Application Workflow Documentation

Overview

This document outlines the complete end-to-end workflow for the application processing system, from initial user login through final certificate issuance.

1. User Login and Application Submission

1.1 Authentication Process

- User initiates login through OTP (One-Time Password) authentication
- System verifies the OTP credentials
- Upon successful verification, user gains access to the Application Form

1.2 Form Submission

- User completes all required fields in the application form
- User selects their desired position from the dropdown menu
- Upon submission, the system routes the application to the appropriate Junior Engineer based on the selected position

2. Role-Based Routing System

The application is automatically assigned to a specific Junior Engineer based on the position selected:

Position Selected	Assigned To
Architect	Junior Engineer (Architect)
Structural Engineer	Junior Engineer (Structural)
Licence Engineer	Junior Engineer (Licence)
Supervisor 1	Junior Engineer (Supervisor 1)

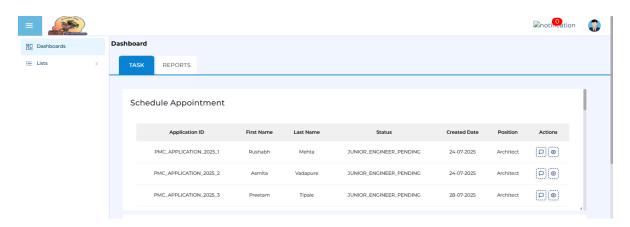
3. Junior Engineer Stage

Responsibilities

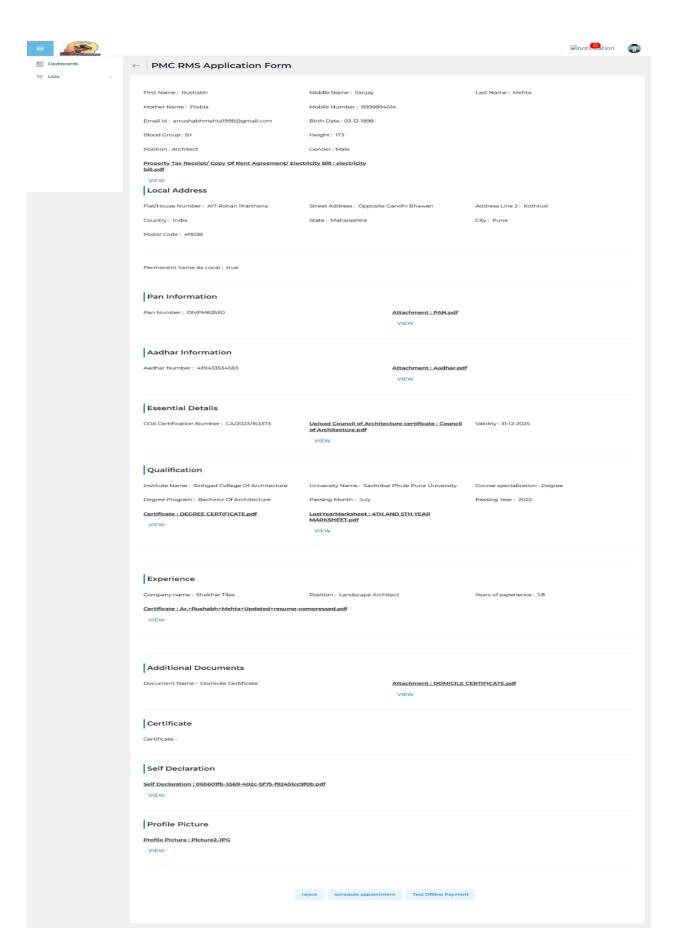
The assigned Junior Engineer performs two critical tasks:

