



BUILD EASE

Project Proposal

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1. Abstract

The construction industry is a very complex industry that is facing some problems one of the problems faced by the clients and the professionals in the industry is that there is lack of data on the companies and contractors providing services, often the client requesting the service has a little or no information on the service providers and there is no real time data, progress report or related information about the service providers. Often clients get confused about choosing the service providers.

We are building a mobile application that aims to bridge the gap between clients and construction companies or contractors by providing them a platform to communicate with each other. This project will use an AI recommender system to help the clients get all the related information about the service providers, it will also help the client to select the service provider based on client ratings, their current geographical location and the category of the selected services.

2. Introduction:

2.1. Problem Statement:

The construction industry is a complex and fragmented market, with many different stakeholders involved in each project. This can lead to a lack of communication and coordination, which can ultimately delay projects and increase costs.

Our proposed app would address these challenges by providing a platform for users to connect with contractors and material providers.

These features would help to streamline the construction process, improve communication, and reduce costs. As a result, our app would benefit both users and contractors, and help to make the construction industry more efficient and effective.

2.2. Here are some specific problems that the app would solve:

2.2.1. Lack of Information of Private Contractors: As there is a little or no information about the private contractors on the amount of work they do, how much projects they complete, how much they cost for a project and are the previous clients satisfied by them. All of the relevant information about any contractor or company will be provided by our project.

2.2.2. Determine the contractors and companies with bad reputation: A rating and a review system will help the clients to filter out the contractors or companies which have low user ratings, low project completion and low customer satisfaction and will also mark out the contractors and companies that are doing good. Clients can also get detailed information about the contractors and companies by reading the reviews.

2.2.3. Efficiency in searching projects and contractors: Our project will use an AI recommender system to help the user to select the best contractor for their project that will save their time and effort searching manually.

2.2.4. Lack of communication: The app would provide a central platform for users and contractors to communicate with each other, share files, and track project progress. This would help to avoid misunderstandings and delays.

2.2.5. Poor coordination: The app would help users to coordinate their projects with contractors and material providers. This would ensure that everyone is on the same page and that the project stays on track.

2.2.6. Unrealistic expectations: The app would provide users with a realistic estimate of the cost and time required for their projects. This would help to avoid surprises and disputes.

2.2.7. Time overruns: Users should be able to track the progress of their projects. Provide users with a visual timeline of their project, showing key milestones and deadlines.

We believe that our app would be a valuable resource for both users and contractors in the construction industry. We are confident that it would help to improve communication, collaboration, and project management, and ultimately lead to more successful projects.

3. Objectives

The objectives of this project are to:

- Develop a mobile app that will help construction professionals to manage their projects more effectively.
- Provide users with a platform to find construction companies and material providers, track the progress of their projects, and manage their budgets.
- Improve communication and collaboration between construction professionals and project owners.
- Reduce the risk of errors and delays in construction projects.
- Improve the efficiency and productivity of the construction industry.
- Provide users with access to a wide range of construction resources, such as blueprints, invoices, construction materials, and other relevant information.
- Collect feedback from users to improve the app over time.

4. Scope

The app will provide a platform for users to connect with contractors and material providers. The app will offer a variety of features to facilitate communication, collaboration, and project management, including:

- User registration and authentication
- User profiles
- Company and provider profiles
- Company and provider discovery
- Recommender system
- Review and rating system

- Bulk purchase
- Materials catalog
- Local contractor search
- Cost estimation tool

4.1. Limitations

The app will not include the following features:

- The app will not be able to create or edit contracts. This is because contracts are legal documents that should be drafted by a lawyer
- The ability to track financial transactions as it requires block chain implementation.
- The ability to manage inventory.
- The ability to provide project management consulting services.
- The app will not be able to control the weather or other factors that may affect the progress of a construction project.
- The app will be targeted at construction professionals in the Karachi.
- The app will be limited to the construction industry. It will not be used for other industries, such as manufacturing or healthcare.

4.2. Assumptions and constraints

The following assumptions and constraints have been made for the project:

- The app will be developed using the latest version of the Android operating system.
- The app will be available in English.
- The app will be free to download and use.

5. Literature Review

Here is the list of the platforms that provided similar services which are:

- Zarea.pk
- Tameer.com
- Imarat.pk
- Astralconstructors.com

Zarea.pk: This website does provide different construction material for building the projects but does not provide any form of contracting or any form of construction project. It also does not provide any option for selecting different vendors.

Tameer.com: This a famous international construction company that builds projects for multinational companies and governments. They help clients build projects and hand the projects over to the client after the project is built but you cannot buy any material from them.

