

Smart Worker Solution

by

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A thesis submitted to the Department of Computer Science and Engineering
in partial fulfillment of the requirements for the degree of
M.Sc. in Computer Science

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Declaration

It is hereby declared that

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2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
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Approval

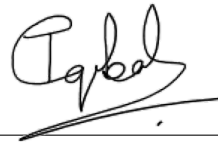
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Of Summer, 2022 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of M.Sc. in Computer Science on September 22, 2022.

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Abstract

I made the website for the people who work daily basis to live, and could not raise their voice for proper right because, we call them labor, in our county they are the lowest living status people. I've seen all the time just because of proper knowledge labor's are being fraud by people every single time. They don't have any platform where all of them can share their working knowledge and find work easily. In Bangladesh we have similar type of website, but they work as third party, and at the end of the day works are valued less. They work from dawn to sunset just to earn a little bit so that they can live well with their family. Most of the labor in our county are connected with internet but they don't have any proper platform where they can find their daily job, and save time. This projects goal is to make sure that labor can have their fair value of work, on the other hand to reduce hassle of general people's life. Like – Korim needs an electrician, but he's new in this area so I don't know where to find one, and when I found one electric shop in luckily it was closed, so I wanted to reduce this type of pain by making this website. Customer can receive various types of services in this one website.

Keywords: Fair value of work, Proper Fair of work, Save time, Employment.

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Chapter 1

Introduction

1.1 The Idea behind the project "Smart Platform for Labor People"

I fostered an electronic task for day to day specialist as know work. In our general public they are disregarded in different ways. As a result of they are less taught individuals misrepresentation them and didn't pay their standard work pay. They try sincerely yet can't change their way of life. I made this stage to assist day to day laborer with finding their work effectively, and then again decrease bother in everyday individuals' life. So they can tackle their day to day issue by tracking down the ideal individual in diminutive time. By this stage both work and client both can set aside and bring in money, save time.

1.2 Motivation

Presently a day's it is undeniably challenging to land right position. Also, on the off chance that that is an individual who don't have appropriate instruction then it became more earnestly. They buckle down and soul however by the day's end a direct result of a few awful individuals or they have no stage they can't accomplish their objective. They meander around and occasionally they didn't secured any position and needed to situate ideal all day long. Then again broad individuals are enduring to track down the perfect individual to go about his responsibilities, and for that additionally he wants to go such countless spots to track down the ideal individual to tackle his concern. In the event that I fabricate this site these issue will eliminate and both client and work will have a stage where they can see as one another and take care of their concern in brief time frame.

1.3 Objectives

As I referenced before that to finding a decent line of work with related schooling field is truly challenging in this district. Also, on the off chance that the individual who have no clue about instruction then it become much harder to procure. In the other hand general individuals didn't invest energy with work, so they linger behind as far as correspondence, they have close to zero insight into the perfect proportion

of cash other nation's work are landing similarly situated which he's accomplishing more productive way with few measure of cash. By making this site the two players will be benefited concerning saving time, setting aside cash, and correspondence. Assuming I accomplish my objective this work area will go to next even out. The joblessness rate in Bangladesh is 5.30% in 2020. In this venture, client or client, or general individuals can look through work in a brief time frame in light of the fact that in now days individuals don't have that much opportunity to look through work. What's more, client and client guarantees audits on that work who was designated.

1.4 Expected Outcome

Primary objective and benefits that client advocating favorable work for their particular undertaking, and work track down the precise errand with fit compensation on client authorization. In clients end they generally attempt to diminish cash and need the best work execution, and on the opposite side work need to bring in more cash by doing less measure of work. So by thinking the both side in this site there will be more than adequate of profiles so client can track down the best individual to take care of his business with his fulfillment. In here both party can see as one another and by arrangement the two of them can be blissful.

Chapter 2

Existing Solution

2.1 Web Application for Worker

To handle the rising difficulties of work joblessness, the perplexing work administrations culture should be changed. This can happen be method for current computerized advancements that helps both work and client to expand their correspondence. Bangladesh work industry hasn't changed for most recent couple of many years. Regardless of numerous issues, and requirements such countless ventures created by the assistance of present day advances however this work area was fall behind, individuals needed to overhaul items yet nobody cares for the individual who worked behind it. Presently a days advanced cells less expensive in country presented by various organizations and there is an extremely cutthroat web availability market presented by ISPs, different versatile organizations. Thus, individuals all levels the nation over are utilizing web to associated them with many kinds of web based administrations, including web application. Many labor related applications are already in market Like,

- Seba XYZ
- Truck Lagbe
- Uber

Using my web application, I would like to increase the interactivity between general people, and worker, so that the worker can utilize their time and by the help of technology they can reduce the hassle of people.

2.2 Existing App Review

There are numerous applications on the lookout, and I have surveyed some of them, and a large portion of them are keeping up with outsider business where specialist can't manage client straightforwardly, so this should be changed.

2.2.1 Seba XYZ:

This is a mobile application related to day labor sector of Bangladesh. Some of their services on my point of view:

- They provide few of daily life related problems solution through their worker.
- They work as third party for providing services.
- They charge little bit high compare to local services.

2.2.2 Truck Labge

By this application people can take services of vehicle or big truck for shifting their home. In here also there is a third party system where some one else will liaison with the labor and the price goes up.

2.2.3 Uber

This is basically apps where people can rent or hire car for their daily movement. In here people may contact with the driver but they can do it after using the apps, and after finishing the trip drivers contact information vanishes. And here both driver and passenger both have to pay high.

2.3 Audit and Improvement in Smart Worker Solution

Subsequent to evaluating the web applications above, I observed that there is no interconnection accessible among client and work. Thus, I have fostered a few thoughts where a wide range of client can speak with work or laborer by them self.

- Time
- Money
- Value of Work

Chapter 3

What is Smart Labor Services

3.1 Project Summary

Smart labor is a web application which will be utilized for worker or laborer of Bangladesh who need more information about the work that they are doing should be possible with such ease by the assistance of innovation. As the specialists are acclimated with utilize portable, and web its exceptionally simple for them to investigate Smart Labor Solution to get to accommodating to build their work efficiency.

