

# Proposal for Investigation Case Management Application

## Project Overview

This project involves the development of a comprehensive in-house application for a Third-Party Administrator (TPA) working with insurance company. The primary purpose is to streamline case investigation workflows, track progress, manage data, and enhance communication across various stakeholders involved in the investigation process.

## Scope of Work

### 1. User Roles and Access Controls

- **Head of Department (HOD):** Registers cases, assigns supervisors, monitors progress, and approves the final report.
- **Supervisor:** Enters initial case details, assigns investigators, verifies information (e.g., PAN, Aadhar, doctor info via APIs), manages investigator work allocation, reviews case status, creates questionnaires, and handles reassessment.
- **Investigator:** Receives assignments, collects information during site visits, completes questionnaires, uploads documents, and marks case status.
- **Medical Officer:** Reviews data, assesses claim legitimacy, adds remarks, and determines the claim status.
- **Data Entry Personnel:** Compiles the final report from the gathered data and medical officer remarks.

Each user role has specific access permissions within the app:

- **HOD:** Full access to create, assign, and monitor cases, and to confirm or reject reports.
- **Supervisor:** Full access to case data, investigator details, case questionnaires, and reassessment features.
- **Investigator:** Access to assigned case details, visit data entry, questionnaire completion, and visit status updates.
- **Medical Officer:** Access to case data, investigator-uploaded data, and assessment input fields.
- **Data Entry:** Access to report compilation fields and final submission to HOD.

### 2. Functional Pages and Workflow

- **Login Page:** A unified login page with role-based redirection for HOD, Supervisor, Investigator, Medical Officer, and Data Entry personnel.
- **Dashboard Views:**
  - HOD: Overview of all active, completed, and reassigned cases; filters for insurance company, type of case, and status.
  - Supervisor: Overview of cases assigned to them with options to assign, reassign, or reallocate tasks.
  - Investigator: List of assigned cases with a progress tracker, deadlines, and TAT (Turnaround Time) monitoring.
  - Medical Officer: List of cases requiring review with access to all case documentation and data.
  - Data Entry: List of cases ready for report compilation with required data fields populated.

### • Case Registration & Assignment:

- Cases can be added in two ways:
  - Manual Upload: HOD uploads a PDF containing case details and assigns a supervisor.
  - SATA API Integration: Case data from the external SATA system is automatically received, creating a case entry.
- Supervisor Assignment: HOD assigns a supervisor upon case creation.
- Case Details Page: Supervisors enter details from the uploaded PDF and verify PAN, Aadhar, and doctor information via external APIs.

### • Case Details and verification:

- Case Info: Contains claim number (system-generated), insurance claim number, insurance company details, type of case, and rate (based on case type and insurance company).
- Verification: Supervisor verifies information from the API and updates it in the case database.

### • Investigator Assignment & Visit management:

- Visit Assignment: Supervisor assigns investigators based on the case location.
- Questionnaire Creation: Supervisor selects relevant questions from the question bank for each visit.
- TAT Management: Each investigator has a time-bound task monitored through TAT, with SMS, email, and push notification alerts for deadlines.
- Investigation Completion: After completing a visit, the investigator uploads collected information, answers the questionnaire, and submits the visit status.

### • Case Review and Medical Assessment:

- Supervisor Review: All uploaded information is reviewed by the Supervisor.
- Medical Officer Review: Medical Officer reviews the completed case, adds remarks on claim legitimacy, and suggests the claim amount.
- Data Entry & Report Generation: Data Entry personnel compile a final report, incorporating pre-set fields from the database, and submit it for HOD's review.

### • Final review & Approval:

- HOD Approval: HOD reviews the final report and approves or sends it back for reassessment if needed.
- SATA API Return (if applicable): If the case originated from SATA, the finalized report is sent back via the SATA API after HOD approval.

### • MIS Reports:

- Reports are generated for each stakeholder based on key metrics:
  - TAT Adherence: Monitor turnaround time for each task completion.
  - Case Status Reports: For Investigators, Supervisors, and Medical Officers to track case status and actions taken.
  - Outcome Tracking: Claims approved, rejected, and reasons.
  - Custom Filters: Stakeholder performance, visit history, and case reassignment stats.

### 3. Process Flow of the Investigation Case Management

#### 1. Case Creation & Assignment

- HOD Uploads Case PDF: A case is created by either manually uploading a PDF (HOD) or receiving data from the SATA system (via API).
- Assign Supervisor: HOD assigns a supervisor to oversee the case investigation.

#### 2. Supervisor Details Entry & Verification

- Case Details Entry: Supervisor reviews and enters details from the uploaded PDF (e.g., customer name, insurance company, etc.).
- Verification Process: Supervisor verifies essential details (PAN, Aadhar, and doctor information) via integrated APIs.
- Visit Requirement Analysis: Supervisor assesses how many visits are needed, potentially to multiple locations (e.g., hospitals, chemists).
- Work Allocation: If multiple visits are required, the Supervisor allocates work percentages among Investigators for fair compensation.

#### 3. Questionnaire Preparation & Investigator Assignment

- Questionnaire Creation: Supervisor selects relevant questions from a pre-existing question bank, tailoring a specific questionnaire for each visit.
- Assign Investigator: Based on the location(s) of the visits, the Supervisor assigns Investigators from the database, factoring in the investigator's region, availability, and rates.