Imarat.pk: They also provide construction services and they built projects for the clients but cannot buy ant material.

Astralconstructors.com: They build projects for the clients and they also have a vendor and supplier option but the only issue is that the clients have to email the administrators and then the administrators will see if they can provide a vendor for the construction material or the service.

All of the mentioned platforms did not even have the interface to connect the clients with the different vendors providing different construction services. They either provided with the clients to build the projects or to buy construction materials whereas our project aims to do both buying and selling of materials combined with dealing with private contractors. There was no rating system and no reviews and data, AI recommendations, progress tracking, cost estimation and local contractor services which are the primary objectives of our project.

Services provided	Buying/selling of material	Client/ vendor Interface	Rating system	Client reviews	Project contract	AI based recommendation	Progress tracking	Local contractor services	Cost estimation
Build Ease*	✓	✓	✓	✓	✓	✓	✓	✓	✓
Zarea	✓	✓	✗	✓	✗	✗	✗	✗	✗
Tameer	✗	✗	✗	✗	✓	✗	✗	✗	✗
Imarat	✗	✗	✗	✗	✓	✗	✗	✗	✗
Astral- constructor	✓	✗	✗	✗	✓	✗	✗	✗	✗

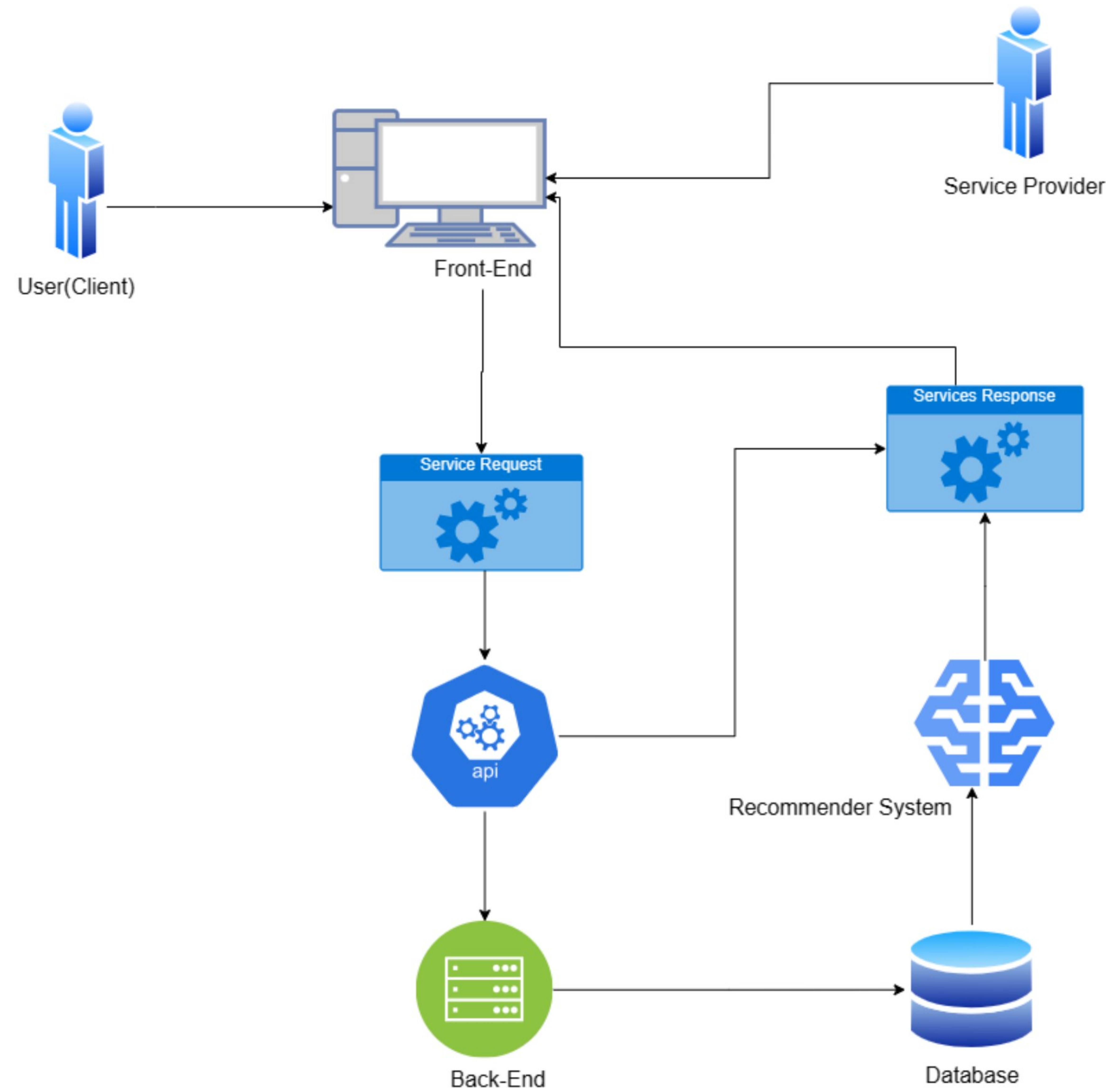
6. Methodology

The construction process is considered one of the challenging task, and one of the biggest challenges facing clients and professionals is the lack of data on construction companies and material providers. This makes it difficult for clients to choose the right service provider for their needs.