In this task there are three sort of users as follows:

- Admin users like (e.g., internal user who maintain the website)
- General people (e.g., client)
- Worker (e.g., labor)

Firstly all user have to register to get services from this project. After registration we will generate 2 types of profile one is Worker profile and other one is user profile or client profile. In worker profile he can't search for client but in clients profile they can search their desired worker among lot of options. And there will be few people who will work to maintain the website. Overview the entire thing and help user or client if they face any type of issue.

There are many highlights in the web application, and for every single individual elements of the application are dynamic. Here the word dynamic means – the entire process of this application will be run automatically. Just we need to create the profiles give proper information. After approving the profile request its all their platform.

- Authorized user login to web application
- Fill up login information form
- Data sends to administrator
- Retrieve info and open end point
- Smart labor website login to the system

3.2 Problem Identification

Bangladeshi people most of the time rely on the analog services and this happens every day basis. No matter how much easy the process is they always go for the hardest way. But now things are changing because of technology is spreading very fast. Even a rickshaw puller also uses smart mobile phone and knows how to browse internet.

There are few apps on the website but all of them are based on third party. As like if someone wants to take one car for rent, so their app is arranged in the way that if any one wants to hire car they have to talk to their call center or chat bot. After that they will tell lots of rules and regulations, few charges for any additions. So after that long process they will send you one car which you won't even know which brand or who's going to drive the car.

By using Smart worker solution, customer can directly contact with the person whom he's looking for, now there might come one question they are interacting with each other so is there any chance of lack of security. Not at all because at the beginning we take all the necessary information from both client and worker. So if anything goes wrong we can easily trace the person and take proper action against him.

3.3 Significance of Project

Because of dynamic way of behaving, the significance of my thought based project is extremely high, and I am accepting, the site will be capable to take care of the accompanying issues-

- The UI of the site will be easy to understand, and simple to utilize so that even a worker who doesn't have advanced education can use the site to get.
- The information available in the website is dynamic, so that they when ever people search any type of services they can find it very easily.
- Any supportive data can be imparted to work straight by sending pop-up message and the worker can see the subtleties at the relating screens.
- Real time services prices can be shared at time of calling any labor for services.
- From this website, labors can set their goals for earning more, and serve more people in several time slot.
- Based on achieving goals, the general people can take services more and more and this could encourage other labors to enroll type of working platform.

3.4 Development Methods

There are few development models, but my choice is Agile software development model. Agile software development alludes to a gathering of programming improvement systems in light of iterative turn of events, so here creator should need to talk with client. In this model necessities and arrangements develop through joint

effort between self-putting together cross-practical group. In the advancement of the undertaking, I will utilize SCRUM technique for deft turn of events. It is a light weight process system for deft turn of events, and the most generally utilized in the vast majority of the turn of events. Scrum processes empower associations to change flawlessly to quickly evolving necessities, and produce an item that meets developing business objectives. An agile scrum process benefits the organization by helping it to:

- Every single individual element will be parted into undertakings, and sub assignments.
- Increment the nature of the deliverable.
- Adapt better to change.
- Give better estimate while investing less energy making them.
- Be more in charge of the undertaking timetable and state.

3.5 Business Request for Smart Labor Services

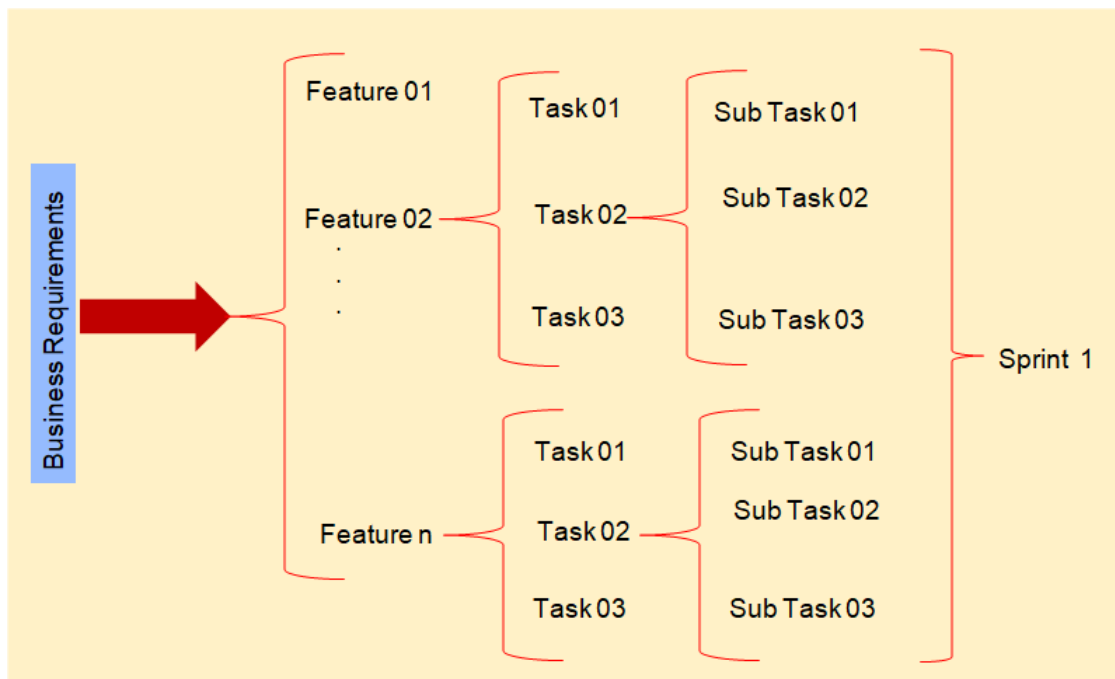


Figure 3.1: Scrum method.

Chapter 4

Product Description

4.1 Web Application

This is one of the parts of the undertaking - Smart labor services distributed on internet based that can be gotten to by the approved clients as it were.

