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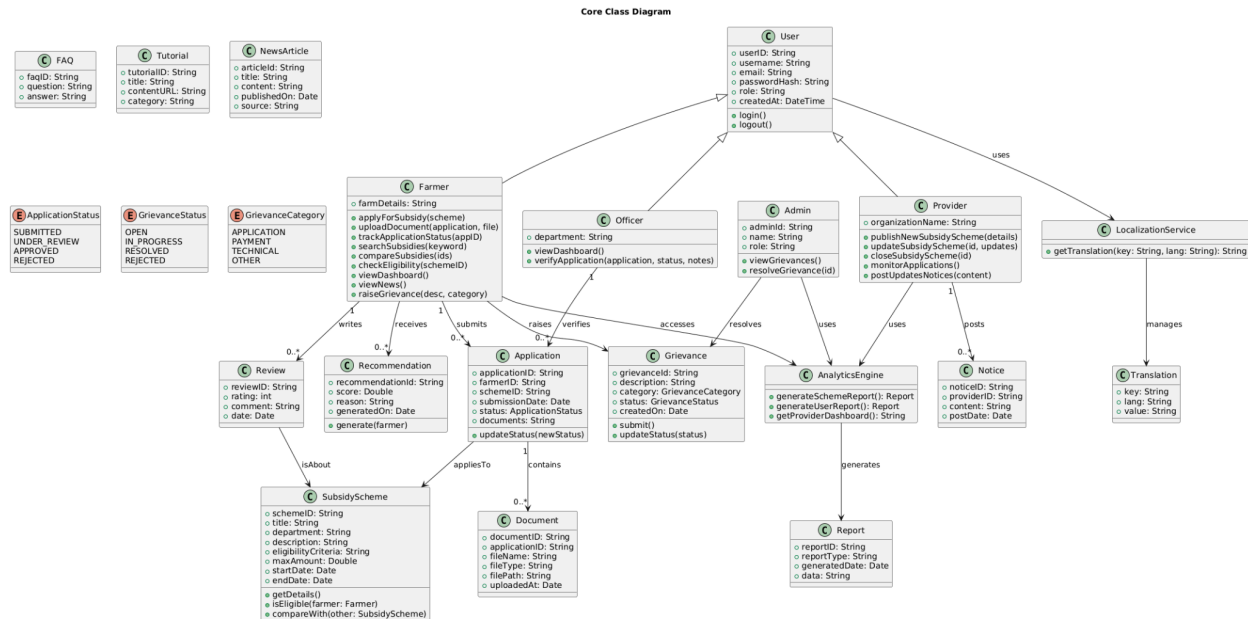
Object Design



KRUSHISETU
PATH TO PROSPERITY

Assigned by :
Prof. Saurabh Tiwari

Class Diagram



Class Descriptions

User

Purpose: Core authenticated user entity.

Attributes:

- id: int
- email_address: string
- mobile_number: string
- full_name: string
- aadhaar_number: string
- role: enum
- password: string
- is_active: bool
- is_staff: bool
- is_superuser: bool
- last_login: datetime

Methods:

- authenticate(): verify credentials
- create_user(): create system user

Relations:

- 1-1 UserProfile
- 1-N SubsidyApplication
- 1-N Document
- 1-N Grievance
- 1-N Notification

- 1-1 NotificationPreference
- 1-N OTP
- 1-1 PasswordResetOTP
- 1-1 EmailVerification
- 1-1 MobileVerification
- 1-N Article
- 1-N SubsidyRating

OTP

Purpose: Handles OTP verification.

Attributes: id:int, otp:string, purpose:enum, attempts:int, created_at:datetime

Methods: validate()

Relations: N-1 User

PasswordResetOTP

Purpose: OTP for password reset.

Attributes: id:int, otp:string, created_at:datetime

Methods: verify()

Relations: 1-1 User

EmailVerification

Purpose: Email verification tracking.

Attributes: token, is_verified, created_at

Methods: verify_email()

Relations: 1-1 User

MobileVerification

Purpose: Mobile OTP verification.

Attributes: otp, is_verified, created_at

Methods: verify_mobile()

Relations: 1-1 User

UserProfile

Purpose: Extended KYC and personal info.

