

HANDYMAN

A CAPSTONE PROJECT REPORT

*Submitted in partial fulfillment of the
requirement for the award of the
Degree of*

MASTER OF TECHNOLOGY IN INTEGRATED SOFTWARE ENGINEERING

by

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VIT-AP UNIVERSITY
AMARAVATI- 522237**

May 2021

CERTIFICATE

This is to certify that the Capstone Project work titled “**HANDYMAN**” that is being submitted by **18MIS7007** is in partial fulfillment of the requirements for the award of Master of Technology, is a record of bonafide work done under my guidance. The contents of this Project work, in full or in parts, have neither been taken from any other source nor have been submitted to any other Institute or University for award of any degree or diploma and the same is certified.

Dr. Hussain Syed
Guide

The thesis is satisfactory / unsatisfactory

Internal Examiner

External Examiner

Approved by

PROGRAM CHAIR

DEAN

M. Tech. SE

School Of Computer Science and Engineering

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Place: Andhra Pradesh

Date: 22nd May, 2022

Aitha Tarun

ABSTRACT

In this report a mobile application Handyman is presented which can be used by the people to book (or) make an appointment for a home service such as electricians, plumbers, appliance repair men, etc.... Our application will provide a combined interface for both handyman and customer to manage their tasks. Customers and Handyman could also keep a track of their appointments through calendars and notifications. After booking a service a customer could track the respective handyman through maps. Our application will be easy to use because of its user interface which will be user friendly implemented through various icons and valid typography. Providing an all-in-one combined handyman and customer-oriented application giving chances for individual handyman to register and get verified by the system to start work individually. And we provide user and handyman real-time location tracking services to make it easy to know the location of handyman for the customer and vice versa. Also, providing customers to select nearby handyman through maps to get instant services.

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List of Abbreviations

API: Application Programming Interface

AJAX: Asynchronous JavaScript and XML

CDN: Content Delivery Management

CMS: Content Management System

CRUD: Create, Read, Update, and Delete

CSS: Cascading Style Sheets

DOM: Document Object Model

EJS: Effective JavaScript

GUI: Graphical User Interface

JS: Java Script

HTML: Hypertext Markup Language

HTTPS: Hypertext Transfer Protocol Secure

NPM: Node Package Manager

PaaS: Platform as a Service

REST: Representational State Transfer

SEO: Search Engine Optimization

URL: Uniform Resource Locator

UX: User Experience

UI: User Interface

CHAPTER 1

INTRODUCTION

Leveraging they would possibly of technology, home services as a sector has been seeing sizable interest because its appearance to link native services to customers. Whether or not it's dispatching someone to repair faulty appliances, obtaining garments washed, smoothed and delivered to you on the doorstep or having a fitness pedagogue train you reception, startups, in a trial to arrange this extremely fragmented sector, are providing these and lots of a lot of at the press of a button. Several existing start-ups like UrbanClap, Housejoy, Zimmer, etc try to unravel the matter however are hiring the workmen individually for his or her company and additionally restricted branches on the market at some places. Even with serious discount offers these startups weren't ready to get abundant profit or ROI.

We are trying to leveraging this solution further by making use of maps and locating nearby handyman's who are registered in our platform and available for work. So, in this case the company don't need to hire workmen separately, since local workers can register themselves and can provide services to the services, thereby earning money out of it.

Due to current pandemic situation which left a worldwide effect on nations, forcing employers to work from home it's very difficult for local workmen to search for work that are one time, for e.g., repairing a fan will take a few min or HRS or mostly a day, it's not a stable and durable job. So, for these small tasks to be completed people need to step outside and search for workmen. With the help of a mobile app, we can solve the problem by providing local workmen a job so that they can earn money and consumers to help them avail daily services.

1.1 Objectives

- Handyman is a mobile application which can be used by the people to book (or) make an appointment for a home service such as electricians, plumbers, etc....
- The booking process of a handyman will be so simple which starts by the customer by selecting a desired home service and selecting a handyman with the help of google map which provides the details of handyman and the estimated time of the handyman to reach customer house and at last complete the booking by selecting payment method.
- Customers and Handyman could also keep a track of their appointments through calendars and notifications.
- After booking a service a customer could track the respective handyman through google maps and contact them personally with the given handyman contact details for any further queries.
- The features mentioned above will be obtained by developing a cross-platform mobile application through Angular + Ionic and a backend server with NodeJS with a Mongo Database.
- Our application is easy to use with the help of various components to interact with system to achieve the desired functionality of the customer such as appointments calendar, real-time google map handyman tracking and navigation, easy app navigation through unique user interaction which consists of various icons and valid typography, and secured services with handyman verifications.
- Also, the cost to maintain this application will be low because we should only deploy the backend to a public server along with the database.

1.2 Background and Literature Survey

A similar project is UrbanClap, that is quickly grown and well recognized online startup in India that is founded in 2014 by Varun Khaitan, Abhiraj Bhal, Raghav Chandra. It is a mobile application that provides day to day home services served by skilled handyman. UrbanClap is provides completely different services like work & personal services that embrace pipe filter, electricians, carpenters, cleaning, and gadfly management, beauty, spa, yoga trainer, mobile & different appliances repair, and decorating house.

Home based services application solve the problems of day-to-day life carpentry, house cleanliness, home appliances, and all other household problems. They facilitate services that satisfy customer needs. Now a days people want easy life and access to the services they want. So, for that these applications fulfil those demands.

Customers become very important within this competition era. Clients forever wishes most satisfaction from the merchandise or services they receive and that they opt for that product too. Each organization offers their best to impress clients however service quality is relied on the feedback of customers. Currently on a daily basis in this busy life people wish everything reception and anxious regarding their personnel hygiene and different family activities whereas protection their best interest at a cheapest price.

Service quality, client satisfaction and client worth square measure a main concern altogether sectors as well as tending conjointly. In step with Kumar, Kee and Manshor High level of client satisfaction is one in all the vital consequences of selling activity, “satisfaction is that the client accomplishment response. It’s simply a judgment that a product or service feature, or the merchandise or service itself, provides a pleasure in a position level of consumption – connected fulfilment”.

Guthrie, M. & Jung J. (2012) in their study women’s perceptions on home services of personal care involves lot of trust and professionalism.

As we move towards a time-changing world, where ladies’ shoulders have several responsibilities, it is difficult to manage both work life and personal life. As per the

analysis done by Jai Vardhan on eighth Gregorian calendar month, 2015, besides food & health, providing beauty services at threshold are blocked joined of the most important opportunities.

Professional ladies lead busy life, some tend to like availing of such services. Likewise Urban clap, an added promising start-up like Belita (found in 2010) will regarding one, 300 orders during a month (as per the survey and analysis done by Jai Vardhan in Gregorian calendar month 2015).

Jai Vardhan's an added analysis says that (Get look) that could be a creation of IIT-KGP graduates Gaurav Maheshwari and Ronak Sharda, that Get Look provides the wonder services at the customer's threshold among 2 hours.

1.3 Target Segment / Market Size

- To be more general the public who are needed to complete their work at their doorstep. It can be of age group between 21-60.
- The customers can be of Commercial (or) Residential (or) an office. The people want cost-efficient services that are needed to be done.

Market Size

Since it is the total number of sales done by the year. Due to this pandemic situation, many people need to finish their work at their doorstep. The Market size will be very huge metropolitan cities.

Market Growth

The Market growth can be done by attracting the customers by giving much better offers in prices and fast completion of work. Need to have a customer service call center to solve their issues. And refund the money when the work is not done (or) canceled the appointment.

1.4 Business Impact / Measure of Success

Customer benefit

The customer base will save their precious time and fuel by not stepping outside their workplace/home and searching for handymen to hire them. Also, some customers have contacts of handyman and call them to do the work but some of them might not have that network to reach them out. So basically, this app will help them to provide information about them and hire them to avail their services.

Expected result/impact

We are trying to create an impact towards the common people by providing local jobs and services, which will solve the problem of both unemployment and making services available to the consumers. So, the handyman can earn money and will have a source of income and the consumer base can get the service at affordable price.

1.5 Organization of the Report

The remaining chapters of the project report are described as follows:

- Chapter 2 contains the proposed system, methodology, hardware and software details.
- Chapter 3 discusses the results obtained after the project was implemented.
- Chapter 4 concludes the report.
- Chapter 5 consists of codes.
- Chapter 6 gives references.

CHAPTER 2

Handyman

This Chapter describes the proposed system, working methodology, software and hardware details.

2.1 Proposed System

- Our system consists similar functionalities of the existing system and also differs in many aspects from the urban company.
- Coming to the similarities our system also provides uses to view list of services, booking services, scheduling services, payments section and feedback and rating sections.
- But it differs by providing a all-in-one combined handyman and customer oriented application giving chances for individual handyman to register and get verified by the system to start work individually.
- And we provide user and handyman real-time location tracking services to make it easy to know the location of handyman for the customer and vice versa.
- Also, providing customers to select nearby handyman through maps to get instant services.

2.2 Working Methodology

- We have employed Agile methodology with Scrum framework to develop, integrate, and to deploy our project.
- We have divided our project in to 4 sprints each sprint of duration 22 days and 3 months of entire project duration.

- We have also employed the concept of modularity to develop and integrate the project components.
- We are also using Git has a version control platform to maintain collaboration between team members.
- And for testing we are using Postman API testing tools to test NodeJS backend REST API.



2.3 Standards

- Easy to use in an intuitive way for the target market.
- Functionality is during a logical manner for the target market.
- Used designs that are consistent throughout and applying inside the associated web site, including:
 - Use of capitalization.
 - Use of punctuation.
 - Error messages should be consistent.
 - Consistent use of documentation.
 - Use of Layout/spacing.
 - Use of Descriptive data titles and descriptions.
- Best for industry practices.

- Form controls that are not available must not be visible.

HTTPS

Hypertext transfer protocol secure (HTTPS) is that the secure version of HTTP protocol, that is that the primary protocol accustomed send knowledge between an internet browser and server. HTTPS is encrypted so as to extend security of information transfer. this can be notably vital once users transmit sensitive knowledge, like by work into a checking account, email service, or insurance supplier.

REST API

A REST API (also referred to as stateless API) is an application programming interface (API) that conforms to the constraints of REST style of architecture and permits for interaction with quiet net services. REST stands for representational state transfer.

2.4 System Details

This section describes the software and hardware details of the system:

2.4.1 Software Details

- NodeJS: Node JS is JavaScript runtime which executes on server.
- Mongo NOSQL Database: Mongo NoSQL database is going to be used to store data related to website.
- Express JS: Express JS is a back-end web application framework used to handle server.

- EJS Views: JS is a simple templating language that lets you generate HTML markup with plain JavaScript.
- Bootstrap: Bootstrap is an HTML, CSS & JS Library that focuses on simplifying the development of informative web pages (as opposed to web apps).
- Angular: Angular is a development platform for building mobile and desktop web applications using Typescript/JavaScript and other languages.
- Ionic: An open-source mobile toolkit for building high quality, cross-platform native and web app experiences. Move faster with a single code base, running everywhere with JavaScript and the Web.
- Requires android v8.0 or above.

2.4.2 Hardware Details

This application just requires a backend node server and database mongo server to manage application data and an android smart mobile with version 8.0 or above is required.



