CIVIL ENGINEERING CONSTRUCTION MANAGEMENT SYSTEM

Diploma in Software Engineering

Final Project Documentation

23.1F

National Institute of Business Management

Kandy Regional Center

No 2, Asgiriya Road,

Kandy

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Final Project Documentation

23.1F

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The project is submitted in partial fulfilment of the requirement of the Diploma of Software Engineering of National Institute of Business Management.

May 2024

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SUMMARY

ENGINEERING CONSTRUCTION MANAGEMENT SYSTEM

Company - COVD Construction

Institute - NIBM

Course - DSE

Construction management systems allow project managers to create detailed project plans, allocate resources, set milestones, and create schedules to ensure timely completion of tasks.

These systems help in estimating project costs, creating budgets, and tracking expenses throughout the project lifecycle.

Overall, construction management systems play a crucial role in improving efficiency, reducing costs, and enhancing collaboration in construction projects. They help project teams deliver high-quality projects on time and within budget.

CHAPTER 1

INTRODUCTION

1. TERMS OF REFERENCE

A construction management system is a comprehensive software solution designed to streamline and optimize various aspects of construction project management. It typically includes features for project planning, scheduling, resource allocation, budgeting, communication, document management, and collaboration among stakeholders.

The project group shall perform the following investigation & analyze the existing system.

1. Investigation present system
2. Analyze the existing system identify the problem and weakness in existing system.

1.1 Introduction of the Organization.

COVD Civil Engineering Construction Firm(CCECF) company Started their journey on June 18 2007. Head Office located at No.179, Madapola, Teldeniya, Kandy and in 2012 opened a new branch. Branch of this company located at No.217/8/1, Teldeniya, Kandy Road. They are Staring work is building drawings and subcontracting. In 2008 Constructing and Home design development, 2010 Planning for survey initiation, 2011 Estimating process begin, 2013 Analysis of starting rate, 2014 take part as a working partner, 2015 Commencing the Design work, 2016 Landscaping projects Begin and 2018 Creating illustrations services (Every type of Drawing & Estimate). In Current situation they have manual system in their company. So COVD facing some problems our system can dissolve their problems.

1.2 Organization Structure.

The organizational structure of a company refers to the way in which its role, responsibilities, and tasks are organized to achieve its goal. CCECF has Designer[Owner], Constructor, Customers.

1.Owner:

The specific duties of a company owner will strategic planning [set goals/vision], financial management, operational management, Human resources management [Hiring and fire employee], Marketing and sales, Legal and compliance, Relationship building, Risk management, Innovation, and growth, Mentoring and leadership. And in addition to being involved in other various tasks. Responsible for overall operation. In CCECF the owner is the Designer. Designers have a big role to Drawing a plan by customer requirement and satisfy the customer.

2. Customers:

Customers who have a purpose to contact and communicate with CCECF to build a plan to construct a building. Leaving feedback to company, it helps to improve the company and customer satisfaction.

3.Constructor:

Implementing Designer design in real field to build a building. Constructors work under Designer Commands.

1.3 Current Operations in Organization.

CCECF company currently have a manual system for payment and storage. Customers need to visit the company to give the personal details and plan details. Once designer finish the design, they contact the customer and submit the plan design and receive payments. They store their plans, design works and payment bill in a hard copy format.

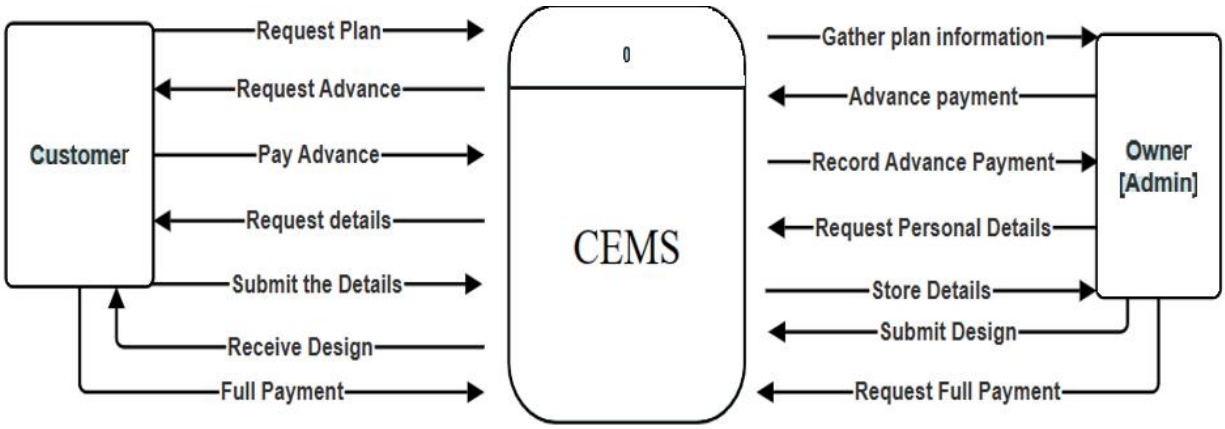


Figure 1 1.3.1 (Current system Context diagram for company)

1.4 Users and Responsibilities Organization.

CCECF Company individuals play different roles and have specific responsibilities. Organization can be broadly categorized into two groups, which are internal user [Owner(Designer), constructor] and external user [Customer, partners].

Internal users: These are individuals who work within the organization and have access to its systems and resources. Internal users can access be further divided into different categories based on their roles and responsibilities, such as:

1. Owner:

Maintain entire Organization of the company and take full Responsibilities of the organization. Financial support and legal issues solving, etc.

2.Constructor:

Work under company vision and mission to achieve company goal. Give their hard work to improve the company.

External users:

These are individuals who interact with the organization but do not work within it. External users can be further divided into different categories based on their relationship with the organization, such as:

2. Customer:

A person who needs a plan to build a building in a proper way. Approach some kind of feedback to improve the company.

1.5 Problem Definition.

Currently, they don't have any digital system to use in their company. They are storing their customer details, work design and payments details in book (Hard copy). After finishing a customer requirement plan, they cannot find whose plan they design it's hard to find the customer to submit the design. So, some time customer details are missed they didn't receive the payment for their work.

The existing system of construction management involves a comprehensive approach to overseeing projects from inception to completion. It typically encompasses various stages such as project planning, design, procurement, construction, and closeout. Key elements include scheduling, budgeting, resource allocation, risk management, and quality control. Communication and collaboration among stakeholders, including clients, architects, engineers, contractors, and subcontractors, are vital throughout the process to ensure smooth execution and timely delivery of projects. Advanced technologies like Building Information Modeling (BIM) and project management software have revolutionized the field, enhancing efficiency, accuracy, and collaboration. Constant evaluation and adaptation to evolving industry standards and regulations are essential to maintaining competitiveness and delivering successful outcomes in construction management.

ISSUES IN EXISTING SYSTEM

Communication Challenges

Communication breakdowns between project stakeholders, including architects, engineers, contractors, and clients, can lead to delays, errors, and conflicts.

Sustainability Challenges

Insufficient focus on sustainable construction practices can lead to environmental impacts and missed opportunities for cost savings.

Poor Resource Management

Inadequate resource allocation, including labor, equipment, and materials, can lead to delays, cost overruns, and reduced productivity.

Regulatory Compliance

Difficulty in staying compliant with local regulations and building codes can lead to project delays, fines, and legal issues.

1.6 Project Objectives.

❖Our system reduces data redundancy to solve problems. also provide accuracy, reliability, and automation services.

❖ The main objectives are to work in an efficient way and to maintain a safe and secure system. This automation system saves time.

❖ Expand the Data Management system for wider users Admins can store and access the data easily and securely

1.7 Proposed Solution.

Introducing our cutting-edge Construction Management System, a comprehensive solution designed to streamline every aspect of your construction projects. Our system revolutionizes project management by integrating advanced technologies to enhance efficiency, collaboration, and decision-making processes.

At its core, our Construction Management System offers a centralized platform where project stakeholders can effortlessly communicate, share updates, and access vital project data in real-time. From project inception to completion, our system provides intuitive tools for scheduling, budgeting, resource allocation, and task management, ensuring projects stay on track and within budget.

We proposed a solution for their problem. The owner can login to the system using a name and password. After the verification He have the database access to store their design work, customer details and payment information in their database. Owner can view, update, Remove the data from the database. And he can view any customer details or works using a customer id.

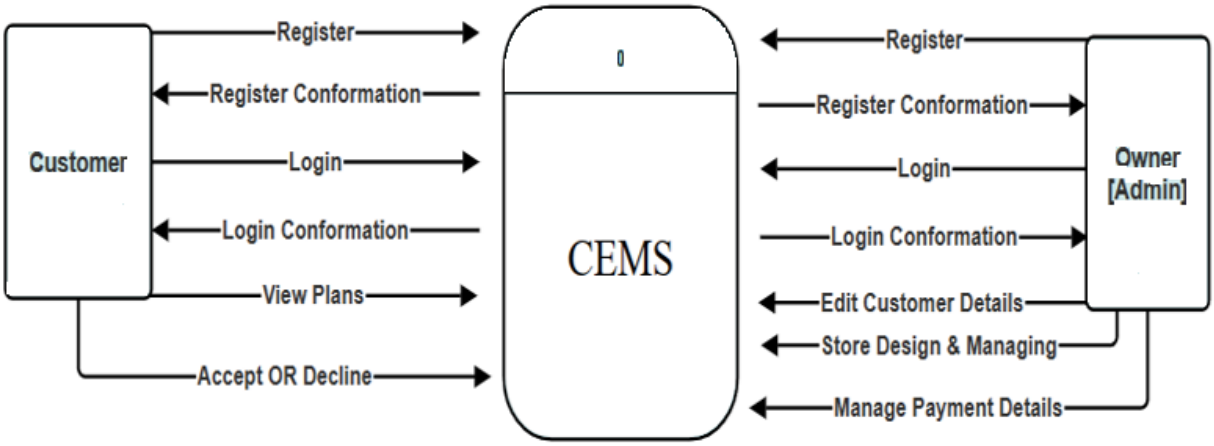


Figure 2 1.7.1 (Solution system Context diagram for company)

2. OBJECTIVES OF STUDY

1. Planned approach towards working:

   Working in the organization will be well planned and organized. The data will be stored properly data stores, which will held in retrieval of information as well as its stores.