Attributes: address, state, district, taluka, village, land_size, bank details...

Methods: update_profile()

Relations: 1-1 User

Subsidy

Purpose: Subsidy scheme definition.

Attributes: title, description, amount, eligibility, docs_required, start_date, end_date, rating

Methods: update_average_rating()

Relations: 1–N SubsidyApplication, 1–N SubsidyRating, N–1 User(created_by)

SubsidyRating

Purpose: User rating for subsidy.

Attributes: rating, review, created_at

Methods: save()

Relations: N–1 Subsidy, N–1 User

SubsidyApplication

Purpose: Application submitted by farmer.

Attributes: application_id, personal info, land info, bank info, status, timestamps

Methods: assign_officer(), update_status()

Relations: N–1 User, N–1 Subsidy, N–N Document, N–1 Officer(User)

Document (Subsidy)

Purpose: Application-specific documents.

Attributes: document_type, document_number, file, uploaded_at

Methods: validate_file()

Relations: N–N SubsidyApplication, N–1 User

Document (Photo)

Purpose: General document storage.

Attributes: title, type, number, file, uploaded_at

Methods: classify_type()

Relations: N–1 User

Article

Purpose: News articles by providers.

Attributes: title, description, image, tag, created_at

Methods: publish()

Relations: N–1 User

Grievance

Purpose: User-submitted support tickets.

Attributes: grievance_id, subject, description, status, attachment, created_at

Methods: update_status(), assign_officer()

Relations: N–1 User(submitter), N–1 User(officer)

Notification

Purpose: In-app notifications.

Attributes: type, subject, message, is_read, created_at, expires_at

Methods: mark_read()

Relations: N-1 User

NotificationPreference

Purpose: User notification settings.

