

MILESTONE-4

# INSURAI-CORPORATE POLICY AUTOMATION AND INTELLIGENCE SYSTEM

PRESENTED BY:-

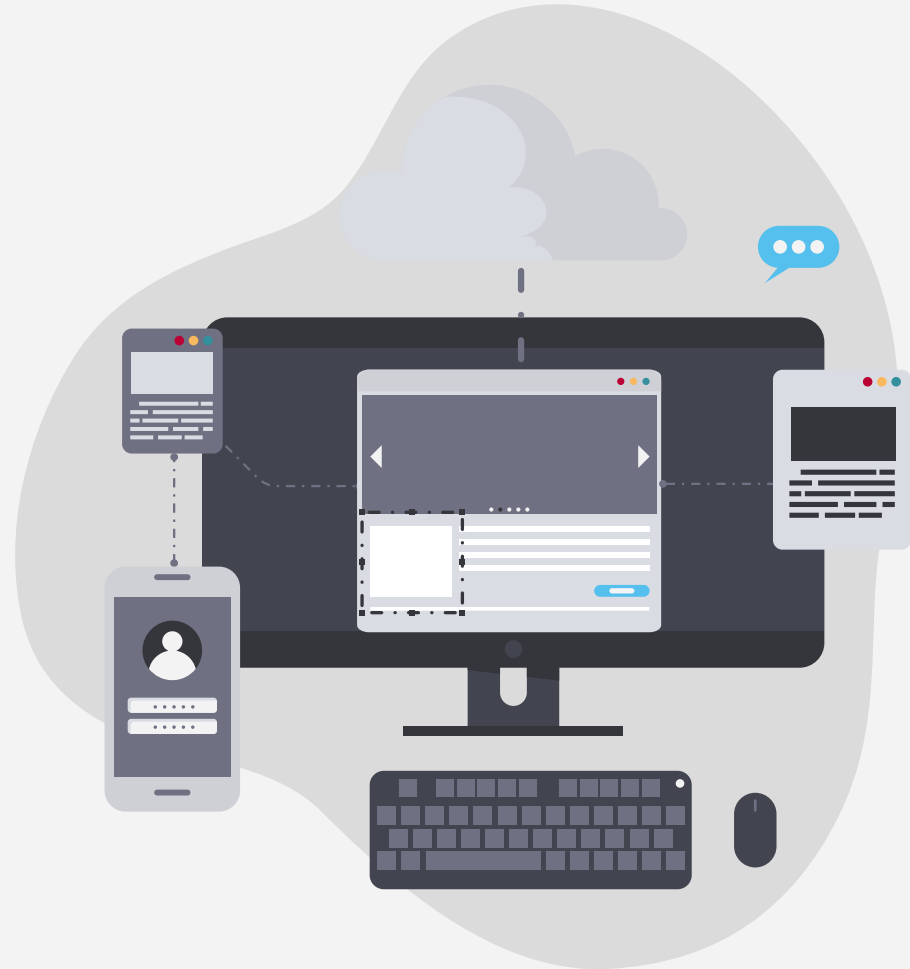
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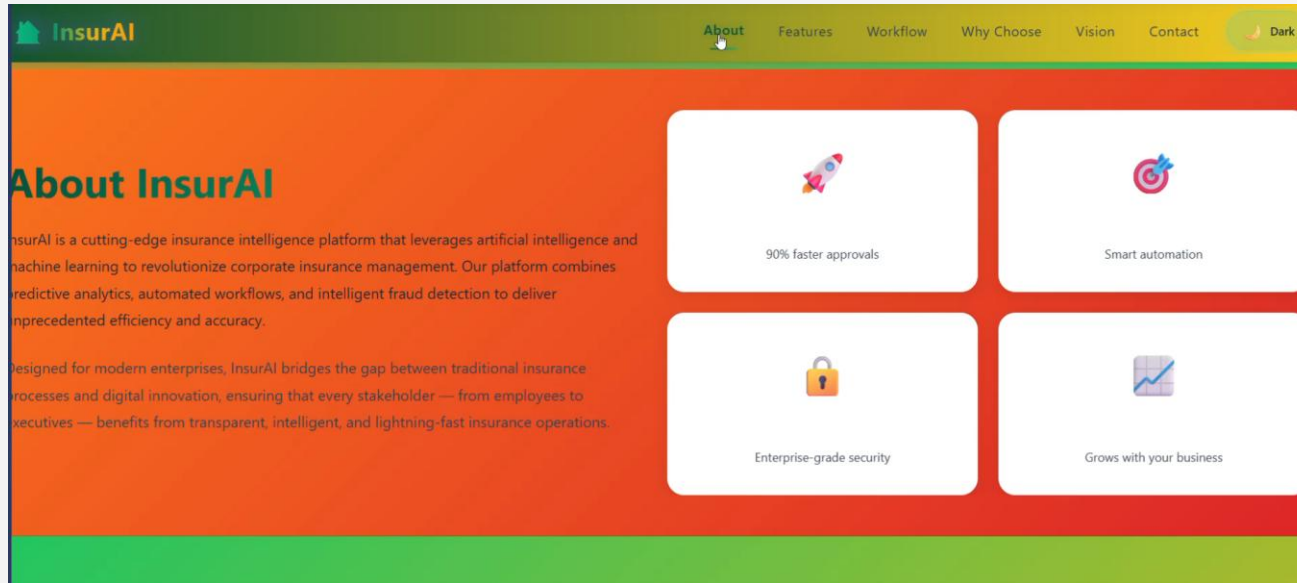
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# PROJECT OVERVIEW