4.1.1 Overview

Outline on the off chance that the web application As gigantic percent of the works in Bangladesh is uneducated or they don't know about the data advances being utilized in their day to day work creation, it would be simpler for them on the off chance that it very well may be made on site rendition. And by this way it could be easy to register them self and use the services.

4.2 User Management

4.2.1 User Types

There will have an administrator board who will deal with a wide range of genuine clients and the administrator will have freedoms to dynamic or potentially deactivate the clients of the web application. In this web application there are two kind of clients.

Customer

As customer they have to provide proper information and after activation of the account they will be able to have all the services as given in the web application.

Labor

Other user of the web application is labor who is the main component of the whole web application. They have to provide proper information to get their account active. And after getting their account they will be able to serve the customer.

4.3 Implementation Requirements

There are two types of requirements. They are,

1. Functional Requirements
2. Non Functional Requirements

4.3.1 Functional Requirements

Utilitarian necessities imply that what the framework ought to do. A rundown of administrations or capabilities which a client needs from the framework. A client might need administrations or capabilities like make a record, update, erase, and different capabilities like contact with the creator of the framework. Join, sign in or profile and so forth these necessities called practical prerequisites which the framework ought to be finished.

In here there are 3 type of users

- Customer
- Labor
- Admin

Each user can have access many type of operations.

4.3.2 Customer

Register:

At first customer have to register their information to get access our portal.

Login:

After login customer can view the entire page and can access all the functions and also can view labor profile.

Select Area:

After login if they need to get any type of service they need to search their area in the page.

Choose Service:

If customer find their area they can choose what type of service they can to have.

Contact Labor:

After finding service customer will find labor for their wanted service. And contact with him personally.

4.3.3 Labor

Login:

At first he needs to login the portal to see who is knocking him or who wanted to have his services.

Response Call:

After login to the portal he can response the call or chat with the customer whether he's going to be able to work for him or not.

4.3.4 Admin

View Data:

Admin has the access to over view everybody's data, edit it or delete it.

Help To Communicates:

Admin can play a role to communicate with customer and labor. And most important thing is if he find any issue regarding fraud he can take immediate action against both labor or customer.

4.3.5 Non Functional Requirements

Non practical prerequisites likewise perceived as Quality Attributes. Non utilitarian necessities characterizes how might the framework do these administrations significantly quicker. How the framework playing out these administrations like as

- Response Time
- Accessibility
- Reliability
- Robustness
- Recoverability
- Efficiency
- Maintainability
- Stability

4.3.6 Information Management

After sending users information to admin he will activate the accounts and this is the primary information. After that the customer will find the labor and labor will help the customer in this process the main part is to get both of their information and this is stored in admins end.

4.4 Web API

API represents Application Programming Interface. This API is a point of interaction for either a web server or an internet browser.

4.4.1 Home Page

I foster landing page with some unique kind of pages which are interconnected with each other. There is a route bar in the highest point of the page which is called menu bar. On the left side, planned a logo for connected up with different pages. At the point when the client needs to return home, they can simply tap on the logo. Another choice is the Home button this works same as the logo. What's more, in the footer segment there is a sub and substance on this site. For example, all data connected beneath in this segment.

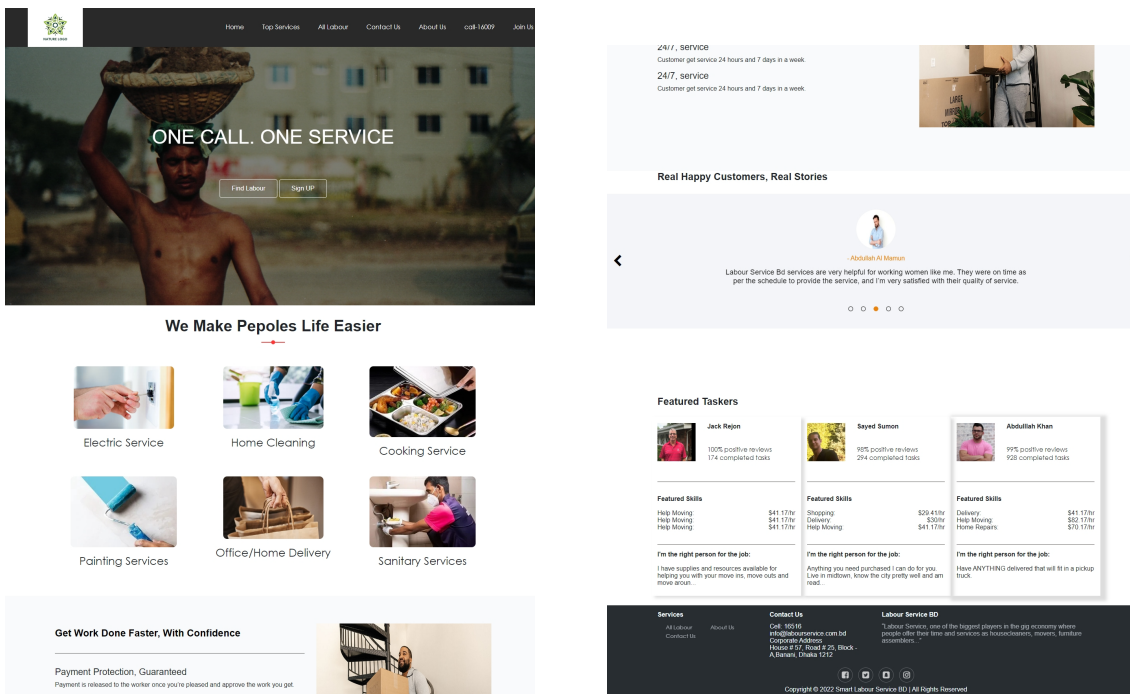


Figure 4.1: Home page of the Web API.

4.4.2 Services

This is the principal page for the undertaking in light of the fact that by this page individuals can perspective on various administrations given by the work can be served. On the left side, we make a rundown for various administrations, for example, circuit testers, cooks, drivers, cleaner and so on. Furthermore, at the right side there is two fields, and one button.

