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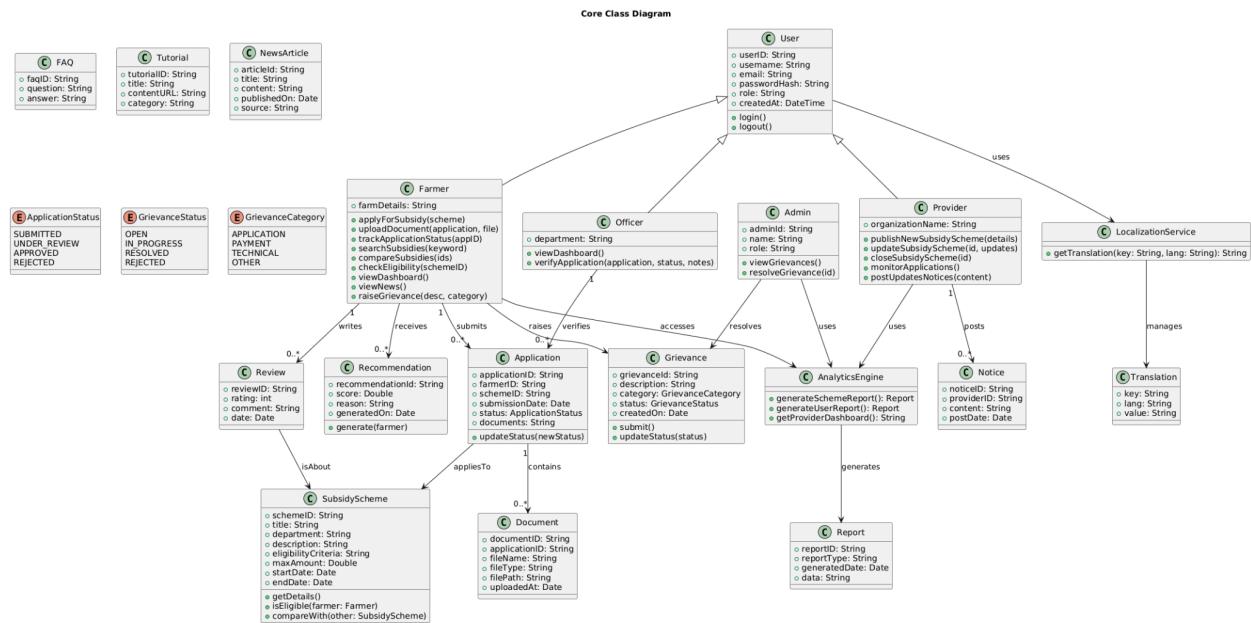
**Object Design**