InsurAI is an enterprise-grade insurance management platform that streamlines and automates corporate policy workflows. It provides intelligent tools for policy administration, risk assessment, claims processing, and compliance, enabling organizations to manage insurance portfolios efficiently and insightfully.



# KEY HIGHLIGHTS



**01**

**Web-based application**  
Using React.js for  
frontend and Spring  
Boot for backend

**02**

**MySQL database**  
For structured storage

**03**

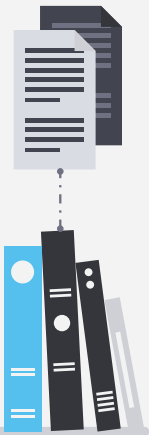
**Scalable design**  
For large enterprises  
with thousands of  
employees

**04**

**Role-based access**  
Employee, Agent, HR  
Admin, and System  
Admin

**05**

**Real-time capabilities**  
Provides real-time  
updates, automated  
workflows, AI-powered  
fraud detection, and  
comprehensive  
dashboards



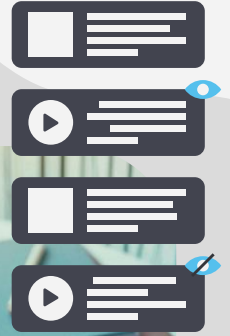
# PROBLEM STATEMENT

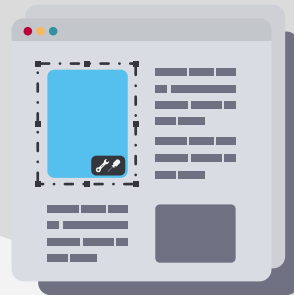
Currently, corporate insurance management suffers from manual inefficiencies:

- Employees submit claims through forms or emails
- HR and insurance agents manually verify policies and eligibility
- Delays in claim approvals and approval errors are common
- Employees cannot track claim statuses in real time
- Lack of automated fraud detection results in financial losses
- Administrative overhead increases operational costs

## PROJECT OBJECTIVE

The system aims to simplify policy management for employees and HR, speed up claim approvals via automation, provide transparency with real-time claim tracking, reduce fraud with AI-driven anomaly detection, and generate insights and reports for HR/Admin to improve decision-making.





## SCOPE

**Focused on corporate users, not individual policyholders.**

**Supports role-based access: Employees, Agents, HR Admin, System Admin.**

**Core functions include policy renewals, claim approvals, tax compliance, reporting, fraud detection, analytics, and dashboards.**

**Scalable for organizations of any size.**



## Key Features of InsurAI



### Role-Based Logins

Secure access for Employee, Agent, HR, and Admin.



### Automation

Auto policy renewals, claim eligibility checks, scheduled reports, and notifications.