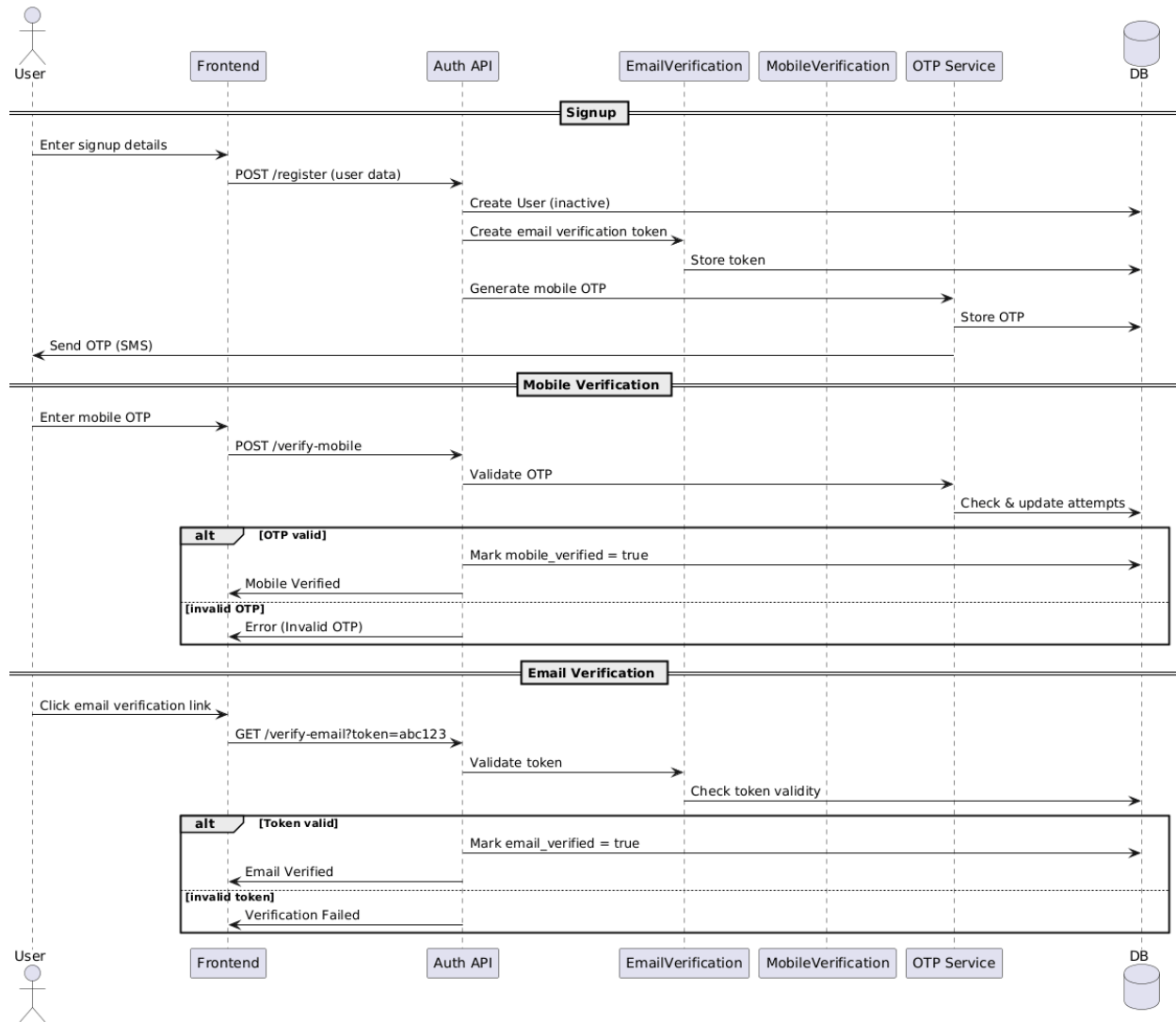
Attributes: notify_general

Methods: toggle_setting()

