

Final Year Project Report



Worker Connect Jobs for Every Essential Worker

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Abstract

We know for a fact that there is plenty of websites and mobile applications out there where people can post advertisements for the jobs that they want to get done. With that being said, what we don't usually see in the Pakistani market are websites that cater especially to the contractors. Other than that, another thing that is missing in the Pakistani web market is job-posting websites and apps which aim at giving opportunities to the essential workers. Considering this, we are here to change the landscape of the ways of finding essential workers who are actually capable enough.

In the first phase, we will allow potential clients to look for essential workers in the simplest possible way by inputting information about the job that they want to get done. Other than that, they will also be able to choose from a variety of options, which include their budget, type of job, and skills of the employee etc. These potential clients will have to register on Worker Connect first before being able to find a worker.

However, when it comes to the essential workers, they will contact us themselves in person or we will look for them. This is because such essential workers are likely to be computer illiterate, so reaching out to us through the Internet would be difficult for them. Accordingly, we will be the mode of communication between the clients and the workers, as of now.

With that being said, we do have plans on creating such a mechanism which will eradicate us from the entire process and automate the communication between the workers and the clients. Unluckily, we couldn't go forward with this plan due to time limitations.

Acknowledgment

This is the 7th Semester and now that we have to submit our first final year project as a part of our Bachelor's degree in Computer Science of the 4th year of UBIT-Karachi University in the year 2020, so we could implement the courses that we have taken until now.

We are showing our gratitude to our respect worthy teacher and head of this project, Dr. Nadeem Mehmood, who has given us quite the information and guidance that is relevant to this field and this project. Other than that, we also acknowledge the fact that we were able to benefit a lot from his knowledge and understanding of terms of Software Engineering.

Chapter 1: Introduction

1 Introduction

1.1 Motivation

What really motivated us to work on this project was that the essential workers in this country are highly talented and skilled, but they have yet to get the benefits that they'd need to live a healthy lifestyle. Moreover, we also know how hard it could be for potential clients to locate skilled essential workers. Considering this, we could not resist but to select Worker Connect as a part of our final year project.

1.2 Aim and Objective

From a little research that we conducted, it was clearly seen that we have contractors such as truck drivers, labor, electricians, plumbers, and painters, who would love to partake in online platforms to sell their valuable skills. And, considering the widespread use of the Internet, they can definitely make a lot more income through our website, Worker Connect.

1.3 Project Outline

Worker Connect is going to provide both the clients and the workers a platform to communicate with each other so that they could have better access to such

essential works and job opportunities, respectively. Moreover, it is going to be a website that the clients will use to find the workers according to their needs and the workers will be notified by us that a job is available.

1.4 Project Scope:

As of now, we only plan to launch the website here in Pakistan as the essential workers here in Pakistan don't have enough opportunities. Apart from that, another great thing about this particular region is the fact that the Internet use here has been exponentially increasing these days, so the essential workers could get even more clients, courtesy of Worker Connect.

Chapter 2: Analysis and Requirements

2.1 Introduction

With this project, there are efforts being made in order to bring the potential clients and the essential workers much closer, with the utilization of the Internet. Other than that, this project is also going to benefit both of them since finding each other would become much easier for them. All thanks to our website, Worker Connect, the latest technologies would be used so that the worker-finding experience doesn't leave out our essential workers.

2.2 Project Planning

- System Structure
- Deciding the platform for the system, select tools to work with, and seek for possible resources.
- Database
- Selection of the DB for storing all the data internally.
- Front development
- The UI of the system that is interactive for users and self-explanatory.
- Connectivity of Front end with Back end
- Methodology to make use of APIs and get the data on Client.
- Data Insertion and correction
- After successful application creation, inserting the data that was collected manually and runtime collected data.
- Real-time tracking
- Testing

- Complete testing of the application.
- Bug Fixing
- Resolving the issues found during testing.

2.3 Data Sources and Information Gathering:

From our research, we have not seen any such website that's operational in our region, which is Pakistan. Moreover, we plan on keeping this website solely to this region as the essential workers here don't get paid as much as they should be.

Other than that, we're sure that there must be a couple of similar websites in other parts of the world. Fortunately, they won't hinder the success of our website since the regions don't overlap.

2.4 Requirements:

a) Functional Requirements

1. Worker Certification

There could be a few instances where the skills of the worker cannot be verified practically. In such cases, the certifications of the essential worker will be considered so that all the clients are left satisfied.