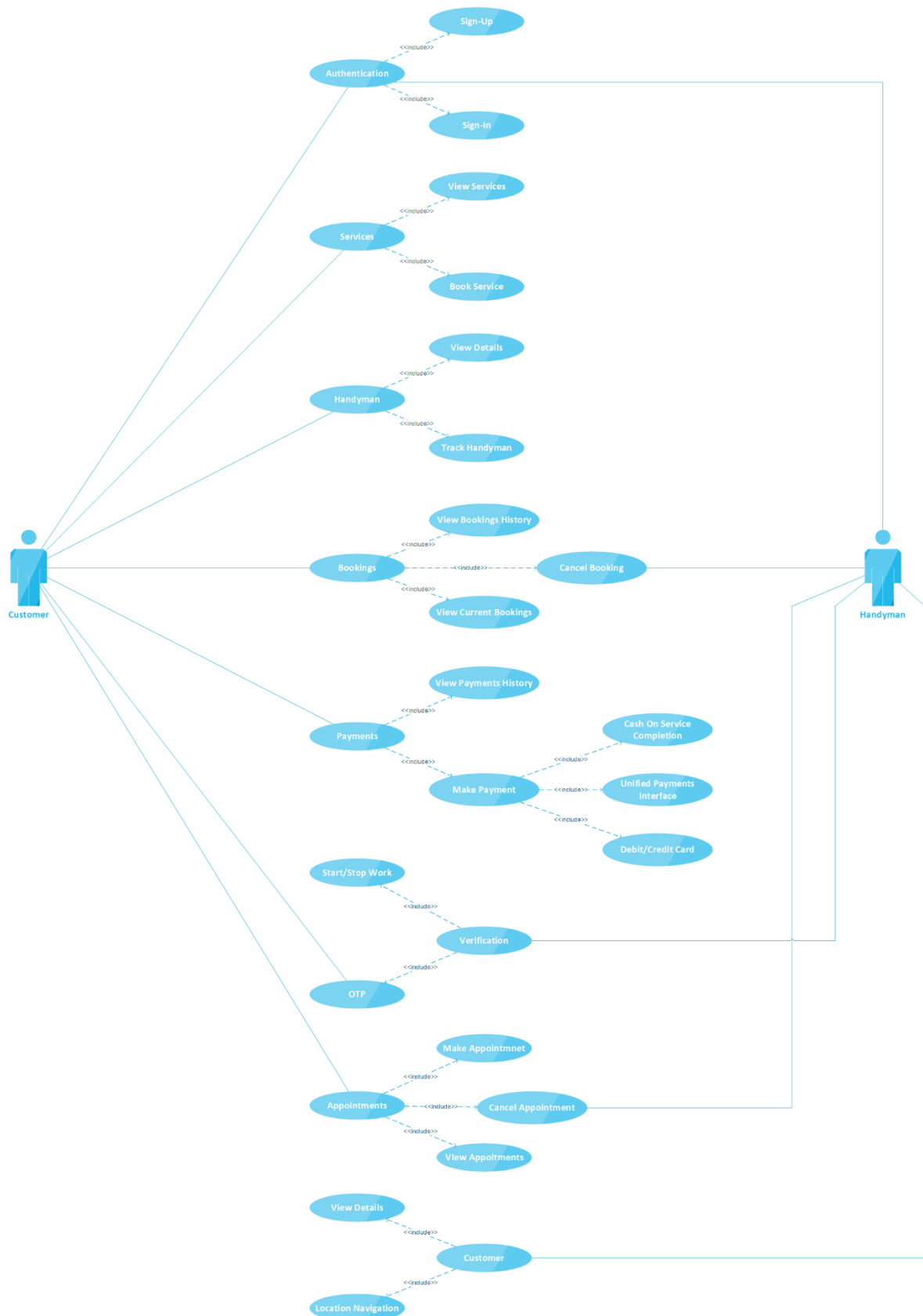
CHAPTER 3

UML

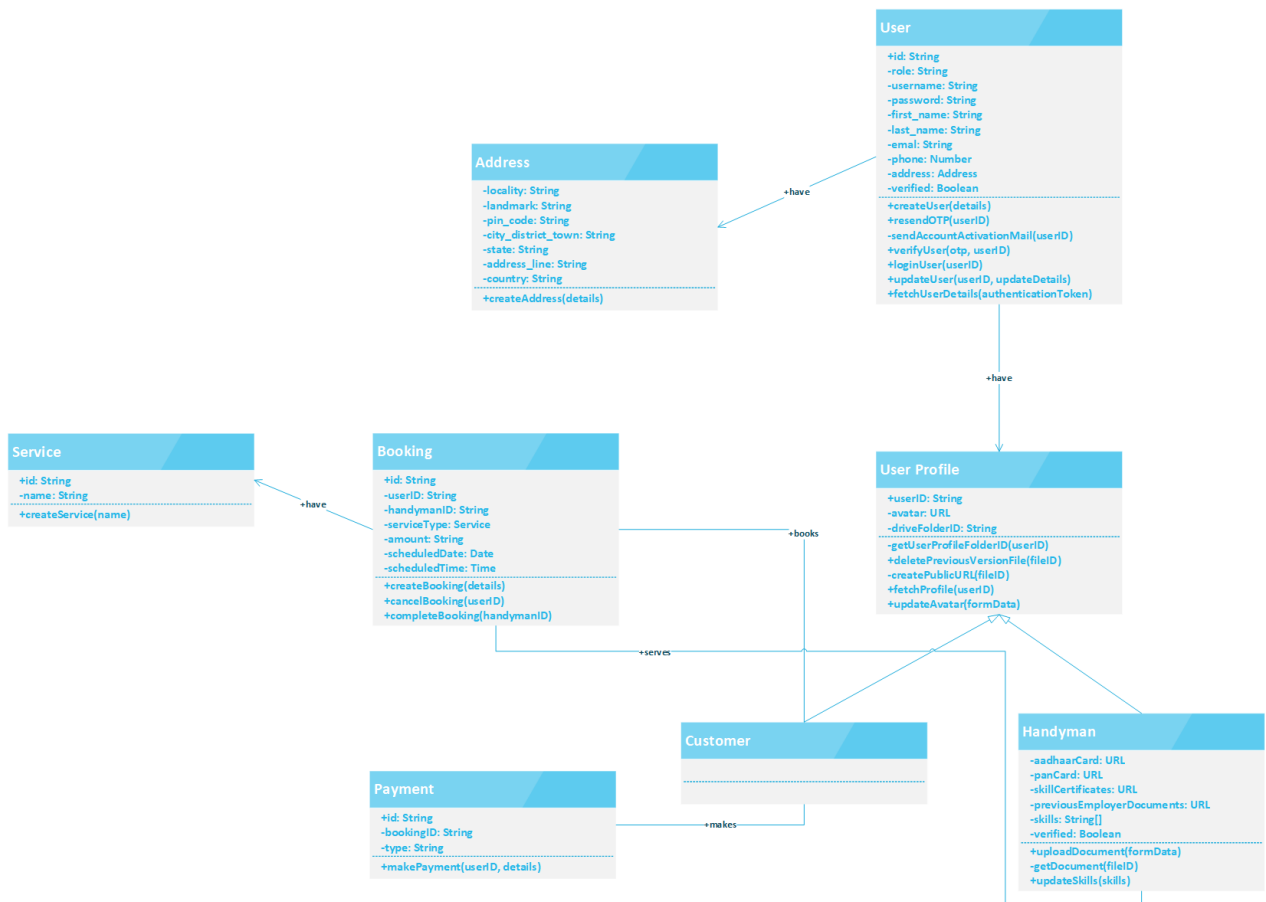
3.1 System Architecture



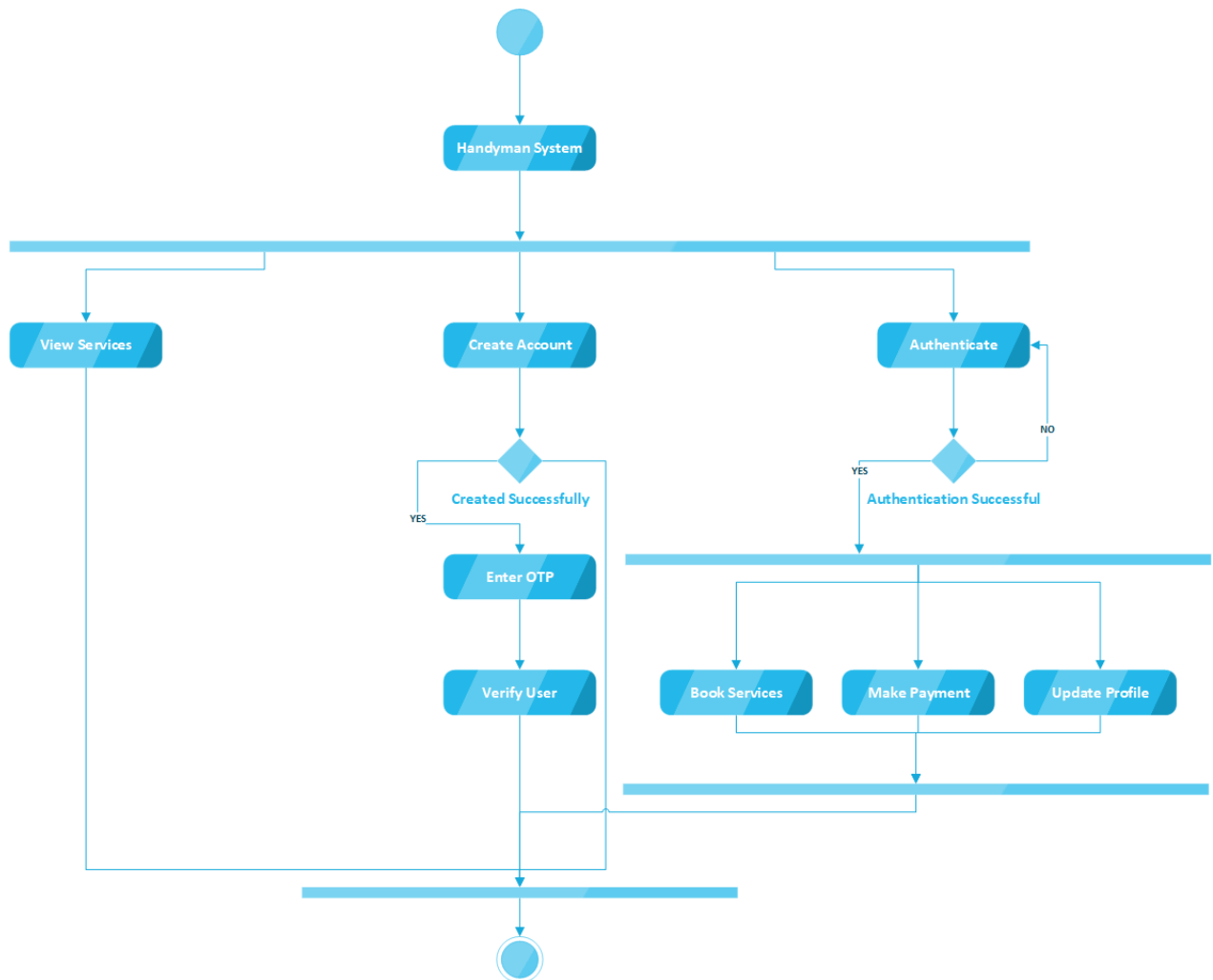
3.2 Use Case



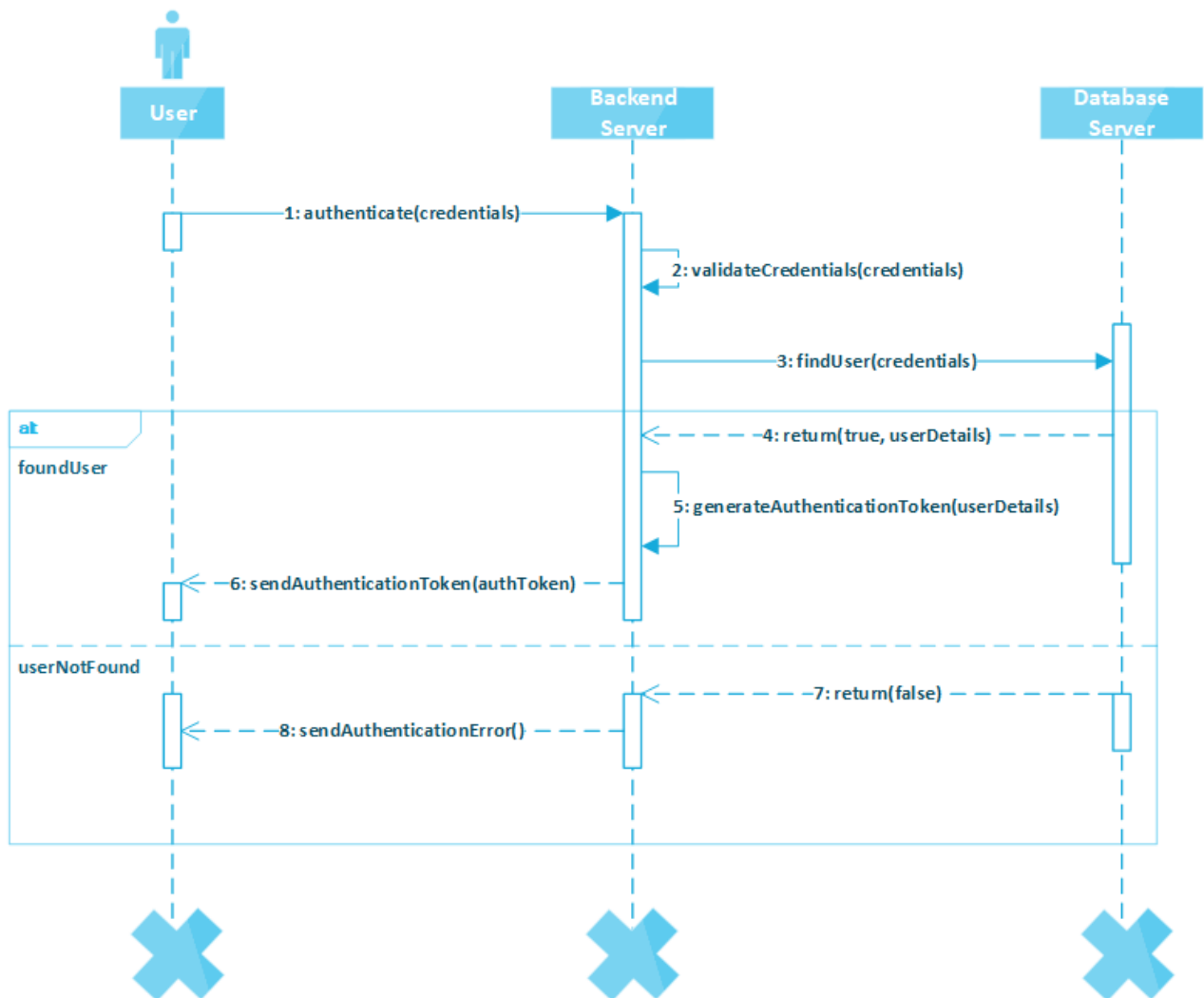
3.3 Class



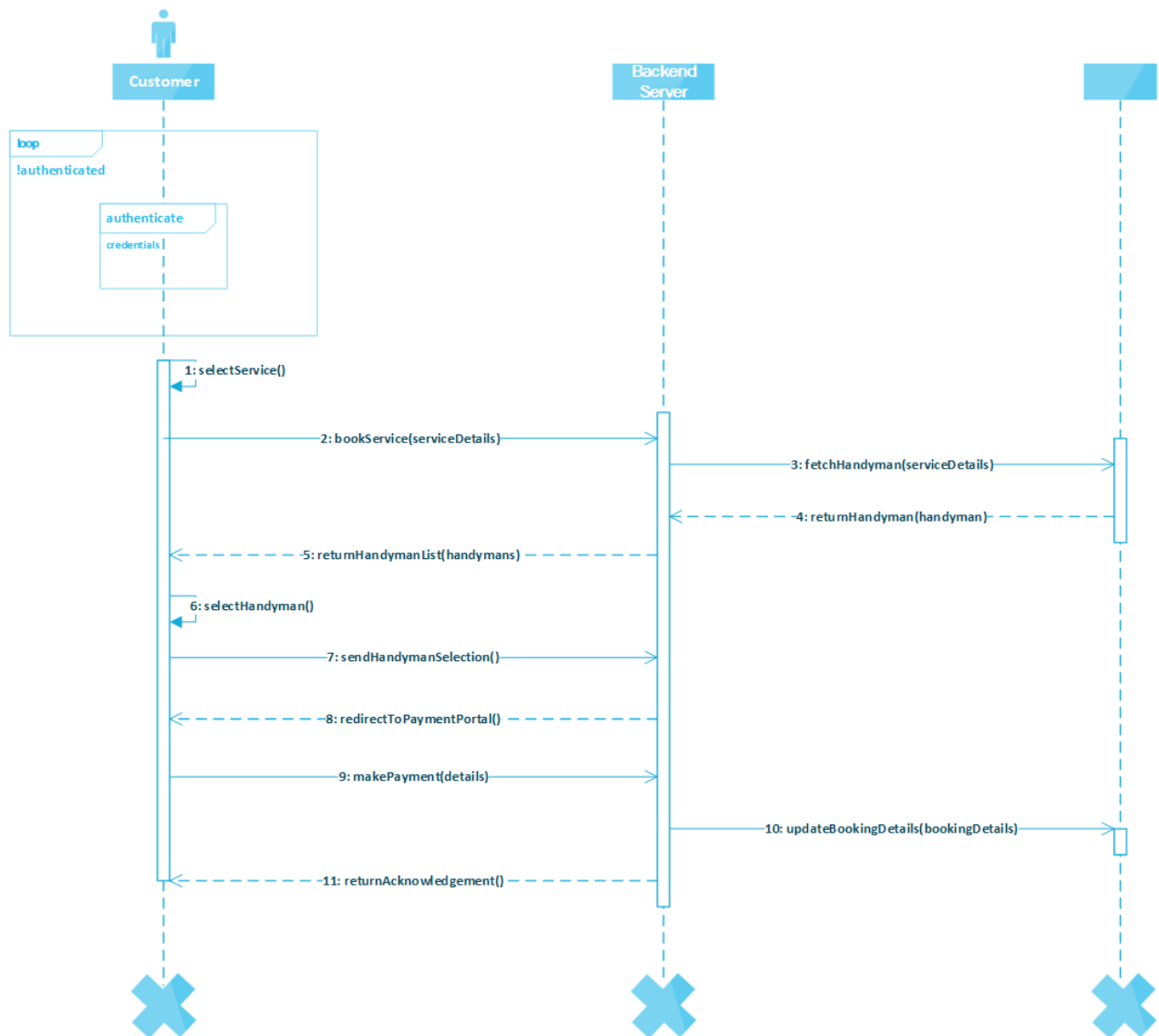
3.4 Activity



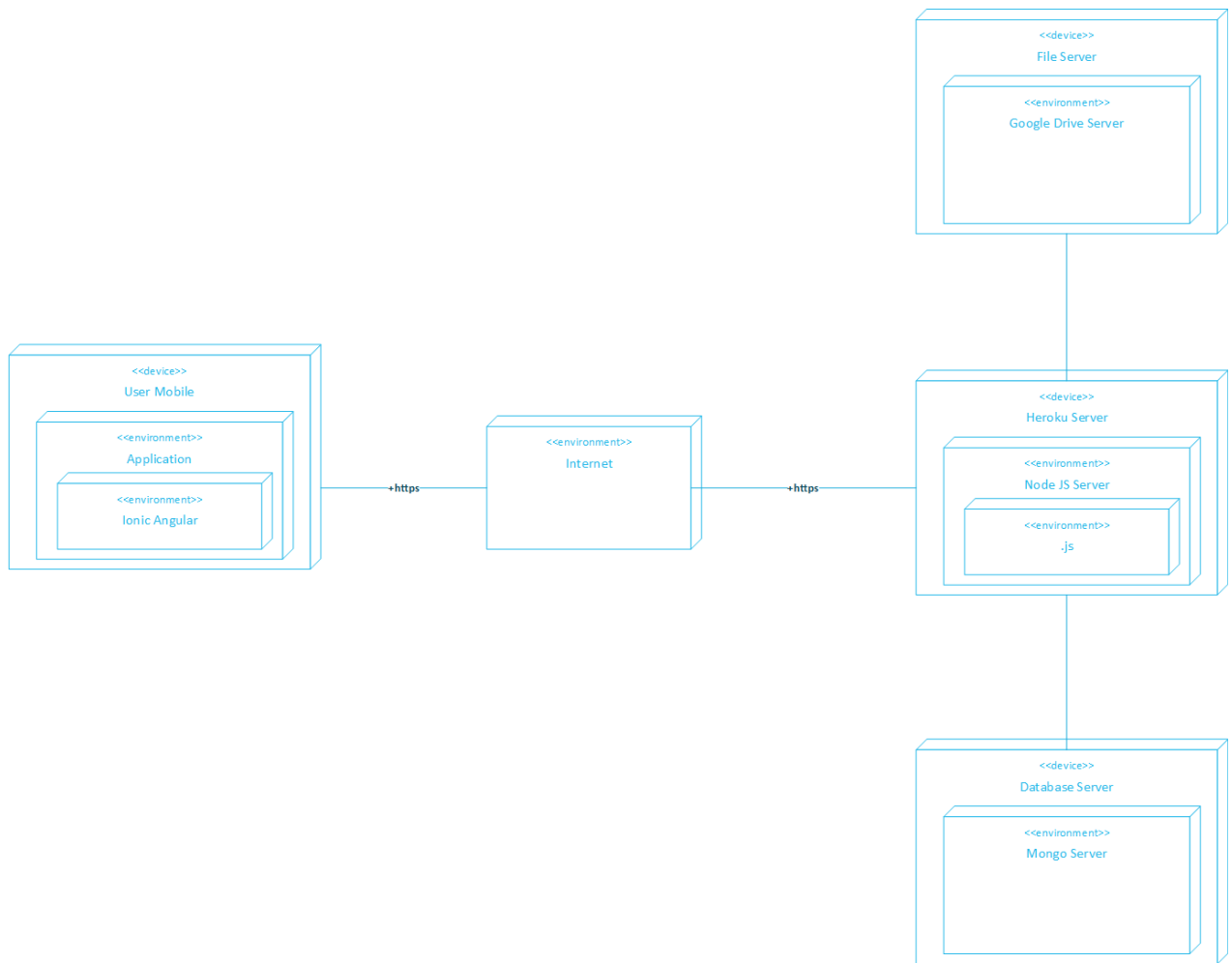
3.5 Sequence – Authentication