Task 1: Schedule Appointment

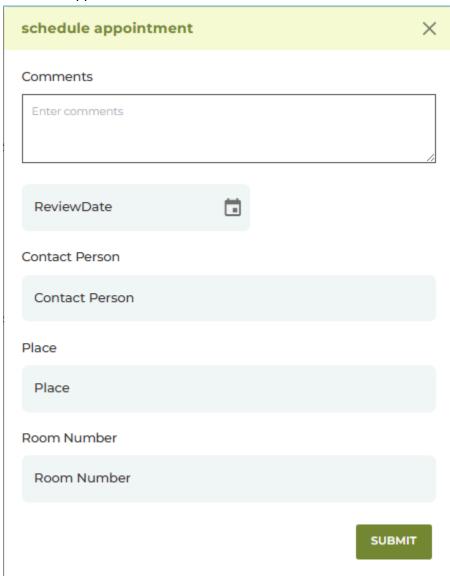
- Review the application details
- Access the Schedule Appointment interface displaying:
 - Application ID (e.g., PMC_APPLICATION_2025_87)
 - Applicant Name (First Name and Last Name)
 - Current Status (JUNIOR_ENGINEER_PENDING)
 - Submission Date
 - Position Selected (Architect, Structural Engineer, etc.)
 - Action buttons for viewing and managing appointments
- Schedule an appointment for the applicant
- Notify the applicant of the appointment details



Complete Label Form-



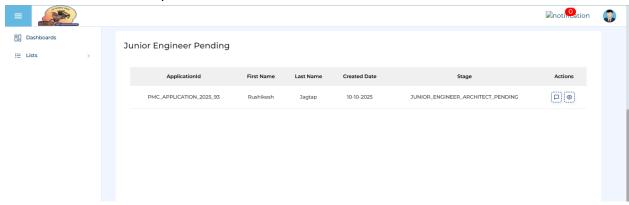
Schedule Appoinment -



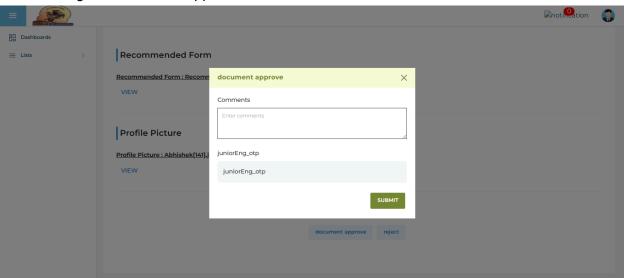
Task 2: Document Verification

- Verify all submitted documents for authenticity and completeness
- Confirm document compliance with requirements
- Apply digital signature to the Recommended Form using HSM Digital Signature System
- Authenticate the form for further processing

• Mark verification as complete



After Clicking on "Document Approve" button:



Next Step

Once both tasks are completed, the application is forwarded to the Assistant Engineer.

4. Assistant Engineer Stage

Role-Based Assignment

The application is routed to the corresponding Assistant Engineer based on the position:

Position Selected Assigned To

Architect Assistant Engineer (Architect)

Structural Engineer Assistant Engineer (Structural)

Licence Engineer Assistant Engineer (Licence)

Supervisor 1 Assistant Engineer (Supervisor1)

Supervisor 2 Assistant Engineer (Supervisor2)

Responsibilities

- Conduct a thorough review of the application
- Verify that all Junior Engineer tasks have been completed
- Apply digital signature to the Recommended Form using HSM Digital Signature System
- Approve the application if all requirements are met

Next Step

Upon approval, the application advances to the Executive Engineer (Stage 1).

Rejection Flow

If the Assistant Engineer rejects the application:

- Application status is updated to "REJECTED"
- Rejection reason/comments are recorded
- Application is sent back to the guest user for corrections
- User can view the rejection comments on their dashboard
- User can edit and resubmit the application form
- Upon resubmission, the application re-enters the workflow at the Junior Engineer stage

5. Executive Engineer Stage 1

Responsibilities

- Review the complete application package
- Verify all previous approvals and documentation
- Apply digital signature to the Recommended Form using HSM Digital Signature System
- Provide official approval

Next Step

After Executive Engineer approval, the application is routed to the City Engineer.