2. Accuracy

   The level of accuracy in the proposed system will be higher all operation would be done correctly & it ensure that whatever information is coming from the center is accurate.

3. Reliability

The reliability of the proposed system will be high due to the above started reasons.

4. Immediate retrieval of information

The system allows for quick and easy retrieval of information, enhancing efficiency.

5. Immediate storage of information

Information can be stored immediately in the system, ensuring data is up to date.

6. Esay to operate.

The system is designed to be user-friendly, making it easy for stakeholders to operate.

7. No redundancy

The system aims to eliminate data redundancy, ensuring efficient use of storage and resources.

3.DURATION

Studied the existing system and document	4 weeks
Designed the proposed system diagrams	2 weeks
Designed the proposed system files	2 weeks
Designed the proposed system screens	2 weeks
Designed the proposed system pseudo codes	2 weeks
Finalized the designed proposed system	2 weeks
Wrote the report	1 weeks

5.CHAPTER SUMMARY

Developing an automated system for CECMS company for overcome their traditional hard copy system. Our system helps to reduce their storage area and customer struggles. Because the customer only visits the company two times only. 1.Describe the plan for the first time and advance payment. 2.Get the hard copy and full payment. Once the design plan is ready, customers can login to the system, and they can view the design and accept or denied. If they accept, they get time to visit and get the hard copy or if denied contact designer through mobile and redesign the plan.

CHAPTER 2

METHODOLOGY

2.1 Introduction

The Civil Engineering Construction Management System (CECMS) introduces a digital approach to revolutionize project management in civil. engineering. Unlike traditional methods, CECMS streamlines processes and enhances. precision, and accelerates the construction lifecycle. Tailored for the industry's complexities, this system empowers professionals with a cohesive digital platform for collaborative and informed decision-making. In a field where accuracy is paramount, CECMS promises transformative insights, simplifying. tasks from planning to progress tracking. This introduction sets the stage for exploring CECMS, emphasizing its potential to redefine project management in civil engineering.

2.2 Data Collection Method(s)

Efficient data collection is pivotal for the success of the Civil Engineering Construction Management System (CECMS). The system incorporates various methods to gather essential information, ensuring accuracy and reliability.

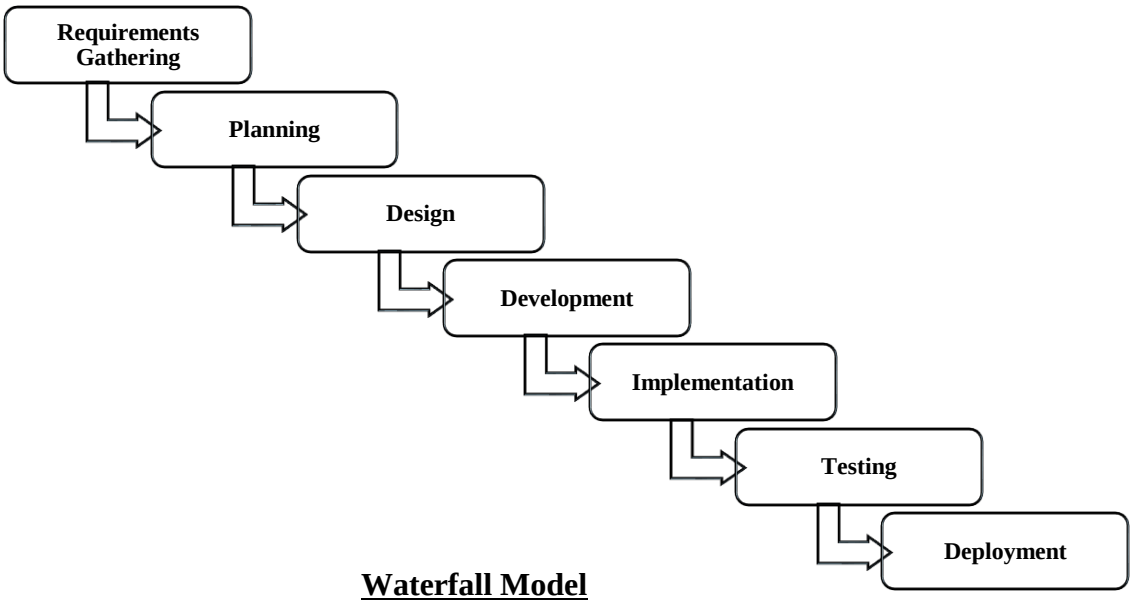
1. Manual Data Collection: Involves physically gathering project documents, surveys, and collaborative inputs.

2. Automated Data Collection: Utilizes technologies like IOT, drones, and BIM for real-time, system-integrated data on labor, resources, environment, and materials.

3. Data Mining: Expanding beyond conventional methods, CECMS explores. data mining techniques. Existing facial image datasets from public databases or social media platforms become valuable resources. Machine learning algorithms are then applied to identify individuals within these images, enriching the system's recognition capabilities through a data-driven approach.

4. CECMS considers crowdsourcing as an alternative method for data collection. By tapping into a broader network of individuals, a crowdsourcing platform can be employed to gather images, enhancing the diversity and inclusivity of the system's facial recognition capabilities.

2.3 Software Process Model



Waterfall Model

Figure 3 2.3.1(Software Process Model)

The waterfall model's consecutive phases are Requirements Gathering:

• Identify construction companies and understand their unique needs. Define the scope and objectives of the CECMS. Gather and document user requirements for efficient project management.

Planning:

• Identify essential features for the CECMS, prioritizing based on user value. Break down the project into manageable categories for effective management. Plan the development process, emphasizing features crucial for streamlined construction management.

Design:

• Create a system architecture tailored for construction project management. Design system components and interfaces, develop data models, and algorithms. Define a user interface that facilitates user interaction. The architecture should offer a comprehensive view of the entire system structure. Waterfall Model Requirements Gathering Planning Design Development Implementation Testing Deployment

Development:

• Develop a foundational framework for the CECMS, implementing core functionalities for project planning and execution. Integrate face detection capabilities and establish a robust database for storing user profiles and project data.

Implementation:

• Execute the software code development, conducting unit tests to ensure functionality and integration of system components. Implement face recognition features and conduct thorough unit tests to validate their accuracy.

Testing:

• Conduct system testing to ensure all user requirements are met. Perform user acceptance testing to validate the efficiency of the CECMS. Verify the accuracy of face detection and recognition through rigorous testing. Address and fix any identified bugs during testing using continuous integration. Gather user feedback for necessary adjustments.

Deployment:

• Install and configure the CECMS, providing training and support to users. Release the system to a limited audience for real-world testing. Ensure the system is installed on hardware meeting user specifications. Train users on system utilization. Monitor system performance, address issues promptly, and provide ongoing support and maintenance.

2.4 Software Development Tools

- **Fronted development**
  - HTML
  - CSS
  - JavaScript
  - Font Awesome links

- **Backend development**
  - PHP
- **Database connection**
  - MySQL

2.5 Testing Strategies

The main purpose of unit testing is to identify whether the system functionally is working perfectly. Hence each button in the system is tested to ensure its functionality. Unit testing has proven its value to identify errors and issues of a system. The entire software was being tested during the software testing phase in order to follow the requirements of the scope of the project which started in the first phase of the methodology. Some partial test plans,

1. Registration: Objective=>Register Admin and customers. Test input=>Store details in database and check. Result=>View Admin and customer details in database.

2. Login: Objective=>Use Registered username password to verify customer and admin. Test input=>Input username and password. Result=>Login successfully.

3. Database maintenance: Objective=>Owner try to update database details. Test input=>Add new customer or remove already existing customer. =>Add new Design or remove already existing Design. Result=>Display database updated successfully.

2.6 Implementation Plan

	2023 Dec 20 –Dec 25	**2023 Dec 26 - Dec 31**	**2024 Jan 01 – Jan 20**	**2024 Jan 20 – Jan 31**	**2024 Feb 1 – Feb 10**	**2024 Feb 11 – Feb 18**
PLANNING						
Discuss the topic						
ANALYZING						
Interview with an IT manager						
Observe the book company						
Identify an issue in the system						
DESIGN						
Organize information						
Discuss the structure of the project						
DEVELOPMENT						
Start to write the project						
IMPLEMENTATION						
SUBMIT THE PROJECT REPORT						

2.7 Chapter summary

The Civil Engineering Construction Management System (CECMS) is a digital project management system designed to streamline processes, enhance precision, and accelerate the construction lifecycle. It offers a collaborative platform for informed decision-making and promises transformative insights. Efficient data collection is crucial for the system's success, including manual, automated, data mining, and crowdsourcing methods. Manual data collection involves gathering project documents, surveys, and inputs, while automated data collection uses IoT, drones, and BIM for real-time data. CECMS also considers crowdsourcing for data collection.