2. Worker Health

Apart from that, the health of the worker will also be checked to verify whether they are physically capable to do the job or not. In the present scenario, we will require all the workers to be tested for COVID-19.

3. Budget Estimation

For each job, a budget will be estimated for the client. More specifically, they will be given a range of prices, so they could have options on whether they want to go for the top workers or just the average ones.

4. Location

Lastly, the location of the client and the essential worker will be checked. Accordingly, only the workers who are the closest to the clients will be suggested to the worker.

b) Non-Functional Requirements

1. Scalability

Worker Connect should be able to provide services to 1 hundred users at any given time.

2. Security

Only registered clients can use or access the application.

3. Performance

The website must be lightweight and works smoothly.

Chapter 3: Project Risk Management

3.1 Identification

When it comes to risk identification, it accompanies determining which risk or threats are likely to affect the project. It involves the identification of risk or threats that may lead to project outputs being delayed or reduced, outlays being advanced or increased and/or output quality (fitness for purpose) being reduced or compromised. For most large/complex project, a number of high-level risks should have been identified during the project initiation stage these should be used as the basis for a more thorough analysis of the risk facing the project. One of the most difficult things is ensuring that all major risks are identified. A useful way of identifying relevant risk is defining casual categories under which risks might be identified. For example, corporate risks, business risks, project risks and infrastructure risks.

3.2 Analysis and Evaluation

After identifying risk, we should analyze them by determining how they might affect the success of your project. Risk should be analyzed and evaluated in terms of probability of occurrence and seriousness of impact if they do occur. Firstly, assess the likelihood of the risk occurring and give this a rating of scale from 1-5. The likelihood of harm occurring might be categorized as:

Certain	5	The risk is almost certain to occur (greater than 80% chance)
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Likely	4	The risk is more likely to occur than not (between 51% and 80% chance)
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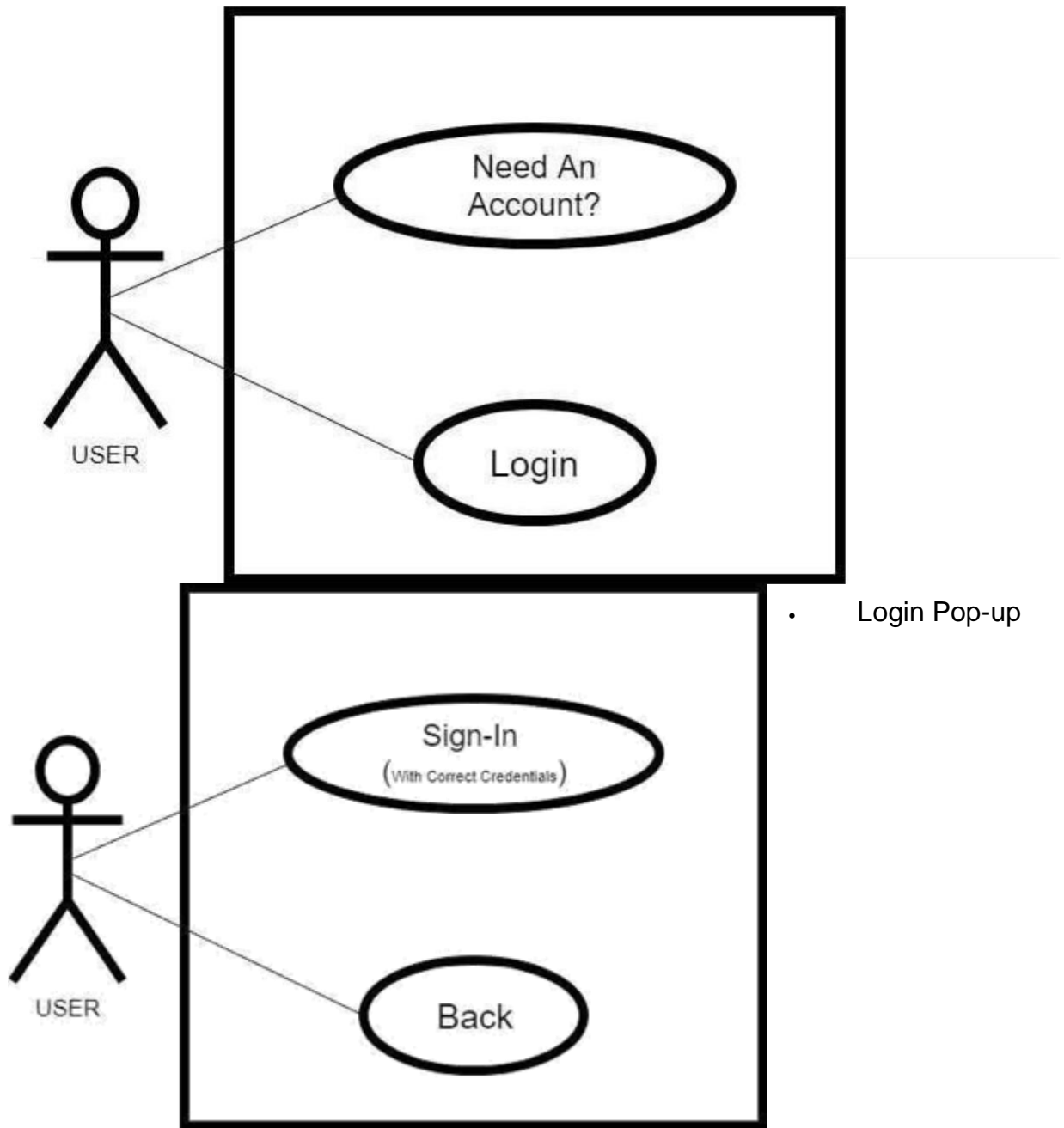
9