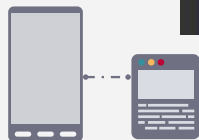
### AI & Analytics

Fraud detection for duplicate claims, high amounts, suspicious patterns, and predictive insights.



### Transparency

Real-time claim tracking and automated email/SMS notifications.



# SYSTEM USERS AND ROLES



## System Users & Roles



### Employee

Register, login, view policies, submit claims, upload documents, track status.



### Agent

Manage employee queries, assist with claims, update availability.



### HR Admin

Manage employees, approve/reject claims, manage policies, generate reports.



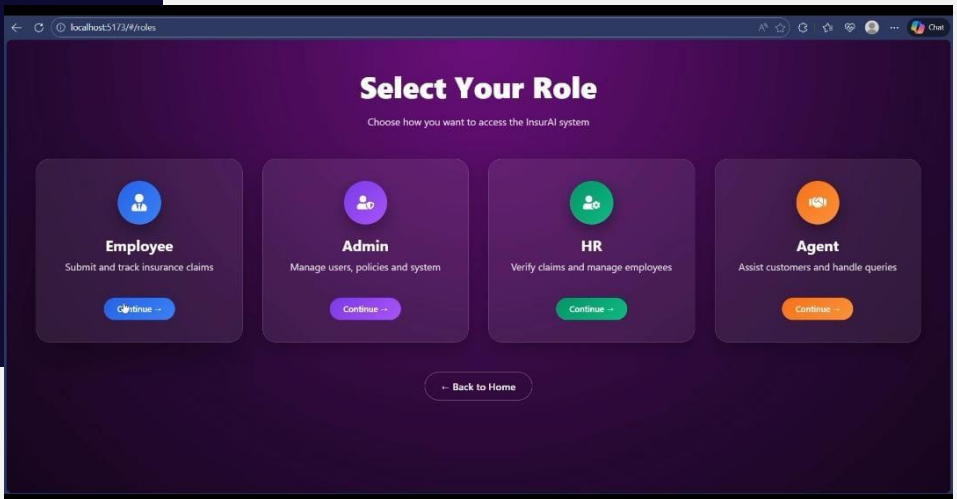
### System Admin

Manage all roles, configure settings and tax rules, monitor fraud detection, oversee security.



### AI & Analytics Layer

Automated fraud checks, predictive insights, real-time tracking, and alerts.



# Advantages, Limitations And Future



## ADVANTAGES

- Employees: Faster claims, transparency, real-time updates
- HR: Reduced workload, automated reporting
- Admin: Full control, fraud detection, compliance
- Company: Cost reduction, scalable and trusted solution

## LIMITATIONS

- Web-only (mobile app planned in future)
- AI fraud detection initially rule-based; ML models will enhance accuracy
- Integration with external insurance providers pending
- Requires internet connectivity

## FUTURE SCOPE

- Mobile apps (Android/iOS)