CHAPTER 3

3.1 UML Diagram.

3.2.1 Use Case Diagram of Current System

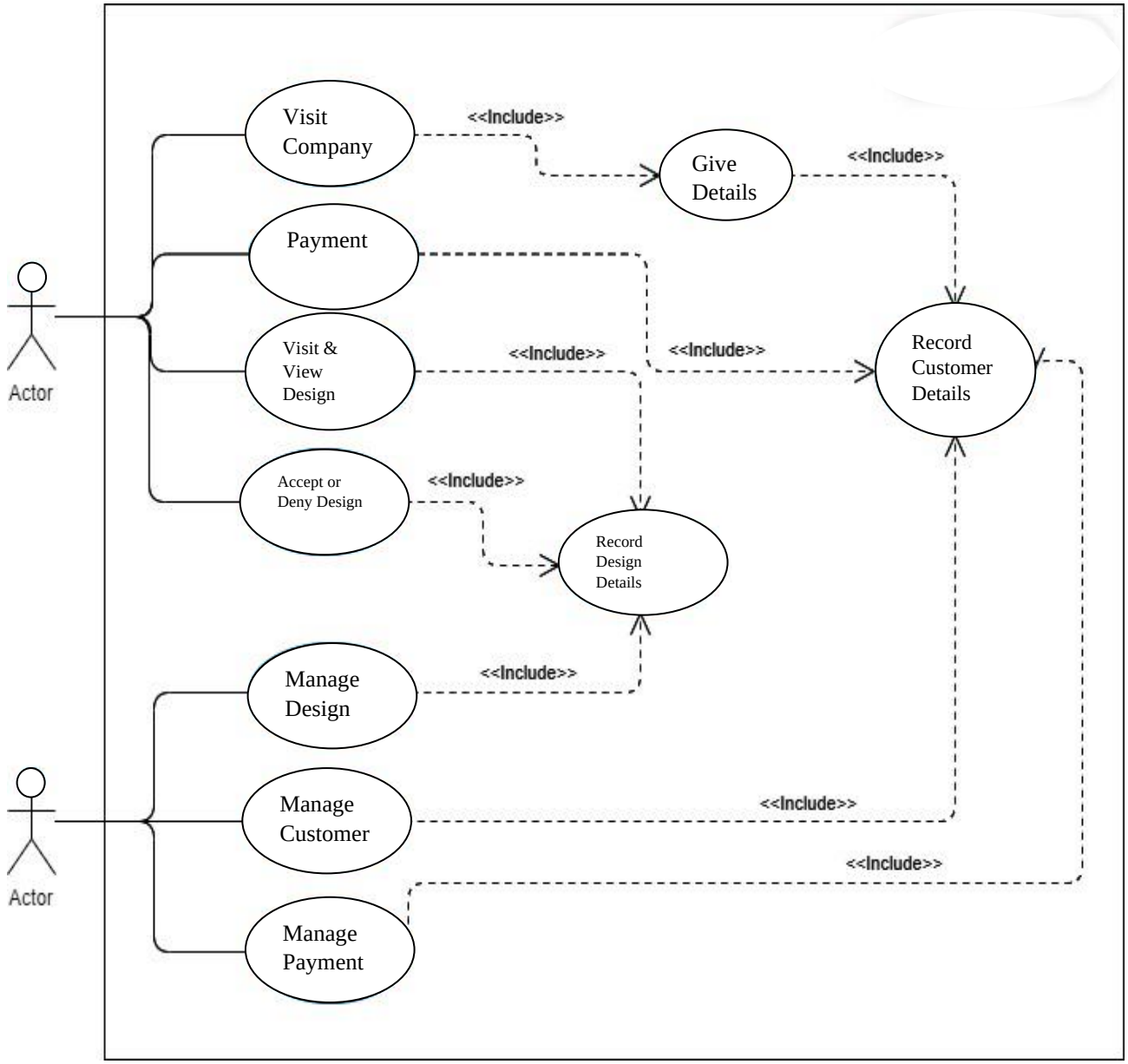


Figure 4 3.2.1(Current System Use Case Diagram)

3.2.2 Use Case Diagram of Proposed System

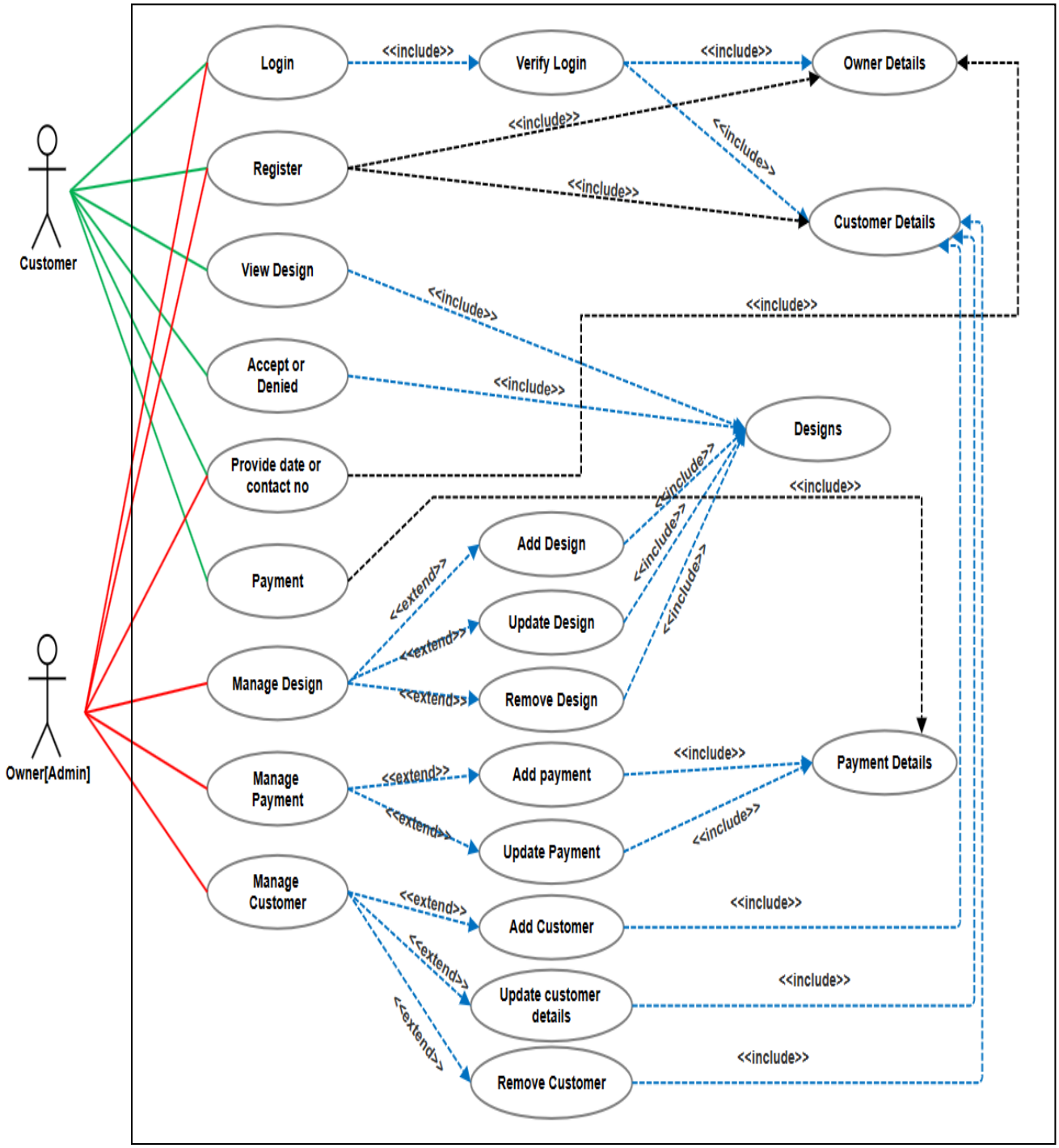


Figure 5 3.2.2(Solution System Use Case Diagram)

