Software Requirements Specification (SRS)

Community Engagement Project (CEP)

Project Title: SkillBridge – Connecting Local Talent to Local Needs

Course: Community Engagement Project (CEP)

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Abstract

SkillBridge is a web-based platform designed to connect local skilled workers (plumbers, electricians, carpenters, painters) with customers needing their services. The system enables customers to post job requests, and verified workers receive instant notifications via WhatsApp or email. By integrating location-based matching and verification, the platform ensures quick, safe, and reliable service delivery, improving employment opportunities and trust within the community.

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4. Introduction

4.1 Purpose

The objective of SkillBridge is to efficiently connect verified skilled workers with customers through location-based matching, providing quick service, improving job opportunities, and enhancing trust in the community.

4.2 Scope

Features: Job posting, real-time notifications, location-based matching, worker verification, ratings & reviews, AI-based skill matching, integrated training modules.
Users: Customers, local skilled workers, platform administrators.
Community Benefits: Reduces unemployment, boosts local economy, enhances trust in service hiring, promotes vocational skill development.

4.3 Definitions, Acronyms, and Abbreviations

AI: Artificial Intelligence

API: Application Programming Interface

GPS: Global Positioning System

UI: User Interface

4.4 References

ACM Transactions on Intelligent Systems, 2019 – Task recommendation systems.

Google Maps API Documentation.

WhatsApp Business API Documentation.

5. Overall Description

5.1 Product Perspective

A new, cloud-hosted platform integrating real-time communication, geolocation services, and skill-based matching.

5.2 Product Functions

- Post job requests
- Real-time worker notifications
- Location-based job matching
- Worker verification
- Ratings & reviews system
- Skill enhancement resources

5.3 User Classes and Characteristics

Customers: Require reliable, quick services.
Workers: Skilled tradespeople seeking consistent work.
Admin: Manage verification, complaints, and training resources.

5.4 Operating Environment

Hardware: Computer/Laptop with internet
Software: HTML, Tailwind CSS, React (Frontend), Node.js (Backend)
Database: MongoDB/MySQL
Platform: Web-based, cloud-hosted

5.5 Design and Implementation Constraints

Internet connectivity required
Verification process dependent on user cooperation
Initial worker onboarding and trust-building may take time

5.6 Assumptions and Dependencies

Users have basic digital literacy
Availability of reliable internet
Cooperation from local workers & community leaders

6. Specific Requirements

6.1 Functional Requirements

FR1: The system shall allow customers to post job requests.

FR2: The system shall notify relevant workers in real-time.

FR3: The system shall match jobs based on skills and location.

FR4: The system shall allow workers to accept/reject jobs.

FR5: The system shall provide a rating and review system.

FR6: The system shall store user details securely.

6.2 Non-Functional Requirements

Performance: Notifications within 5 seconds of job posting.

Security: Encrypted user data and secure authentication.

Usability: Simple UI, accessible via mobile/desktop browsers.

Reliability: 99% uptime on cloud hosting.

7. External Interface Requirements

User Interfaces: Web-based responsive UI.

Hardware Interfaces: Laptop/PC, Mobile device.

Software Interfaces: Google Maps API, WhatsApp API.

Communication Interfaces: Internet connectivity.

8. Use Case Diagram & Description

Actors: Customer, Worker, Admin.

Main Use Cases: Post Job, Receive Notification, Accept Job, Rate Worker, Verify Worker.