For employees

- Integration

With insurance companies and hospitals

- Blockchain

For secure claim history

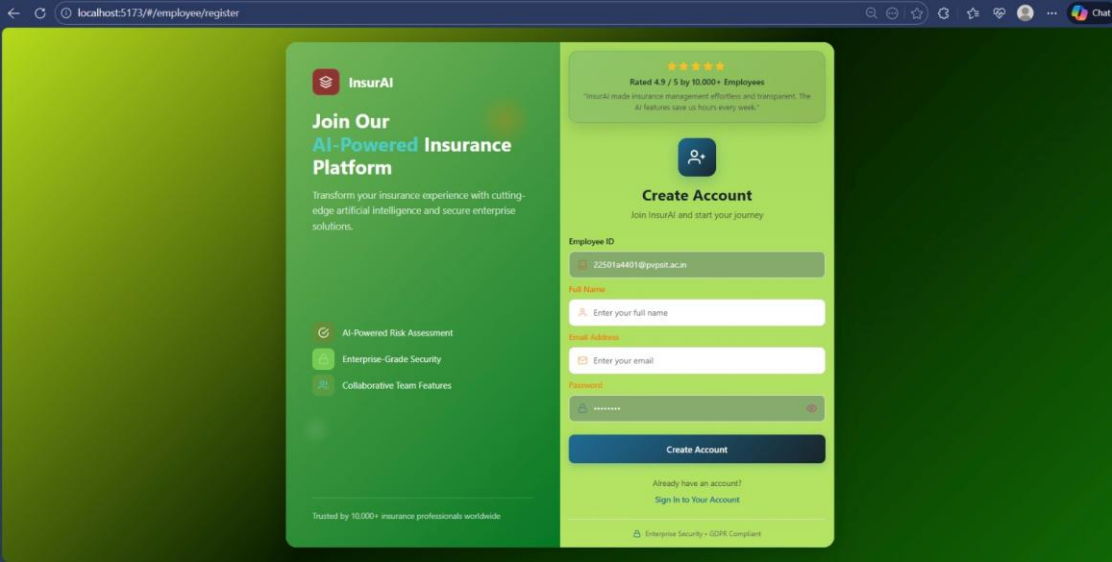
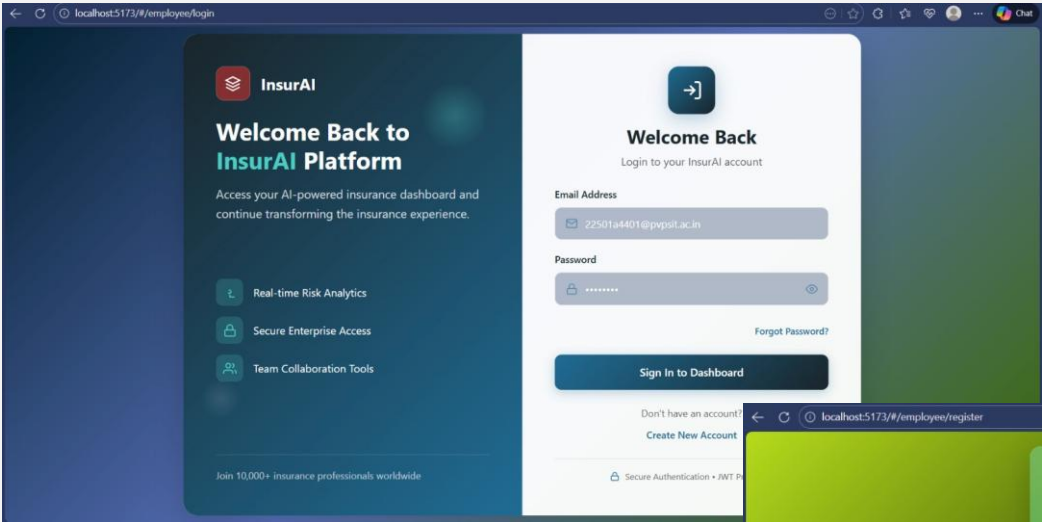
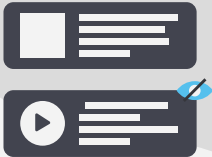
- Cloud deployment