**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.

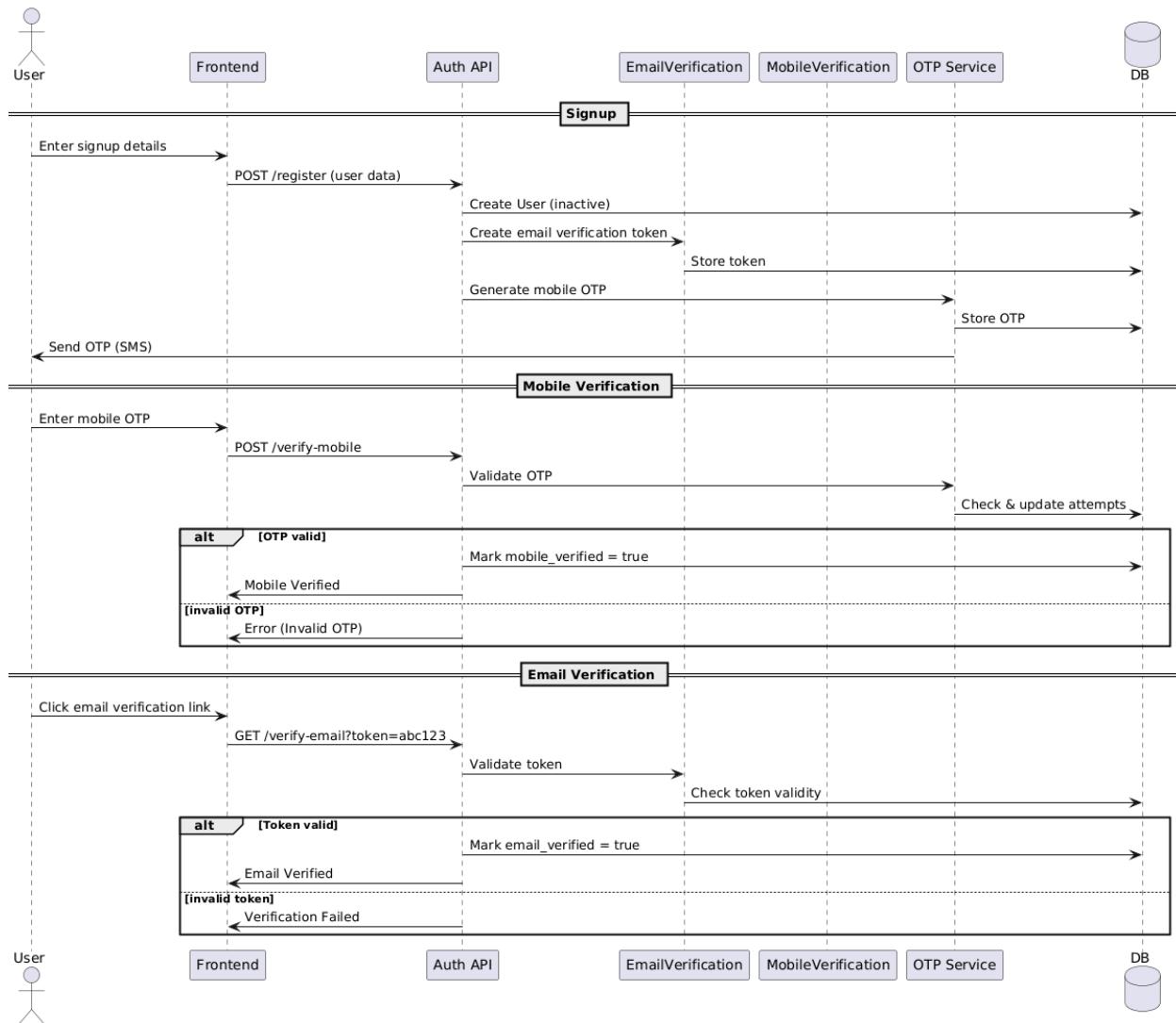
Attributes: notify\_general

Methods: toggle\_setting()