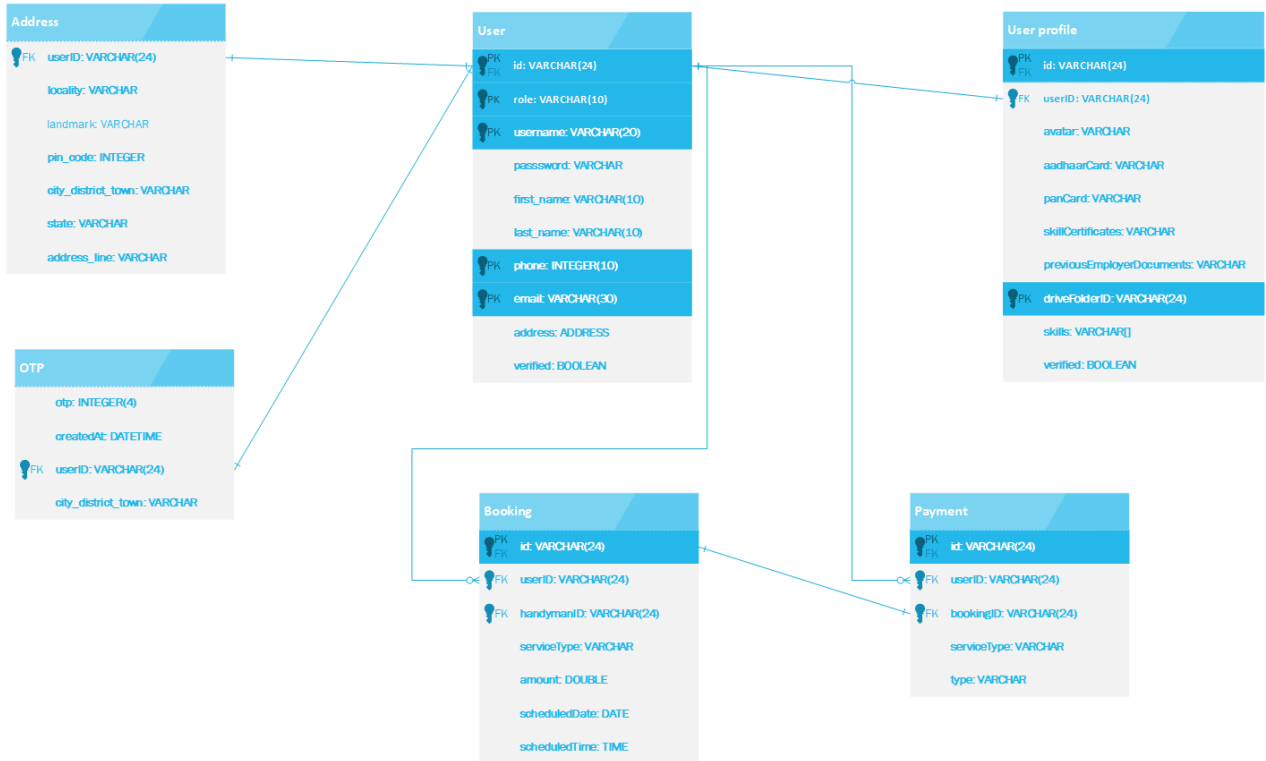
3.6 Sequence – Booking



3.7 Deployment



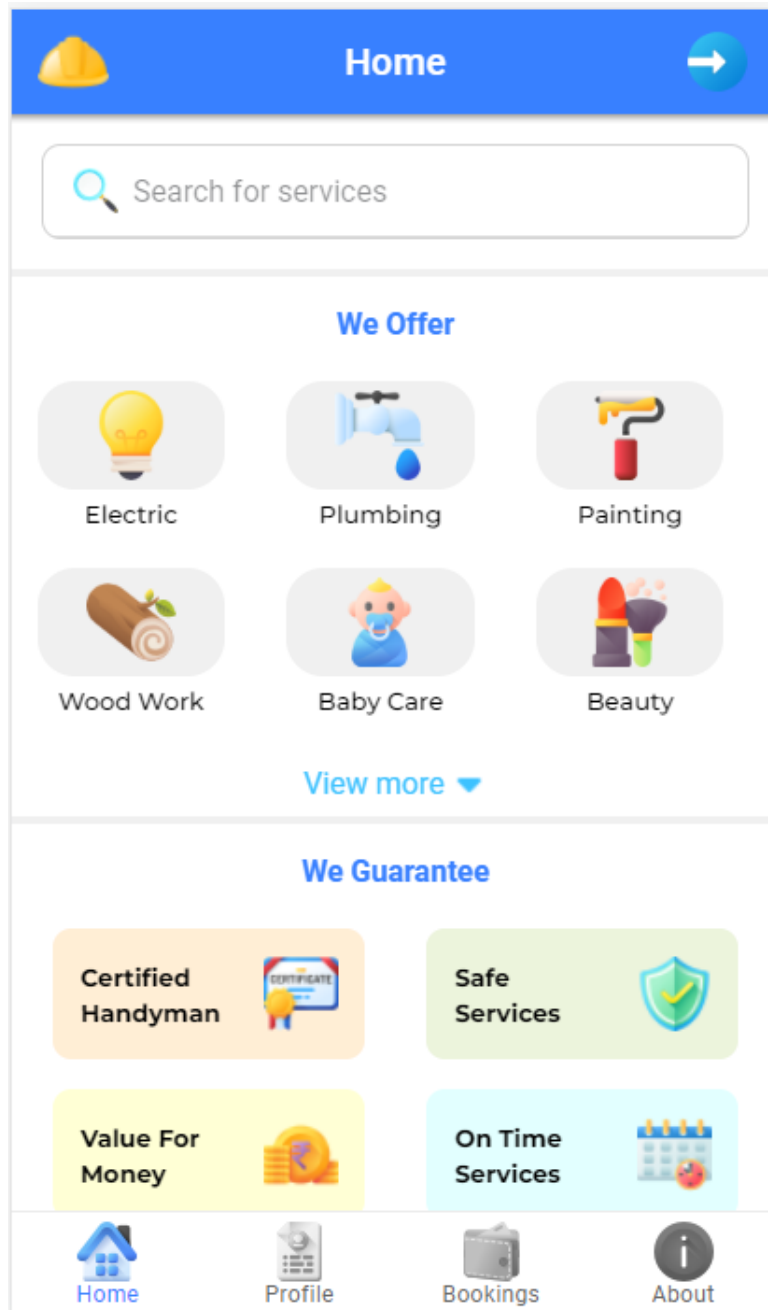
3.8 Entity Relationship

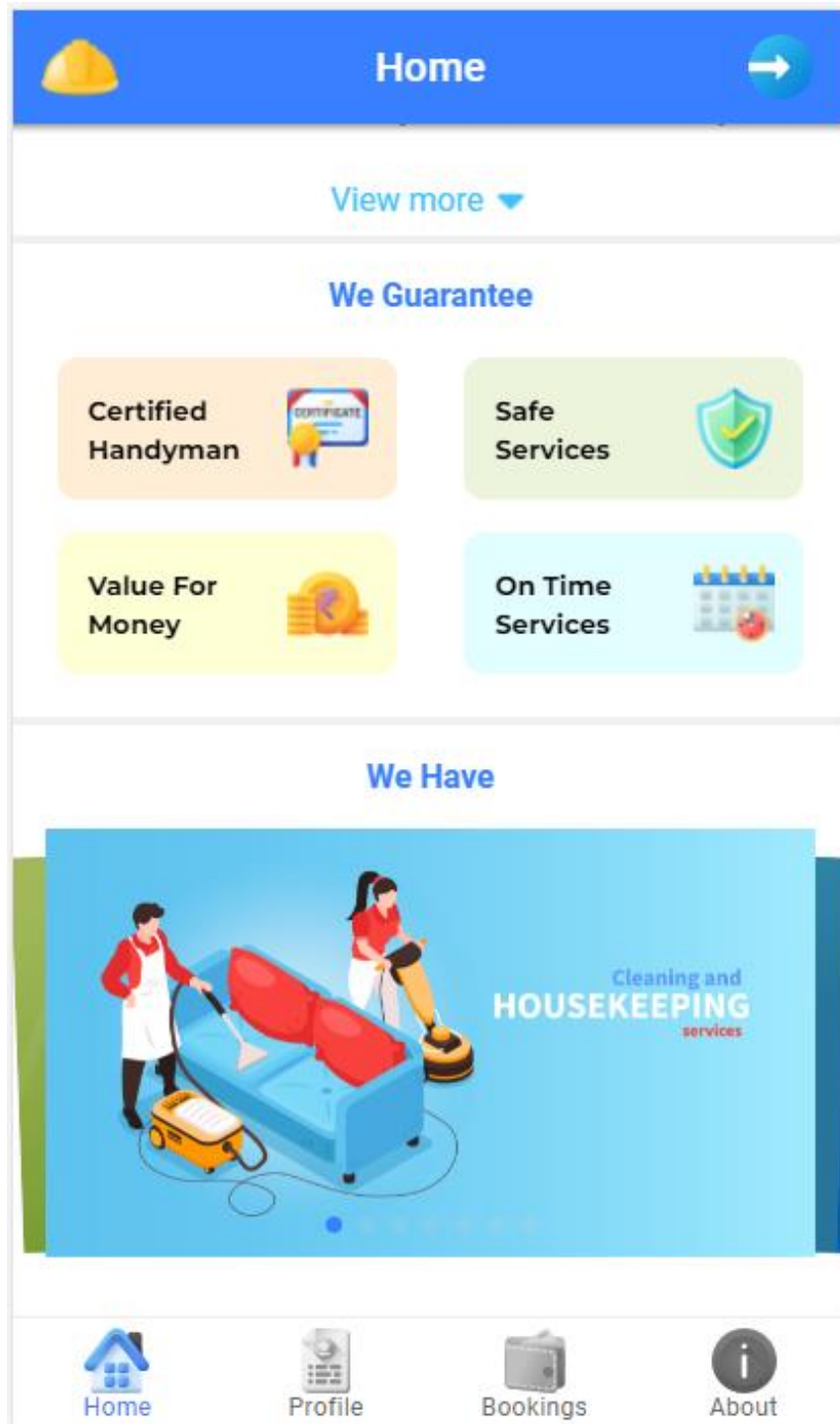


CHAPTER 4


Results and Discussion


Homepage 1






Search Services


 Search for services




Barber




Beautician




Building




Carpenter




Cleaning