For large-scale use

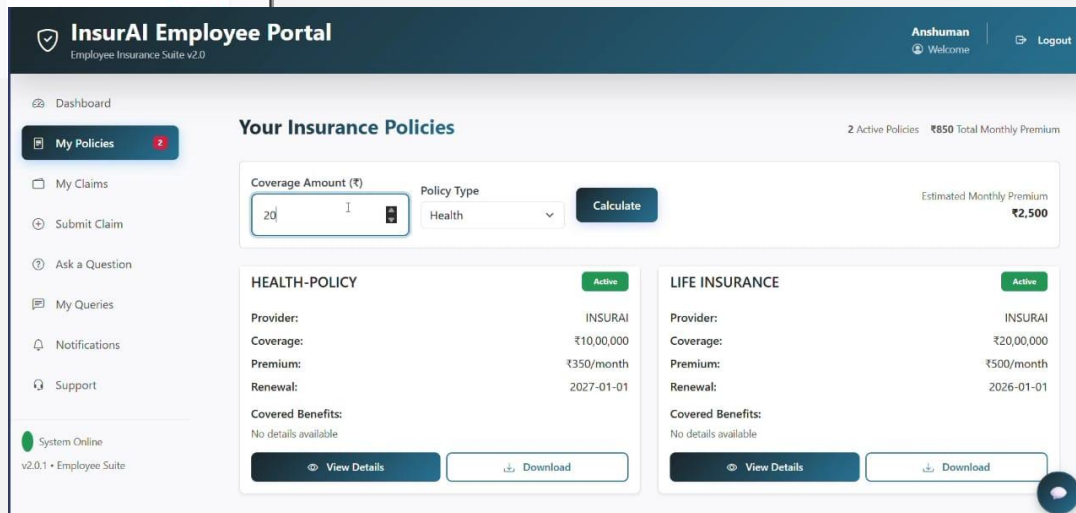
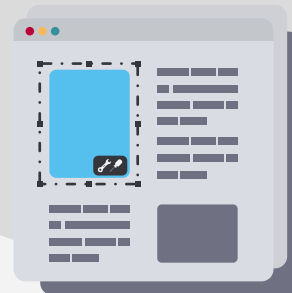
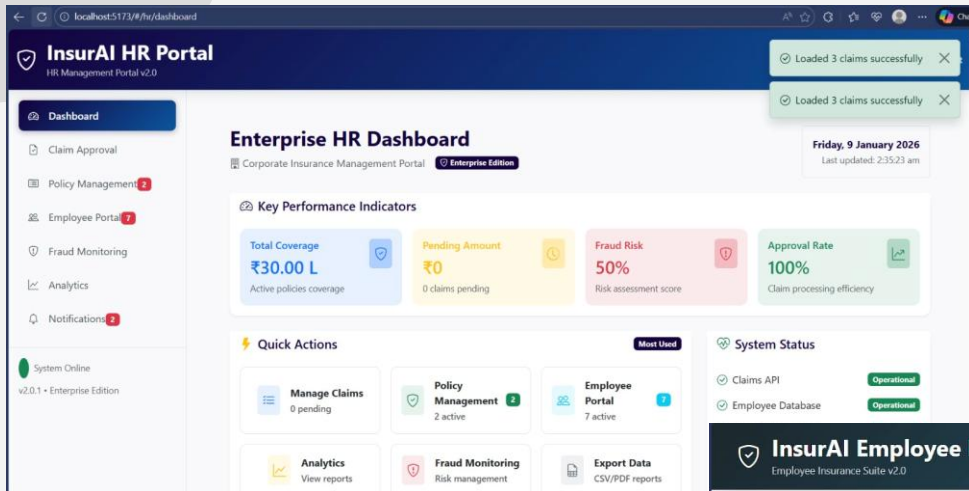




