

FRD-101: Aadhaar Validation Using UIDAI Mock API

1. Functionality Summary

The system must validate the Aadhaar number submitted by the customer using a UIDAI Mock API. This API simulates Aadhaar authentication responses (VALID, INVALID, ERROR). Validation ensures the Aadhaar number is structurally correct and matches UIDAI mock records before proceeding to the next onboarding step.

2. Detailed Functional Description

2.1 Input Field

Field	Type	Mandatory	Rules
aadhaarNumber	String (12 digits)	Yes	Must match regex ^[0-9]{12}\$

2.2 Validation Flow

```
# ENDPOINT
POST /mock-uidai/validateAadhaar

# HEADERS
Content-Type: application/json

# REQUEST
{
  "aadhaarNumber": "XXXXXXXXXXXX"
}

# RESPONSE (VALID)
{
  "status": "VALID",
  "message": "Aadhaar found"
}

# RESPONSE (INVALID)
{
  "status": "INVALID",
  "message": "Not found"
}

# RESPONSE (ERROR)
{
  "status": "ERROR",
  "message": "Internal error"
}
```

2.3 System Behavior

If status = VALID:

Proceed to FRD-102 (PAN verification).

If status = INVALID:

Block onboarding and display error.

If status = ERROR:

Retry API call up to 3 times. If still failing, mark as SYSTEM ERROR.

3. Error Codes

Error Code	Description	When Triggered
ERR-1010	Aadhaar format invalid	Regex fails
ERR-1011	Aadhaar not found in mock DB	UIDAI returns INVALID
ERR-1012	UIDAI mock unreachable	Timeout / 5xx
ERR-1013	Malformed response	Missing status/message
ERR-1014	Too many attempts	Retries exceeded
ERR-1015	Rate limit exceeded	Mock API throttles

4. Preconditions

- Customer has already submitted personal details.
- Aadhaar number is available.
- UIDAI mock API endpoint is reachable.

5. Postconditions

- Aadhaar validation result stored in KYC table.
- Audit logs recorded (masked).
- If VALID → proceed to FRD-102.

6. Acceptance Criteria

AC ID	Acceptance Criteria
AC-101	System validates format before API call.
AC-102	System receives VALID/INVALID from API.
AC-103	INVALID → display 'Invalid Aadhaar Number'.
AC-104	API failure retried 3 times before ERR-1012.
AC-105	Store Aadhaar status in DB.
AC-106	Log masked request & response.

7. Data Storage Impact

Table: KYC

- aadhaar_number (Encrypted)
- aadhaar_status
- aadhaar_validation_timestamp

8. Non-Functional Requirements

- Response time < 3 seconds.
- Mask Aadhaar except last 4 digits in logs.
- Retry policy: 3 attempts with exponential backoff.
- Concurrency: ≥ 100 RPS.