One Pension One ID

Software Requirements Specification

INT 253
WEB DEVELOPMENT IN PYTHON USING DJANGO

SRIKANT AICH
12111982

Prepared for
Continuous Assessment 3
Spring 2025

Table of Contents

1. INTRODUCTION **1**

1.1 PURPOSE 1
1.2 SCOPE 1
1.3 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS 1
1.4 REFERENCES 2
1.5 OVERVIEW 2

2. GENERAL DESCRIPTION **2**

2.1 PRODUCT PERSPECTIVE 2
2.2 PRODUCT FUNCTIONS 2
2.3 USER CHARACTERISTICS 3
2.4 GENERAL CONSTRAINTS 3
2.5 ASSUMPTIONS AND DEPENDENCIES 3

3. SPECIFIC REQUIREMENTS **4**

3.1 EXTERNAL INTERFACE REQUIREMENTS 4
3.1.1 User Interfaces *4*
3.1.2 Hardware Interfaces *6*
3.1.3 Software Interfaces *6*
3.1.4 Communications Interfaces *6*
3.2 FUNCTIONAL REQUIREMENTS 7
3.2.1 Pensioner User Registration *7*
3.2.2 Pensioner Login *7*
3.2.3 Grievance Management *7*
3.2.4 Life Certificate Submission *7*

4. ANALYSIS MODELS ***8***

4.1 DATA FLOW DIAGRAMS (DFD) *9*

5. GITHUB LINK ***9***

A. APPENDICES ***9***

A.1 APPENDIX 1 ..... *9*

1. Introduction

The One Pension One ID system is a centralized web-based platform designed to unify and digitize pension-related processes for Indian government pensioners. With the goal of promoting transparency, accessibility, and administrative efficiency, this system allows pensioners to securely manage their pension information, submit life certificates, raise grievances, and receive official updates. The platform also enables government officials and administrators to handle document verifications, manage grievances, and oversee all pension-related operations from a single interface. By incorporating role-based authentication, real-time data access, and a modern UI, the system provides a seamless experience for all users.

1.1 Purpose

The purpose of this document is to provide a comprehensive Software Requirements Specification (SRS) for the One Pension One ID system. This centralized web application aims to streamline pension management for Indian government pensioners by integrating pension tracking, grievance redressal, document verification, life certificate submission, and administrative control into a unified platform. It is intended for use by pensioners, government officials, and system administrators.

1.2 Scope

The One Pension One ID project is designed to improve transparency, efficiency, and accessibility in pension disbursement and management. The platform allows pensioners to:

- *Track pension transactions*
- *Submit and verify life certificates*
- *Raise and monitor grievances*
- *Receive announcements and FAQs from officials*

Government officials can use the system to:

- *Verify documents and life certificates*
- *Manage grievances*
- *Announce circulars and updates*
- *View reports and analytics*

Administrators have full control over data management and user roles. The platform also ensures secure login, OTP verification, role-based access, and email notifications.

1.3 Definitions, Acronyms, and Abbreviations

- OTP- One Time Password
- SRS -Software Requirements Specification
- UI -User Interface
- KYC -Know Your Customer
- DBMS -Database Management System

1.4 References

- *Government of India Pension Rules and Guidelines*
- *Django Documentation (https://docs.djangoproject.com/)*
- *Bootstrap 5 Documentation (https://getbootstrap.com/)*
- *RFC 5321 - Simple Mail Transfer Protocol (Email standards)*

1.5 Overview

This document is organized to provide a clear understanding of the system's goals, functional and non-functional requirements, user characteristics, external interfaces, system architecture, and data flow models. The report further outlines specific components of the system such as grievance management, pension transaction tracking, and life certificate workflows.

2. General Description

This section provides a high-level overview of the One Pension One ID system. It outlines the product's background, key functionalities, types of users, operational environment, constraints, and dependencies. The goal is to help stakeholders understand how the system fits into the broader pension management infrastructure and what to expect from its core features. This lays the foundation for the detailed functional and non-functional requirements that follow in later sections.