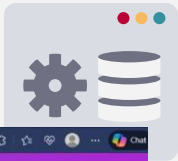
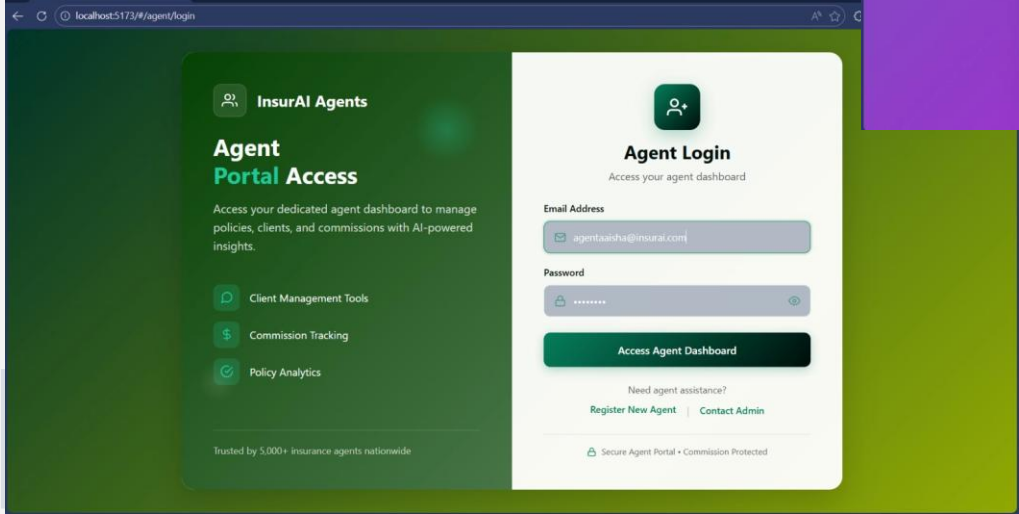
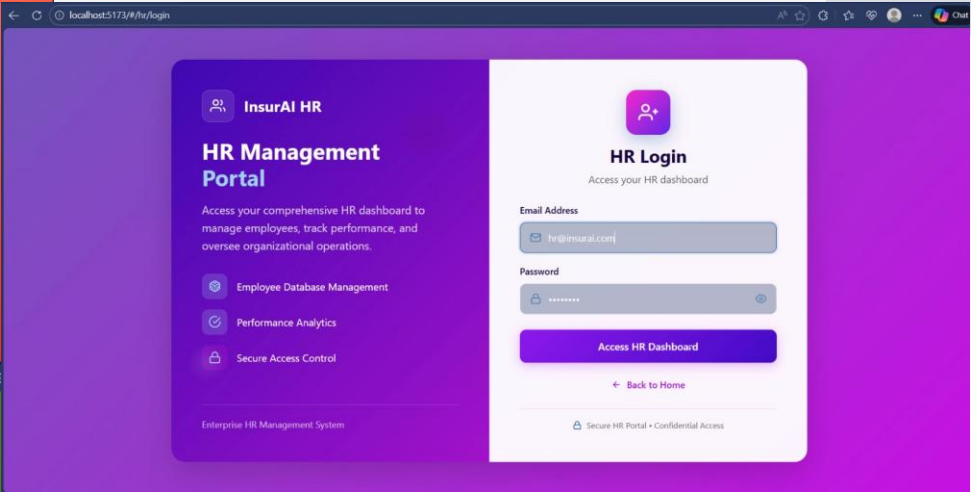
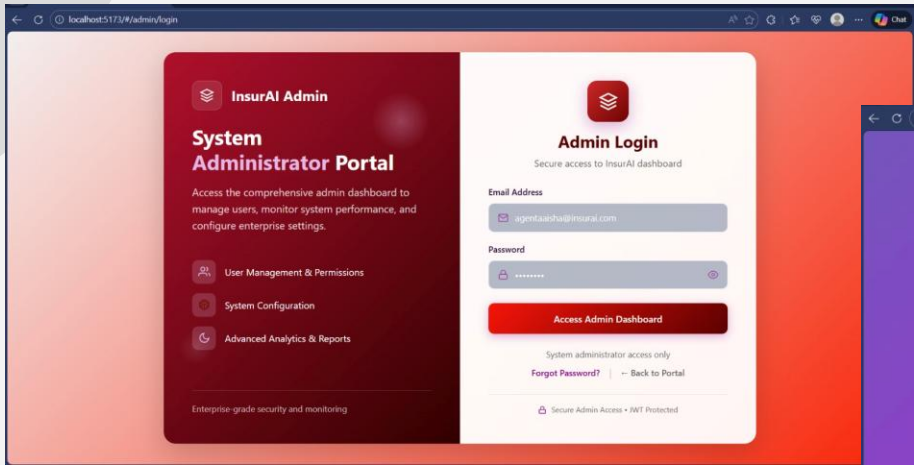
# SCREENSHOTS



# EMPLOYEE HR DASHBOARD,INSURANCE POLICIES



# ADMIN LOGIN,AGENT LOGIN,HR LOGIN



## Layered Architecture Design

The backend is divided into Controller, Service, Repository, and Database layers. Each layer has a defined responsibility and interacts only with adjacent layers, resulting in a clean and modular architecture.

### Controller Layer – Request Handling

The controller layer handles incoming HTTP requests from the frontend. It maps API endpoints, accepts JSON data, and forwards requests to the service layer. Controllers do not contain business logic.

### Service Layer – Business Logic

The service layer contains the core business logic of the application. It validates user inputs, processes workflows such as login and claim handling, and coordinates interactions between controllers and repositories.