Electric




Gardening




Mechanic




Medical




Nanny




Painting




Photography



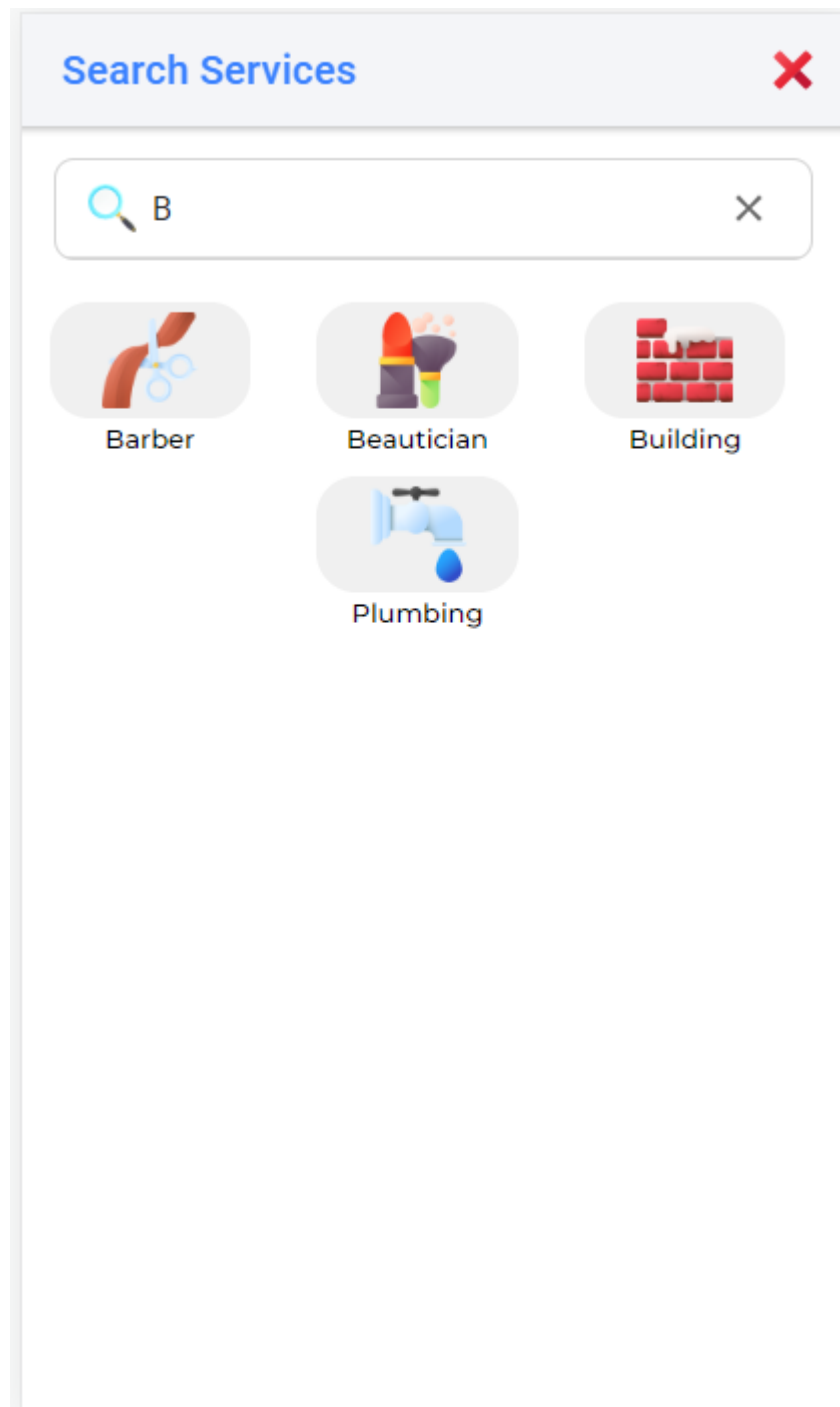
Plumbing



Spa





Veterinarian




Sign Up Page 1 (General Details)

SIGN-UP



HANDYMAN


CUSTOMER


General

 Tarun


×




×

 Tarun


×

 Aitha

×

 aitha.tarun@gmail.com

×

 7095464277


×


Sign Up Page 2 (Address Details)