Possibly	3	The risk is fairly likely to occur (between 21% and 50% chance)
Unlikely	2	The risk is unlikely but not impossible to occur (between 6% and 20%)
Rare	1	The risk is unlikely to occur (lesser than 5% chance) /

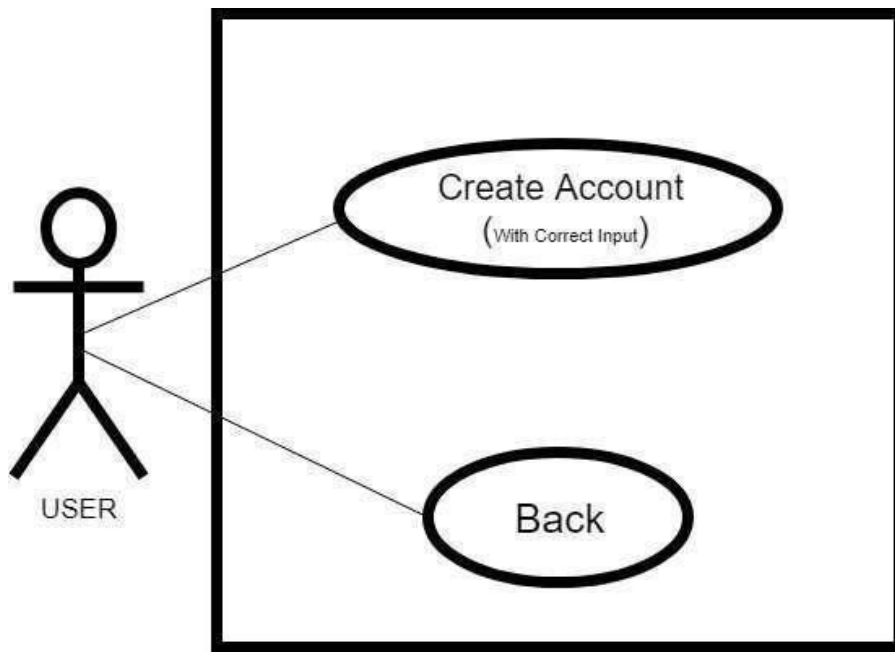
Chapter 4: Design

4.1 Use Case diagram

- Login Screen



- Signup Pop-up



Chapter 5: Result and Implementation

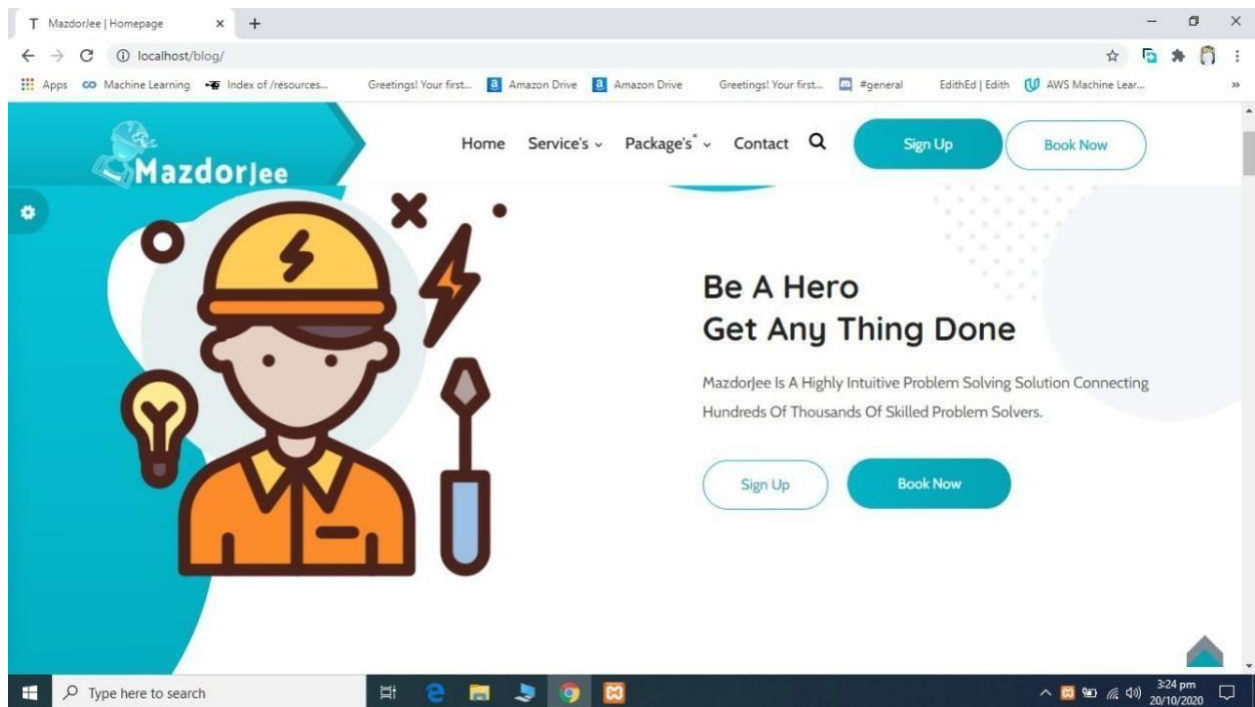
