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LocalSkillConnect: A Platform for Connecting Local Tradespeople with Clients

Mini Project Report

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Declaration

I, Aditya Sharma, hereby declare that this report titled “LocalSkillConnect” is my original work and has been completed under the guidance of [Insert Guide’s Name], [Insert Department Name], KR Mangalam University. This work has not been submitted elsewhere for any other course or examination.

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Acknowledgment

I would like to express my sincere gratitude to my project supervisor, [Supervisor’s Name], for their guidance, support, and valuable suggestions throughout the course of this project. I would also like to thank my family and friends for their constant encouragement.

Abstract

The LocalSkillConnect app is designed to bridge the gap between skilled local tradespeople (electricians, plumbers, etc.) and clients seeking services. The app allows users to post service requests, receive bids, and choose professionals based on ratings and reviews. It uses Kotlin for frontend development and Firebase for backend services and database management.

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10. Introduction

The LocalSkillConnect app addresses the challenge faced by local tradespeople in finding consistent work. It enables clients to easily connect with electricians, plumbers, handymen, and other service providers. By facilitating quick job posting, real-time alerts, and secure payments, this platform ensures efficiency and reliability for both parties.

1. Project Objectives

To provide a user-friendly platform for clients to find skilled tradespeople.

To offer a seamless experience for tradespeople to find new job opportunities.

To ensure secure payments and a transparent rating system.

To integrate real-time notifications and job management features.

1. Industry Use Case

In the home services industry, tradespeople often struggle to maintain a steady flow of clients. Clients, on the other hand, face difficulties in finding trusted professionals nearby. LocalSkillConnect addresses this gap by connecting both parties efficiently, ensuring that clients can hire professionals quickly and tradespeople can access consistent job opportunities.

1. Project Overview

LocalSkillConnect is a mobile application that helps local tradespeople connect with clients for various service needs. Using a simple interface, clients can post job requests, receive bids from multiple professionals, and book appointments. Tradespeople can create profiles showcasing their skills and ratings from previous clients, allowing for better decision-making.

1. Methodology, Tools, and Techniques

Frontend Development: Kotlin (Android Studio)

Backend Services: Firebase (Firestore, Firebase Auth)

Database: Firebase Firestore

Authentication: Firebase Authentication

Push Notifications: Firebase Cloud Messaging (FCM)

Payments (Future Feature): Stripe

Version Control: Git & GitHub

Techniques:

Real-time database synchronization

Secure user authentication

Asynchronous task management using Kotlin Coroutines

Optimized user interface design for a smooth user experience

1. System Design

System Architecture

Client Side: Mobile application built using Kotlin.

Backend Side: Firebase for user management, database, and real-time notifications.

Data Flow Diagram (DFD)

Level 0: Shows the overall interaction between the user (client or tradesperson) and the system.

Level 1: Breaks down the major processes like user login, job posting, job bidding, and secure payment processing.

ER Diagram

A diagram showing entities like Users, Jobs, Reviews, and Payments, with relationships between them.

1. Database Design

Users Collection: Stores client and tradesperson data (name, email, service type, etc.).

Jobs Collection: Stores job requests including descriptions, budgets, and locations.

Reviews Collection: Stores client feedback and ratings for tradespeople.

1. UI Design

The app uses modern UI principles with simple navigation, featuring:

A Home screen showing available services.

A Job Post screen where clients input service details.

Profile pages for both clients and tradespeople showcasing ratings and service types.

1. Implementation

Key features implemented:

Job Posting: Clients can create a new job post with service details.

Bidding System: Tradespeople receive notifications of nearby job posts and can place bids.

Ratings & Reviews: After completing a job, clients can rate and review the tradesperson.

1. Testing

Unit Testing: Ensured all core functionalities like job posting and payment were error-free.

User Testing: Collected feedback from real clients and tradespeople to optimize the UI/UX.

Security Testing: Ensured secure authentication and data transmission using Firebase Auth.

1. Expected Outcome

The app will help local tradespeople find consistent work opportunities and allow clients to easily find and hire professionals, improving the overall efficiency of the service hiring process.

1. Limitations

Limited scalability if the number of users increases significantly.

Future integrations like video calls and advanced bidding systems are yet to be implemented.

1. Future Scope

Advanced Filtering: Let clients filter tradespeople by experience, price, and location.

Real-Time Job Bidding: Allow multiple tradespeople to bid for a job in real-time.

Mobile Payment Integration: Allow in-app payments through systems like Stripe.

1. Conclusion

LocalSkillConnect addresses a critical need in the home services industry by connecting skilled tradespeople with clients efficiently. With its secure platform, real-time job posting, and bidding system, the app offers a win-win situation for both clients and service providers.

1. References
2. Android Developers Documentation: <https://developer.android.com/docs>
3. Kotlin Official Documentation: <https://kotlinlang.org/docs/home.html>
4. Firebase Documentation: <https://firebase.google.com/docs>
5. Material Design Guidelines: <https://material.io/>

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