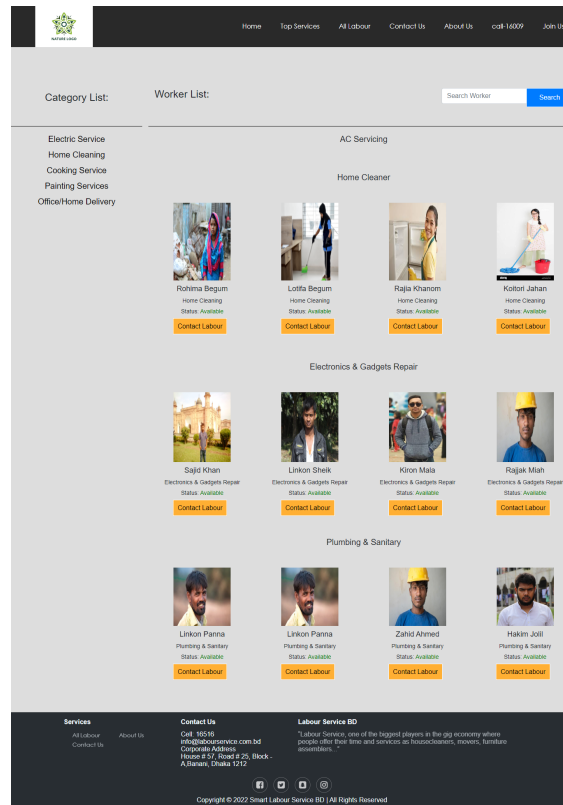


Figure 4.2: Top services.

4.4.3 Sign Up

In this part, there is two float buttons on the landing page. The left button is classified "As A Labor" and the right button is designated "As A Customer". At the point when the left button will be clicked, join choice loose on the principal page. Here I have associated the data set with a sign up choice. Client likewise clicked "As A Customer" signifies the right button. At the point when a client gives data for register then their data put away in the data set.

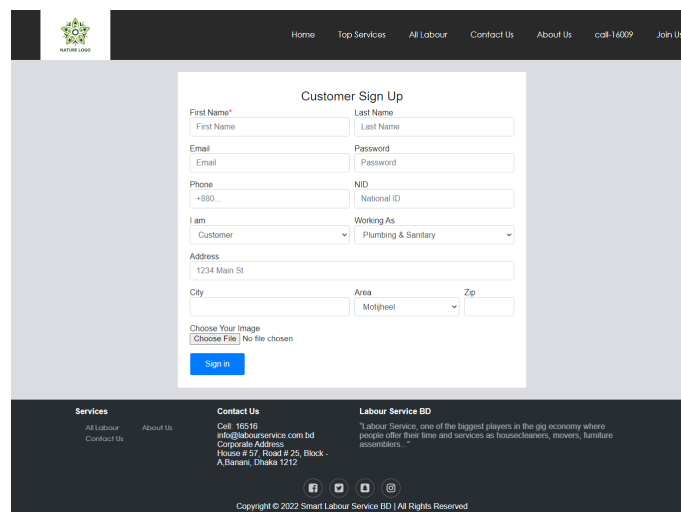


Figure 4.3: Customer sign up screen.

4.4.4 About Us

In this page I tried to give little bit summary about my project. User view and know the website systems, and many information included on the page.

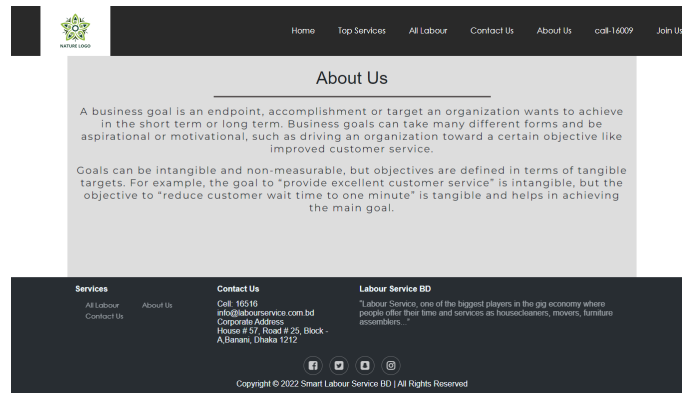


Figure 4.4: About us screen.

4.4.5 Contact

In here a portion of our data in regards to contact with administrator by email or message. Administrator board or writer can peruse, compose, erase the message and answer message through writer mail. contact image

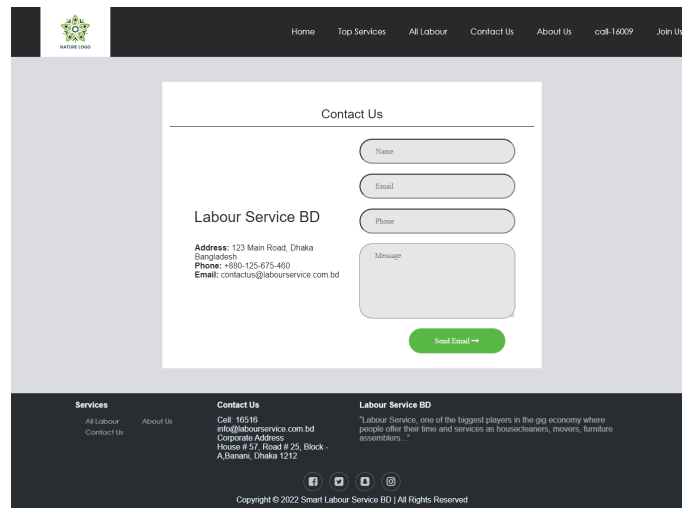


Figure 4.5: Contact screen.

4.4.6 Log In

At the point when an enrolled client tapped on the login button then this data really look at in the site data set. At the point when the given information is coordinated with the data set then the client effectively can login to this site.