3.2.3 Class Diagram of Proposed System.

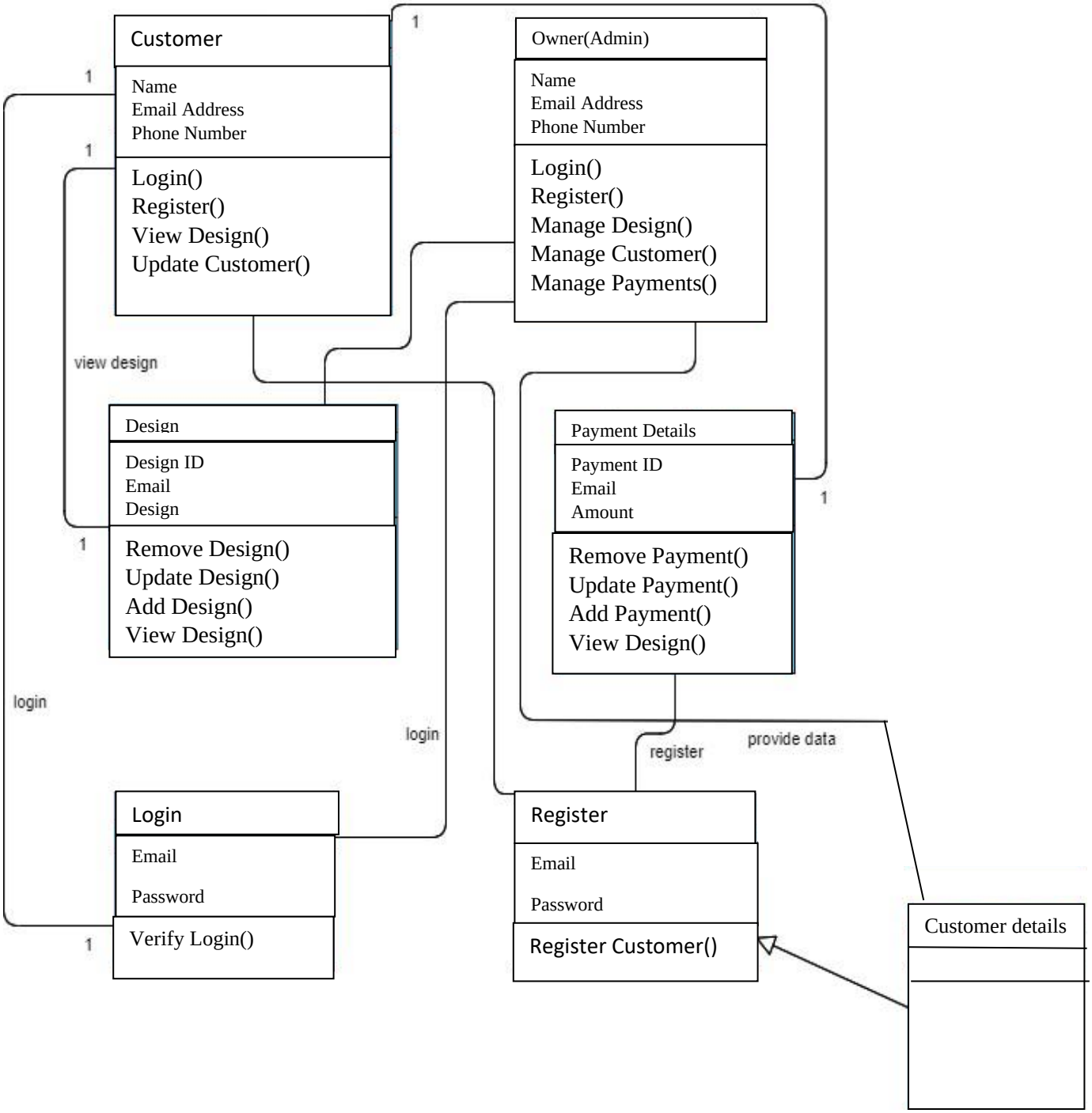


Figure 6 3.2.3(Solution System Class Diagram)

3.2.4 Sequence Diagrams for Proposed System.

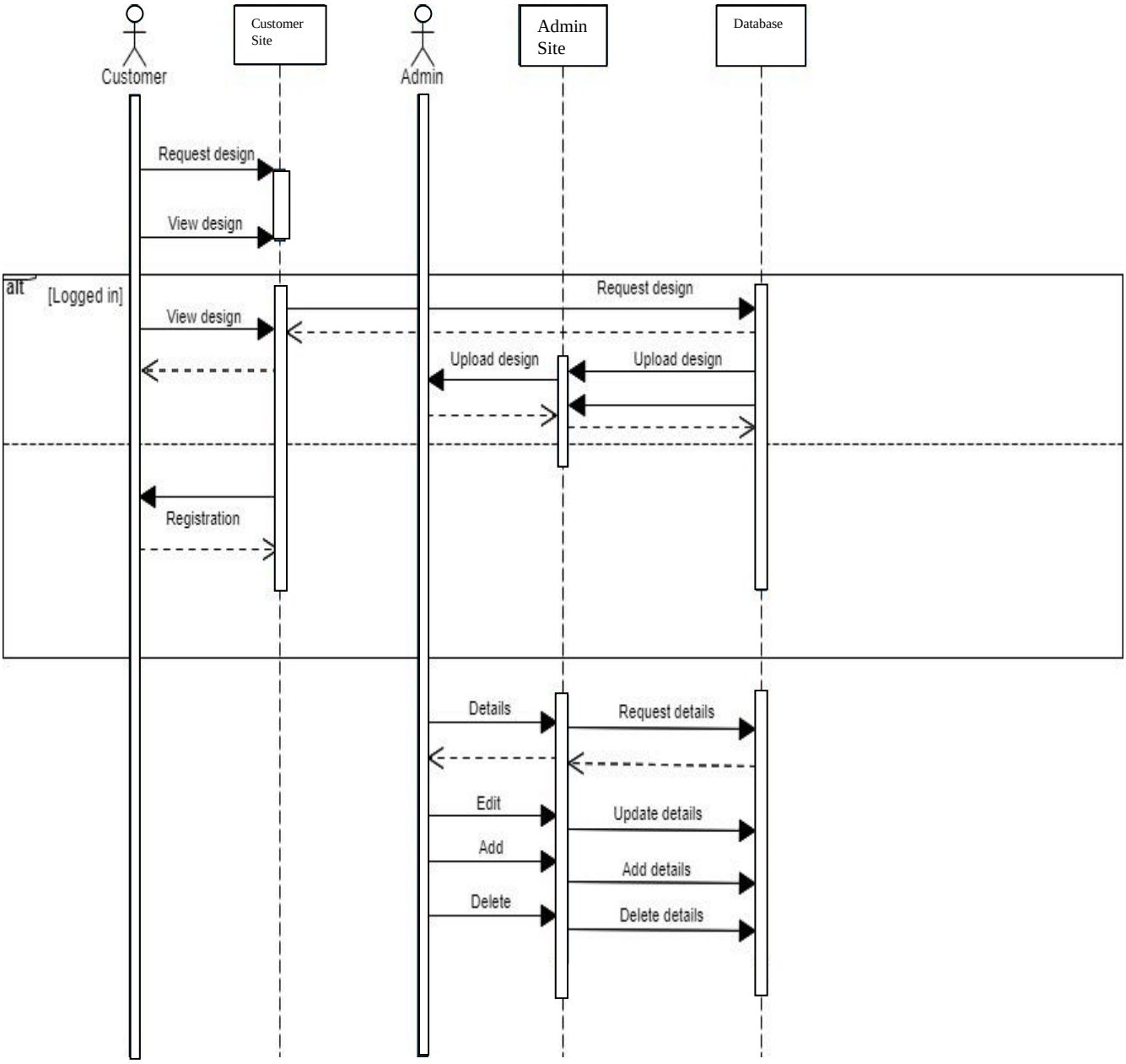


Figure 7 3.2.4(Solution System Sequence Diagram)

3.2.5 DFD diagram - context level diagram

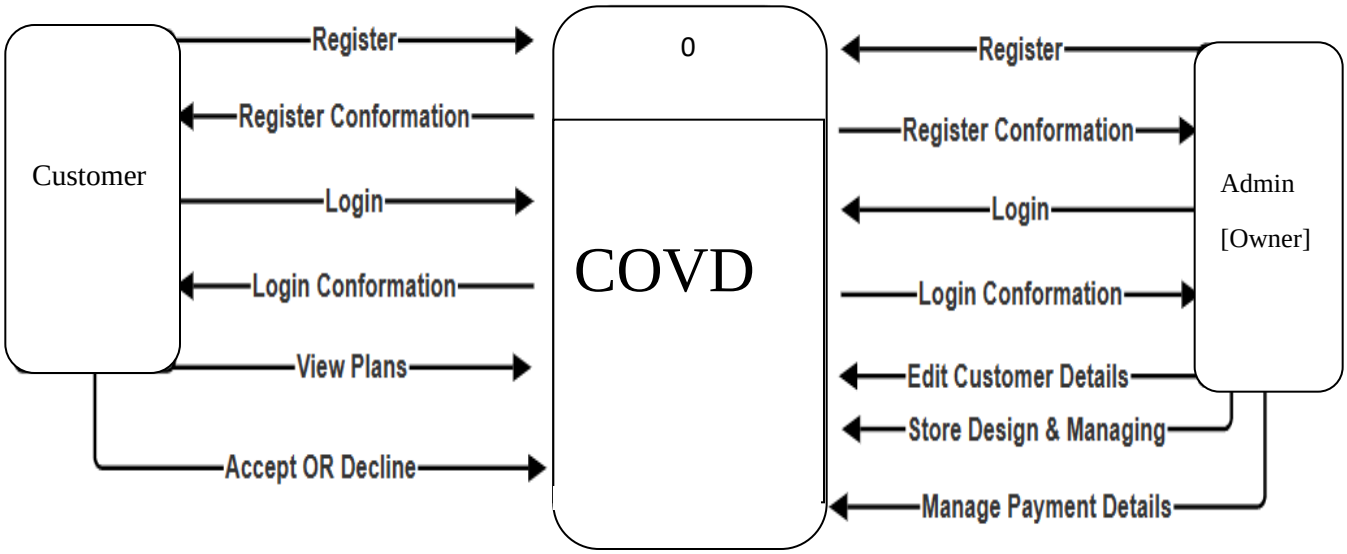


Figure 8 3.2.5 (DFD diagram - context level diagram)