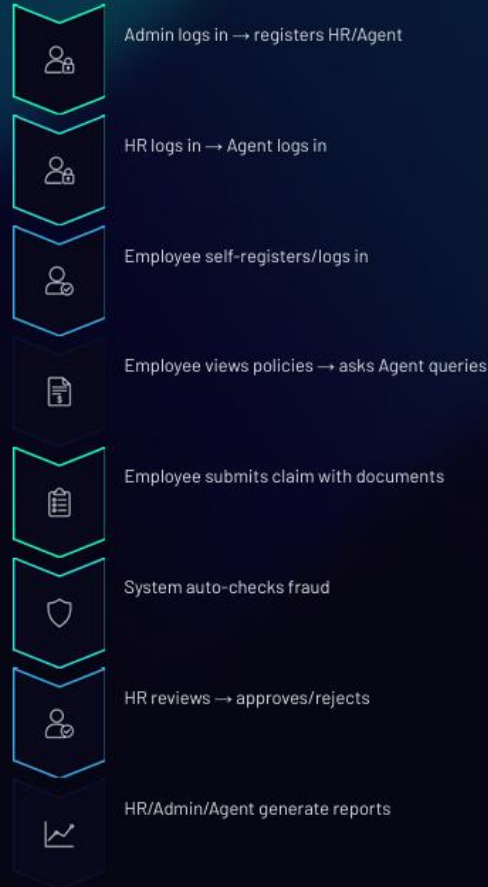
## Repository Layer and Database

The repository layer communicates directly with the database using Spring Data JPA. It performs CRUD operations, while the database stores role-based user data, claims, policies, and audit logs.

```
1 package com.insurai.insurai_backend.service;
2
3 @import org.springframework.beans.factory.annotation.Autowired;
4
5 @Service
6 public class AdminService {
7
8     private static final String ADMIN_EMAIL = "admin@insurai.com";
9     private static final String ADMIN_PASSWORD = "Admin@123";
10
11     @Autowired
12     private AgentRepository agentRepository;
13
14     @Autowired
15     private HrRepository hrRepository;
16
17     @Autowired
18     private PasswordEncoder passwordEncoder;
19
20     @Autowired
21     private JwtUtil jwtUtil;
22
23     // ===== Admin login =====
24     public boolean validateAdmin(String email, String password) {
25         return ADMIN_EMAIL.equals(email) && ADMIN_PASSWORD.equals(password);
26     }
27
28     public String getAdminName(String email) {
29         return ADMIN_EMAIL.equals(email) ? "Admin" : null;
30     }
31
32     public String getAdminRole() {
33         return "ADMIN";
34     }
35 }
```

```
AuthController.java X AdminService.java
1 package com.insurai.insurai_backend.controller;
2
3 @import java.time.LocalDate;
4
5 @RestController
6 @RequestMapping("/auth")
7 @RequiredArgsConstructor
8 @CrossOrigin(origins = "http://localhost:5173")
9 public class AuthController {
10
11     private final EmployeeService employeeService;
12     private final EmployeeRepository employeeRepository;
13     private final PasswordEncoder passwordEncoder;
14     private final JwtUtil jwtUtil;
15     private final AuditingService auditingService;
16
17     // ===== Employee Registration =====
18     @PostMapping("/register")
19     public ResponseEntity<?> register(@RequestBody RegisterRequest request) {
20         if (employeeRepository.findByEmail(request.getEmail()).isPresent()) {
21             return ResponseEntity.badRequest().body("Email already exists");
22         }
23         if (employeeRepository.findById(request.getEmployeeId()).isPresent()) {
24             return ResponseEntity.badRequest().body("Employee ID already exists");
25         }
26
27         Employee emp = new Employee();
28         emp.setEmployeeId(request.getEmployeeId());
29         emp.setName(request.getName());
30         emp.setEmail(request.getEmail());
31         emp.setPassword(passwordEncoder.encode(request.getPassword()));
32         emp.setRole(Employee.Role.EMPLOYEE);
33         employeeService.register(emp);
34     }
35 }
```

