HireHub – Full Technical System Documentation

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Description: This document provides a complete technical breakdown of the HireHub Recruitment System, including architecture, database design, workflow diagrams, stakeholder roles, system behaviors, and user instructions.

1. System Overview

HireHub is a multi-role recruitment and job management system built for three primary user groups: Administrators, Employers, and Applicants. It supports account approval workflows, job postings, interview scheduling, application tracking, user profile management, and role-based access control. The system is developed using Java and SQLite with a modular structure, separating dashboards, functions, and database connections.

2. System Stakeholders

Administrators

• Responsible for managing entire system integrity.
• Approve or reject user registrations.
• Manage job posts, user accounts, and interview schedules.
• Maintain trusted, secure environment.

Employers / Interviewers

• Can post jobs and manage them.
• Review applicants, assign interviews, update interview status.
• Manage job lifecycle and applicant interactions.

Applicants

• Register to apply for employment.
• Browse jobs, submit applications, view interview schedules.
• Manage personal profiles.

3. Full Feature List

Authentication & Authorization
• Registration for all roles.
• Admin approval required before access.
• SHA-256 password hashing.
• Role-based dashboard control.

Admin Features
• Approve/Reject applicants and employers.
• Move approved users to *tbl_approved* table.
• Move rejected applicants to *tbl_rejected* table.
• View and manage all user data.
• View all applications, interviews, and job posts.

Employer/Interviewer Features
• Add job postings.
• Update/edit/delete job listings.
• View all applicants.
• Assign interviews with time, date, and location.
• Update interview statuses.
• View scheduled interviews.

Applicant Features
• View available jobs.
• Apply for jobs.
• View application statuses.
• View interviews scheduled.
• Update profile information.
• Withdraw application.

4. System Architecture

HireHub follows a clean modular architecture divided into the following components: **Dashboard Modules** (AdminDashboard, ApplicantsDashboard, InterviewerDashboard)
• Contain menu logic and user navigation.

Function Modules (ApplicantsFunctions, InterviewerFunctions, UserFunctions)
• Contain business logic and database interactions.

Database Module (config.java)
• Manages all SQL operations: add, update, delete, fetch, view.

Database File
• SQLite file: *jobmain.db* stored locally.

This structure encourages code reusability, separation of concerns, and maintainability.

5. Entity Relationship Diagram (ERD)

Below is a text representation of the system's ERD: **tbl_users (1)■■■(∞) tbl_applications**
tbl_jobs (1)■■■■■(∞) tbl_applications
tbl_users (1)■■■■(∞) tbl_interviews (ApplicantID)
tbl_users (1)■■■■(∞) tbl_interviews (InterviewerID)
Entities:
• Users store login and role data.
• Jobs store employer-posted job listings.
• Applications connect users and jobs.
• Interviews connect applicants and employers.
• Approved/Rejected tables store historical decisions.

6. Full Data Dictionary (Expanded)

tbl_users

ID – INTEGER, PK
Name – TEXT
Email – TEXT
Phone – TEXT
Password – TEXT (SHA-256)
Role – TEXT
Status – TEXT

tbl_jobs

ID – INTEGER, PK
Title – TEXT
Description – TEXT
Location – TEXT
Experience – INTEGER
DatePosted – TEXT
AddedBy – INTEGER, FK (UserID)

tbl_applications

ApplicationID – INTEGER, PK
UserID – INTEGER, FK
JobID – INTEGER, FK
Status – TEXT
DateApplied – TEXT

tbl_interviews

InterviewID – INTEGER, PK
ApplicantID – INTEGER, FK
InterviewerID – INTEGER, FK
Date – TEXT
Time – TEXT
Location – TEXT
Status – TEXT

7. System Flowcharts (Expanded Text Description)

Registration & Approval Flow

1. User Registers.
2. System saves user into *tbl_users* with Status = 'Pending'.
3. Admin logs in and views pending users.
4. Admin approves or rejects:
→ If Approved → user copied to tbl_approved.
→ If Rejected → user copied to tbl_rejected.
5. Approved users can now log in and see their dashboard.

Application & Interview Flow

1. Applicant logs in.
2. Applicant views jobs in tbl_jobs.
3. Applicant selects job and applies.
4. Application inserted into tbl_applications.
5. Employer views list of applicants.
6. Employer assigns interview:
→ Stores Date, Time, Location.
7. Applicant views scheduled interviews.
8. Employer updates interview status: Completed, Cancelled, Rescheduled.

8. User Manual (Expanded)

Admin Manual

• Log in with Admin credentials.
• Navigate through dashboard options:
→ Approve/Reject pending accounts.
→ View all users, interviews, jobs.
→ Delete or update records.
→ Maintain system stability.

Employer Manual

• Log in as Employer/Interviewer.
• Add job listings with Title, Experience, Dates.
• View applicants associated with job posts.
• Assign interviews to applicants.

• Update job and interview statuses.

Applicant Manual

• Register and wait for Admin approval.
• Once approved, log in and browse jobs.
• Apply instantly through dashboard.
• View applications and interview schedules.
• Update personal profile.