Our team is developing a mobile application that aims to bridge this gap by providing clients with information about construction companies and material providers, as well as recommend the best service provider for their needs. The application will be developed using the following methodology:

- **Problem identification:** We will first identify the problem that our application will solve. In this case, the problem is that there is a lack of data on construction companies and material providers, which makes it difficult for clients to choose the right service provider.
- **Solution development:** Once we have identified the problem, we will develop a solution. In this case, the solution is a mobile application that will provide clients with information about construction companies and material providers, as well as recommend the best service provider for their needs.
- **Wire framing and prototyping:** Then, we will start wire framing and prototyping the app.
- **Development and testing:** Once the wireframes and prototypes are finalized, we will start developing the app. Then finally, we will test the product to ensure its quality.

This mobile app will use the following Architecture:



7. Expected Outcomes

After the completion of this project, it will mainly act as interface between construction companies / private contractors and the clients which want to avail these services. This project will contribute towards developing a client and service provider interactive interface based on reviews ratings and other relevant data that has previously been used in other industries but not in the construction and building industry. Our project will be a unique addition to the industry that has been overlooked by many industrial professionals. Our project will provide the solution to the following problems frequently faced by the in industry

- There is not enough information about private contractors to the common people that will be wanting to build a small scale commercial or residential buildings on their previously owned land. Our project will enable them to find the right deal for the right price.
- There is no data about the private contractors on their construction quality and the completion of the projects the contractors undertake a rating and review system will help the clients determine how reliable the contractor for the job is.
- In the construction and building industry there is no previously present platform to advertise project for both private contractor and construction companies and use an AI based recommendation system to recommend related contractors, materials and project postings.
- This will minimize the corruption done in the industry and the substandard material being used in the projects will be as the data from the reviews will be enough for the clients to determine the value of the contractors.
- Fraudulent people and companies will have a hard time working on the app as the AI and the review system will help the clients spot out the possible fraudulent contractors and companies and help the clients to make the best choice.

8. Timeline:

Elapsed time in (days or weeks or month or quarter) since the start of the project	Milestones	Deliverable
Month 1	- Gathering Software Resources and Information - Data gathering	- Project Proposal - Data Gathering (SRS)
Month 2	System Analysis	
Month 3	UI Design	Prototype
Month 4	Database Normalization	Database Structure and Design
Month 5	Coding	
Month 6	Testing	Test Cases and Result
Month 7	Integration	Complete Connectivity of Frontend and Backend
Month 8	Project Finalization	Project Deployment, Project Presentation, Final Report

9. Resources Required:

9.1. Resources

9.1.1. Human Resources:

- Developer
- Designer
- Tester

9.1.2. Financial resources:

Costs of development and maintenance.

9.1.3. Time resources: The project will take around 6-7 months with functionalities mentioned.

9.2. Equipment

- Computers and laptops
- Software development tools (IDE's, DBMS, plugins, API's)

9.3. Softwares (Stacks)

- VS code
- JavaScript
- React
- React Native
- Node.js
- Firebase
- Git
- Github

9.4. Materials

- Software Documentations

9.5. Special facilities or access requirements

- We need access to a quiet workspace with good internet connectivity.
- The app will need to be tested on a variety of devices, including smartphones and tablets.

10. Conclusion:

In conclusion, the construction management app project is a feasible and valuable project. The app would provide a platform for users and contractors to connect, collaborate, and manage their projects. The app would be developed using the latest technologies. It would be free to download and use. The project is expected to take 6-7 months to complete.

The construction management app has the potential to make a significant impact on the construction industry. It would help to improve communication, collaboration, and efficiency, which would lead to more successful projects. The app would also help to reduce costs.

11. References:

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3. *Tameer.* (2023, July 23). Tameer. <https://tameer.com/><https://imarat.com.pk/>
4. *Astral Constructors (Pvt) Ltd - Pakistan's premier construction company.* (2021, February 3). Astral Constructors (Pvt) Ltd. <https://www.astralconstructors.com/>