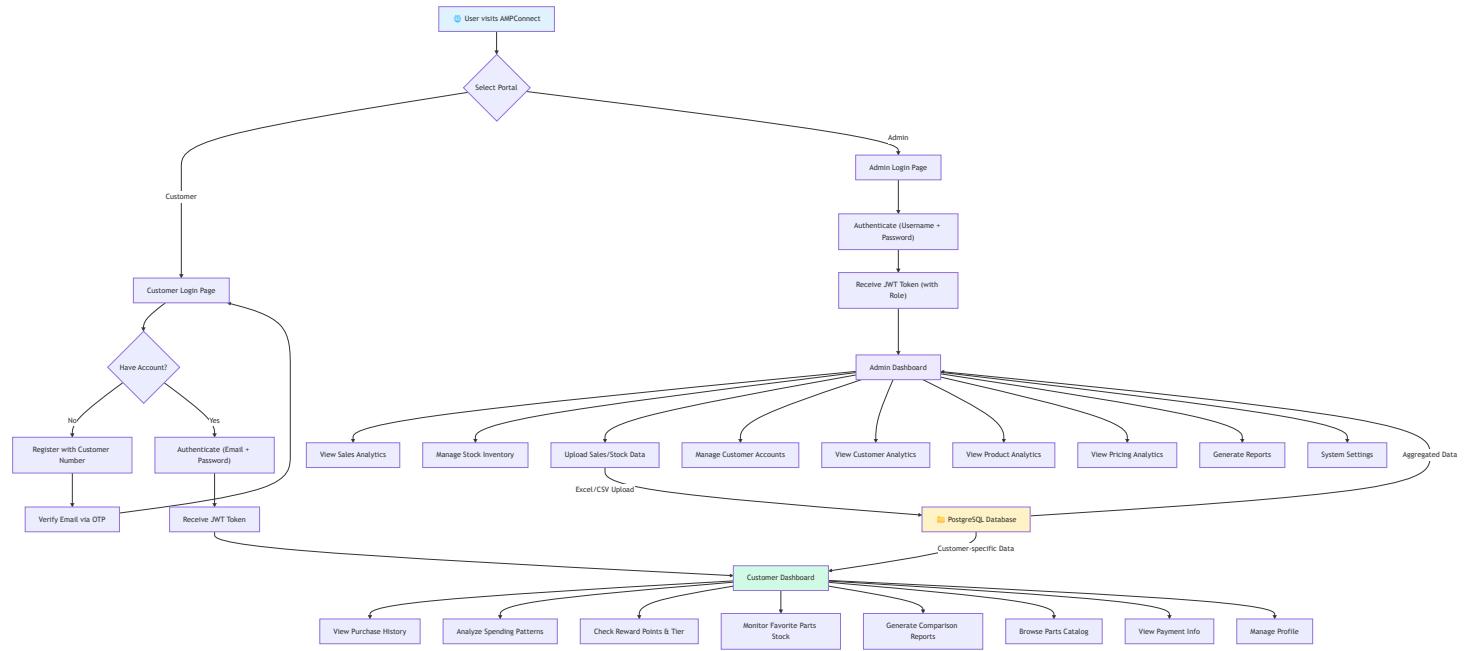
6.3 Customer Loyalty & Rewards Flow



6.4 Customer Feature Summary

Page	Key Features
Dashboard	Welcome banner with name & tier progress, stats cards (Total Spend, Transactions, Points, Favorite Part), quick action grid, recent transactions table
Riwayat Pembelian	Full purchase history, invoice details, date filtering, downloadable invoices
Analisis Belanja	Spending analytics with charts, trend analysis, category breakdown
Reward Points	Points balance, tier status & progress, redemption history
Part Favorit	Favorite/frequently purchased parts, stock monitoring
Laporan & Perbandingan	Period comparison reports, annual performance summaries
Stok Part	Parts catalog with search, real-time stock availability
Pembayaran	Payment information and history
Profil	Personal information, password change, account settings

7. Complete System Flowchart



8. API Endpoint Map

Auth Routes (/api/auth)

Method	Endpoint	Description
POST	/register	Customer registration
POST	/login	Customer login
POST	/admin/login	Admin login
POST	/verify-otp	Verify OTP code
POST	/resend-otp	Resend OTP email

Admin Routes (/api/admin)

Method	Endpoint	Description
GET	/dashboard	Dashboard KPIs & charts data

Method	Endpoint	Description
GET	/sales	Sales transactions
GET	/sales/analytics	Sales analytics data
GET	/stock	Stock inventory
POST	/stock/adjust	Adjust stock quantities
POST	/upload	Upload Excel/CSV data
GET/POST	/users	User management

Customer Routes (/api/customer)

Method	Endpoint	Description
GET	/dashboard	Personal dashboard data
GET	/history	Purchase history
GET	/spending	Spending analytics
GET	/rewards	Reward points & tier
GET	/favorites	Favorite parts

Parts Routes (/api/parts)

Method	Endpoint	Description
GET	/	Parts catalog with search
GET	/groups	Product group listing

9. Security Architecture Summary



Security Layer	Implementation
Password Hashing	bcrypt with salt rounds
Token Auth	JWT with expiration
Rate Limiting	express-rate-limit (per endpoint)
CORS	Whitelist-based origin check
Input Validation	Server-side & client-side
OTP Verification	Email-based, time-limited codes
Route Guards	React route protection (role-based)

Document generated for AMPConnect 2.0 presentation purposes.