2.1 Product Perspective

The One Pension One ID system is a centralized pension management solution built as a standalone web application. It acts as a single source of truth for all pension-related data and activities for Indian government pensioners. It is designed using Django as the backend framework, with HTML, Bootstrap 5, and JavaScript for the frontend. The application interfaces with a SQL database and uses email services for OTP and notifications.
This platform replaces fragmented manual processes and legacy systems, providing a streamlined, digital alternative that can be accessed by pensioners, officials, and administrators from any device with internet connectivity.

2.2 Product Functions

The major functions of the system include:

- ***Authentication and User Management***
  - *Signup using Aadhaar and preset passwords*
  - *Role-based login for pensioners, officials, and admins*
  - *OTP-based password reset*
- ***Pension Tracking***
  - *View past pension transactions*
  - *Display last credited pension with date*
- ***Life Certificate Management***
  - *Submit and verify life certificates*
  - *Auto-calculate next due date*

    - *Highlight certificates older than 11 months*
- ***Grievance Redressal***
    - *Submit and track grievance status*
    - *Admin-only remarks for internal tracking*

- ***Communication & Announcements***
    - *View latest government announcements and circulars*
    - *FAQs and Help section for common queries*
- ***Admin Panel***
    - *Manage pensioners, officials, transactions, life certificates, grievances, announcements, and FAQs*
    - *View analytics and reports*

2.3 User Characteristics

The system is designed for the following types of users:

- ***Pensioners:***
    - *May not be tech-savvy*
    - *Require simple, accessible UI*
    - *Access limited to personal records and submission forms*
- ***Government Officials:***
    - *Intermediate computer users*
    - *Responsible for verifying documents and responding to grievances*
- ***Administrators:***
    - *Tech-proficient users*
    - *Responsible for managing all data, configurations, and user roles*

2.4 General Constraints

- *The application requires a stable internet connection.*
- *OTP services and email servers must be reliably configured.*
- *All users must be registered with a valid Aadhaar ID and government email.*
- *Sensitive actions like password resets and submissions are protected by OTP verification.*
- *UI must be responsive and accessible on both desktop and mobile devices.*

2.5 Assumptions and Dependencies

- *Pensioner records are pre-loaded into the system.*
- *Email notifications will be reliably delivered using configured SMTP settings.*
- *Officials and admins are trained to use the backend interface.*
- *Government APIs for Aadhaar/PAN verification may be integrated in future phases.*

3. Specific Requirements

This section outlines all functional and non-functional requirements for the One Pension One ID system. It provides a detailed description of how the system interacts with users, external systems, and hardware, and it defines each functionality that the system must support. The section is structured to clearly define external interfaces, system behavior, and business logic needed for the successful implementation and operation of the platform.

3.1 External Interface Requirements

3.1.1 User Interfaces

The system provides a clean, user-friendly, and responsive web interface for pensioners, government officials, and administrators. The design is consistent across all pages, using Bootstrap 5 for styling and layout.

Key Screens:

- ***Login & Signup Pages*** *– Secure access for all users with role-based login.*
- ***Pensioner Dashboard*** *– Displays last pension credit, life certificate status, pending grievances, etc.*
- ***Grievance Submission & Tracking*** *– Allows users to submit and track the status of grievances.*