3.2.6 DFD diagram - level 1 diagram

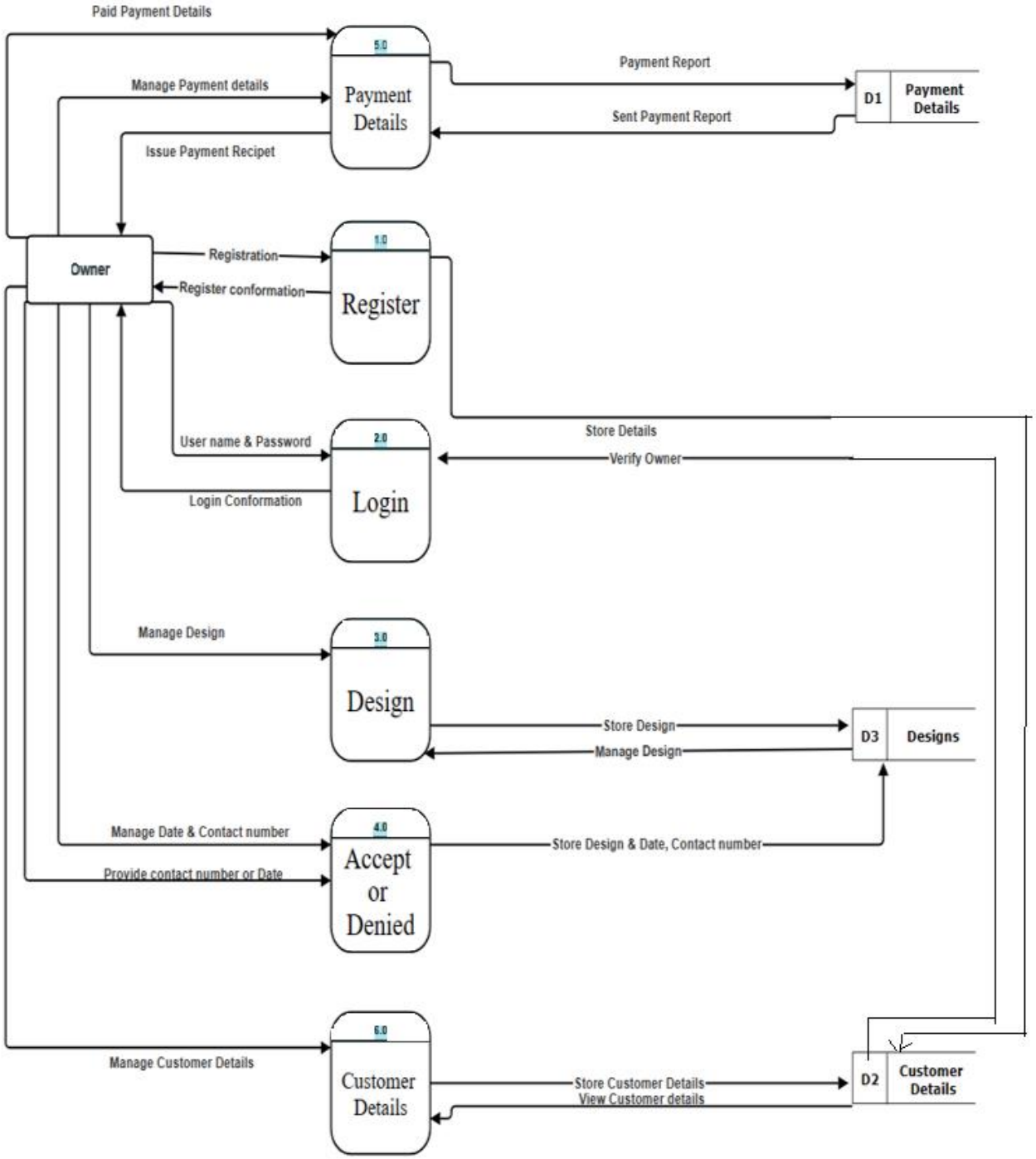


Figure 9 3.2.6 (DFD diagram - level 1 diagram)

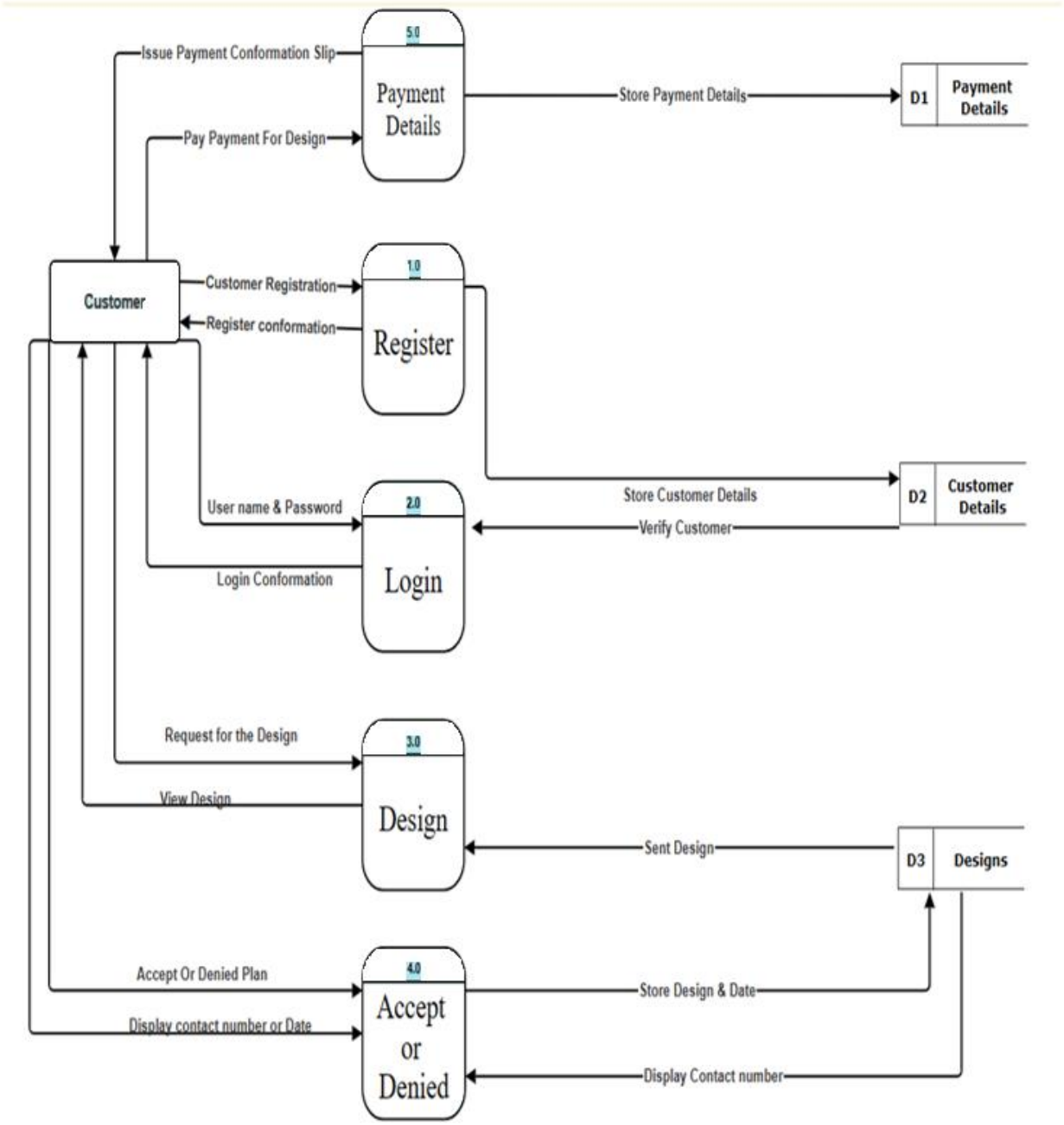


Figure 10 3.2.6 (DFD diagram - level 1 diagram)

3.2 ER Diagram of the Proposed System.

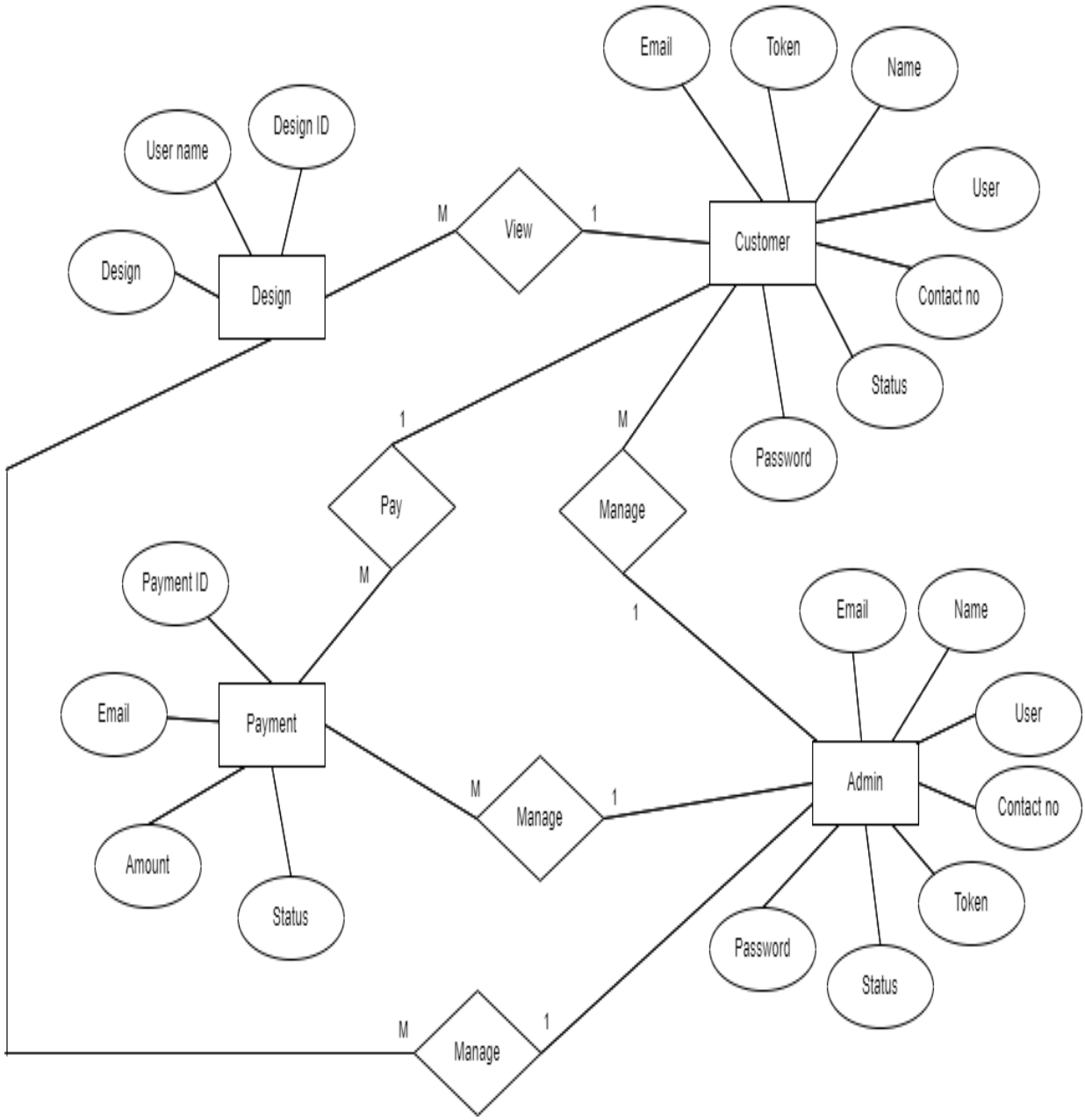


Figure 11 3.2 (ER Diagram of the Proposed System.)