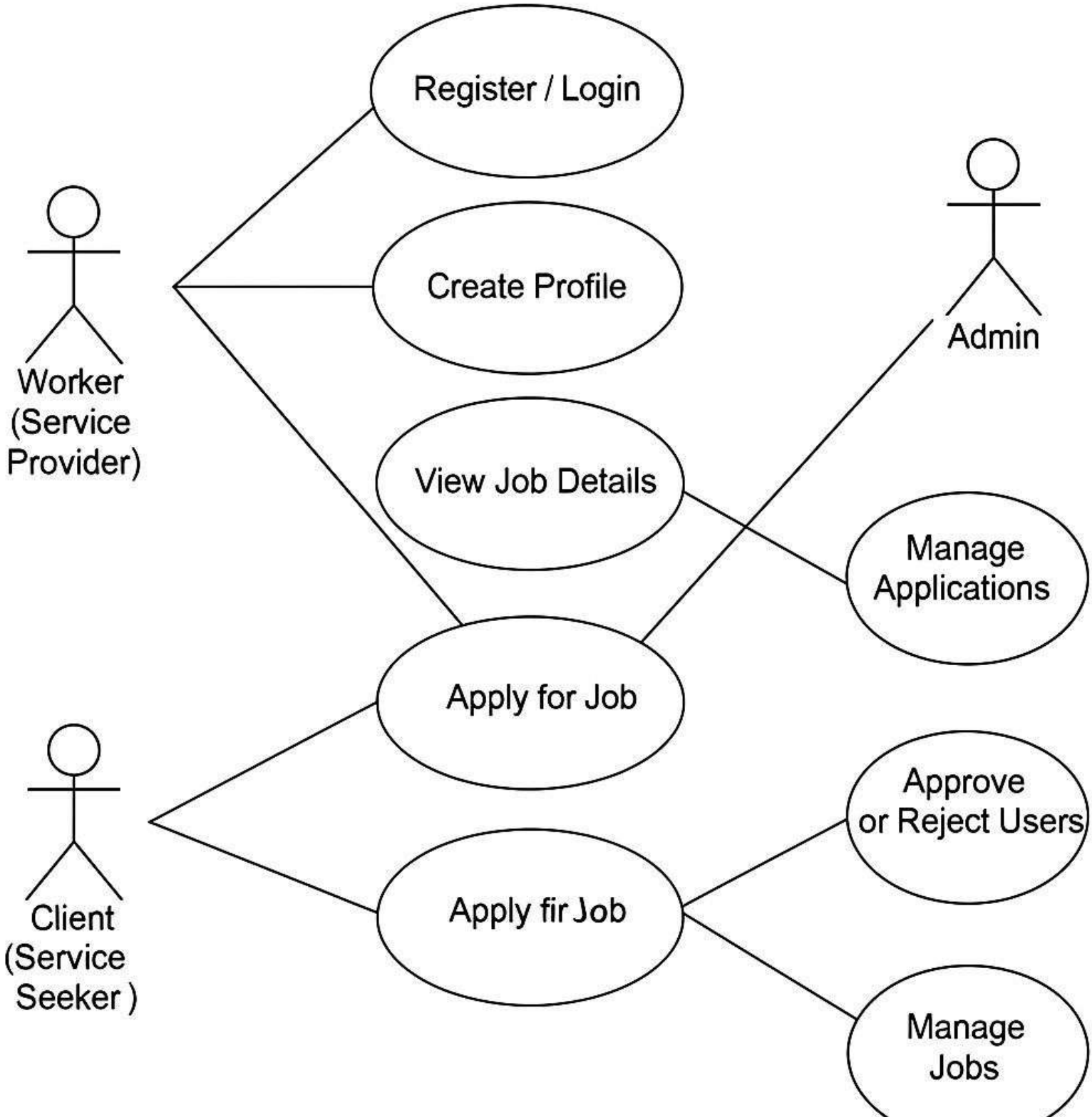
9. Activity Diagram / Flow Chart

1. Customer posts job
2. System verifies request & location
3. Matches workers
4. Sends notifications
5. Worker accepts job
6. Job completed
7. Rating & review updated

10. References

Stakeholder interviews

Local community service demand surveys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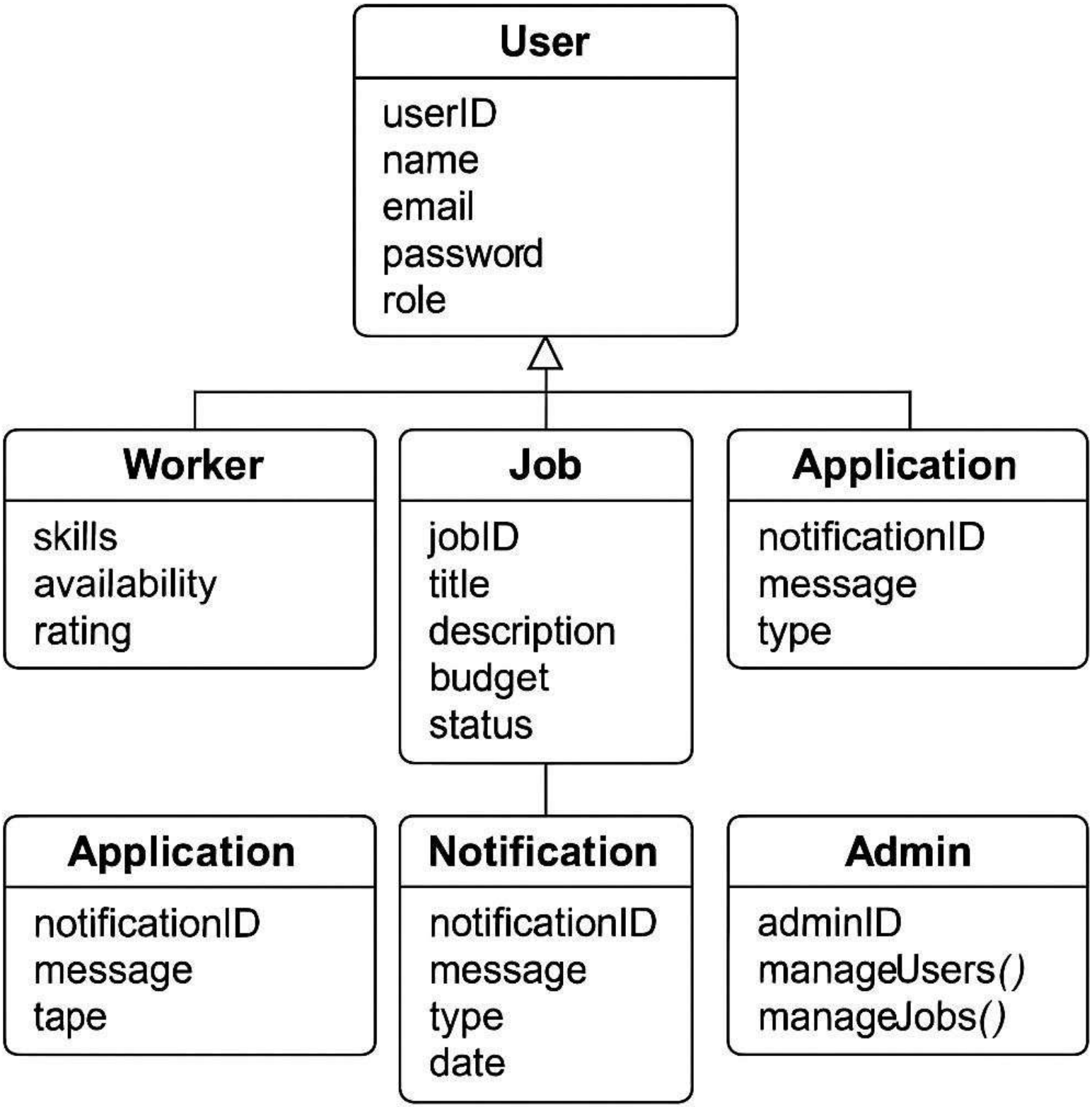
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