EPIC: Field Force Mobility & Task Execution Suite

Executive Summary

A mobile workflow for field workers to accept tasks, verify location, execute repairs, and submit verified evidence of completion.

Stakeholders & Value

User Personas

- **Primary Persona:** Field Worker (on-the-ground staff).
- **Stakeholders:** Govt Admin, Citizens, System Admin.

User Value

Workers get a clear task queue, directions, and a simple way to prove work completion with verified evidence.

Goal & Vision

Enable a high-accountability, low-friction field execution process with strong location integrity.

Scope

In Scope

- Worker onboarding and org linking.
- Task queue with map view and location verification.
- Task acceptance with worker-provided time estimates.
- Status transitions and timestamps.
- Mandatory camera capture for resolution evidence with EXIF validation.
- Email OTP login and Google OAuth only (no SMS/phone OTP).
- OpenStreetMap base tiles for map/directions (Mapbox optional).

Out of Scope

- Native navigation.
- Payroll/inventory.
- Live GPS tracking.

Success Metrics

- Faster transitions from ASSIGNED to IN_PROGRESS.
- Lower fix rejection rates.

Stories Under This Epic

1. [USER STORY 1: Invite-Only Onboarding & Org Linking](#)
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USER STORY 1: Invite-Only Onboarding & Org Linking

Executive Summary

Allow workers to register using a pre-invited email and auto-join their organization.

User Persona & Problem Statement

Who: As a Field Worker... **Why:** I need a verified way to access my department's tasks.

Scope (In & Out)

In Scope

- Email OTP login or Google OAuth (invite-only).
- Invite-only registration with pre-approved email list.
- Auto-link to organization on first login.

Out of Scope

- Bulk import.

Features & Acceptance Criteria

Feature: Invite-Only Org Linking

User Story: As a Field Worker, I want to register using my invited email so I can access my department's tasks.

Acceptance Criteria:

- ☐ Verify worker can only register with an email that was invited by the authority.
- ☐ Verify first login auto-links the worker to the correct org and sets status ACTIVE.
- ☐ Verify workers using non-invited emails are blocked.
- ☐ Verify login uses Email OTP or Google OAuth only.

Functional Requirements

- Store `org_id` on worker profile at first login.
- Return HTTP 403 for workers without an invited/active status.
- Invite lifecycle: INVITED -> ACTIVE -> INACTIVE.
- Invites expire after a configured window (default 7 days) and can be re-sent.
- Optional allowed-domain restriction can be enforced (e.g., *@ghmc.gov.in).

Edge Cases

- If an invite is expired or revoked, registration is blocked.

USER STORY 2: Task Queue, Acceptance & Location Verification

Executive Summary

Provide a centralized task list with map context, plus a required acceptance step that captures worker ETA.

User Persona & Problem Statement

Who: As a Field Worker... **Why:** I need clear location context and a way to estimate completion time when accepting tasks.

Scope (In & Out)

In Scope

- List view and map view.
- Before photo visibility.
- Accept task with time estimate.
- Location verification within 5m.

Out of Scope

- Task re-assignment.

Features & Acceptance Criteria

Feature: Location Verification

User Story: As a Field Worker, I want to verify location accuracy before starting work.

Acceptance Criteria:

- ☐ Verify "Get Directions" opens external map apps.
- ☐ Verify the original "Before" photo is visible.
- ☐ Verify the app shows distance to issue and warns when beyond 5m.

Feature: Task Acceptance with ETA

User Story: As a Field Worker, I want to provide an estimated completion time when I accept a task.

Acceptance Criteria:

- ☐ Verify an "Accept" action is required before starting work.
- ☐ Verify acceptance requires an estimated duration (minutes/hours).
- ☐ Verify ETA is saved to the issue and visible to Govt Admins.
- ☐ Verify acceptance sets `accepted_at` on the issue.

UI/UX Design & User Flow

Flow: My Tasks -> Open Task -> Accept + ETA -> Navigate -> Start Work.

Functional Requirements

- `POST /issues/{id}/accept` with payload `{ worker_id, estimated_minutes }`.
- Store `accepted_at` server timestamp.
- Expose ETA and elapsed time to authority dashboard.

Edge Cases

- ETA changes require re-confirmation by worker.

USER STORY 3: In-Field Execution (Status Lifecycle)

Executive Summary

Allow workers to mark tasks as IN_PROGRESS once they begin work.

User Persona & Problem Statement

Who: As a Field Worker... **Why:** I need to show I am actively working on a task.

Scope (In & Out)

In Scope

- Manual "Start Work" action.
- Status transition to IN_PROGRESS.

Out of Scope

- Manual time entry.

Features & Acceptance Criteria

Feature: Status Transition

Acceptance Criteria:

- ☐ Verify tapping "Start Work" changes status to IN_PROGRESS.
- ☐ Verify the button is disabled after starting work.
- ☐ Verify a "Working" badge is shown.

Workflow & Entity State Lifecycle

Lifecycle: ASSIGNED -> IN_PROGRESS.

Functional Requirements

- Record server-side timestamp on status change.
- Lock task to current worker during IN_PROGRESS.

Edge Cases

- Accidental tap cannot be undone without admin intervention.

USER STORY 4: Resolution Evidence & Mandatory Validation

Executive Summary

Enforce verified evidence submission with EXIF validation and location proximity checks.

User Persona & Problem Statement

Who: As a Field Worker... **Why:** I need to prove I finished the job with valid evidence.

Scope (In & Out)

In Scope

- Mandatory camera capture (no gallery).
- EXIF validation for time and location.
- GPS coordinate capture on submit.

Out of Scope

- Video evidence.
- Multi-photo uploads.

Features & Acceptance Criteria

Feature: Evidence Submission

User Story: As a Field Worker, I want to upload an "After" photo to resolve the ticket.

Acceptance Criteria:

- ☐ Verify Resolve is disabled until a photo is captured.
- ☐ Verify EXIF timestamp is within 7 days of submission.
- ☐ Verify EXIF location is within 5m of issue location.
- ☐ Verify submission is blocked if EXIF data is missing or invalid.
- ☐ Verify GPS coordinates are captured on submission.

UI/UX Design & User Flow

Flow: Active Task -> Capture Photo -> Add Notes -> Submit Resolution -> Success.

Workflow & Entity State Lifecycle

Lifecycle: IN_PROGRESS -> RESOLVED.

Functional Requirements

- Update status to RESOLVED.

- Submit `exif_timestamp` , `exif_lat` , `exif_long` , and `device_location` .

Non-Functional Requirements (Minimal)

- Optimize image upload size.

Edge Cases

- Upload failure keeps status as IN_PROGRESS with retry.

USER STORY 5: Personal Performance & Work History

Executive Summary

Provide workers with a history of completed work and performance totals.

User Persona & Problem Statement

Who: As a Field Worker... **Why:** I need a record of my completed tasks for reviews.

Scope (In & Out)

In Scope

- Historical list of RESOLVED/CLOSED tasks.
- Date-based filtering.
- Total resolved count.

Out of Scope

- Public leaderboards.

Features & Acceptance Criteria

Feature: Work History

User Story: As a Field Worker, I want to view my completed tasks.

Acceptance Criteria:

- ☐ Verify a History tab shows RESOLVED and CLOSED tasks only.
- ☐ Verify total resolved count is displayed on profile.

UI/UX Design & User Flow

Flow: Profile -> My History -> Filter by Date -> View Details.

Success Metrics

- Increased daily access to the task history view.