ER MAPING

Admin

Email	Name	User	Contact no	Token	Status	Password

Customer

Email	Name	User	Contact no	Token	Status	Password

Design

Design_id	Email	Design

Payment

Payment_id	Email	Payment Amount	Status

CHAPTER 4

SOLUTION DESIGN

4.1 Interface Design

Interface ID	: 01
Interface Name	: Index.html
Interface Description	: Landing Page of the Website
Interface Design	:

Figure 12 4.1.1(Landing Page of the Website)

Interface ID : 02

Interface Name : index.html

Interface Description : Landing page Company Details

Interface Design :

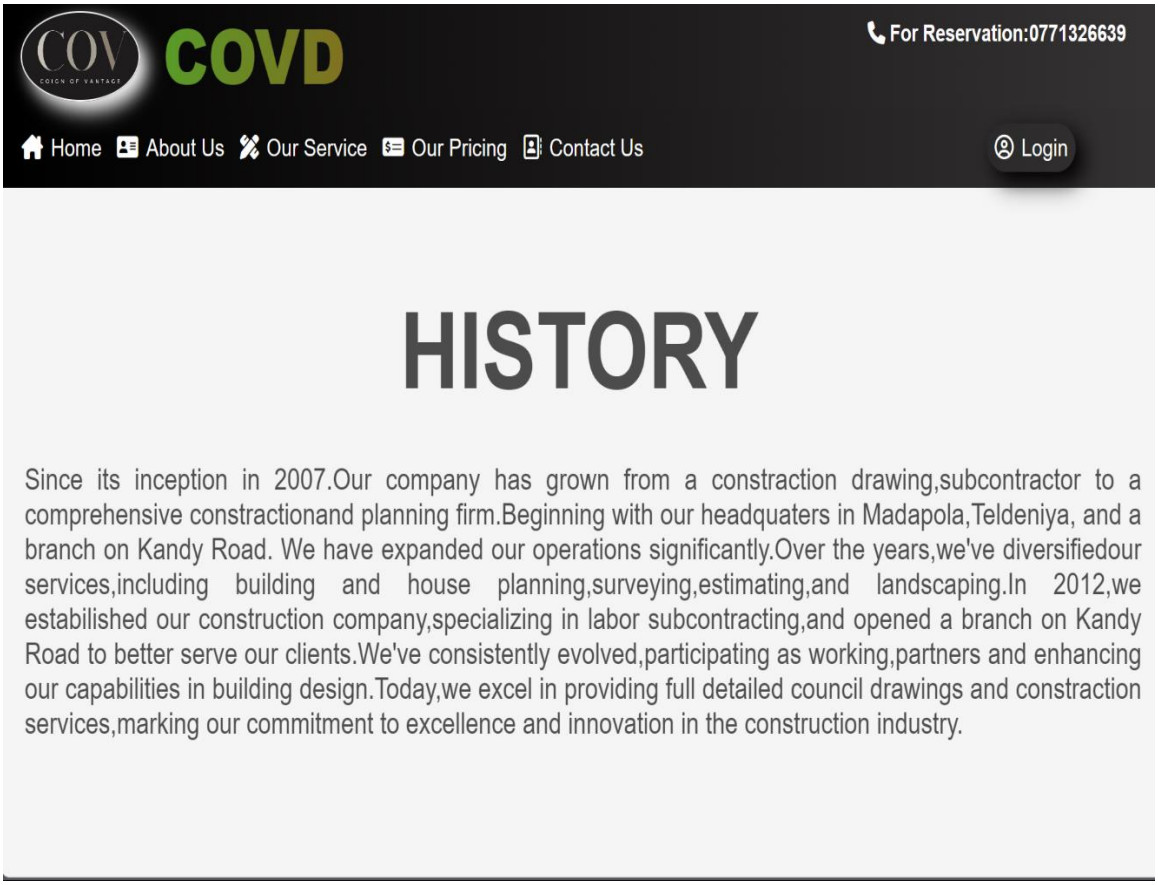


Figure 13 4.1.2(Landing page Company Details)

Interface ID : 03

Interface Name : index.html

Interface Description : Company Providing service details.

Interface Design :

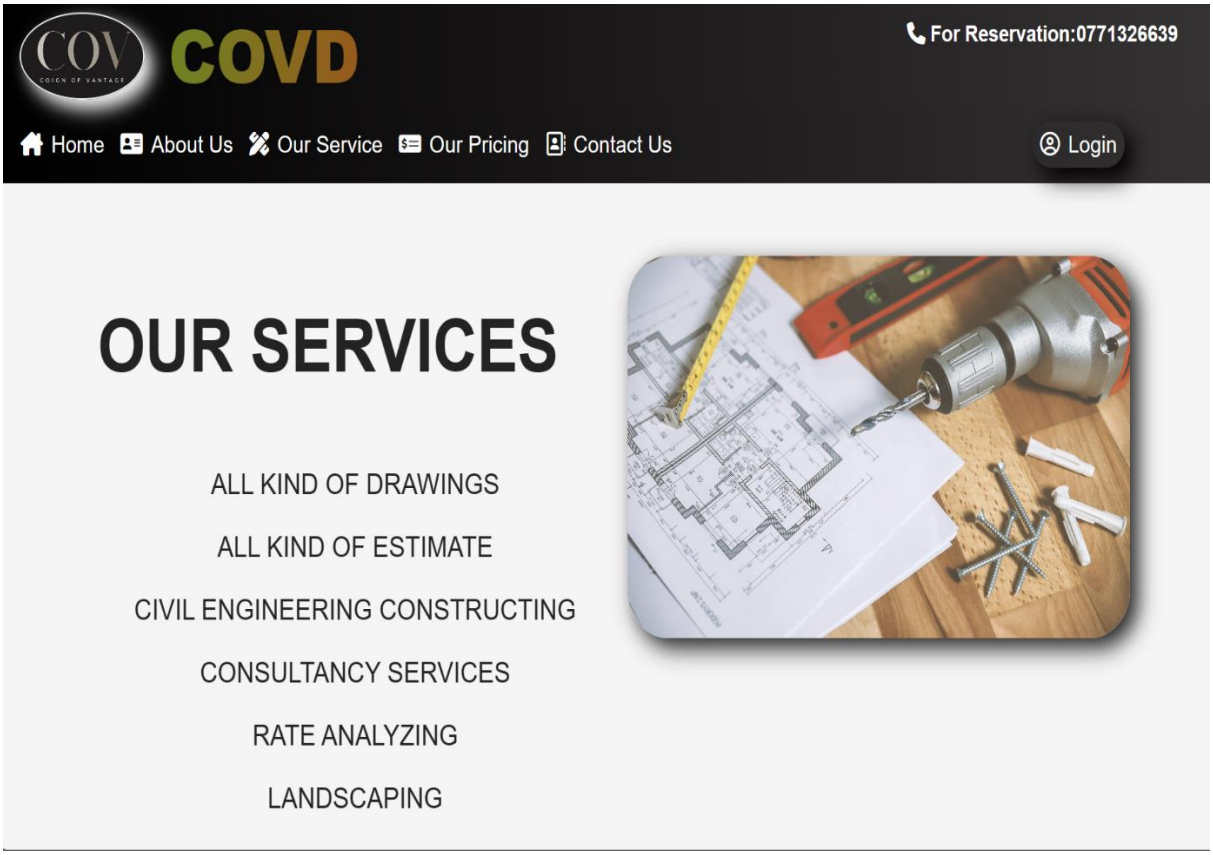


Figure 14 4.1.3(Company Providing service details.)

Interface ID : 04

Interface Name : index.html

Interface Description : Price for the work given by Company.

Interface Design :

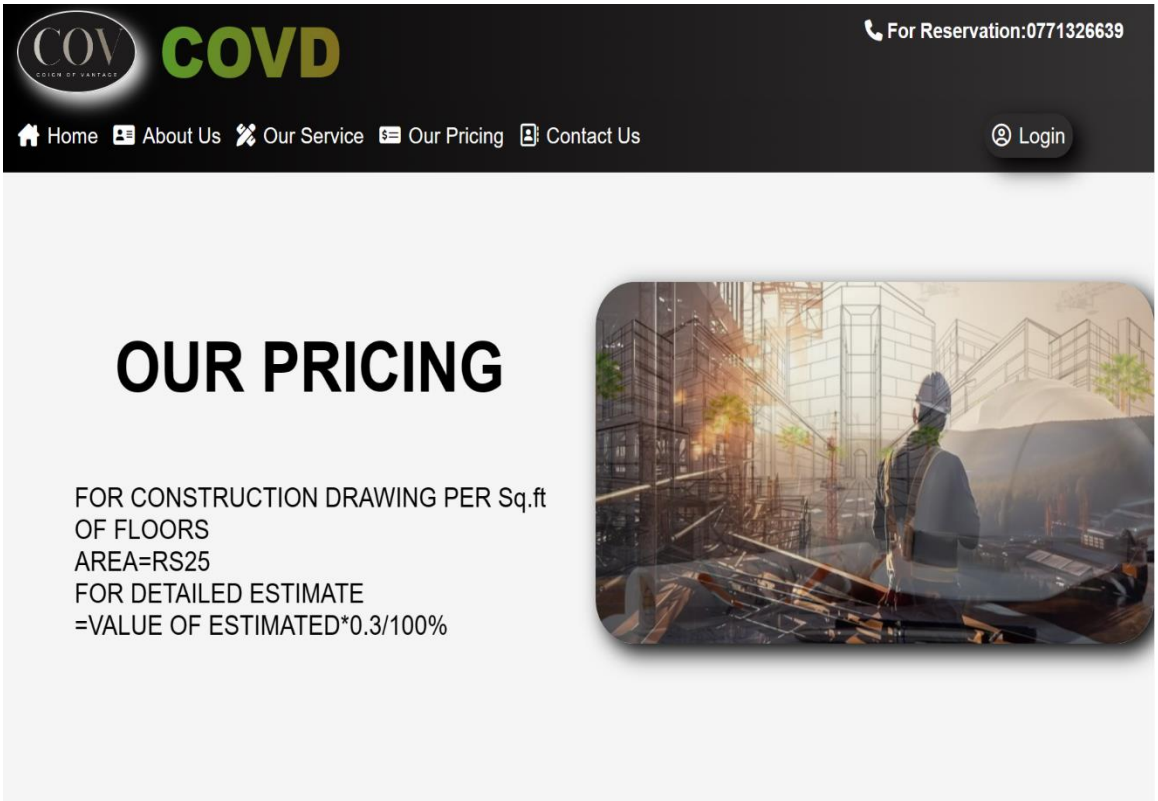


Figure 15 4.1.4(Price for the work given by Company.)