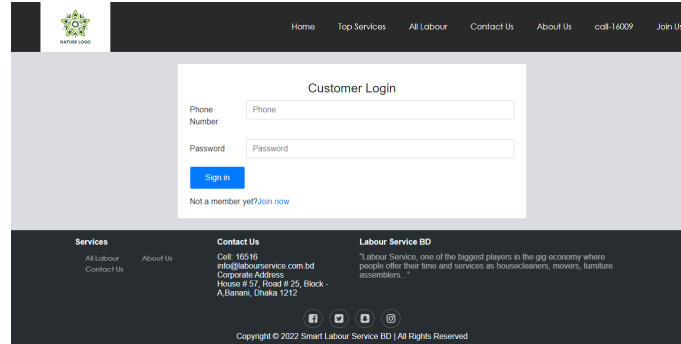


Figure 4.6: Customer log in screen.

4.4.7 Users Dashboard

After being registered a customer and labor on this website automatically saw their dashboard. Where labor will see his information. And customer will find his own information.

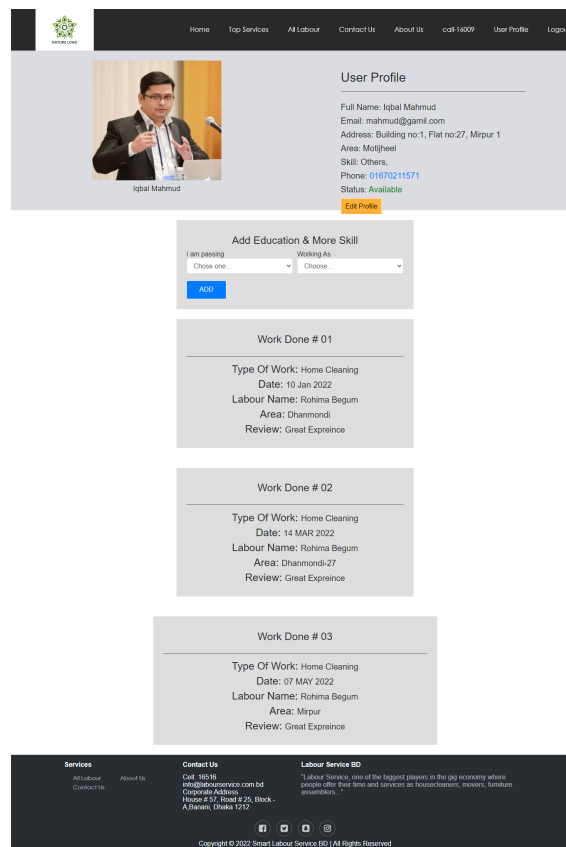


Figure 4.7: Users dashboard screen.

4.4.8 Users Feedback

In here both labor and customer can review their feedback regarding labors work or customers work.

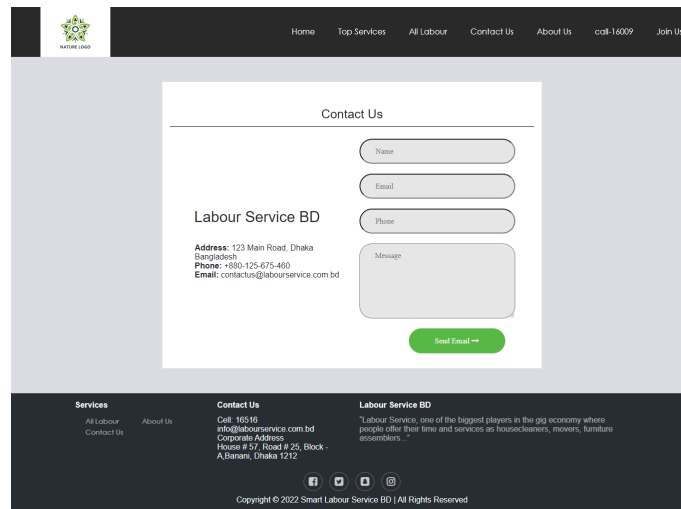


Figure 4.8: Feedback or Complain screen.

4.4.9 Users' Complain Box

In here we made a space where people both labor or client can complain if they face any issue regarding any type of service. I made this complain box in both labor and clients profile.

4.4.10 Admin Panel

After all this we create our admin page where only approved person known as admin will have the right to edit, delete, or modify any of the client data.

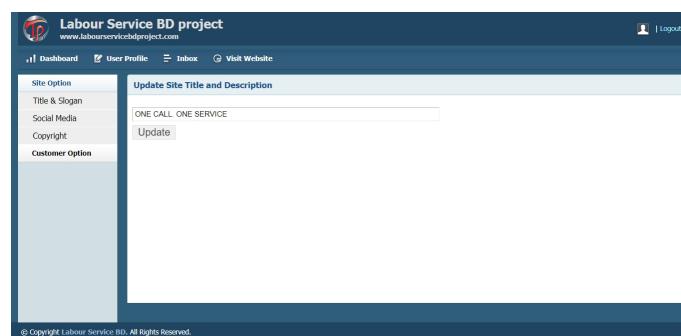


Figure 4.9: Admin panel screen.

4.4.11 Back end Design

Back end configuration characterizes that how the framework runs, bring update, varieties which client can't get in the program. "Fig. 4.10" displays use case model for admin who accomplishes the back end process in this project.