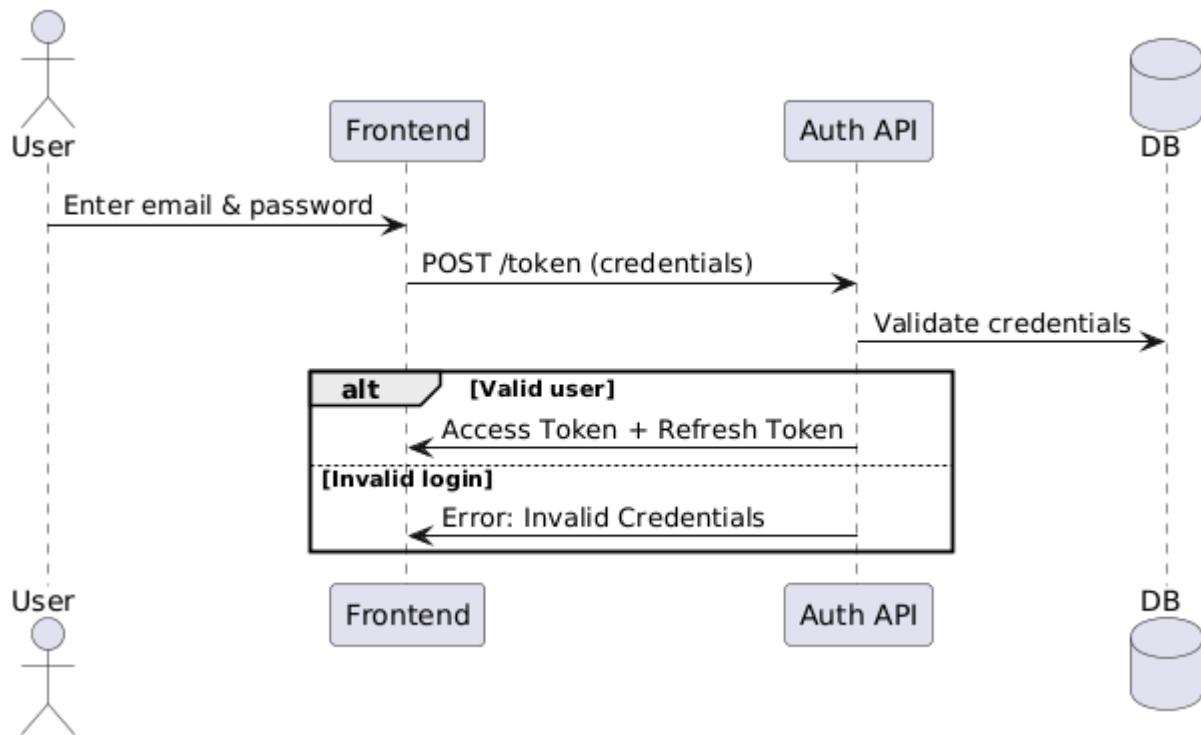
Relations: 1–1 User

# Sequence Diagram

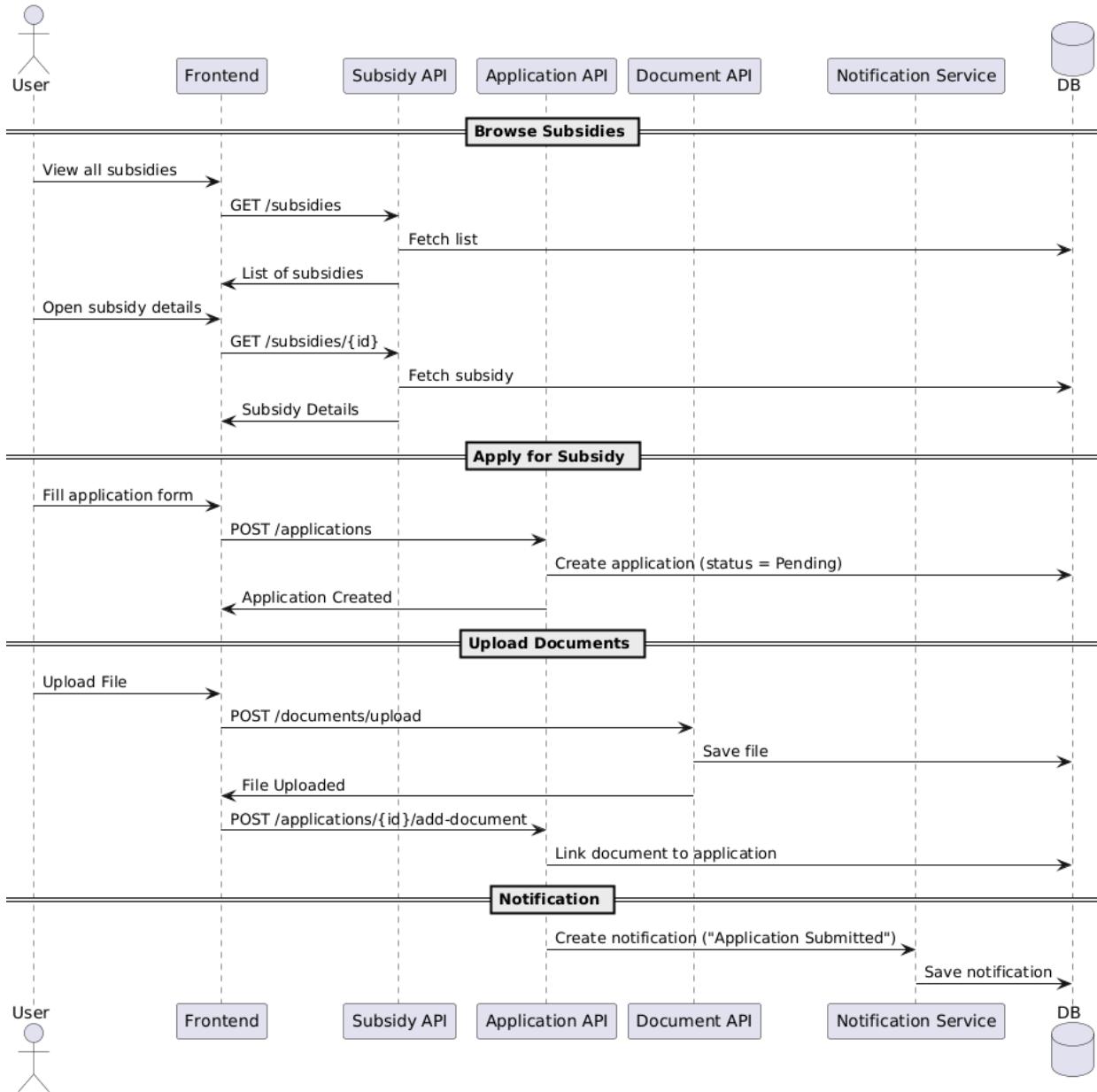
## 1. USER SIGNUP + VERIFICATION



