# INFRA AUDITS - ANALYSIS REPORT GENERATION

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Project Id: **12**

Technical Components

| Component | Tech Stack |
|---|---|
| Backend | Node.js, Express.js |
| Frontend | Angular |
| Database | MongoDB(NOSQL DataBase) |
| API | REST Ful API |

## 1.INTRODUCTION

### 1.1 PURPOSE

This document specifies the Software Requirements Specification (SRS) for an Infra Audits - Analysis Report Generation Portal. This portal aims to automate and manage the infrastructure audit workflow, including task assignment, report generation, and work completion tracking.

### 1.2 PROJECT SCOPE

This project focuses on developing a web-based portal using the MEAN stack (MongoDB, Express, Angular, Node.js) to manage infrastructure audits. The scope includes:

- User authentication for auditors and workers.
- Management of audit details (area, date, etc.).
- Task assignment to specific workers based on expertise.

- Report generation with observations and photo proof.
- Task completion tracking with status updates (Incomplete, Cannot Complete, Work Completed) and optional reason for delays.
- Worker profile management.

### 1.3 DEFINITIONS AND ACRONYMS

- MEAN Stack: A JavaScript software development stack combining MongoDB database, Express server framework, Angular frontend framework, and Node.js runtime environment.
- CRUD: Create, Read, Update, Delete - fundamental database operations.
- API: Application Programming Interface - a software intermediary that allows applications to interact with each other.

## 2.OVERALL DESCRIPTION

### 2.1 PRODUCT PERSPECTIVE

The Infra Audits - Analysis Report Generation Portal is a web application designed to streamline the infrastructure audit process. It provides a centralized platform for auditors to assign tasks, inspectors to submit reports, and workers to update task completion status.

### 2.2 PRODUCT FUNCTUIONS

The portal shall provide the following functionalities:

- **User Management:**
  - Users shall register with roles (Auditor, Worker).
  - The system shall authenticate users through a login process.

- **Audit Management:**
  - Auditors shall create new audits, specifying details like area and date.
- **Task Management:**
  - Auditors shall assign tasks within an audit, defining the area to be inspected and the required expertise (electrical, plumbing, etc.).
  - The system shall assign tasks to specific workers based on their expertise.
- **Report Generation:**
  - Inspectors shall submit reports for assigned audits, including observations of damage or repairs.
- **Task Completion:**
  - Workers shall view assigned tasks and update their completion status (Incomplete, Cannot Complete, Work Completed).
  - Workers shall provide a reason for "Cannot Complete" status (optional).
  - Workers shall upload photos as proof for "Work Completed" status.
- **Report Review:**
  - Auditors shall review submitted reports for assigned audits.
  - Auditors shall download report PDFs (optional).
- **Worker Management:**
  - Auditors shall view existing worker profiles with expertise details.
  - Auditors shall add new workers with their area of expertise.

## 2.3 USER CHARACTERISTICS

The portal is designed for two primary user groups:

- Auditors: Responsible for assigning tasks, reviewing reports, and managing the overall audit process.
- Workers: Skilled professionals (electricians, plumbers, etc.) who complete assigned tasks and update their completion status.

## 2.4 GENERAL CONSTRAINS

- The portal shall be accessible through a web browser on various devices (desktop, laptop, tablet).
- The system shall ensure data security through user authentication and access control mechanisms.

# 3. SPECIFIC REQUIREMENTS

## 3.1 FUNCTIONAL REQUIREMENTS

### 3.1.1 USER MANAGEMENT

 Users shall register with a username, password, and role (Auditor, Worker).

 The system shall implement a secure login process with password hashing.

 The system shall differentiate user roles and provide access control based on roles.

### 3.1.2 AUDIT MANAGEMENT

- Auditors shall create new audits, specifying details like area, date, and a brief description.
- The system shall store audit details in a database.
- The system shall allow auditors to view existing audits.

### 3.1.3 TASK MANAGEMENT

- Auditors shall assign tasks within an audit, specifying the area to be inspected and the required expertise (e.g., electrical, plumbing).
- The system displays a list of available workers with their expertise.
- The auditor shall assign the task to the most suitable worker based on their expertise.
- The notification is sent to user when task is assigned.
- Workers shall view a list of their assigned tasks.