#### 4. Investigator Notification & Task Execution

- Notifications Sent: Assigned Investigators receive a notification (push, email, SMS) of the new case along with visit details, deadlines, and TAT requirements.
- Visit Execution & Data Collection: Investigator visits the location(s), gathers data, and completes the questionnaire on the app.
- Documentation Upload: Investigator uploads all relevant information (e.g., images, PDFs, notes) to the app and marks the visit as "Investigation Completed."

#### 5. Supervisor Review & Medical Officer Assignment

- Supervisor Data Review: Supervisor reviews the newly uploaded data, verifies answers to the questionnaire, and ensures all required documents are present.
- Medical Officer Assignment: Supervisor assigns the case to a Medical Officer from the database.

#### 6. Medical Officer Assessment & Remarks

- Data Evaluation: Medical Officer reviews all case data, including the investigator's findings, and evaluates claim legitimacy.
- Summary & Recommendations: Medical Officer writes a summary with remarks on whether the claim is valid and suggests an appropriate claim amount.

#### 7. Data Entry for Final Report Compilation

- Case Forwarding: After the Medical Officer's assessment, the case is forwarded to the Data Entry Personnel.
- Report Compilation: Data Entry compiles a final report using a template that includes pre-defined sections from the database, filling in all required data and the Medical Officer's remarks.

#### 8. Final Review & Approval

- Supervisor Review: The Supervisor reviews the compiled report for completeness and accuracy.
- HOD Approval: HOD conducts a final review and either approves or sends the report for reassessment, if needed.

## 9. SATA System (if applicable)

- SATA API Submission: For cases originating from the SATA system, the finalized report is sent back to SATA via API after HOD approval.

## 10. MIS Reporting & Case Reopening

- MIS Report Generation: MIS reports are generated for all stakeholders (HOD, Supervisor, Investigator, Medical Officer, Data Entry) based on key metrics such as TAT, case outcomes, and reassignment data.

- Reassessment or Reopening: If necessary, the Supervisor can reassign cases for further investigation or reopen completed cases.

## Platforms Supported

**iOS:** Full functionality and seamless user experience on Apple devices.

**Android:** Complete compatibility and intuitive design for Android devices.

**Web Portal:** Accessible from any desktop or mobile browser, enabling easy case management and reporting from any device

## Technology Stack

**Frontend (App):** Flutter (for both iOS and Android compatibility)

**Frontend (Web-Portal):** HTML CSS, JS (Bootstrap)

**Backend:** Django (for a robust, scalable backend API)

**Database:** SQLite3 (for on-device storage and efficient data handling)

**Notification Service:** Firebase (for push notifications)

**Storage Service (Document – PDFs / Images):** Amazon S3 Bucket

## Third-Party API Costs, Responsibilities, and Provisioning

The project requires integration with various verification services, including PAN, Aadhaar, bank account details, and doctor information verification. Please note the following:

**API Costs:** Each verification service incurs charges imposed by its respective provider. All costs for these third-party API services will be borne by the client, as these are external services not covered by the development agreement.

**API and API Key Provisioning:** The client will be responsible for providing all required APIs and API keys. Some verification APIs necessitate completion of a KYC (Know Your Customer) process, and the client will handle any necessary KYC requirements to obtain access.

**Billing Structure:** Verification services typically operate on a per-request or subscription basis, with charges varying based on usage volume and provider pricing models.

**API Key Management:** The client will oversee API key management, ensuring adequate subscription coverage and uninterrupted service.

**API Details for Final Reports to SATA:** The client will provide all necessary API details required to submit final reports to SATA, including specifications for data reception, which will guide API development and integration with the reporting system.

Given that we currently lack comprehensive information on these APIs, we recommend that the client consult with the verification providers or an API aggregator to understand options, pricing, and reliability before finalizing any selections.

## Commercial Proposal

- Total project Cost: **₹2,65,000**
  - 25% advance before starting the project (i.e. **₹66,250**, rounding to **₹65,000** we will adjust the **₹1,250** in final payment).
  - 25% before starting testing round (i.e. **₹66,250**, rounding to **₹65,000** we will adjust the **₹1,250** in final payment)
  - Balance payment upon completion of the project (i.e. **₹1,35,000**).
  - All other costs related to the app will be borne by the client.
- Annual Maintenance Contract (AMC)
  - 10% of the total project cost (**₹26,500/year**) for updates, maintenance, and support.
  - The first three months of support will be provided free of charge following the deployment of the application
  - The AMC will begin after three months of project deployment, and the first year's AMC payment will be due along with the remaining cost of the project
  - **Inclusions:** The AMC covers regular system maintenance, bug fixes, performance optimization, and minor frontend updates.
  - **Exclusions:** Any major feature additions or new developments outside the scope of the original project will not be included in the AMC. A separate Change Request (CR) will be raised for any new developments, and pricing will be determined based on the specific changes requested.

This includes development & deployment for iOS, Android & Web-Portal.

Third party cost (Amazon S3 bucket / Firebase) will be borne by client.

Other cost (App store cost, play store cost, Hosting, Domian) related to the app will be borne by client.

Any costs beyond development will be borne by the client.

## Project Deliverables and Timeline

- Phase 1: Requirement Gathering & UI/UX Design (2 Weeks)
- Phase 2: Backend Development (Django & Database Setup) (4 Weeks)
- Phase 3: Frontend Development (Flutter for iOS & Android) (2 Weeks)
- Phase 4: Integration of Notifications & API Verifications (1 Week)
- Phase 5: Testing, Debugging & Final Adjustments (2 Weeks)
- Phase 6: Deployment & Initial Support (2 Week)

This timeline begins once all required resources are received from the client