This chapter has the result and the implementation of it. How it works and what is its result and some screen capture of the website.

5.1 Result

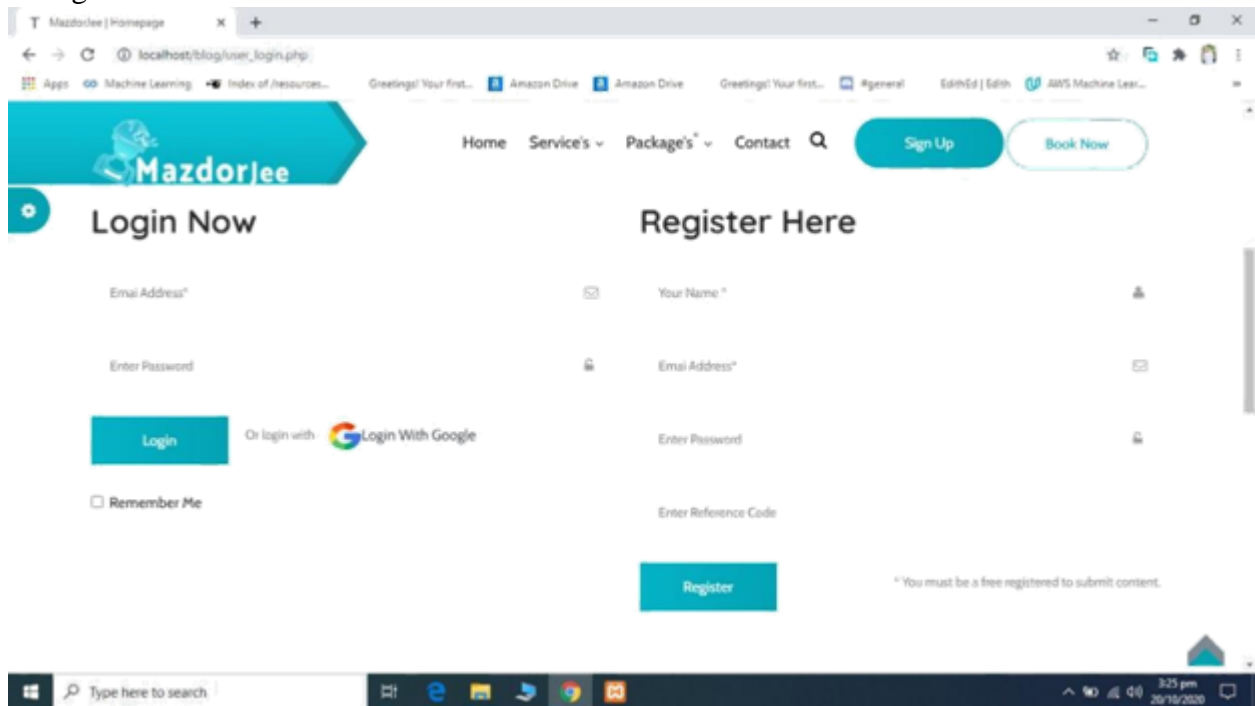
The project we made has quite a scope. Although we have limited the scope to just some features, it can be used in multiple applications. The website can be easily accessed and the interface is also very easy to learn and understand.