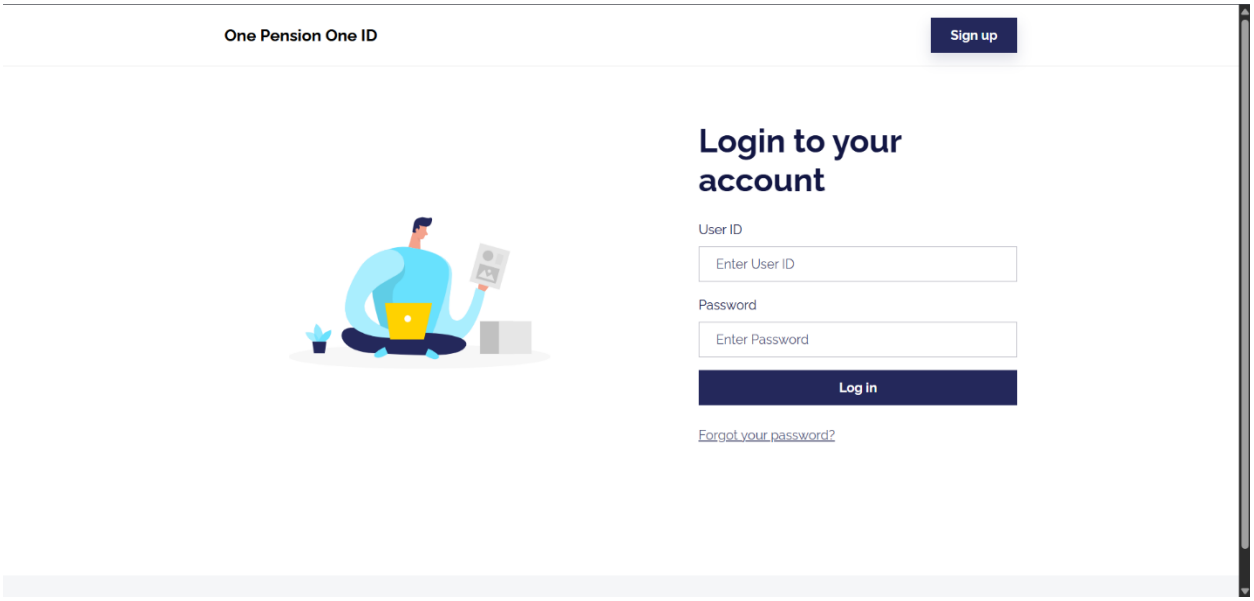

Figure 1 Login Screen

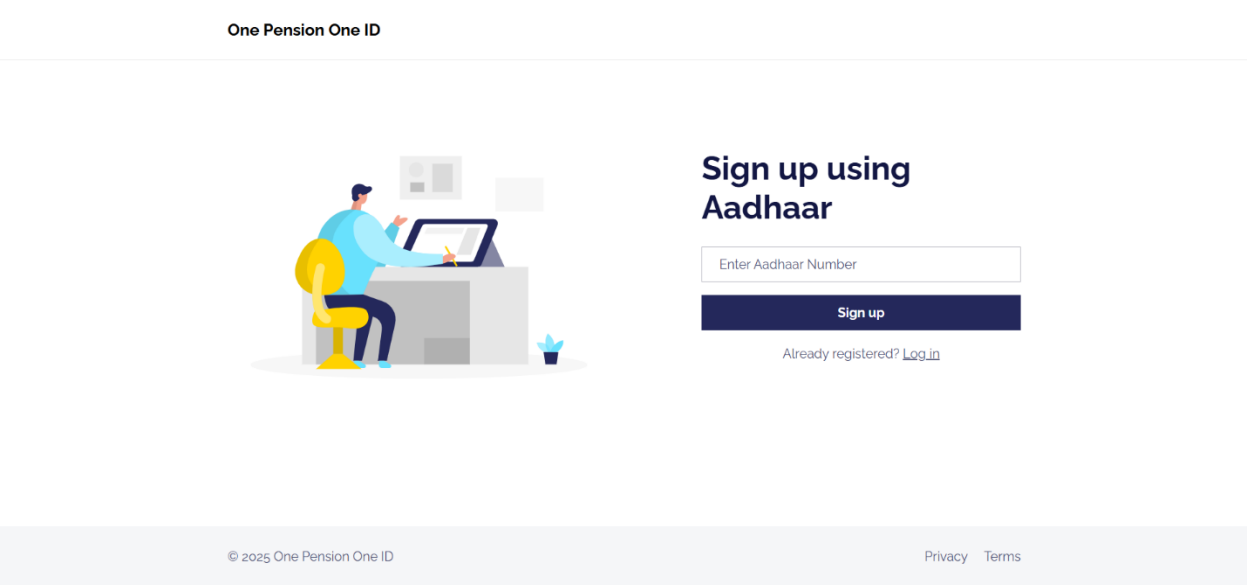

Figure 2 Signup Screen

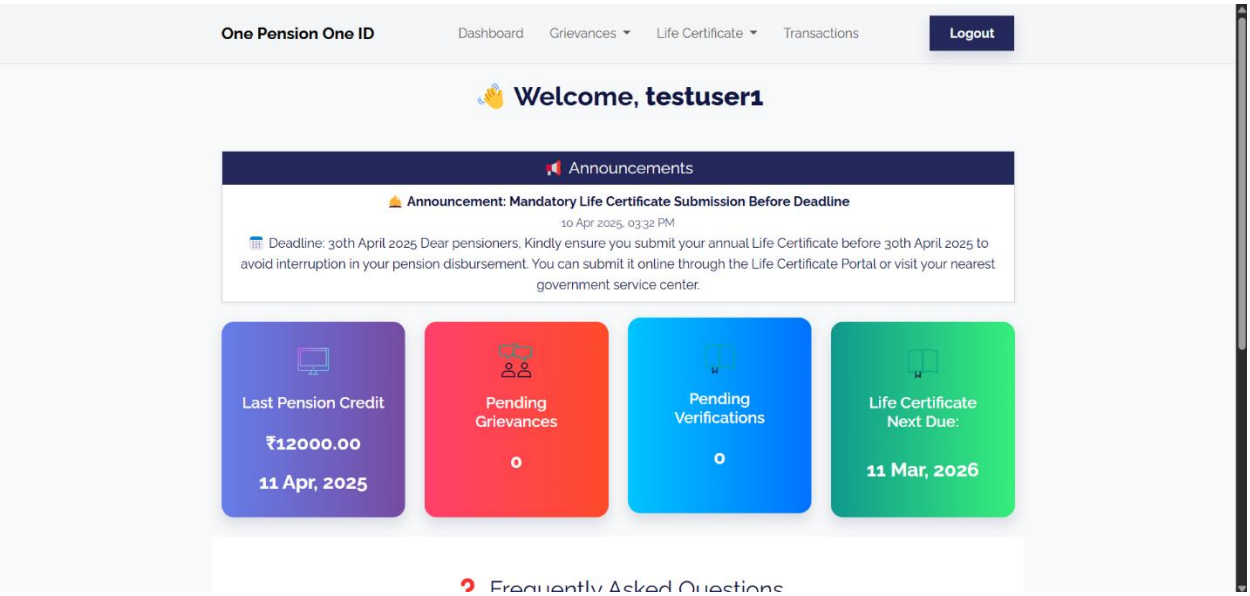