SIGN-UP


Address


LOCATE ON MAP

 Madhadam


 Secretariat

 522237

 Amaravati, Vijayawada



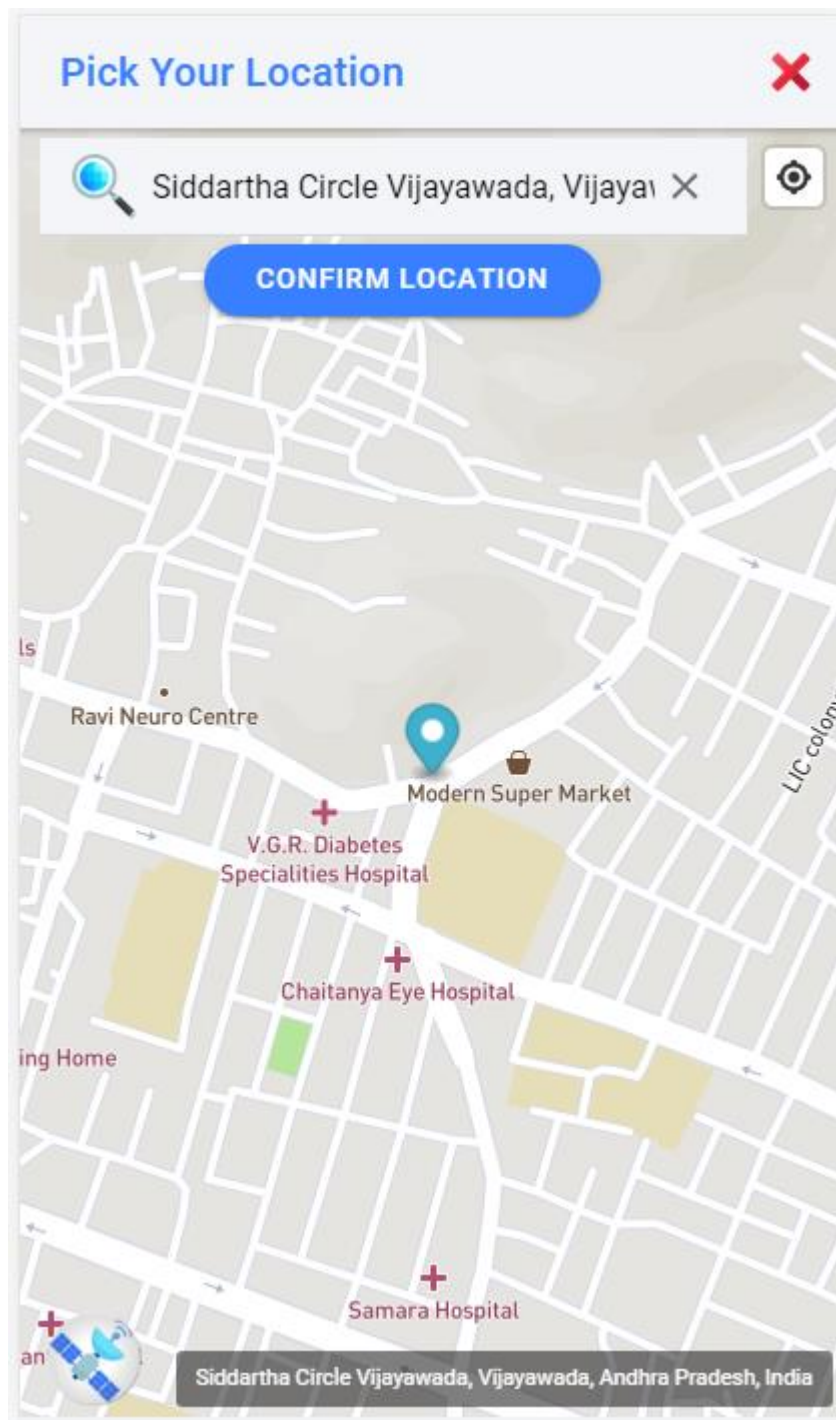
Andhra Pradesh

 Vellote Institute of Technology
Andhra Pradesh, MH-1

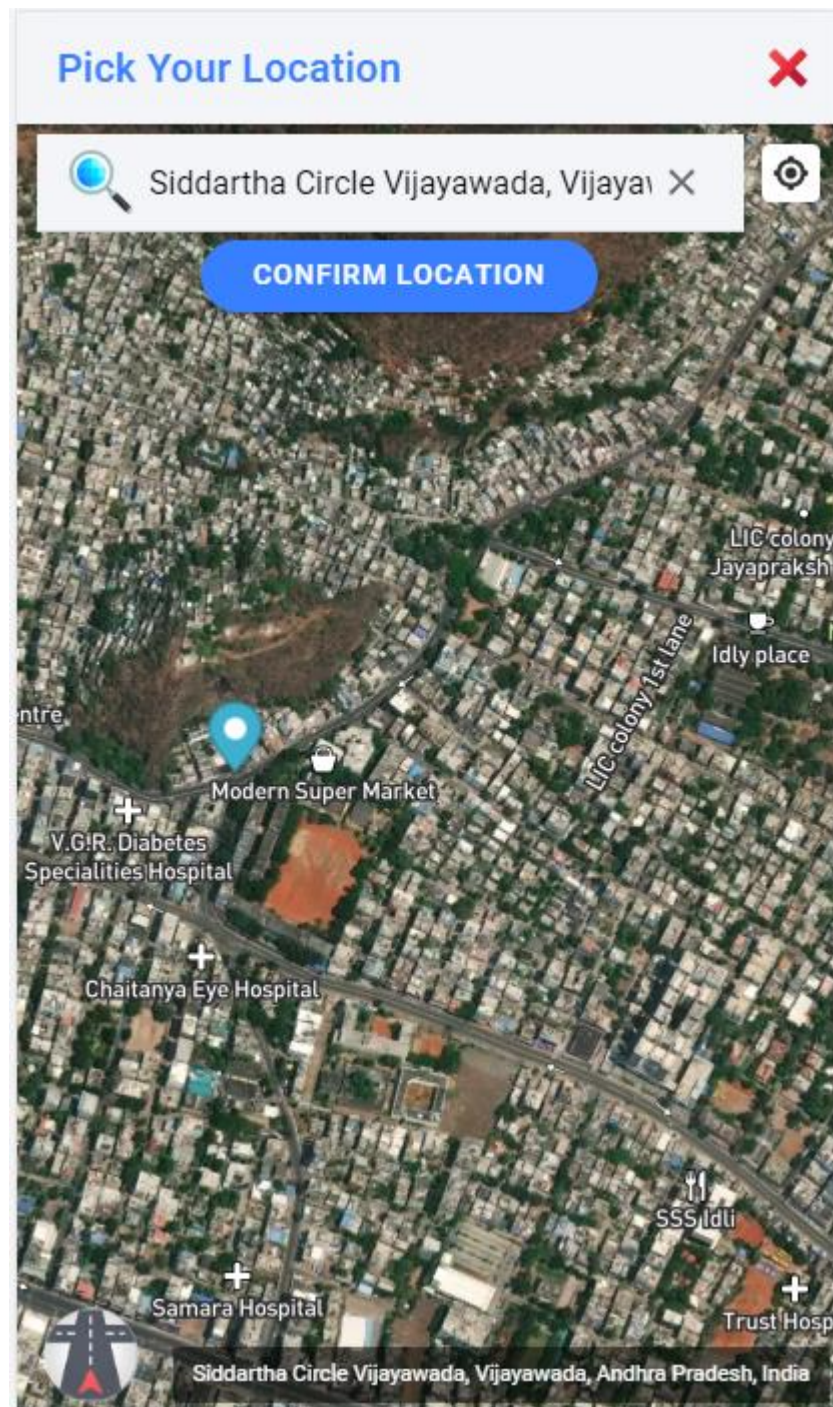
CLEAR

SIGN UP

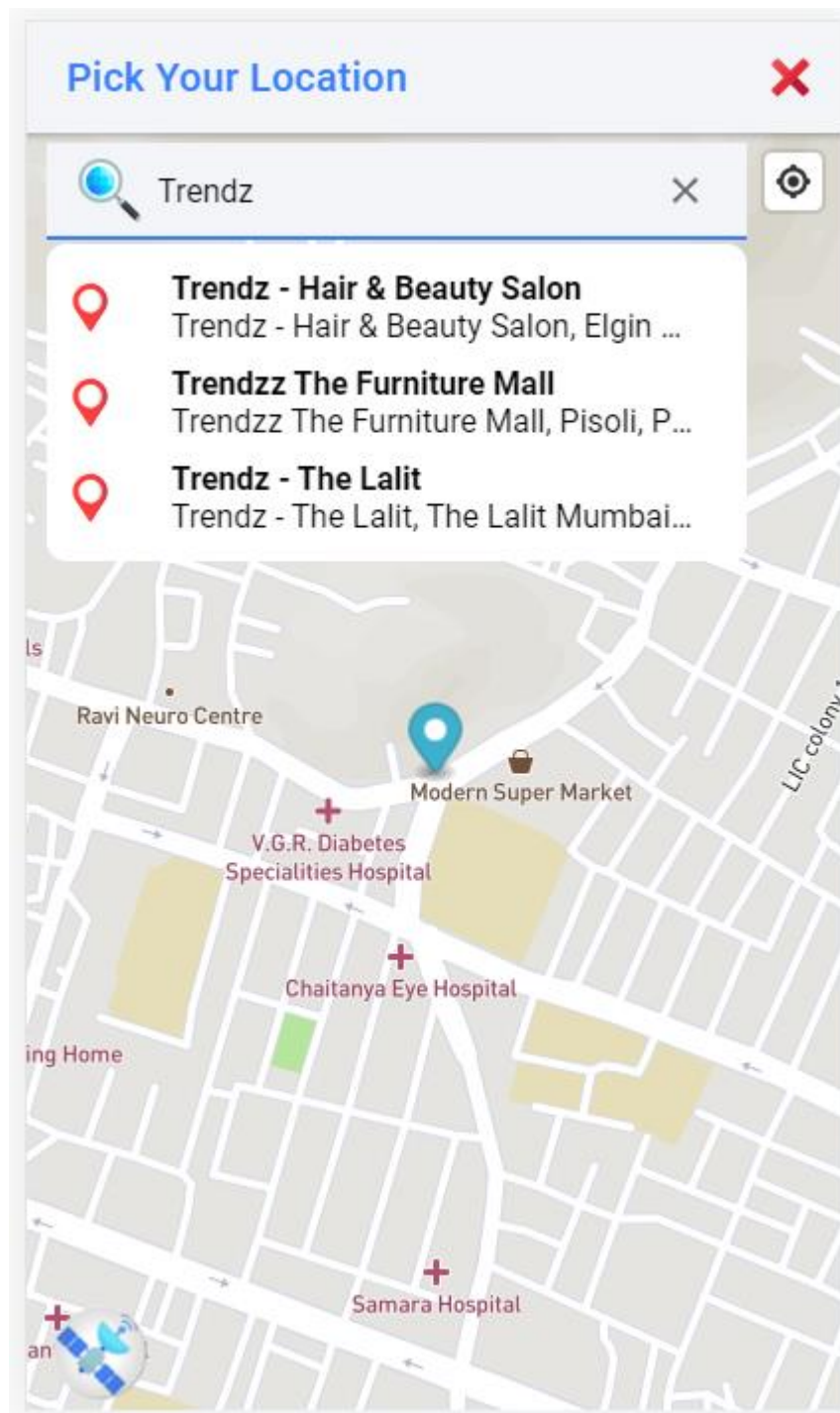
Picking Location 1 (Street View)



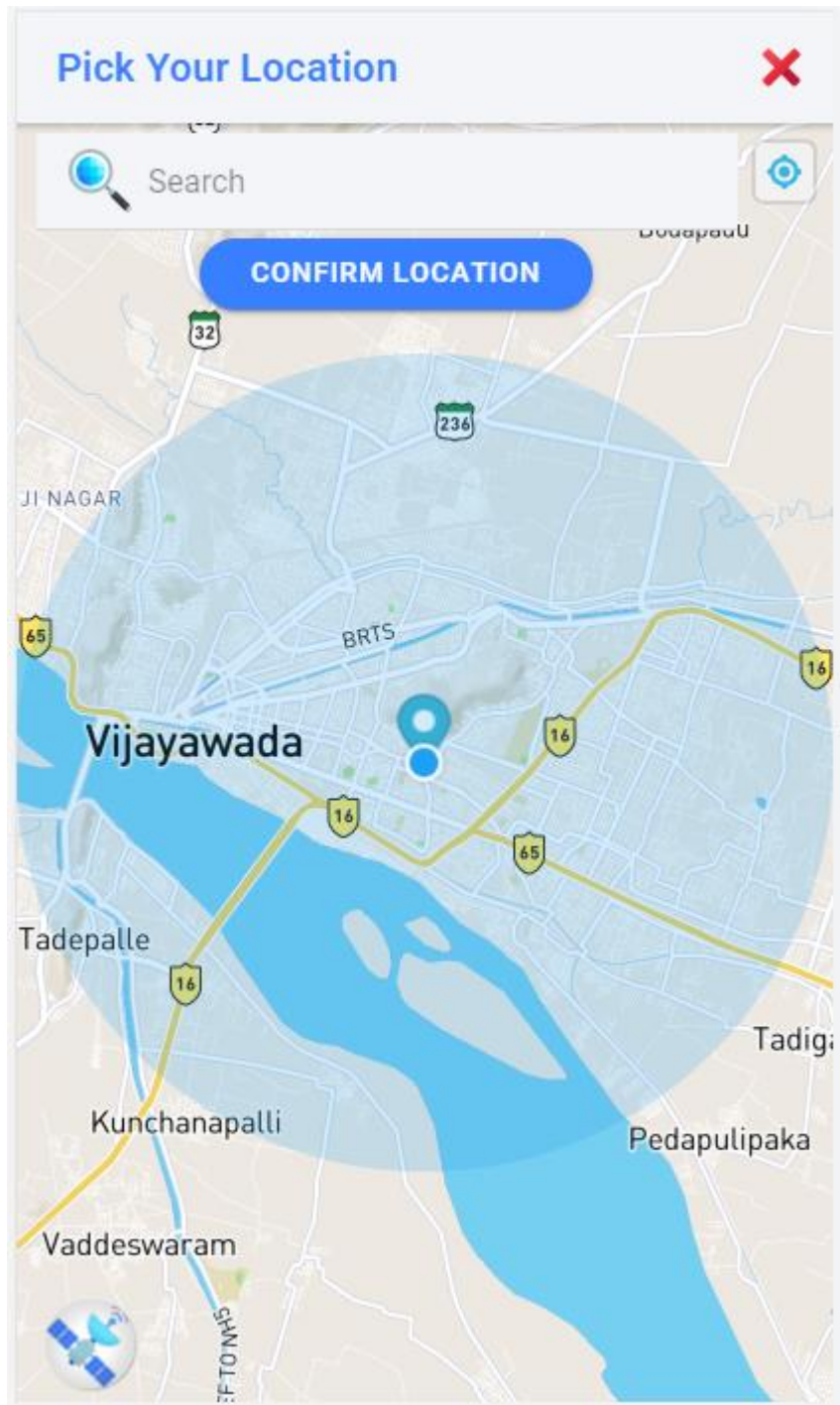
Picking Location 2 (Satellite View)