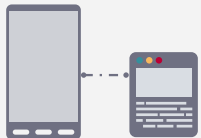
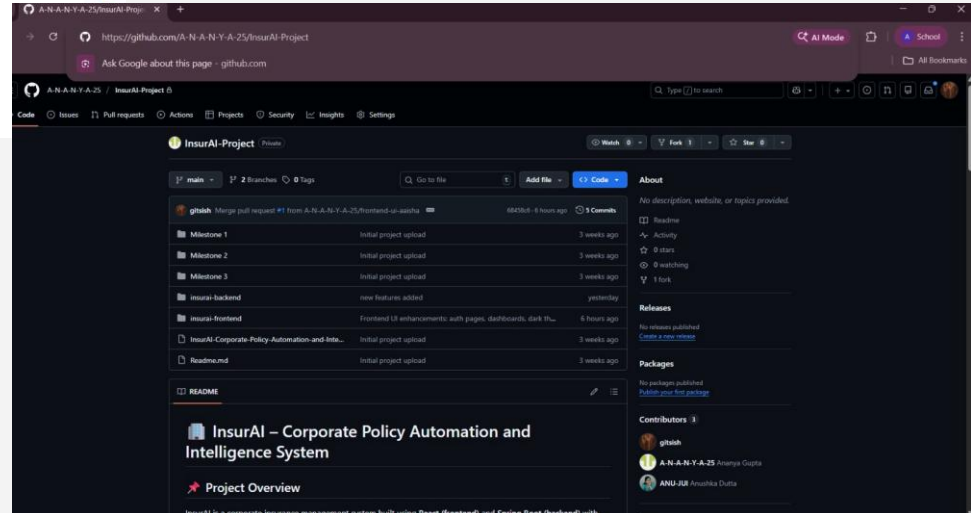
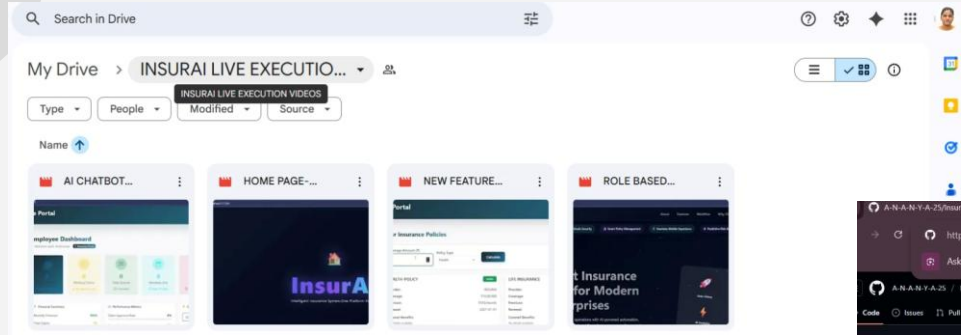
## Workflow Example



# GITHUB AND GOOGLE DRIVE LINK



Drive  
link:[https://drive.google.com/drive/folders/1PpRvgcAbskYgv3l545NkfslyLUSdWW0t?usp=drive\\_link](https://drive.google.com/drive/folders/1PpRvgcAbskYgv3l545NkfslyLUSdWW0t?usp=drive_link)  
GITHUB-Github link:<https://github.com/A-N-A-N-Y-A-25/InsurAI-Project>



# CONCLUSION



InsurAI emerges as a comprehensive, enterprise-grade solution poised to revolutionize the insurance claims process. By leveraging advanced technology, it delivers substantial value across the organization:

- **Enhanced Efficiency:** Streamlines claims management, significantly reducing workload for HR and admin staff.
- **Unparalleled Transparency:** Offers real-time updates and clear visibility for employees, fostering trust and satisfaction.
- **Robust Control & Compliance:** Provides administrators with full oversight, advanced fraud detection, and ensures regulatory adherence.
- **Strategic Growth:** Delivers cost savings, scalability, and a trusted platform, supporting the company's long-term objectives.
- **Future-Proofing:** With planned mobile integrations, advanced AI capabilities, and blockchain security, InsurAI is designed for continuous evolution and adaptation to emerging needs.

InsurAI is more than just a tool; it is a strategic partner for businesses aiming for a smarter, more secure, and employee-centric future in insurance claims management.





**THANK YOU!**