In the **SCREEN SHOTS**, the user interface of the application is described:

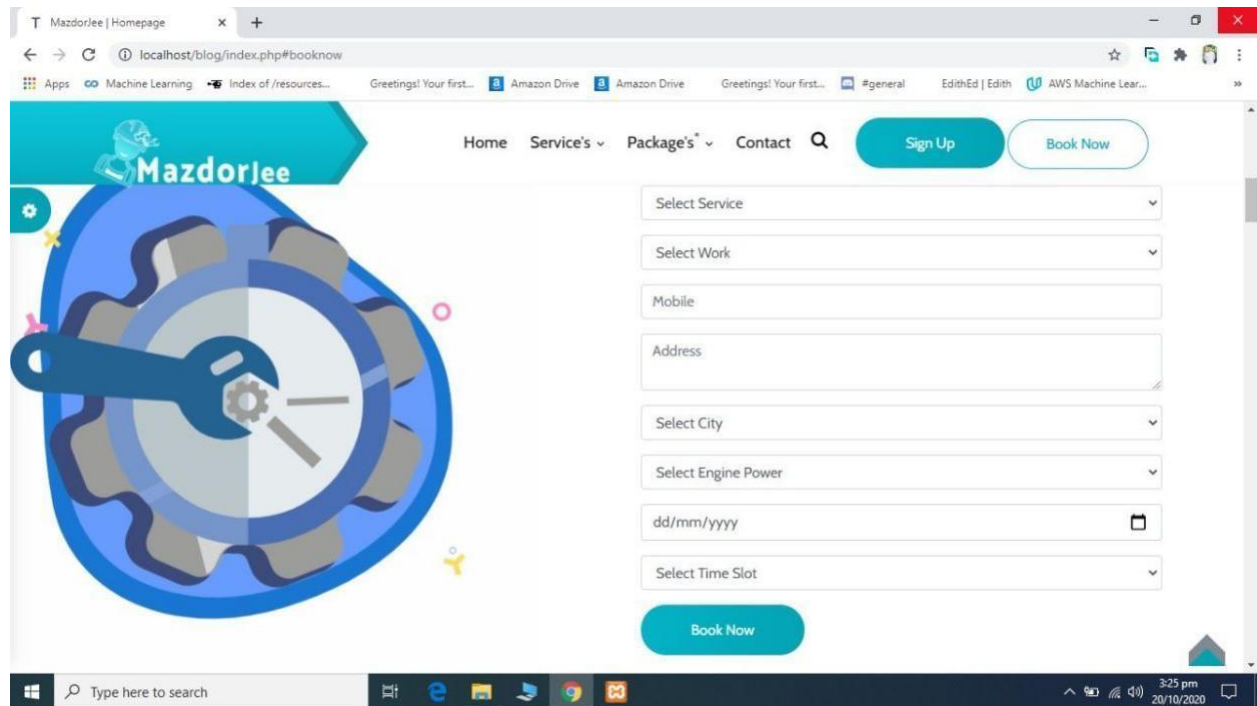
1. Welcome Screen



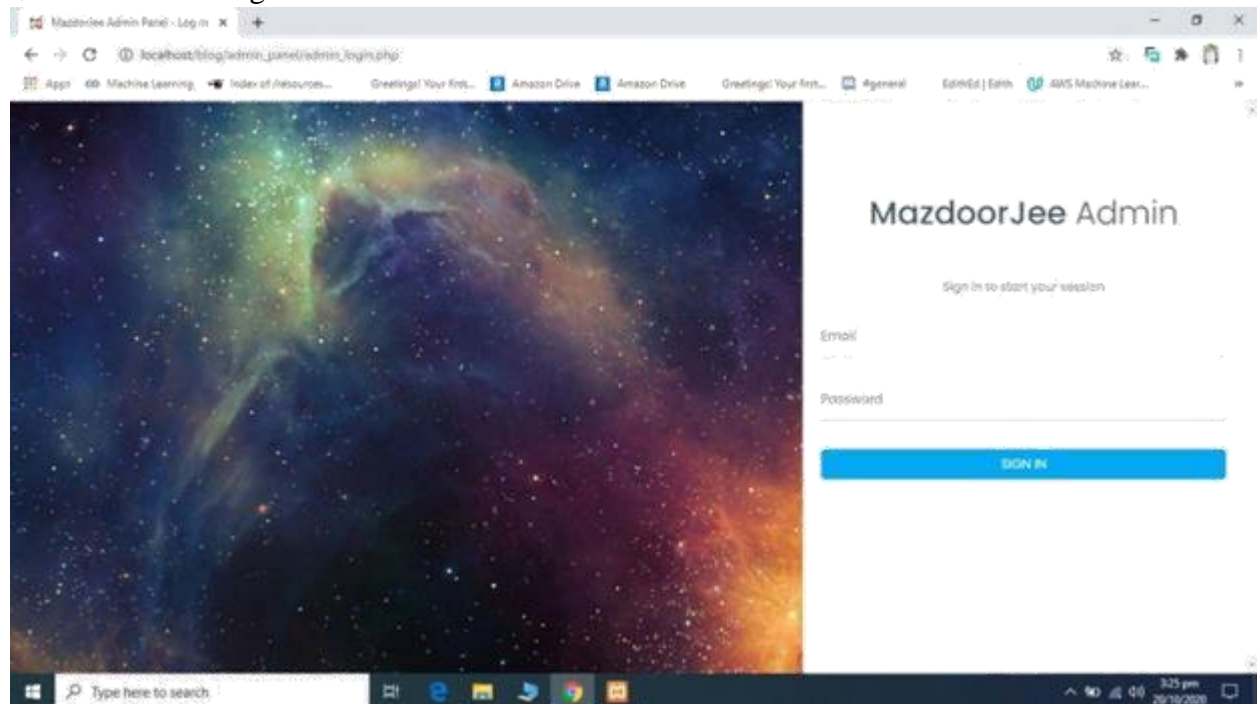
2. Login Screen



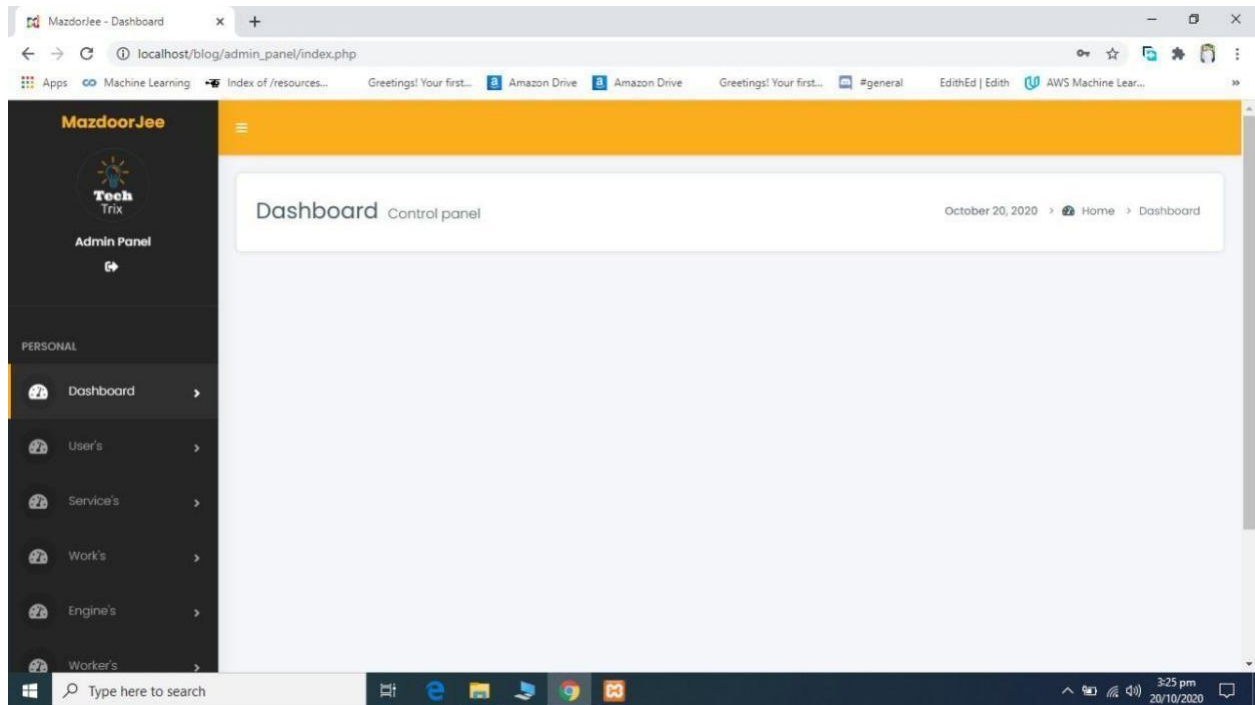
3. Opting for Services



4. Admin Panel Login



5. Worker Connect Dashboard



Chapter 6: Technologies Used

We don't want to compromise even a bit on the functionality of our website, so we're going to be using the best technologies available.

6.1. Front-End

For the front-end, besides the obvious HTML, CSS, and Bootstrap, you'll also find frameworks such as React that are based on JavaScript. Other than that, we are going to be using the best user experience practices for the website, so the users could have quite a user-friendly experience.

6.2. Back-End

We're going to go the old fashion way by ditching the whole MEAN/MERN concept and instead, opting for PHP for all the backend work. As for the

database, we have decided to go with MySQL. However, all these technologies are subject to change.

Chapter 7: Conclusion and Future Enhancement

This chapter includes the conclusion of our Final Year Project.

7.1. Conclusion

