



Geo-based Technical professional hiring system for repairing and maintenance services

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Abstract: Because of new technology, smart phones have become very important for communication and are now a big part of our daily lives. In Country like India, people are having trouble finding and hiring local technical professionals to fix things in their homes and offices. This also makes it difficult for new workers to find jobs nearby. To solve this problem, we need to create a platform that helps connect technical workers with people who need their services. This platform should be easy to use and work well with the latest technology.

One idea is to create an android app called Task -Tracer, as well as a website. Task -Tracer would be a great way to start in developed Countries. It's an app that lets users and experts with different technical skills communicate. It uses Google Maps to help with searching and hiring based on location. Users can see a map with markers showing all the available workers in their area. Right now, the app has four categories of experts: Decorators, Electricians, Mechanics, and Plumbers. But more categories can be added in the future.

Keywords: Android recruitment system, local technical lprofessionals, Maintenance and Repair system, Geo based home services

I. INTRODUCTION

Today, we live in a world where technology is very advanced. We can do everything from education and business to entertainment using our mobile devices. There are billions of people using social media platforms like Facebook. This means that almost everyone knows how to use a smartphone. The smartphone industry is growing every day in developed countries. Around 72% of mobile users have smartphones, and 52% of them can access the internet on their phones.

Smartphones have many useful applications, and businesses are starting to use them more and more. Nowadays, you can order things with just a few clicks on your smartphone and have them delivered to your doorstep. In India, people are using many popular smartphone apps for different purposes like ordering food, booking rides, and shopping online.

In this smartphone-friendly environment, people are looking for jobs and customers are looking for services directly through their phones. The mobile industry has become a major source of job opportunities. To meet this growing trend, we have developed an android app and a website. Our app and website use Google Maps to show the distance between the customer and the service provider. It connects users with local professional workers who can provide repair and maintenance services. This system solves problems related to homes, offices, and other places.

Our app, called Task-Tracer, is designed for workers who may not realize the potential of smartphones. It runs on the Android platform, and the many websites developed using different technologies like PHP, JavaScript, CSS, HTML, and Bootstraps.

The main objective of our work is to create a system that includes a website and an android app with the following features:

1. Provide options to hire workers like plumbers, electricians, mechanics, and decorators.
2. Send push notifications to workers with job descriptions.
3. Send acceptance notifications to customers.
4. Show the distance, travel time, and path from the customer to the worker on Google Maps.
5. Allow customers and workers to call or send SMS messages to each other.



II. PROBLEM STATEMENT

The provided information highlights the presence of various handyman service apps in India, such as HouseJoy, UrbanClap, Mr. Right, and CHEEP, which have gained popularity and amassed millions of users in a relatively short time span. However, despite the existence of such apps, India still faces significant unemployment and a large pool of local workers seeking employment opportunities.

While there are handyman service apps available in India, there remains a problem of effectively bridging the gap between the unemployed local workers and the potential customers seeking their services. The existing apps may not fully address the unique challenges and requirements of the Indian market, leaving room for further improvement and development.

Therefore, the problem statement for the given information related to India can be formulated as follows: Despite the presence of popular handyman service apps in India, there is a need for an enhanced and localized platform that effectively connects the large pool of unemployed local workers with customers seeking their services. This platform should address the specific challenges and requirements of the Indian market, improving employment opportunities and facilitating seamless interactions between workers and customers.

III. MODEL IMPLEMENTATION

This section shows how the database is organized and the overall structure of the Task-Tracer app and website. The design of the app and website is customized, and it includes two panels—one for customers and another for workers. Both panels have similar features and functions, but their main activities are different.

We are using following technologies for Implementation of our project based Task-Tracer app.

1. FIREBASE DATABASE :

1. NoSQL document-oriented database: Firebase follows a NoSQL document-oriented database model.
2. Collections: Data in Firebase is organized into collections, which act as containers for related documents. Collections can hold multiple documents, and each document can have its own unique set of fields and values.
3. Documents: Documents are individual units of data within a collection. They are represented as JSON-like objects with key-value pairs.
4. Fields: Fields are the key-value pairs that make up the data within a document. Each field has a unique name and holds a corresponding value.
5. Subcollections: Firebase allows for nested collections within documents, known as sub collections. Sub collections enable further organization and structure of data within a document. They can be used to represent hierarchical relationships or store additional related data.

We have used two types of databases: MySQL (a type of SQL database) and Firebase (a NoSQL database). In Firebase, we store information about users, workers, admins, and location data (Latitude and Longitude). Firebase database is mainly used for user and worker authentication. When a user signs up, Firebase generates a unique user ID for them, which is stored in the authentication section of the Firebase database.

2. KOTLIN:

1. Kotlin offers a more concise and expressive syntax compared to Java, resulting in cleaner and more readable code. Its Modern features like null safety, extension functions, and lambda expressions enhance productivity and Code quality.
2. Kotlin is fully interoperable with Java, allowing seamless integration with existing Java codebases and libraries. This makes it an ideal choice for projects that have a mix of Kotlin and Java code, enabling a smooth transition and reducing development efforts.
3. The Android community has embraced Kotlin as the preferred language for Android app development. Many popular frameworks and libraries provide excellent Kotlin support, ensuring a vibrant ecosystem and ample resources for front-end development.