Interface ID : 05

Interface Name : index.html

Interface Description : Display the contact details to communicate with company.

Interface Design :

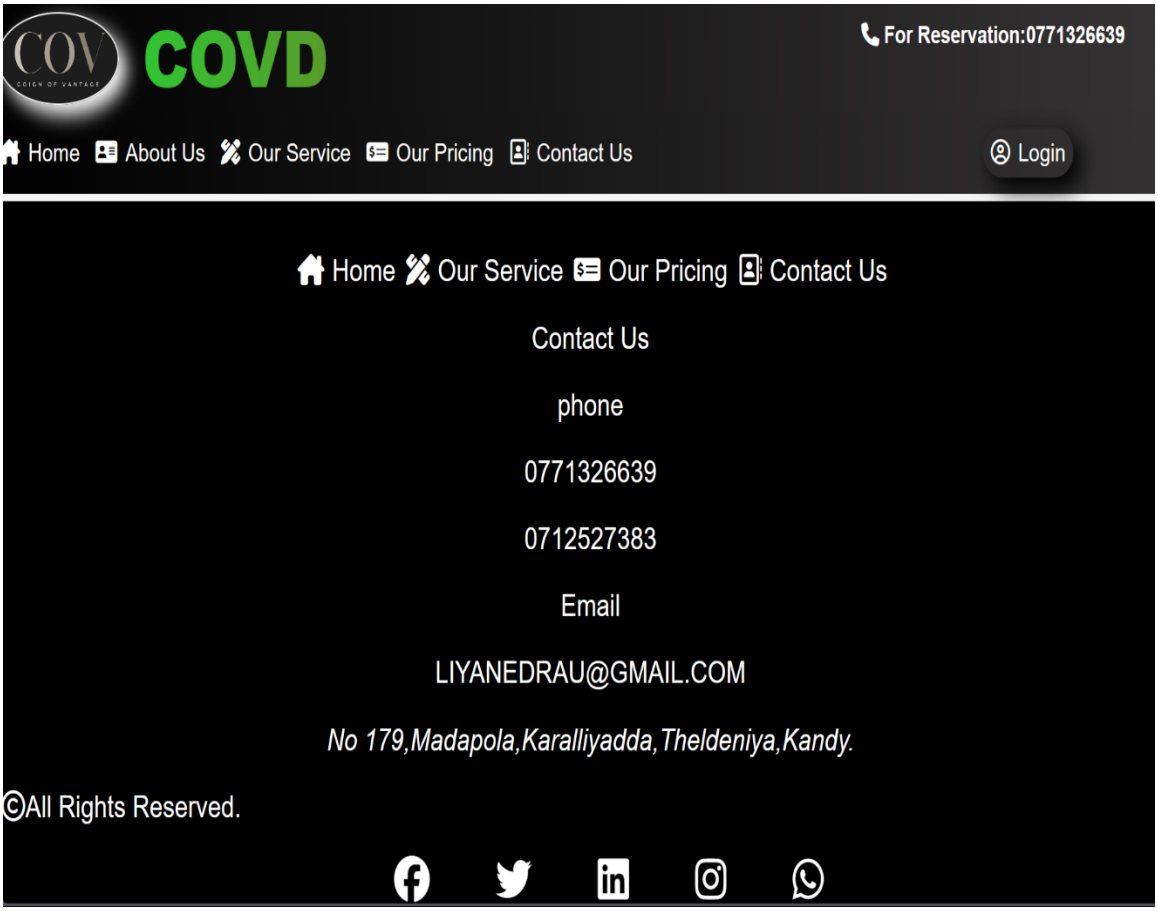


Figure 16 4.1.5 (Display the contact details to communicate with company.)

```
Start

// Single Landing page of the COVD company website

//Inputs: button click events    //Output: Load and display the details

Start

If click the Home button

        Load the Home container details landing page.

End if

If click the About us button

        Load the About us container details in the landing page.

End if

If click the services button

        Load the services container details landing page.

End if

If click the pricing button

        Load the pricing container details landing page

End if

If click the contact us button

        Load the contact us container details landing page

End if

If click the login button

        Load the login  page (indexlogin.php)

End if

END
```

Interface ID : 06

Interface Name : indexlogin.php

Interface Description : User Or Admin login form

Interface Design :

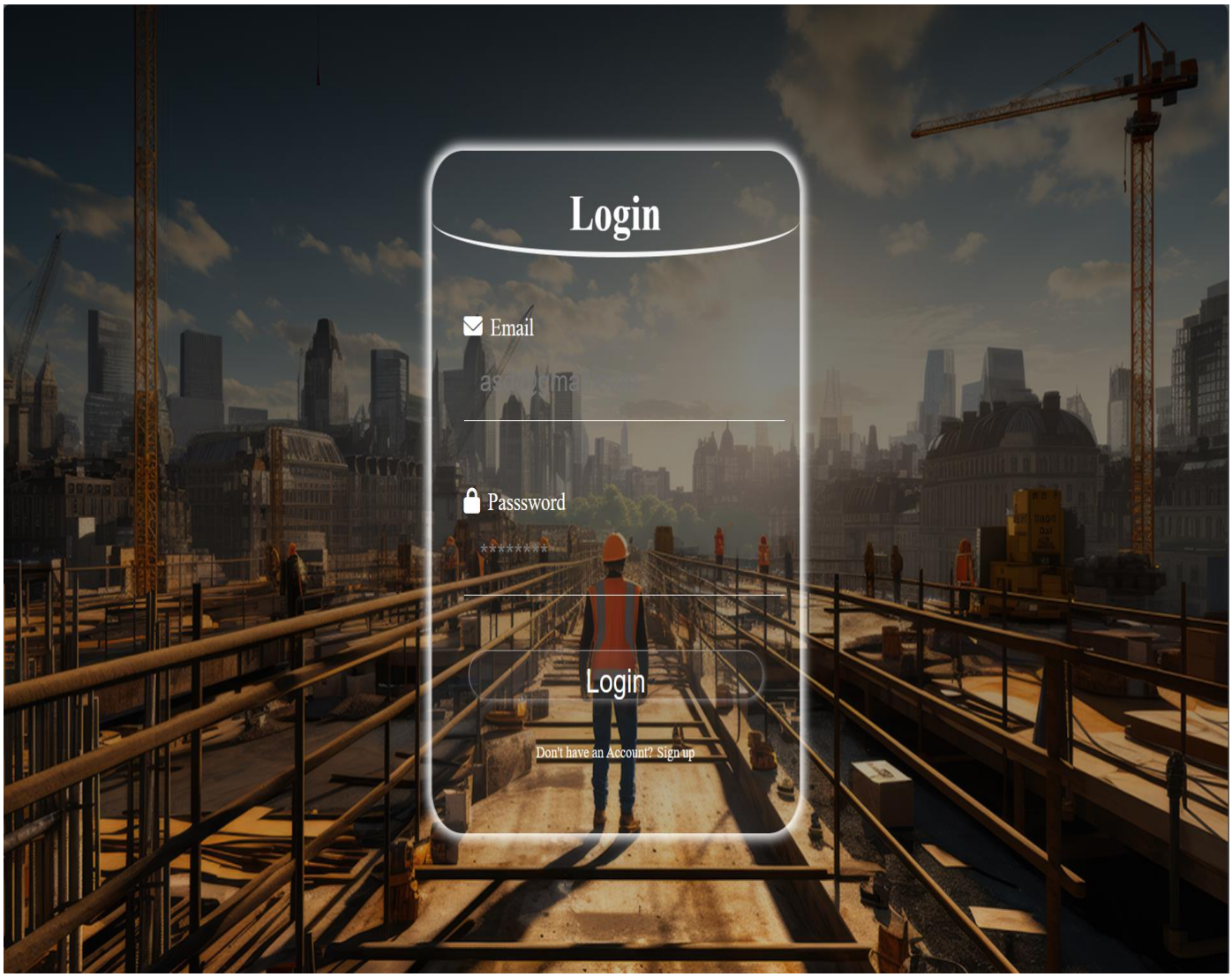


Figure 17 4.1.6 (User or Admin login form)

```
Start

// Login page for user and admin check with type

//Inputs: Email, password.

//Output: login to the system

Start

if click the login button

                    if(email && pass correct)

                       if(check user type admin)

                              load the admin page.

                       else

                              load the user page.

                       end if

                    else

                       show Error Messages

                    end if

End if

END
```

Interface ID : 07

Interface Name : indexlogin.php

Interface Description : User Registration form

Interface Design :