Picking Location 3 (Searching Locations)





Tracking User




Sign In Page 1


SIGN-IN


HANDYMAN


CUSTOMER

 Tarun

×



×


☒ Remember Me

CLEAR


SIGN IN


Don't have account ? [SIGN UP](#)

Handyman Profile Page 1 (General Details)




Profile







General




Tarun





Tarun






Aitha







aitha.tarun@gmail.com




7095464277







Home



Profile




Bookings




About


Handyman Profile Page 2 (Address Details)




Profile




Address


[LOCATE ON MAP](#) 

Amaravati


×

Govt


×

501302


×

Guntur

×





Andhra Pradesh ▾





Velagapudi, Amaravati, Guntur,
Andhra Pradesh, India


[UPDATE](#)

Home


Profile

Bookings

About






Profile







UPDATE

Skills

 Enter Skill

 Baby Sitting 


 Barber 

 Mechanic 




SAVE


Verification Documents


Select Document Type


Aadhaar Card 


Aadhaar Card


 < >  Change 

 Home


 Profile

 Bookings

 About



Profile





SAVE

Verification Documents




Select Document Type

Aadhaar Card ▾

Aadhaar Card



1

Change

PDF Form Example

Starting with version 5.0.0, ngx-extended-pdf-viewer supports forms in PDF files.
Please fill out the following fields. Important fields are marked yellow.

First name:

Last name:

Country:

Job description:





Years of job experience:

My favorite programming language:


☒ TypeScript ☒ JavaScript ☒ Java ☒ C#

Database Experience (Select all that apply)


☐ Oracle ☐ SQL Server



HomeProfileBookingsAbout


Handyman Profile Page 5 (Documents – Skill Certificates)



Profile













Verification Documents

Select Document Type Skill Certifica... ▾

Skill Certificates




Change



Certificate Panel


Program Name: M. Tech Software Engineering
Program Department: Information Systems
Certificate applicable to (for students): Computer Science and Engineering
Year (from to till): 2018-19
Certificate Version: 2.0
Approved by & Date: IIT Madras Council, 22-07-2018


University Core (Min. of 133 Credits)

Course Code	Category	Course Title	Prerequisites	Corequisites	Course Description
EEEC001	Engineering Core	Engineering Core - I			Engineering
EEEC002	Engineering Core	Engineering Core - II			Engineering
EEEC003	Engineering Core	Engineering Core - III			Engineering
EEEC004	Engineering Core	Engineering Core - IV			Engineering
EEEC005	Engineering Core	Engineering Core - V			Engineering
EEEC006	Engineering Core	Engineering Core - VI			Engineering
EEEC007	Engineering Core	Engineering Core - VII			Engineering
EEEC008	Engineering Core	Engineering Core - VIII			Engineering
EEEC009	Engineering Core	Engineering Core - IX			Engineering
EEEC010	Engineering Core	Engineering Core - X			Engineering
EEEC011	Engineering Core	Engineering Core - XI			Engineering
EEEC012	Engineering Core	Engineering Core - XII			Engineering
EEEC013	Engineering Core	Engineering Core - XIII			Engineering
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EEEC095	Engineering Core	Engineering Core - LXXXXV			Engineering
EEEC096	Engineering Core	Engineering Core - LXXXXVI			Engineering
EEEC097	Engineering Core	Engineering Core - LXXXXVII			Engineering
EEEC098	Engineering Core	Engineering Core - LXXXXVIII			Engineering
EEEC099	Engineering Core	Engineering Core - LXXXXIX			Engineering
EEEC100	Engineering Core	Engineering Core - LXXXXX			Engineering


Home


Profile



Bookings


About


Handyman Profile Page 6 (Documents – Pan Card)


[illegible]



Handyman Profile Page 7 (Documents – Previous Employer Documents – Not uploaded)







Profile






Baby Sitting 

Barber 


Mechanic 


SAVE


Verification Documents


Select Document Type Previous Em... 


Previous Employer Documents




Home


Profile


Bookings


About



Profile








No skills found


SAVE

Verification Documents


Select Document Type Aadhaar Card ▾

Aadhaar Card







Home



Profile




Bookings





About

Customer Profile Page 1 (General Details)




Profile






General




Aitha




Tarun Kumar

×




Aitha

×




tarun.18mis7007@vitap.ac.in




8686779410


×




Home



Profile




Bookings




About


Customer Profile Page 1 (Address Details)




Profile




Address


LOCATE ON MAP

Amaravati


×

Secretariat


×

501296


×

Guntur


×





Andhra Pradesh ▾


Sakhamur, Amaravati, Guntur, Andhra Pradesh, India

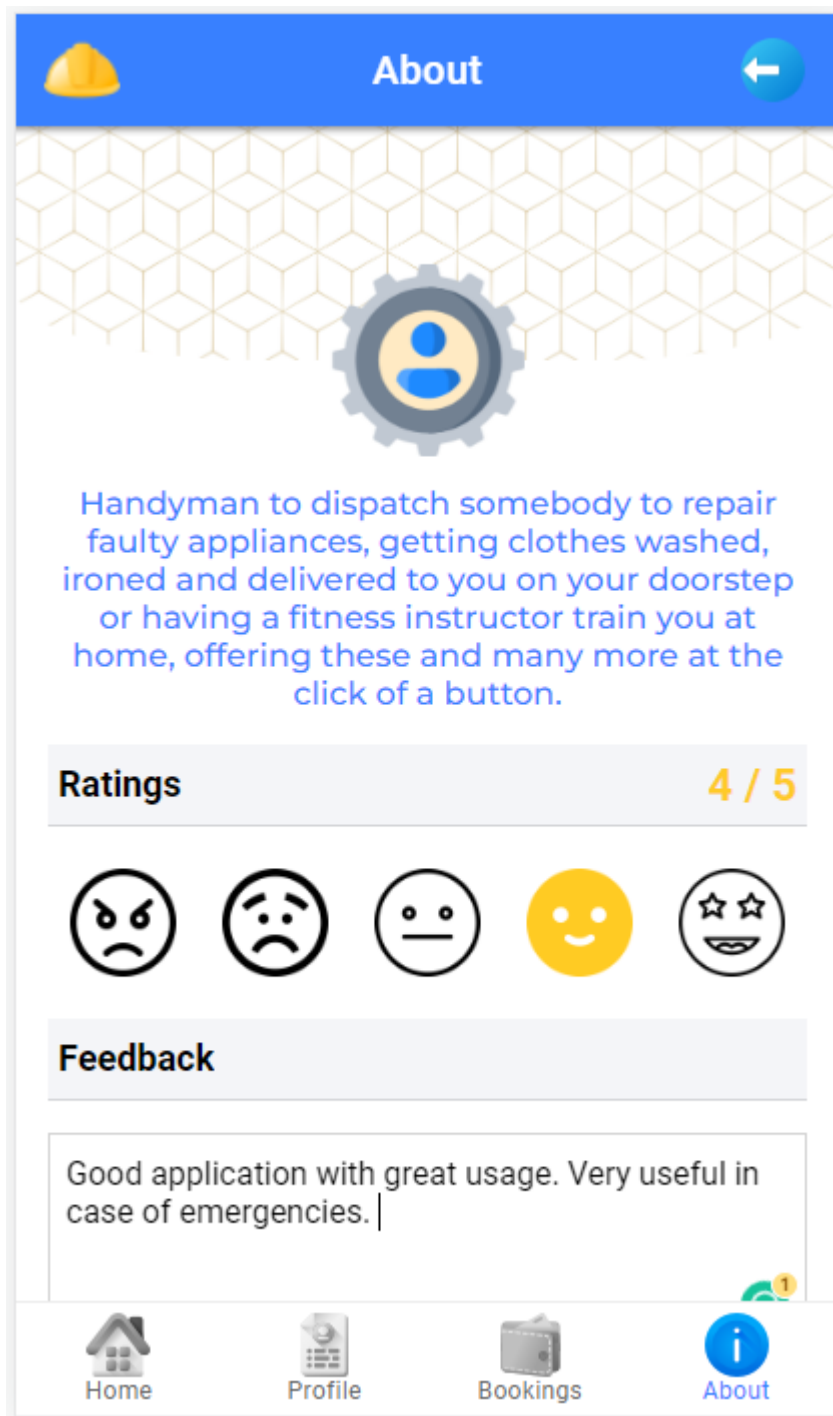
UPDATE

Home


Profile

Bookings


About



About page 2 (Ratings and Feedback)








About



Handyman to dispatch somebody to repair faulty appliances, getting clothes washed, ironed and delivered to you on your doorstep or having a fitness instructor train you at home, offering these and many more at the click of a button.


Ratings

4 / 5




Feedback


Good application with great usage. Very useful in case of emergencies.




SUBMIT




Home



Profile

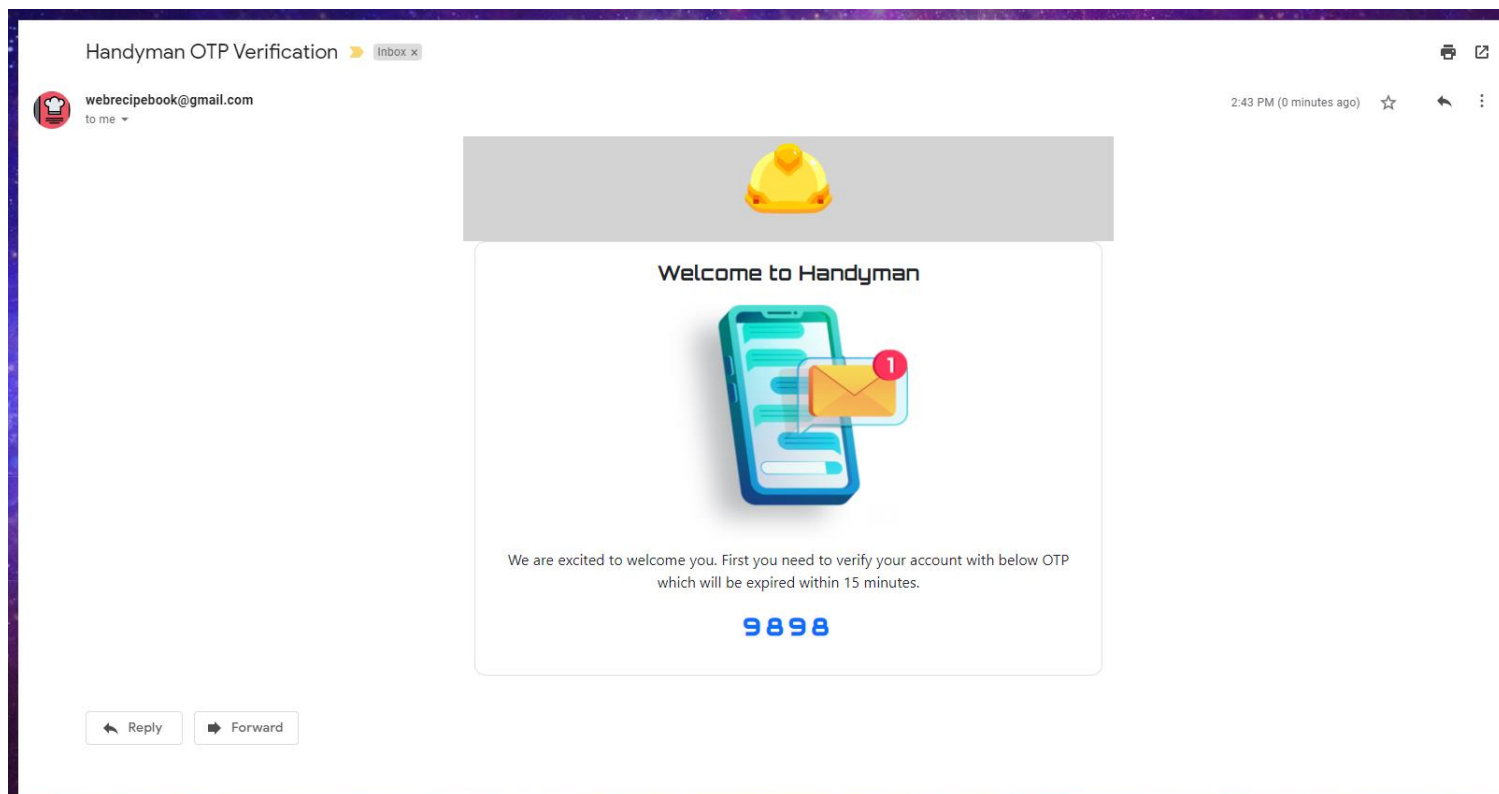


Bookings



About

Account Verification Email



OTP VERIFICATION



Enter the OTP sent to your registered mail

9

8

9

8

Resend OTP in 73 s

Haven't received OTP ? Resend OTP

VERIFY

Conclusion and Future Work

From so many generations maintaining house been a high priority work for the members of the house to live without any problems with household appliances, electric system, plumbing system, etc.....