Figure 3 Dashboard

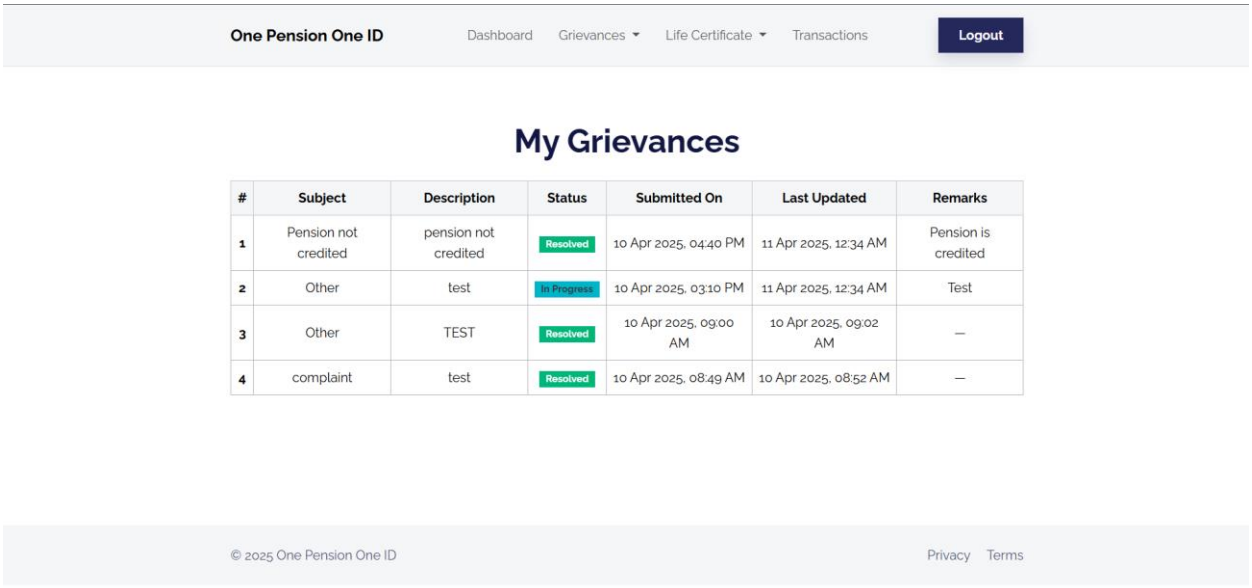

Figure 4 Grievances Tracking

3.1.2 Hardware Interfaces

The system should be accessible via common devices such as:

- *Desktop computers, laptops, and tablets.*
- *Smartphones (both Android and iOS).*

3.1.3 Software Interfaces

The system must integrate with:

- *A MySQL or PostgreSQL database for storing user data, grievance records, pension transactions, etc.*
- *Email services for sending notifications and OTPs (EmailJS or SMTP-based service).*
- *APIs for integrating third-party services (e.g., government databases for Aadhaar validation).*

3.1.4 Communications Interfaces

- *The system will use HTTPS for secure communication.*
- *Email service (SMTP/EmailJS) for notifications, OTPs, and confirmations.*
- *SMS service integration to send critical alerts and notifications.*

3.2 Functional Requirements

3.2.1 Pensioner User Registration

- ***Description****: Pensioners can sign up by providing their Aadhaar and other personal information.*
- ***Input****: Aadhaar number, personal details, and predefined password.*
- ***Output****: Confirmation email with login credentials.*
- ***Validation****: Verify Aadhaar and personal data, send an OTP for account activation.*
- ***Priority****: High.*

3.2.2 Pensioner Login

- ***Description****: Pensioners can log into their account using their registered credentials (username and password).*
- ***Input****: Username and password.*
- ***Output****: Access granted to the dashboard.*
- ***Validation****: OTP for first-time login or password reset.*
- ***Priority****: High.*

3.2.3 Grievance Submission

- ***Description****: Pensioners can submit grievances for issues like "Pension not credited" or "Incorrect pension amount".*
- ***Input****: Grievance subject, description, and optional attachments.*
- ***Output****: Grievance is recorded in the system, and a confirmation email is sent to the pensioner.*
- ***Validation****: Validate inputs for required fields, provide confirmation of submission.*
- ***Priority****: High.*

3.2.4 Grievance Management for Admin

- ***Description****: Admin can view, update, and resolve grievances submitted by pensioners.*
- ***Input****: Grievance details (subject, status, etc.).*
- ***Output****: Updated status for grievances, email notifications to pensioners on resolution.*
- ***Validation****: Ensure grievance status updates are reflected and notifications are sent.*
- ***Priority****: High.*

3.2.5 Life Certificate Submission

- ***Description****: Pensioners can submit life certificates for pension validation.*
- ***Input****: Life certificate document or form.*
- ***Output****: Status of life certificate submission (Pending, Approved, etc.).*
- ***Validation****: Ensure document format is valid, and required details are provided.*
- ***Priority****: Medium.*

4. Analysis Models

4.1 Data Flow Diagrams (DFD)

4.1.1 Level 0 DFD (Context Diagram)

This is the highest-level DFD that shows the system as a single process and its interaction with external entities.

External Entities:

- Pensioner
- Admin
- Government Officials
- Email/SMS Services

Major Processes:

- Handle User Authentication
- Manage Grievances
- Manage Pension Transactions
- Submit Life Certificate
- Admin Management & Reporting

Data Stores:

- Pensioner Data
- Grievance Records
- Life Certificate Submissions
- Transaction Logs

4.1.2 Level 1 DFD

Breakdown of core modules:

- **Process 1: User Management**
  - Handles signup, login, password reset, and role-based access.
  - Stores user credentials and profile info.
- **Process 2: Grievance Management**
  - Allows pensioners to submit grievances.
  - Admin can update status, add remarks.
  - Sends email notifications.
- **Process 3: Life Certificate Handling**
  - Users upload or submit life certificates.
  - Admin validates and approves them.
  - Tracks submission and due dates.
- **Process 4: Pension Transactions**
  - Displays monthly pension credit history.
  - Tracks transaction date, amount, and bank details.
- **Process 5: Admin Panel Controls**
  - Manages FAQs, announcements, users, transactions.
  - Handles backend configurations.