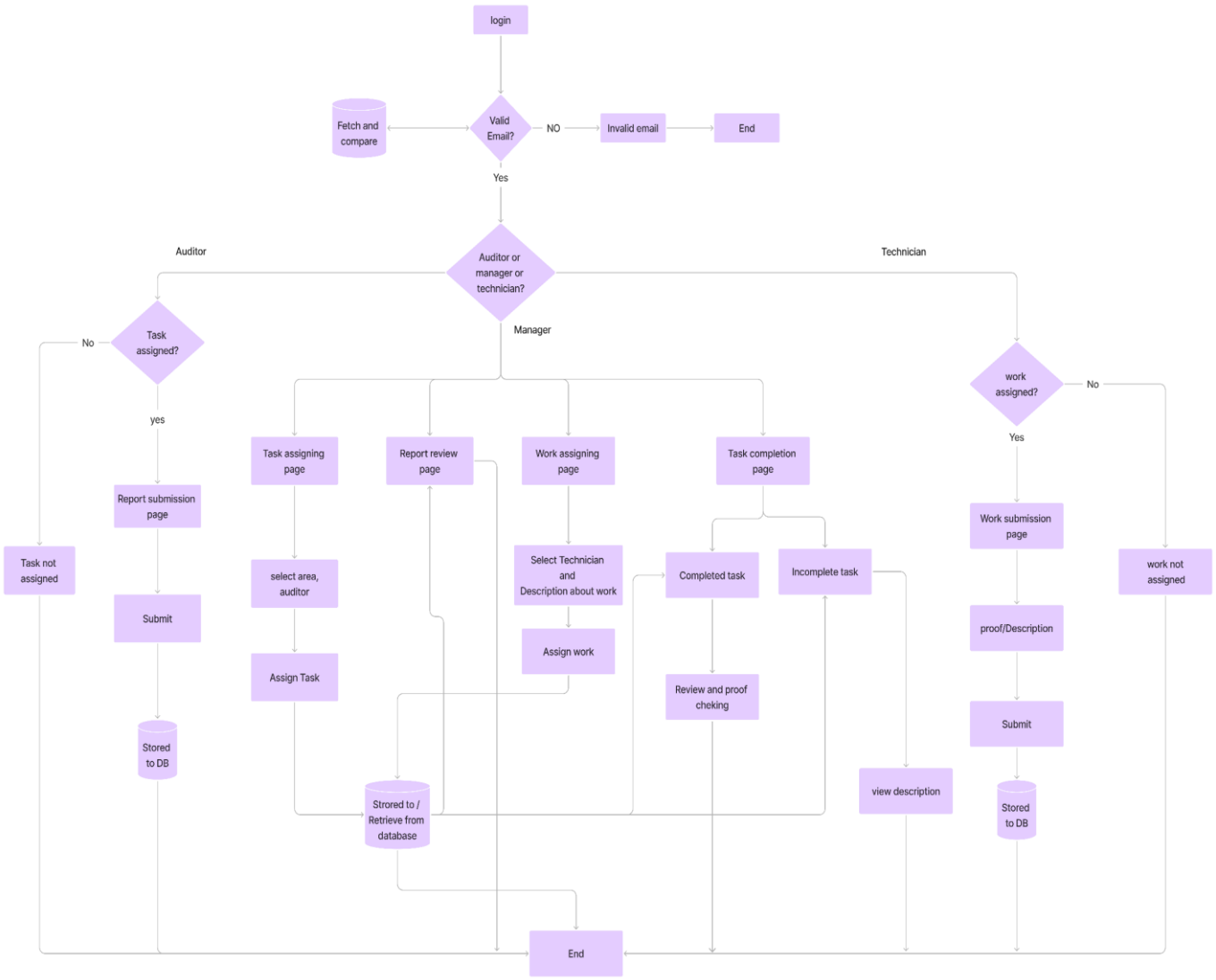
### 3.1.4 REPORT GENERATION

- Inspectors shall submit reports

### 3.1.5 TASK COMPLETION

- The system displays the list of incomplete tasks, completed tasks and the delayed tasks (the work is incomplete due to another work).

# Flow Chart:


login
Fetch and compare
Valid Email?
NO
Invalid email
End
Yes
Auditor
Auditor or manager or technician?
Technician
No
Task assigned?
yes
Manager
work assigned?
No
Yes
Task assigning page
Report review page
Work assigning page
Task completion page
Report submission page
Work submission page
Task not assigned
select area, auditor
Select Technician and Description about work
Completed task
Incomplete task
work not assigned
Submit
Assign work
proof/Description
Assign Task
Review and proof cheking
Submit
Stored to DB
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view description
Stored to DB
End