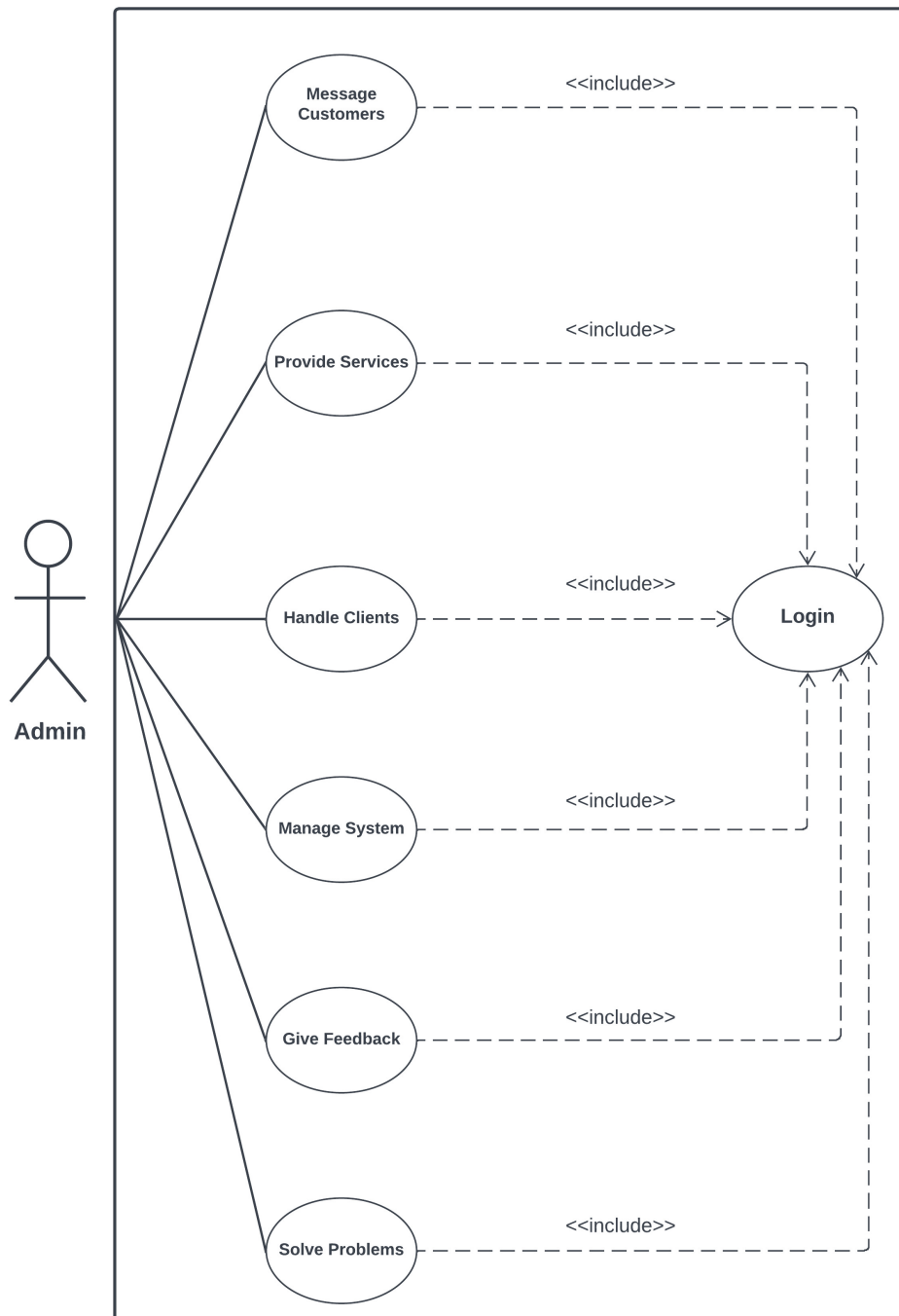


Figure 4.10: Use Case For Admin Of This Project.

Chapter 5

Data Model and Flow Diagram

An information stream is a way for information to move from one piece of the data framework to another. An information stream might address a solitary information component, for example, Smart Labor objective set by addressing a bunch of information component.

In figuring information stream is a wide idea which has different implications relying upon the application and setting. In the setting information stream connects with stream handling or receptive programming.

5.1 Categories of Data

There are various kinds of information accessible across Smart work application. The information can be sorted into the followings:

- Objectives
- Contact Data
- Profile Information
- Data from Smart Labor relevant sites

5.2 Who Will Manage Data?

In Bangladesh generally very work relies upon innovation. Anyway they face many difficulties as a result of absence of mindfulness. They face many issue since they have no mechanical information and individuals know this and they make use benefit and cheat them. So after day's end they are a definitive victim. They attempt to battle against the terrible individuals yet couldn't make this is on the grounds that they have no solidarity or any broad stage or the other hand they don't anybody who will think for them. So I am trying to make a general platform where they don't have to bargain for their daily work charge.

As Bangladeshi labor are most of cases less educated so by making this website I'm trying to make a technology based data management which is very important.

In this website all of the data will be stored in our server and our admin panel will have all type of access in any type of data.