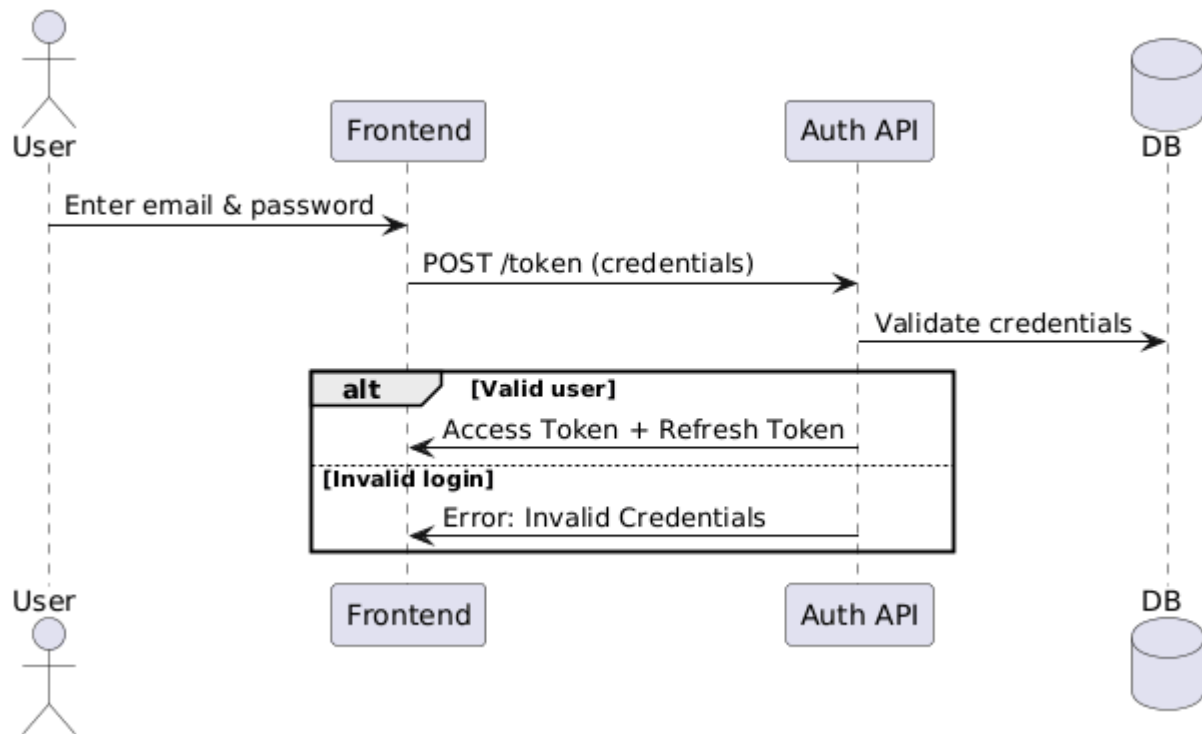
Relations: 1-1 User

Sequence Diagram

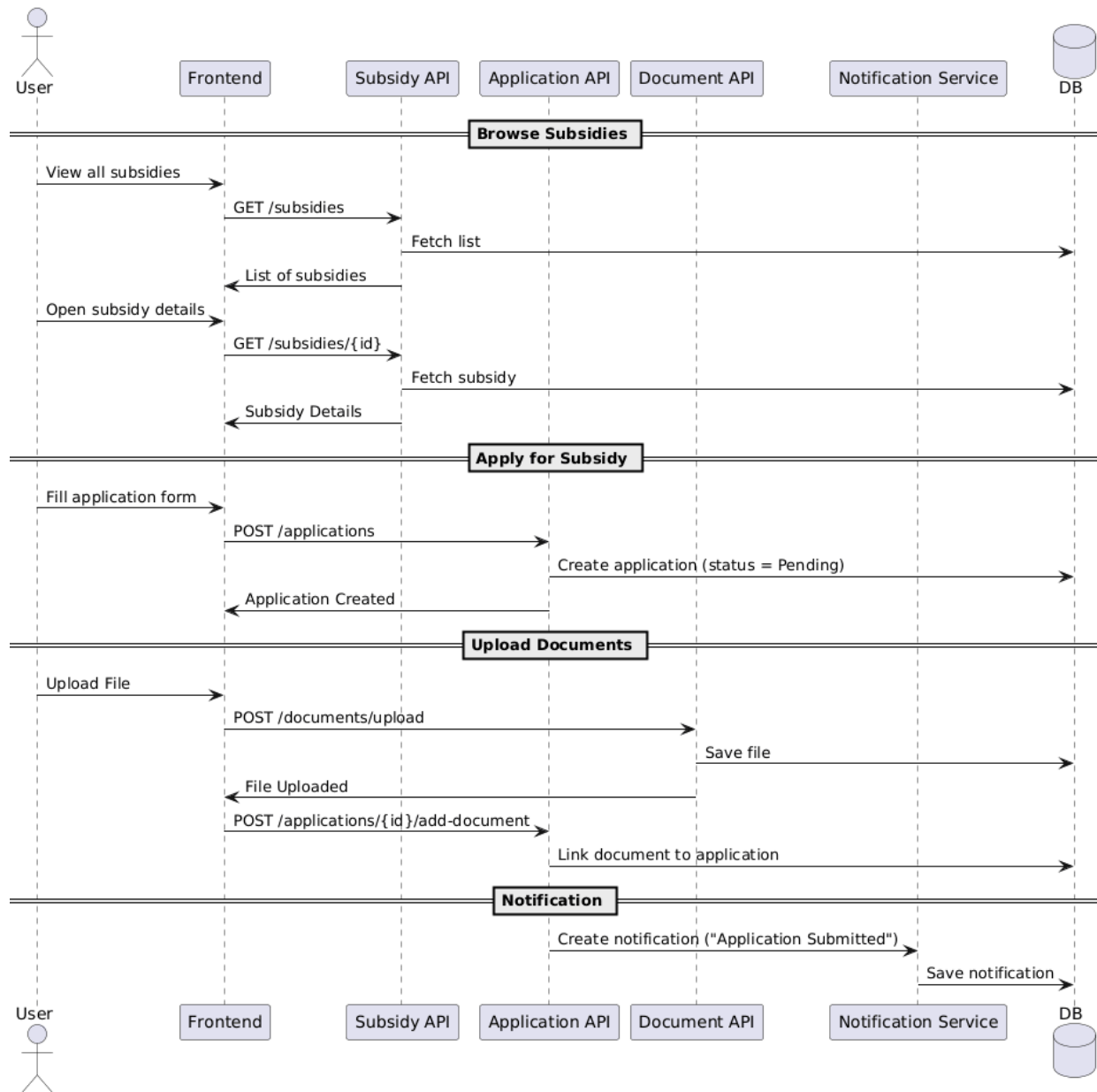
1.USER SIGNUP + VERIFICATION