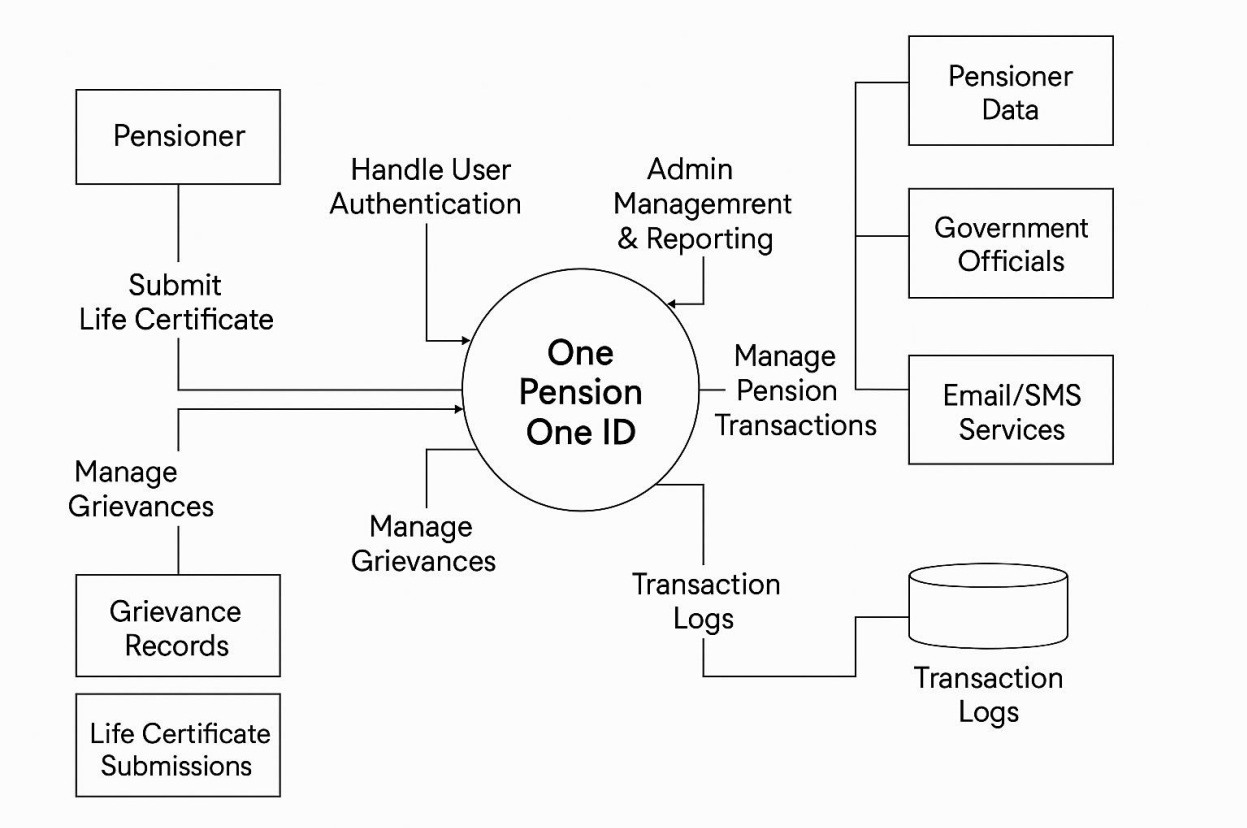

Figure 5 DFD

5.GitHub Link:

https://github.com/SrikantAich/OnePensionOneID.git

A. Appendices

A.1 Appendix 1 – Future Scope (Optional)

The following features are considered potential enhancements for future development:

- ***Multilingual Support**: Enable pensioners to use the platform in their preferred Indian language.*
- ***Mobile App Integration**: Android/iOS apps for real-time access.*
- ***Aadhaar-based Face/Video Verification**: Advanced life certificate verification.*
- ***SMS Notifications**: For users without email access.*
- ***Analytics Dashboard**: For government officials to track pensioner activity and trends.*