5.3 Use Case Diagram

5.3.1 Login and Dashboard Movement

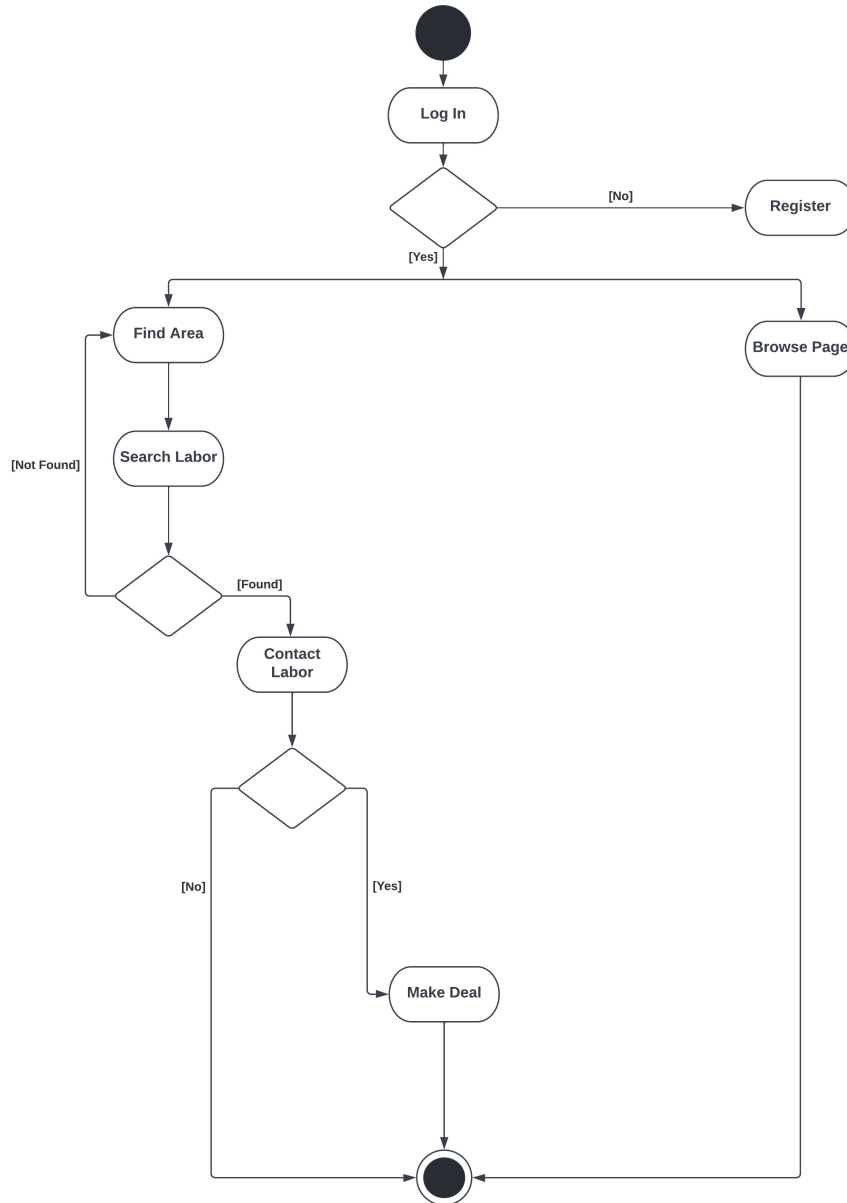


Figure 5.1: Activity Diagram.

5.4 Data Flow Diagram

An information stream outline is an approach to addressing a progression of information through an interaction or a framework. The DFD likewise gives data about the results and contributions of every substance and the actual interaction. An information stream chart has no control stream, there are no choice principles and no circles.

5.4.1 Data Flow Diagram Symbols and Notation used in DFD

There are numerous images utilized in information stream chart which is conventional and, surprisingly, a non specialized individual can comprehend the stream they have a few fundamental figuring out about the images. There are chiefly 3 levels in the information stream graph, which are

1. 0 - level DFD
2. 1 - level DFD
3. 2 - level DFD

Level - 0 DFD is otherwise called context diagram. It is intended to be a deliberation view, showing the framework as a solitary cycle with its relationship to outside elements. Significant images utilized in DFD in as beneath:

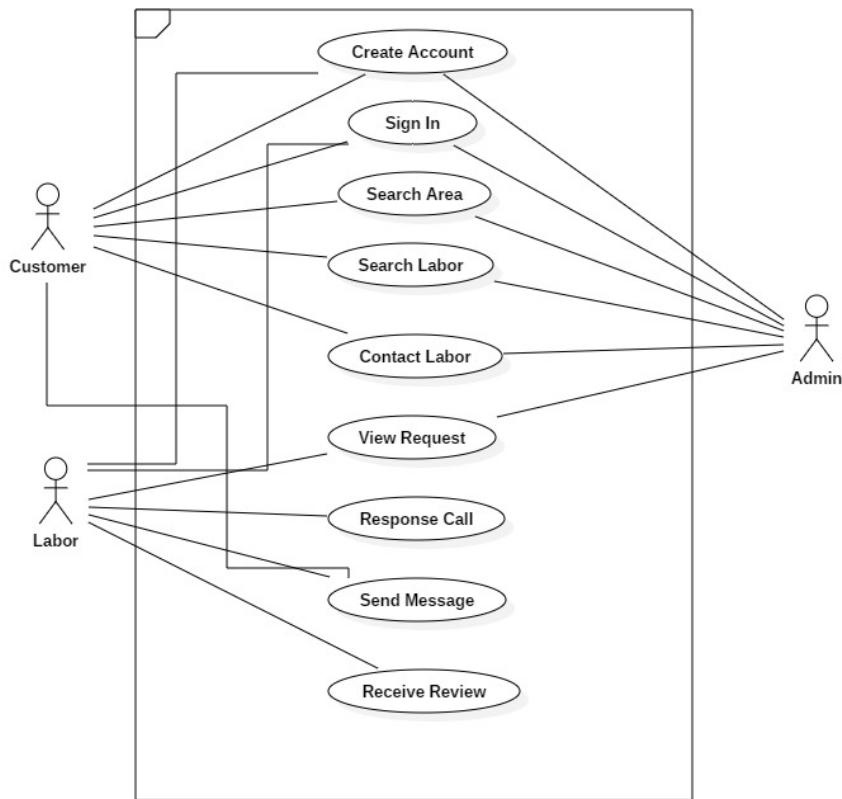


Figure 5.2: Login use case diagram.

External Entity

An external substance can address a human, structure or subsystem. It is where sure data comes from or goes to. It is outside to the system we study, to the extent that the business cycle. Thus, people used to draw external substances on the edge of an outline.

Process

A connection is a business activities or limit where the control and change of data happen. A cooperation can be rotted to a superior level of nuances, for tending to how data is being dealt with inside the cycle.

Data Flow

An information stream addresses the progression of data, with addressed by a sharp-ened stone's shows toward the end (s) of the stream connector.

5.4.2 Level 0

A level 0 information stream outline (DFD), otherwise called a setting chart, shows an information framework overall and stresses the manner in which it cooperates with outer elements. This DFD level 0 model shows how such a framework could work inside a run of the mill retail business.

5.4.3 Level 1

This level one information ow chart format can help you: - Map out the progression of data for any cycle/framework. Picture an undeniable level outline of the entirety framework/process. Share an outline with partners and designers. Open this design to see a level one data stream outline model that you can re-try to your use case.

5.4.4 Level 2

This level two information flow chart layout can help you: - Map out the progression of data for any interaction/framework. Picture an undeniable level outline of the entire framework/process. Share this outline with partners and designers. Open this layout to see a level two information ow graph model that you can redo to your utilization case.