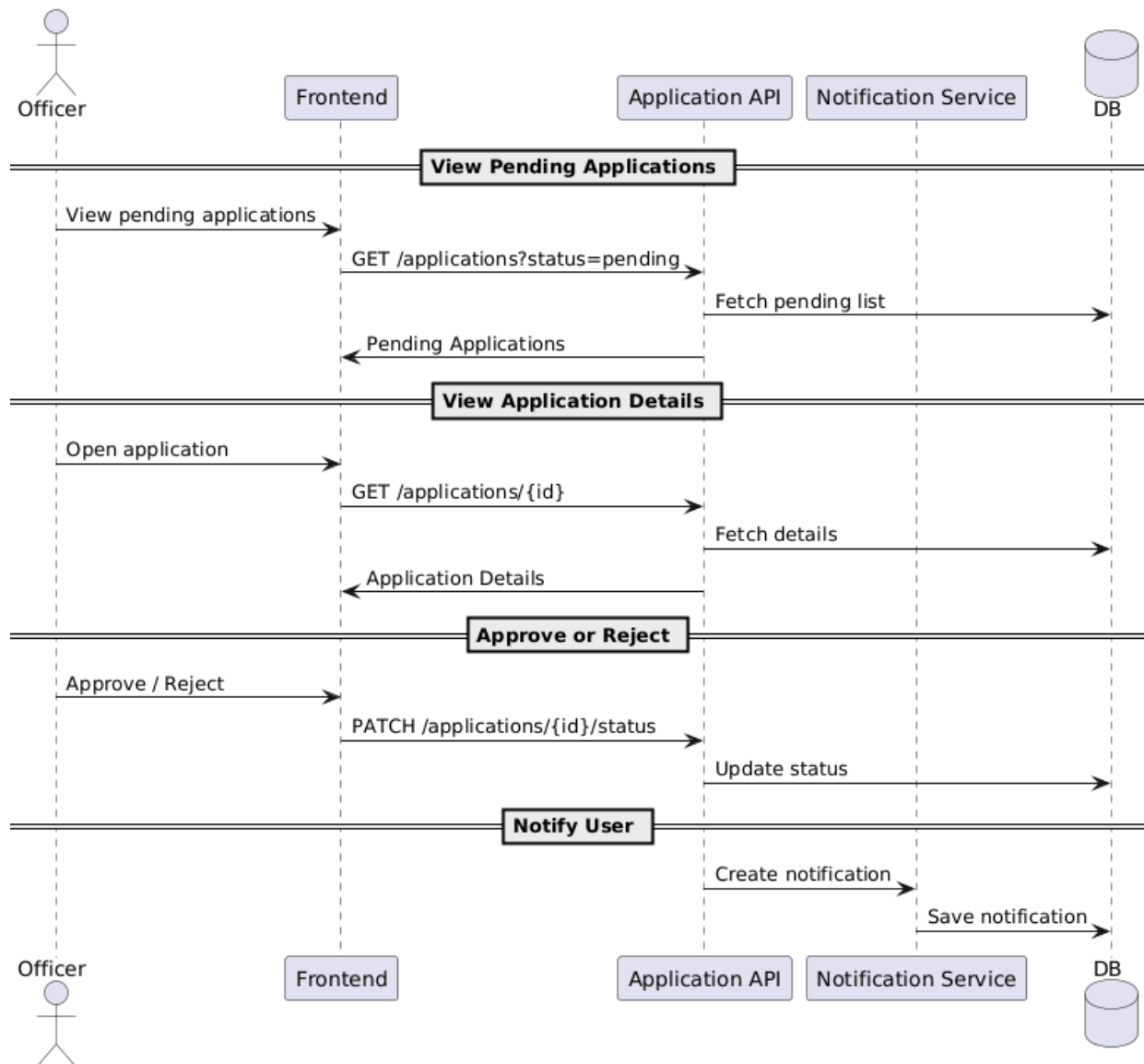
2. USERLOGIN FLOW



3. SUBSIDYDISCOVERY + APPLICATION



4. OFFICER REVIEW + STATUS CHANGE



State Machine