Courtesy of Worker Connect, we hope to bridge the gap between potential clients and essential workers so that both of them could have better chances and an easier time finding each other. We believe that essential workers are the backbone of every society. Accordingly, they deserve a better lifestyle, higher pay, and a sustainable income, which will be provided all thanks to Worker Connect.

7.2. Future Enhancement

As of now, the project is working. With that being said, there is still a long way to go with our project. In the current version of our website, you won't see a mechanism where the potential clients could communicate with the essential workers themselves. Other than that, there is also no way for us to automatically make sure of the authenticity of the essential workers.

Considering this, we plan on taking Worker Connect to the next level in the near future. For this, we would have to implement new technologies and would have to collaborate with a number of government institutions as well. However, at this point, the website is still working and could get the job done for both the essential workers and the clients.

7.3. User Manual

Rest assured that our website is as user-friendly as it could get, as most of our emphasis was on the front-end part of the website in this semester. Because of this, there's a high chance that the users won't have to even see a user manual to get through with this website. However, if anyone has an issue while using the website, this user manual is likely to provide you with a better experience.

First of all, the users should create their account by clicking on the Register button on any page of the website. On the Register page, they will have to input all the necessary details, so the website could proceed further. Once they're done with that, the next step would be to go through the verification process, so it could be made sure that the person registering is not actually a bot. With this, you now have created your own account on Worker Connect.

After creating your own account, the next thing you'd have to do is log in to the website. The process will be fairly simple as well, since you'd only have to click on the Login button on the top-right side of the website. Then, enter your correct credentials and press 'Login'. Doing so would have you successfully logged in to our website.

Now getting to the important part that is of looking for the essential worker, you'd have to click on Find a Worker. In this part, you'd have to input all your requirements into the website so that the essential worker that you get will get the job done just right. Yes, this is really all it takes for our users to successfully find themselves an essential worker.