In the times of pandemic, it is very difficult to go to any spa or parlors, but due to this innovative application we can get our services done at our place itself making life easy and risk free.

Any individual with right set of skills and with proper verification documents can join this community to serve the society in many ways and earn the respected money for their services.

It would be very easy and useful for customers to book a home service quickly by picking the right handyman from nearby places from maps to get done with their problems and to schedule a service for another time.

Coming to the future works of our application includes developing a smart system to allocate handyman to the customer based on distance between customer and handyman and calculating right amount to complete the respective service.

And developing a coupon system which gives discounts to customers while making their bookings.

CodesSample code for Homepage

```

<ion-content>

  <!-- Services Search -->
  <ion-item class="ion-margin" style="--ion-background-
color:transparent; border: 1px solid lightgray; border-radius: 10px"
#serviceInput>
    <ion-label>
      <ion-img class="ion-float-left" style="height: 24px; width:
24px" src="assets/icons/services_search.png"></ion-img>
    </ion-label>

    <ion-input clearInput="true" color="dark" placeholder="Search
for services"
              type="text" (click)="openServicesSearch()"
maxlength="20"></ion-input>
    </ion-item>

  <hr style="height: 4px; background: #F0F0F0">

  <!-- Services -->

  <div class="ion-text-center ion-margin-vertical">
    <ion-text class="ion-text-center" style="font-weight: bold"
color="primary">We Offer</ion-text>
  </div>

  <ion-grid class="ion-margin-vertical">

    <ion-row style="display: flex; justify-content: space-around">
      <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center; background: #F0F0F0; border-radius: 20px">
        <ion-img src="assets/icons/services/electric.png"
style="height: 48px; width: 48px"></ion-img>
      </ion-col>

      <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center; background: #F0F0F0; border-radius: 20px">

```

```

        <ion-img src="assets/icons/services/plumbing.png"
style="height: 48px; width: 48px"></ion-img>
    </ion-col>

    <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center; background: #F0F0F0; border-radius: 20px">
        <ion-img src="assets/icons/services/painting.png"
style="height: 48px; width: 48px"></ion-img>
    </ion-col>

    <ion-col class="ion-margin-end ion-margin-bottom" size="3"
style="display: flex; justify-content: center">
        <ion-text style="font-size: 13px; font-family:
'Montserrat', sans-serif">Electric</ion-text>
    </ion-col>

    <ion-col class="ion-margin-end ion-margin-bottom" size="3"
style="display: flex; justify-content: center">
        <ion-text style="font-size: 13px; font-family:
'Montserrat', sans-serif">Plumbing</ion-text>
    </ion-col>

    <ion-col class="ion-margin-end ion-margin-bottom" size="3"
style="display: flex; justify-content: center">
        <ion-text style="font-size: 13px; font-family:
'Montserrat', sans-serif">Painting</ion-text>
    </ion-col>

    <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center; background: #F0F0F0; border-radius: 20px">
        <ion-img src="assets/icons/services/carpenter.png"
style="height: 48px; width: 48px"></ion-img>
    </ion-col>

    <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center; background: #F0F0F0; border-radius: 20px">
        <ion-img src="assets/icons/services/nanny.png"
style="height: 48px; width: 48px"></ion-img>
    </ion-col>

    <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center; background: #F0F0F0; border-radius: 20px">
        <ion-img src="assets/icons/services/beautician.png"
style="height: 48px; width: 48px"></ion-img>

```

```

    </ion-col>

    <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center">
      <ion-text style="font-size: 13px; font-family:
'Montserrat', sans-serif">Wood Work</ion-text>
    </ion-col>

    <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center">
      <ion-text style="font-size: 13px; font-family:
'Montserrat', sans-serif">Baby Care</ion-text>
    </ion-col>

    <ion-col class="ion-margin-end" size="3" style="display: flex;
justify-content: center">
      <ion-text style="font-size: 13px; font-family:
'Montserrat', sans-serif">Beauty</ion-text>
    </ion-col>

  </ion-row>

</ion-grid>

<div style="display: flex; align-items: center; justify-content:
center; color: #3dc2ff" (click)="openServicesSearch()">
  View more 
</div>

<hr style="height: 4px; background: #F0F0F0">

<!-- Guarantees -->
<div class="ion-text-center ion-margin-vertical">
  <ion-text class="ion-text-center" style="font-weight: bold"
color="primary">We Guarantee</ion-text>
</div>

<ion-grid class="ion-margin-vertical">

  <ion-row style="display: flex; justify-content: space-around">
    <ion-col class="ion-margin-bottom" size="5" style="display:
flex; justify-content: center; background: #FFEE5; border-radius:
10px">

```

```

        <ion-grid>
          <ion-row style="display: flex; align-items: center">
            <ion-col size="8"><ion-text style="font-size: 13px;
font-weight: bold; font-family: Montserrat,sans-serif">Certified
Handyman</ion-text></ion-col>

            <ion-col size="4">
              <ion-img src="assets/icons/guarantees/certificate.png"
style="height: 40px; width: 40px"></ion-img>
            </ion-col>
          </ion-row>
        </ion-grid>

      </ion-col>

      <ion-col class="ion-margin-bottom" size="5" style="display:
flex; justify-content: center; background: #ECF4DC; border-radius:
10px">

        <ion-grid>
          <ion-row style="display: flex; align-items: center">
            <ion-col size="8"><ion-text style="font-size: 13px;
font-weight: bold; font-family: Montserrat,sans-serif">Safe
Services</ion-text></ion-col>

            <ion-col size="4">
              <ion-img src="assets/icons/guarantees/safe.png"
style="height: 40px; width: 40px"></ion-img>
            </ion-col>
          </ion-row>
        </ion-grid>

      </ion-col>

      <ion-col size="5" style="display: flex; justify-content:
center; background: #FFFFD5; border-radius: 10px">

        <ion-grid>
          <ion-row style="display: flex; align-items: center">
            <ion-col size="8"><ion-text style="font-size: 13px;
font-weight: bold; font-family: Montserrat,sans-serif">Value For
Money</ion-text></ion-col>

            <ion-col size="4">
              <ion-img src="assets/icons/guarantees/rupee.png"

```

```

style="height: 40px; width: 40px"></ion-img>
    </ion-col>
  </ion-row>
</ion-grid>

</ion-col>

<ion-col size="5" style="display: flex; justify-content:
center; background: #E2FFFF; border-radius: 10px">

  <ion-grid>
    <ion-row style="display: flex; align-items: center">
      <ion-col size="8"><ion-text style="font-size: 13px;
font-weight: bold; font-family: Montserrat,sans-serif">On Time
Services</ion-text></ion-col>

      <ion-col size="4">
        <ion-img src="assets/icons/guarantees/schedule.png"
style="height: 40px; width: 40px"></ion-img>
      </ion-col>
    </ion-row>
  </ion-grid>

</ion-col>

</ion-row>

</ion-grid>

<hr style="height: 4px; background: #F0F0F0">

<!-- Service Banners -->
<div class="ion-text-center ion-margin-vertical">
  <ion-text class="ion-text-center" style="font-weight: bold"
color="primary">We Have</ion-text>
</div>

<div class="ion-margin">

  <swiper style="border-radius: 20px" #bannersSwiper
[config]="bannerSwiperConfig" [pagination]="paginationConfig"
[autoplay]="autoplayConfig">

    <ng-template swiperSlide style="border-radius: 20px">
      <ion-img src="assets/banners/cleaner.png"></ion-img>
    
```



```

</ng-template>

<ng-template swiperSlide style="border-radius: 20px">
  <ion-img src="assets/banners/doctor.png"></ion-img>
</ng-template>

<ng-template swiperSlide style="border-radius: 20px">
  <ion-img src="assets/banners/electrician.png"></ion-img>
</ng-template>

<ng-template swiperSlide style="border-radius: 20px">
  <ion-img src="assets/banners/plumber.png"></ion-img>
</ng-template>

<ng-template swiperSlide style="border-radius: 20px">
  <ion-img src="assets/banners/repair.png"></ion-img>
</ng-template>

<ng-template swiperSlide style="border-radius: 20px">
  <ion-img src="assets/banners/barber.png"></ion-img>
</ng-template>

<ng-template swiperSlide style="border-radius: 20px">
  <ion-img src="assets/banners/veterinary.png"></ion-img>
</ng-template>

</swiper>

</div>

</ion-content>

```

```

import {AfterContentChecked, Component, ViewChild,
ViewEncapsulation} from '@angular/core';

import Swiper, {SwiperOptions, Pagination, EffectCards, Autoplay}
from "swiper";
import {SwiperComponent} from "swiper/angular";
import {AutoplayOptions, PaginationOptions} from "swiper/types";
import {ModalController} from "@ionic/angular";
import {ServicesPage} from "../services/services.page";

Swiper.use([Pagination, EffectCards, Autoplay]);

```



```

@Component({
  selector: 'app-home',
  templateUrl: 'home.page.html',
  styleUrls: ['home.page.scss'],
  encapsulation: ViewEncapsulation.None
})
export class HomePage implements AfterContentChecked
{
  @ViewChild('bannersSwiper') bannerSwiper : SwiperComponent;

  public bannerSwiperConfig: SwiperOptions =
  {
    centeredSlides: true,
    centeredSlidesBounds: true,
    effect: 'cards',
    grabCursor: true,
    loop: true,
    nested: true,
    pagination: true,
    autoplay: true
  };

  public paginationConfig: PaginationOptions =
  {
    clickable: true
  };

  public autoplayConfig: AutoplayOptions =
  {
    pauseOnMouseEnter: true
  };

  ngAfterContentChecked()
  {
    if (this.bannerSwiper)
    {
      this.bannerSwiper.updateSwiper({});
    }
  }

  constructor(private modalController: ModalController)
  {
  }
}

```

```

public async openServicesSearch()
{
    const modal = await this.modalController.create
    (
        {
            component: ServicesPage
        }
    );

    await modal.present();
}
}

```

Sample code for Profile Page

```

<ion-content class="ion-padding">

    <div class="ion-text-center ion-margin-top" style="margin-right:
auto; margin-left: auto">

        <!-- User Avatar -->
        <img [src]="currentProfileData && currentProfileData['avatar']
!= undefined ? currentProfileData.avatar.url :
'assets/icons/no_avatar.png' "
            style="height: 128px; width: 128px; border-radius: 50%"
            (click)="userAvatar.click()" *ngIf="!avatarUploading"
        />

        <div style="position: relative; left: 0; display: flex; justify-
content: center; align-items: center" *ngIf="avatarUploading">
            <img [src]="currentProfileData && currentProfileData['avatar']
!= undefined ? currentProfileData.avatar.url :
'assets/icons/no_avatar.png' "
                style="height: 128px; width: 128px; border-radius: 50%;
filter: blur(2px); position: relative" />

            
        </div>

        <input accept="image/*" type="file" #userAvatar