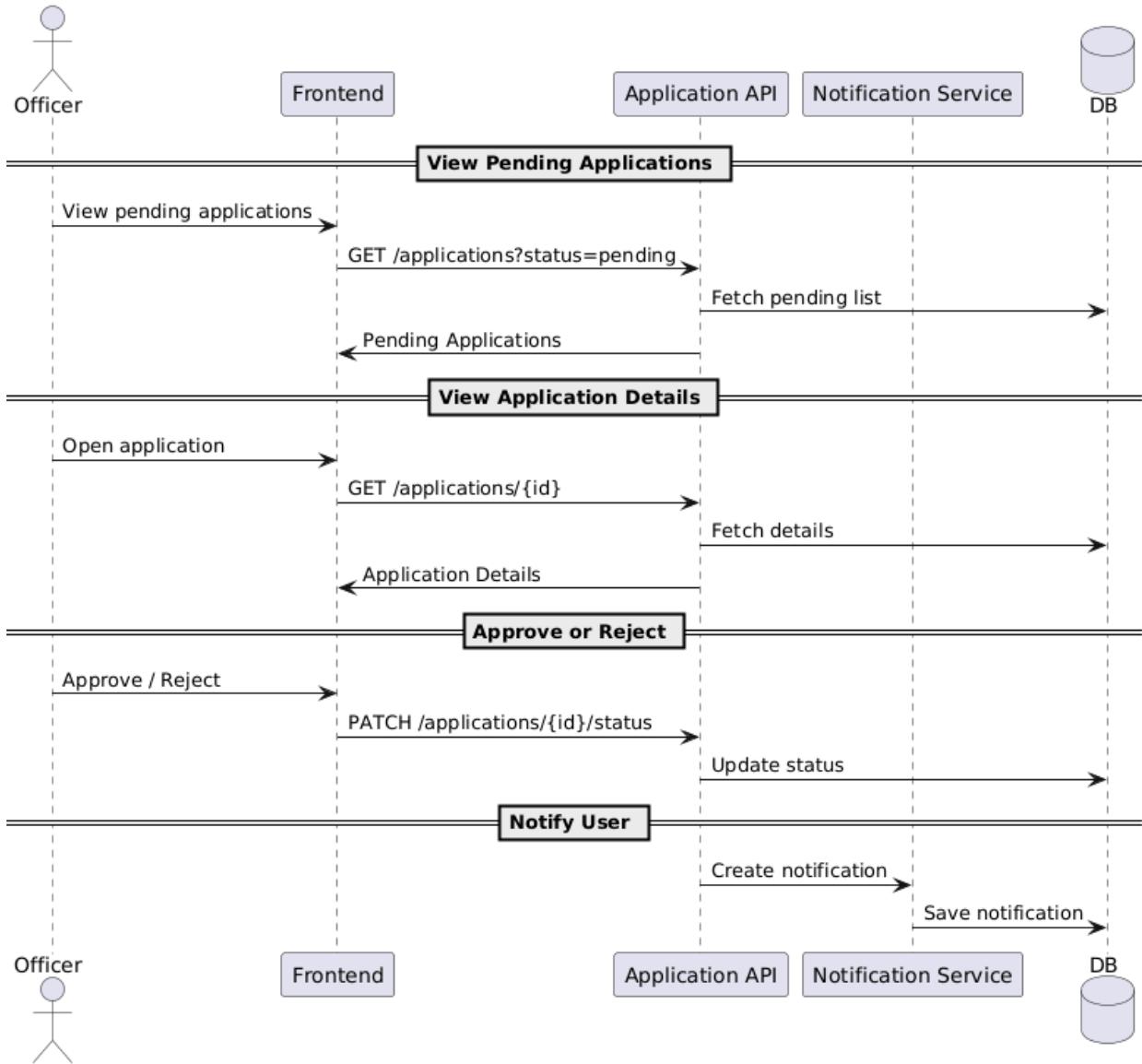
## 2. USERLOGIN FLOW



### 3. SUBSIDYDISCOVERY + APPLICATION



## 4. OFFICER REVIEW + STATUS CHANGE



## State Machine