Figure 5.3: Level 0

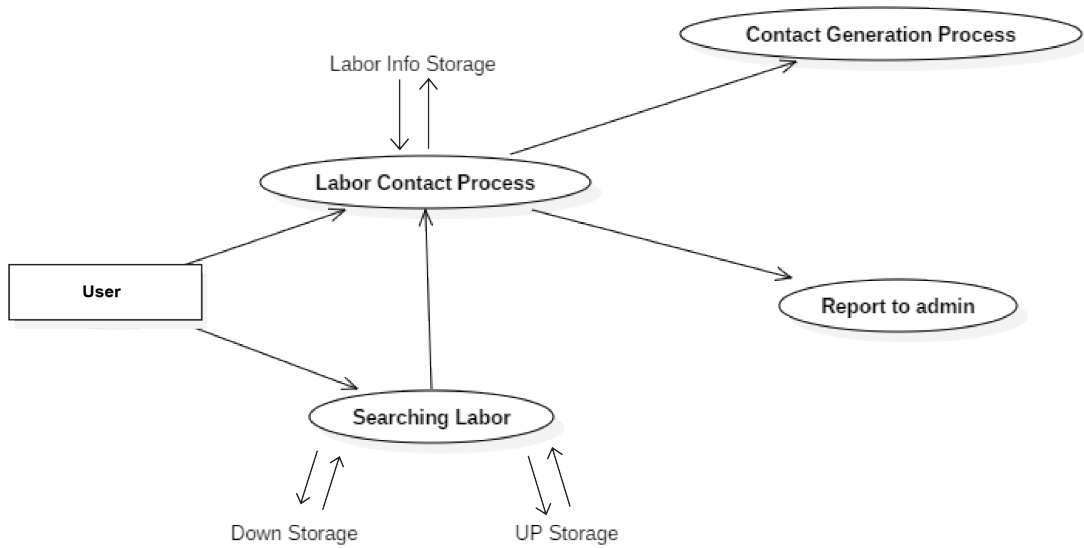


Figure 5.4: Level 1.

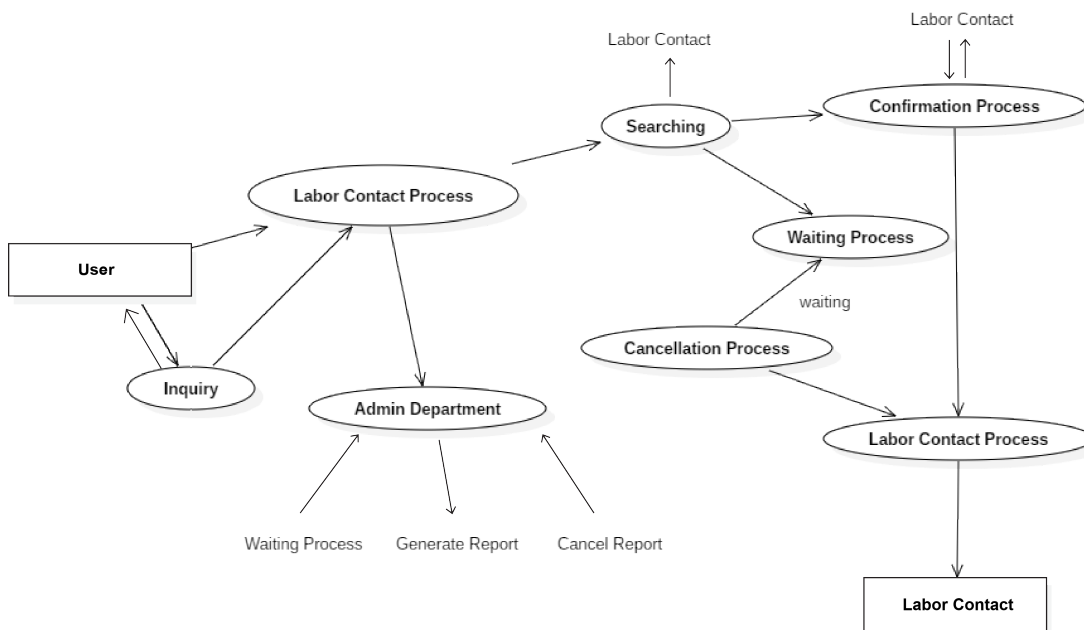


Figure 5.5: Level 2.

5.5 On Launch

After launching the website, Smart Labor site will introduce the login screen. To get to the data, client login is an unquestionable requirement and after fruitful login. Information matching up will be begun to make information adjusted with online capacity where organization supported objectives.

5.6 Benefits

Proposed site application will help on numerous viable cases.

5.7 Business Value

Now one question may arise that if customer can directly contact with labor then how come we can get money or benefit. In this case we are going to follow a strategy that is at the beginning we won't make any charge to labor. They will register in our website and for couple of months they will use our website for free of cost. But after 3 or 4 months later we will take 3% of each service provided by labor. Now it may happen by digital transaction or it may be done by banking. We wont make any charge to our customer.

Chapter 6

Conclusion and Future Work

6.1 Conclusion

This task depends on work administrations. In our county there are few this type of application but my one is different because, they don't show up by giving the proper people, they use a media and after wards they send the labor or needed people. But in my project I'm directly showing up labors which client can choose by their needs. So here there is no media or third party to negotiate. So by doing this they can have proper amount of money with out giving it to other media, and at the same time clients can find all type of services at the same place.

In Bangladesh some time it becomes hard to find proper people who can do the right job at the right time. And this is very time killing as well. But in this project they can find any type of service person with in few clicks.

Yes I know this will take time to reach people and get use to with it. But I dream one day people don't need to go shop to shop or person to person and asked for labor or technician.

6.2 Scope for Further Developments

In future, I dream this task will run in portable application. Since, to become well known, I want to take this site to similar level as any remaining portable application or famous sites. I included survey framework this site so client or specialist can offer their viewpoint. What's more, I can further develop slacking.

Now there comes issue that are we doing this for free no, inn this world nothing is free. So we won't charge much, by considering type of work we will add 3 to 10% service charge. In the event that I can show this drive, then my portable application or site abilities will stay stable. On the off chance that I make this site completely free, a ton of information could emerge and go shaky. When I will start to get positive feedback I will convert this into mobile application.