```

```

style="visibility: hidden" (change)="avatarChanged($event)">

  <div *ngIf="currentUser">

    <form (submit)="onUserDetailsUpdate()" action=""
[formGroup]="form" (change)="onFormChange()" class="ion-text-
center">

      <ion-list style="background-color: transparent">

        <ion-item-divider color="primary" class="ion-margin"
style="margin-left: 0; margin-right: 0; margin-top: 0">
          <ion-label style="font-weight: bold">
            General
          </ion-label>
        </ion-item-divider>

        <ion-item class="ion-margin-horizontal ion-margin-bottom"
style="--ion-background-color:transparent">
          <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px"
src="assets/icons/username.png"></ion-img></ion-label>
          <ion-input type="text" formControlName="username"></ion-
input>
        </ion-item>

        <ion-item class="ion-margin-horizontal ion-margin-bottom"
style="--ion-background-color:transparent">
          <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px" src="assets/icons/name.png"></ion-
img></ion-label>
          <ion-input type="text" autocomplete="on"
placeholder="First Name" formControlName="first name"
[clearInput]="true" [required]="true"></ion-input>
        </ion-item>

        <ion-item class="ion-margin-horizontal ion-margin-bottom"
style="--ion-background-color:transparent">
          <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px" src="assets/icons/name.png"></ion-
img></ion-label>
          <ion-input type="text" autocomplete="on"
placeholder="Last Name" formControlName="last name"
[clearInput]="true" [required]="true"></ion-input>
        </ion-item>

```

```

        <ion-item class="ion-margin" style="--ion-background-
color:transparent">
            <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px"
src="assets/icons/email.png"></ion-img></ion-label>
            <ion-input type="email" formControlName="email"></ion-
input>
        </ion-item>

        <ion-item class="ion-margin" style="--ion-background-
color:transparent">
            <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px"
src="assets/icons/phone.png"></ion-img></ion-label>
            <ion-input type="tel" autocomplete="on"
placeholder="Phone" formControlName="phone" [clearInput]="true"
[required]="true" maxlength="10"></ion-input>
        </ion-item>

        <ion-item-divider color="primary" style="margin-top: 20px;
margin-left: 0; margin-right: 0" class="ion-margin">
            <ion-label style="font-weight: bold">
                Address
            </ion-label>
        </ion-item-divider>

        <ion-button type="button" color="primary" fill="outline"
shape="round" (click)="openMap()" >
            <ion-label class="ion-margin-horizontal">Locate On
Map</ion-label>
            <ion-img class="ion-float-right ion-margin-horizontal"
src="assets/icons/open_map.png"></ion-img>
        </ion-button>

        <ion-item class="ion-margin" style="--ion-background-
color:transparent">
            <ion-label><ion-img class="ion-float-left"
style="height: 40px; width: 40px"
src="assets/icons/locality.png"></ion-img></ion-label>
            <ion-input type="text" autocomplete="on"
placeholder="Locality" formControlName="locality"
[clearInput]="true" [required]="true"></ion-input>
        </ion-item>

```

```

        <ion-item class="ion-margin" style="--ion-background-
color:transparent">
            <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px"
src="assets/icons/landmark.png"></ion-img></ion-label>
            <ion-input type="text" autocomplete="on"
placeholder="Landmark" formControlName="landmark"
[clearInput]="true"></ion-input>
        </ion-item>

        <ion-item class="ion-margin" style="--ion-background-
color:transparent">
            <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px"
src="assets/icons/pin_code.png"></ion-img></ion-label>
            <ion-input type="number" autocomplete="on"
placeholder="PIN Code" formControlName="pin code"
[clearInput]="true"
maxlength="6" [required]="true"></ion-input>
        </ion-item>

        <ion-item class="ion-margin" style="--ion-background-
color:transparent">
            <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px"
src="assets/icons/city_district_town.png"></ion-img></ion-label>
            <ion-input type="text" autocomplete="on"
placeholder="City/District/Town"
formControlName="city district town" [clearInput]="true"
[required]="true"></ion-input>
        </ion-item>

        <ion-item class="ion-margin" style="--ion-background-
color:transparent">
            <ion-label><ion-img class="ion-float-left"
style="height: 32px; width: 32px"
src="assets/icons/state.png"></ion-img></ion-label>

            <ion-select placeholder="State" formControlName="state"
style="max-width: 90%">

                <ion-select-option *ngFor="let state of states"
[value]="state">
                    {{state}}
                </ion-select-option>

```



```

        </ion-select>
    </ion-item>

    <ion-item class="ion-margin" style="--ion-background-
color:transparent">
        <ion-label class="ion-align-self-center"><ion-img
class="ion-float-left" style="height: 40px; width: 40px"
src="assets/icons/address.png"></ion-img></ion-label>

        <ion-textarea placeholder="Address Line"
formControlName="address_line" spellcheck="true"
[required]="true"></ion-textarea>
    </ion-item>

</ion-list>

    <ion-label id="formMessage" [color]="messageColor"
class="ion-margin" style="font-weight: bold"
*ngIf="formMessage">{{formMessage}}</ion-label>

    <ion-button color="primary" [disabled]="!form.valid"
type="submit" shape="round">
        Update
    </ion-button>

</form>

</div>

<div *ngIf="currentUser && currentUser.role === 'handyman'">

    <!-- Skills -->
    <ion-list style="background-color: transparent">

        <ion-item-divider color="primary" class="ion-margin"
style="margin-left: 0; margin-right: 0">
            <ion-label style="font-weight: bold">
                Skills
            </ion-label>
        </ion-item-divider>

    </ion-list>

    <ion-item class="ion-margin-horizontal" style="--ion-

```

```

background-color:transparent; border: 1px solid #3880ff; border-
radius: 20px" #skillInput>
    <ion-label style="margin-top: 3px; margin-bottom: 3px">
        <ion-img class="ion-float-left" style="height: 32px;
width: 32px" src="assets/icons/skill_search.png"></ion-img>
    </ion-label>

    <ion-input clearInput="true" color="primary"
placeholder="Enter Skill"
type="text"
(ionChange)="skillInputChanged($event)" maxlength="20"></ion-input>
</ion-item>

    <ion-list *ngIf="skillInputRef &&
skillInputRef.el.childNodes[1].value" class="ion-margin-horizontal"
style="border: thin solid #9cc0ff; margin-top: 1px;
border-radius: 5px; padding-top: 2px; padding-bottom: 2px;
position: absolute; z-index: 99; --ion-background-
color: white"
[style.width]="skillInputRef.el.clientWidth + 'px'"
    >

        <ion-item *ngFor="let skill of skillSuggestions" class="ion-
activatable"
style="position: relative; overflow: hidden; --
padding-start: 4px; --padding-end: 4px"
(click)="addedSkill(skill)">

            <ion-avatar style="margin-right: 10px"><img
[src]='assets/icons/skills/' + skill.toLowerCase() + '.png'></ion-
avatar>

            <ion-label>{{skill}}</ion-label>

            <ion-ripple-effect></ion-ripple-effect>

        </ion-item>

        <ion-item class="ion-activatable" style="position: relative;
overflow: hidden; --padding-start: 4px; --padding-end: 4px"
(click)="addedSkill(undefined)">

            <ion-avatar style="margin-right: 10px"></ion-avatar>

            <ion-label>Add this skill to your skills</ion-label>

```

```

        <ion-ripple-effect></ion-ripple-effect>

    </ion-item>

</ion-list>

<p class="ion-text-center">

    <ion-chip *ngFor="let skill of currentUserSkills; let i =
index" outline="true" color="secondary">
        <ion-avatar>
            <img [src]="getSkillChipIconPath(skill)">
        </ion-avatar>
        <ion-label style="font-weight: bold">{{skill |
titlecase}}</ion-label>
        <ion-icon name="close-circle"
(click)="removeSkill(i)"></ion-icon>
    </ion-chip>

    <span class="" *ngIf="currentUserSkills.length === 0">
        <ion-img src="assets/icons/no_skills.png" style="width:
64px; height: 64px; margin-right: auto; margin-left: auto"></ion-
img>
        <ion-label color="danger" style="font-weight: bold">No
skills found</ion-label>
    </span>

</p>

    <ion-button color="primary" type="button" shape="round"
(click)="saveSkills()">
        Save
    </ion-button>

    <!-- Verification documents -->
    <ion-list style="background-color: transparent">

        <ion-item-divider color="primary" class="ion-margin"
style="margin-left: 0; margin-right: 0">
            <ion-label style="font-weight: bold">
                Verification Documents
            </ion-label>
        </ion-item-divider>

```



```

</ion-list>

<ion-item class="ion-margin-horizontal ion-margin-bottom">
  <ion-label>Select Document Type</ion-label>
  <ion-select interface="action-sheet" value="aadhaarCard"
#documentSelector
(ionChange)="documentSelectionChanged(documentSelector)">
    <ion-select-option value="aadhaarCard">Aadhaar Card</ion-
select-option>
    <ion-select-option value="panCard">Pan Card</ion-select-
option>
    <ion-select-option value="skillCertificates">Skill
Certificates</ion-select-option>
    <ion-select-option
value="previousEmployerDocuments">Previous Employer Documents</ion-
select-option>
  </ion-select>
</ion-item>

<!-- PDF Viewer -->
<ion-text class="ion-text-center ion-margin" color="secondary"
style="font-size: 22px; font-family: 'Audiowide', sans-serif; font-
weight: bold">
  {{currentDocument}}
</ion-text>

<div *ngIf="currentDocumentSRC === undefined" class="ion-
margin">
  <ion-img src="assets/icons/documentUpload.png" style="width:
96px; height: 96px; margin-left: auto; margin-right: auto"
(click)="userDocument.click()"></ion-img>
</div>
<div *ngIf="currentDocumentSRC !== undefined && pdfVisibility"
class="ion-margin-vertical">

  <ngx-extended-pdf-viewer
    [customToolbar]="customToolbar"
    [src]="currentDocumentSRC"
    [height]="'256px'"
    [useBrowserLocale]="true"
    [textLayer]="true"
    [contextMenuAllowed]="false"
    [enableDragAndDrop]="false"
    [enablePinchOnMobile]="true"
    [enablePrint]="false"

```

```

    page="1"
    [pageViewMode]=" 'single' "
    [zoom]=" 'page-width' "
    [filenameForDownload]="currentDocument"

    [showToolbar]="true"
    [showSidebarButton]="true"
    [showPagingButtons]="true"
    [showZoomButtons]="false"
    [showPresentationModeButton]="true"
    [showOpenFileButton]="false"
    [showPrintButton]="false"
    [showDownloadButton]="true"
    [showBookmarkButton]="false"
    [showSecondaryToolbarButton]="true"
    [showRotateButton]="false"
    [showHandToolButton]="false"
    [showScrollingButton]="false"
    [showSpreadButton]="false"
    [showPropertiesButton]="false"
  >
</ngx-extended-pdf-viewer>

</div>

<input accept="application/pdf" type="file" #userDocument
style="visibility: hidden" (change)="documentChanged($event,
documentSelector)">

<ng-template #customToolbar>
  <div id="toolbarViewer" style="background-color :
lightblue">

    <div id="toolbarViewerLeft">
      <pdf-toggle-sidebar></pdf-toggle-sidebar>

      <pdf-previous-page></pdf-previous-page>
      <pdf-page-number></pdf-page-number>
      <pdf-next-page></pdf-next-page>

      <span style="margin: 4px; flex-direction: row; display:
flex; align-items: center" (click)="userDocument.click()">
        <ion-img src="assets/icons/fileUpload.svg"
style="width: 22px; height: 22px">
      </ion-img>

```

```

        <ion-text style="margin-left: 3px">Change</ion-text>
      </span>

    </div>

    <div id="toolbarViewerRight">

      <pdf-presentation-mode></pdf-presentation-mode>

      <pdf-download></pdf-download>

      <pdf-toggle-secondary-toolbar></pdf-toggle-secondary-
toolbar>
    </div>

  </div>
</ng-template>

</div>

</div>

</ion-content>

```

CHAPTER 7

References

- <https://journals.sagepub.com/doi/abs/10.1177/09728201211018978>
- <https://www.scribd.com/document/405638503/Urban-Clap-Final-Project-docx>
- https://www.researchgate.net/publication/322653219_A_Location-Based_Service_for_Handyman_Order_Placement
- <https://www.urbancompany.com/delhi-ncr>
- <https://bootcamp.uxdesign.cc/ux-ui-case-study-helping-handymen-get-jobs-easily-9cfc1eed7d29>