4. Kotlin with its safety features, such as nullable types and compile-time null checks, help eliminate null pointer exceptions and enhance app stability. This results in fewer crashes and more robust front-end applications.

5. Kotlin compatibility with Java through Kotlin/Java enables code sharing between front-end and back-end development. It allows developers to write front-end code in Kotlin and easily share business logic with the server, promoting code reuse and reducing duplication efforts.

3. XML:

1. XML (EXTENSIBLE MARK-UP LANGUAGE) IS A WIDELY USED MARK-UP LANGUAGE FOR CREATING structured data in a human-readable format.

2. In the context of application creation, XML is commonly used for defining the user interface (UI) layout of an application. XML layout files describe the arrangement and properties of UI components such as buttons, text fields, and images.

3. Developers can define the UI hierarchy, set attributes, and specify event handlers using XML tags and attributes. XML layout files are then inflated by the application framework to generate the visual interface that users interact with.

4. XML provides a standardized and flexible approach to separate UI design from application logic, making it easier to create and maintain applications.

IV. WORKING OF TRACK-TRACER

Once the Track-Tracer app is installed on the user's device, an animated screen with the app's logo and title will appear. The user will then be directed to the Choose Activity screen, which presents two options for the user to choose from: Customer or Worker.

After selecting the desired option, the user will be prompted to fill in the necessary fields for signup. The signup process for customers is straightforward and only requires the user's name, cell number, email, address, and password.

The signup process for workers, on the other hand, includes additional fields such as email, address, password, and category of expertise (e.g., Decorator, Electrician, Mechanic, and Plumber). The customer main activity features a Google Map and then chooses for the service it wants. This activity includes an edit text field and two send and receive buttons. The user can write a short description of the order and send it as a push notification to all nearby workers in the selected category.

The worker's activity interface consists of a Google map displaying the worker's location and a "find path" button. Two text views show the estimated duration and distance between the worker and the customer. When the worker receives a notification of an order, they can accept the request, and a confirmation message will be sent to the customer with details of the estimated time of arrival, distance, and path to be taken. Both the worker and the customer will receive an alarm to remind them of the order. Communication between the worker and the customer can also take place via SMS or phone call. The relevant contact numbers will be shown after the confirmation process.

The application consists of various pages such as Homepage, Choose, Signup, Login, Customer Profiles, Worker Profiles, History, Setting, and Contact Us. Once the user selects a category, the worker information for that specific category is retrieved from the database. Users can input the required work information in the text field and click on the send button to notify the related category. The system is designed to facilitate the communication between customers and workers, making it easier for users to find and hire professionals for home repairs and maintenance services.



geobasedworker

Name

Address

Mobile No

Type

Charges

UPLOAD

Fig.1.Empty Page.

geobasedworker

Already Have an Account?

Enter Emailid

Enter Password

Select User

LOGIN

FORGOT PASSWORD

REGISTER

Fig.2.Creating a Account

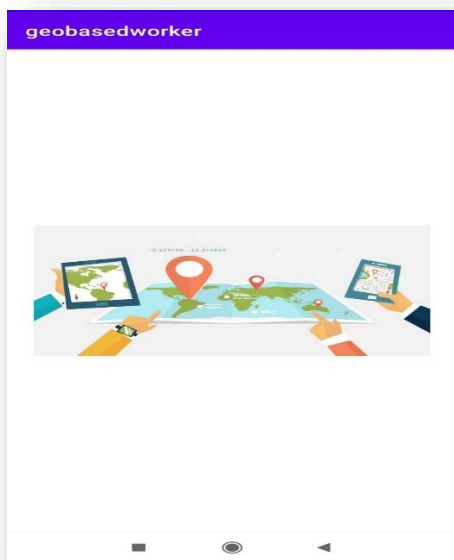


Fig.3.Use of Map

geobasedworker

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9359068429

Kalewadi

electrician

UPLOAD

Fig.4.Uploading information of Worker.



V. CONCLUSION

In conclusion, the development of a system for hiring handyman services based on location can help address the growing demand for easy and specific location-based technical services. Our research project has successfully designed and developed an app and a website to provide consumers with access to nearby handymen services.

Testing and feedback from potential users have shown positive results, although the limitations of the Firebase service have constrained the number of users. The social media responses have provided valuable suggestions for future improvements, such as stronger authentication, fake account restriction, more payment methods, and expanding the platform to IOS and Windows.

The app has the potential to be an effective and efficient tool for consumers and businesses looking for reliable handyman services. Overall, the project shows promise for the future development of location-based technical services.

VI. ACKNOWLEDGEMENT

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We have created an Android application and website that includes a Google Maps feature to meet the increasing demand for local professional services. This system facilitates communication between users and nearby service providers for repair and maintenance services, creating more job opportunities. Our solution addresses all problems related to homes, offices, and other locations.

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