Rejection Flow

If the Executive Engineer rejects the application:

- Application status is updated to "REJECTED"
- Rejection reason/comments are recorded
- Application is sent back to the guest user for corrections
- User can view the rejection comments on their dashboard
- User can edit and resubmit the application form
- Upon resubmission, the application re-enters the workflow at the Junior Engineer stage

6. City Engineer Stage 1

Responsibilities

- Perform final review of the application
- Ensure all regulatory requirements are met
- Apply digital signature to the Recommended Form using HSM Digital Signature System
- Grant approval for proceeding to payment

Next Step

If approved, the application enters the Payment Stage.

7. Payment Processing

Payment Gateway

- User is directed to make the required payment through BillDesk Payment Gateway
- Secure online transaction processing

Upon Successful Payment

The system automatically generates three documents:

- 1. **Certificate** (preliminary version)
- 2. Challan (payment receipt)
- 3. **Recommended Form** (already generated at submission)

Next Step

Application proceeds to the Clerk for post-payment approval.

8. Clerk Stage

Responsibilities

- Review the payment confirmation
- Verify payment details and amounts
- Approve the application for digital signature processing

Next Step

Application is forwarded to the Executive Engineer (Stage 2).

9. Executive Engineer Stage 2

Responsibilities

- Apply digital signature to the certificate using **HSM Digital Signature System**
- Ensure signature validity and authenticity

Next Step

Application moves to the City Engineer (Stage 2).

10. City Engineer Stage 2

Responsibilities

- Apply final digital signature using HSM Digital Signature System
- Complete the certificate authentication process

Next Step

Final certificate is issued and made available for download.

11. Certificate Issuance and Download

Access Method

- User logs in through Guest Login
- No full authentication required for download

Available Documents

Users can download the following documents:

- 1. Final Certificate (with digital signatures)
- 2. **Recommended Form** (generated at application submission)
- 3. Challan (payment receipt)

12. Notification System

Email Notifications

The system sends automated email notifications to the user at every stage:

- Application submission confirmation
- Junior Engineer appointment scheduled
- Document verification completed
- Assistant Engineer approval
- Executive Engineer approval (Stage 1)

- City Engineer approval (Stage 1)
- Payment confirmation
- Clerk approval
- Executive Engineer signature applied
- City Engineer signature applied
- Final certificate available for download

13. Integrated Systems

BillDesk Payment Gateway

- Purpose: Secure online payment processing
- Usage: Handles all financial transactions
- Security: PCI-DSS compliant payment processing

HSM Digital Signature System

- Purpose: Cryptographically secure digital signatures
- Usage: Certificate signing by Executive Engineer and City Engineer
- Security: Hardware Security Module ensures signature validity and non-repudiation

14. Complete Workflow Summary

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User Login (OTP)

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Application Form Submission

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Role-based Junior Engineer Assignment

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Junior Engineer Tasks (Schedule & Verify)

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Assistant Engineer Approval

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Executive Engineer Approval (Stage 1)

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City Engineer Approval (Stage 1)

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User Payment (Easebuzz)

↓
Clerk Approval
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↓
Executive Engineer Digital Signature
↓
City Engineer Digital Signature
↓
Final Certificate Issued
↓
User Guest Login & Download

15. Key Features

- Automated Routing: Applications are automatically routed based on position selection
- Multi-level Approval: Ensures thorough review at multiple administrative levels
- Secure Payment: Integration with trusted payment gateway
- Digital Signatures: HSM-based signatures ensure document authenticity
- Real-time Notifications: Users are kept informed at every stage
- Easy Access: Guest login allows simple certificate retrieval

Rejection Flow

If the Junior Engineer rejects the application:

- Application status is updated to "REJECTED"
- Rejection reason/comments are recorded
- Application is sent back to the guest user for corrections
- User can view the rejection comments on their dashboard
- User can edit and resubmit the application form
- Upon resubmission, the application re-enters the workflow at the Junior Engineer stage