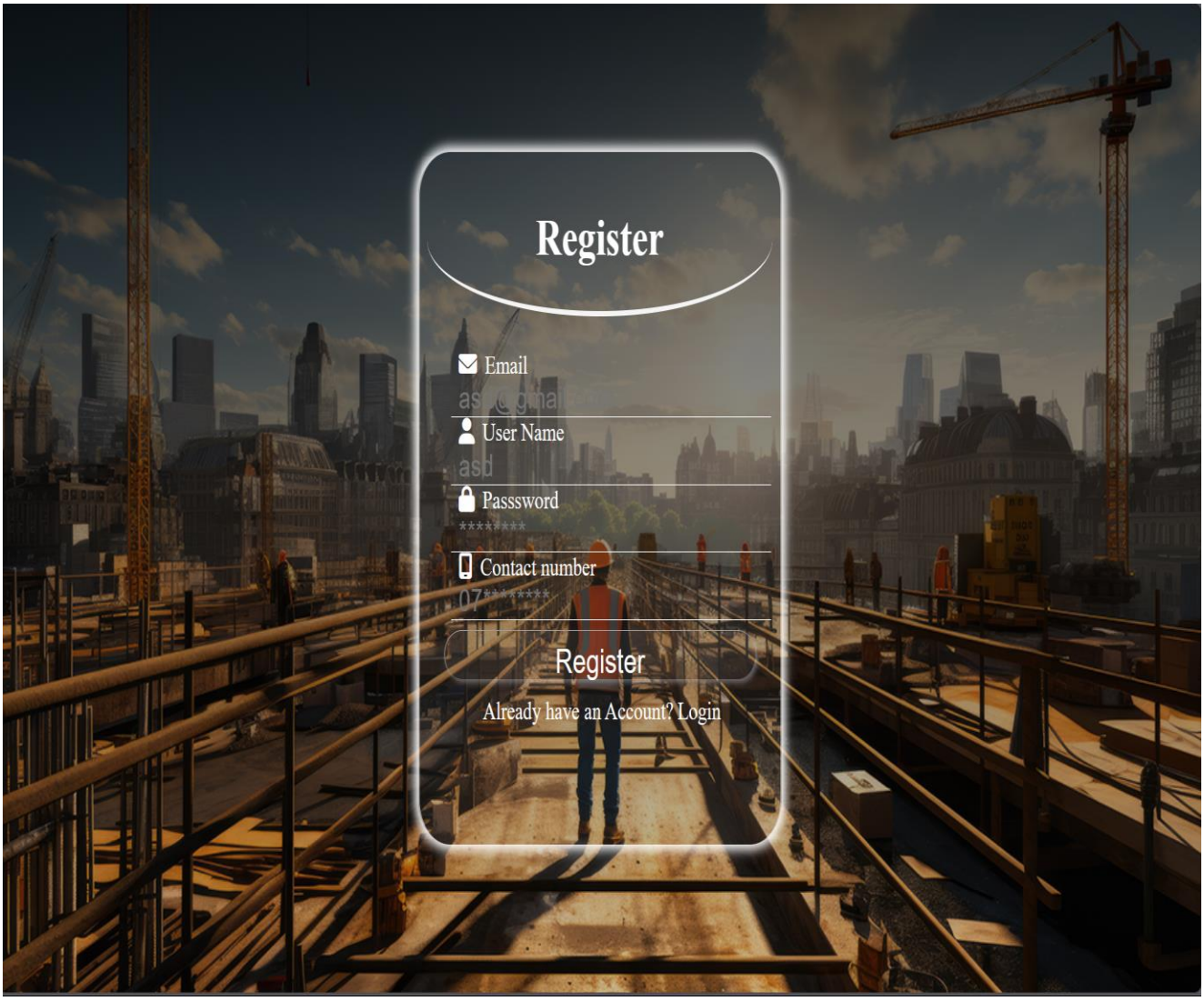


Figure 18 4.1.7 (User Registration form)

```
Start

// Register page for user

//Inputs: Email, password, name, contact number.

//Output: Register to the system

Start

if click the Register button

                    if(email && pass correct && name && contact number filled )

                       sent verification message to email.

                       Add details to database.

                    else

                       show Error Messages

                    end if

End if

END
```

Interface ID : 08

Interface Name : Admindash.html

Interface Description : Admin dashboard

Interface Design :

Figure 19 4.1.8(Admin dashboard)

Interface ID : 09

Interface Name : Admindash.html

Interface Description : Admin Menu bar

Interface Design :

Figure 20 4.1.9 (Admin Menu bar)

```
Start

// AdminHome page

//Inputs: button click event.

//Output: menu bar with buttons

Start

if click the menu button

                    display the menu

End if

if click the Dashboard button

                    display the Admin Home page

End if

if click the profile button

                    display the Admin Profile page

End if

if click the Design button

                    display the Admin Design page

End if

if click the payment button

                    display the Admin Payment page

End if

if click the Customer button

                    display the admin customer page

End if
```

if click the contactus button

display the AdminConatact page.

End if

if click the logout button

display the login page

End if

END

Interface ID : 10

Interface Name : Adminprofile.php

Interface Description : Admin Profile Details

Interface Design :

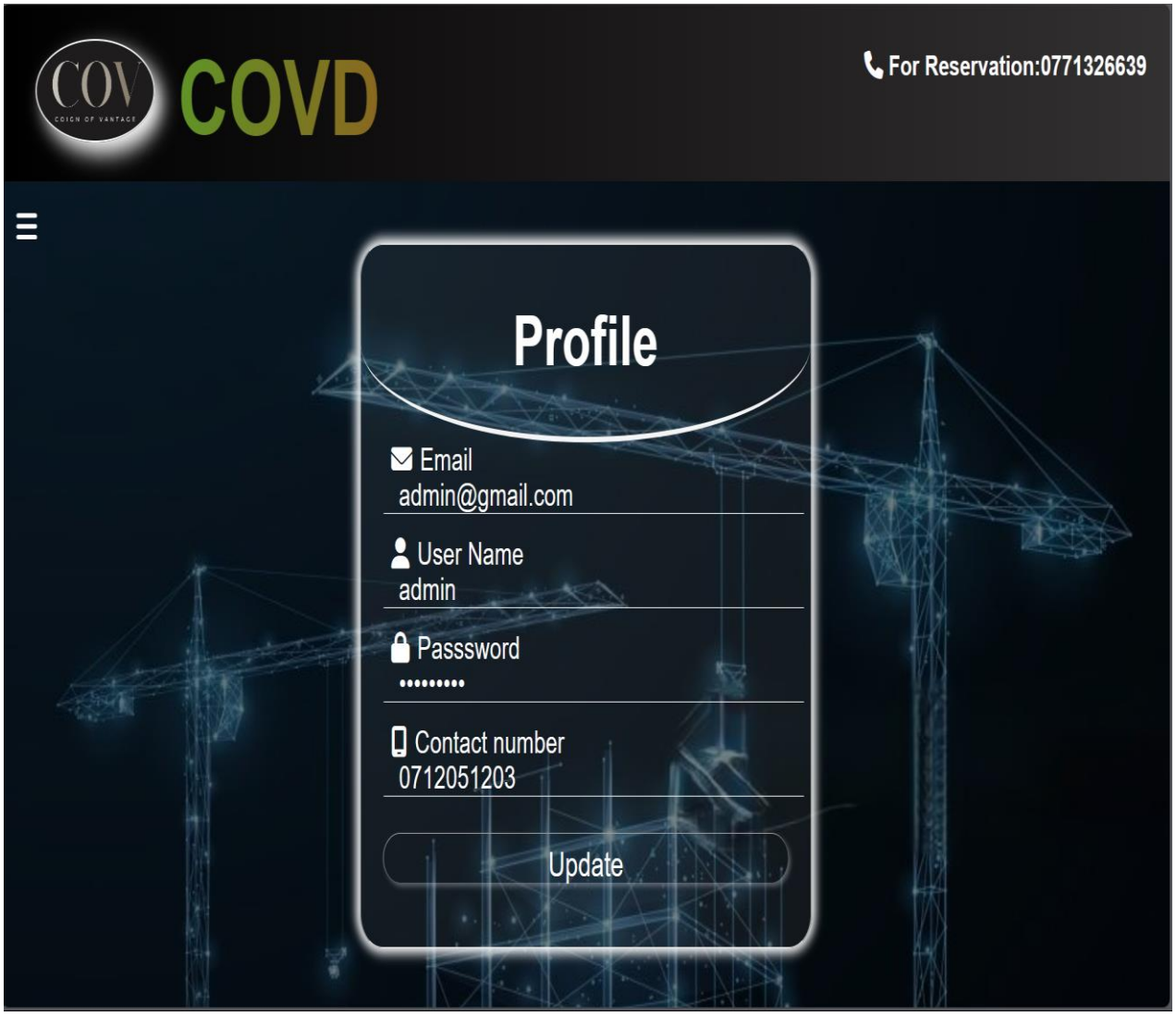


Figure 21 4.1.10 (Admin Profile Details)

```
Start

// Admin Home profile page

//Inputs: email, name, pass, contact no.

//Output: update the details

Start

if click the update button

                    if(email, name, pass, contact no is correct)

                       update database

                    else

                       display error message

                    end if

End if

END
```

Interface ID : 11

Interface Name : Admindesign.php

Interface Description : Admin Maintain the Designs

Interface Design :

Figure 22 4.1.11 (Admin Maintain the Designs)

```
Start
// AdminHome design page
//Inputs: email, image, design id.
//Output: add/update/delete databse
Start
if click the add button
                    if(email, image, design id is correct)
                       Add design to database
                    else
                       display error message
                    end if
End if
if click the update button
                    if(email, image, design id is correct)
                       update design to database
                    else
                       display error message
                    end if
End if
if click the delete button
                    if(email, image, design id is correct)
                       delete design to database
                    else
```

```
                    display error message
                end if
End if
if click the view button
                refresh the page
End if
END
```

Interface ID : 12

Interface Name : Adminpayment.php

Interface Description : Admin maintaining the payment details.

Interface Design :

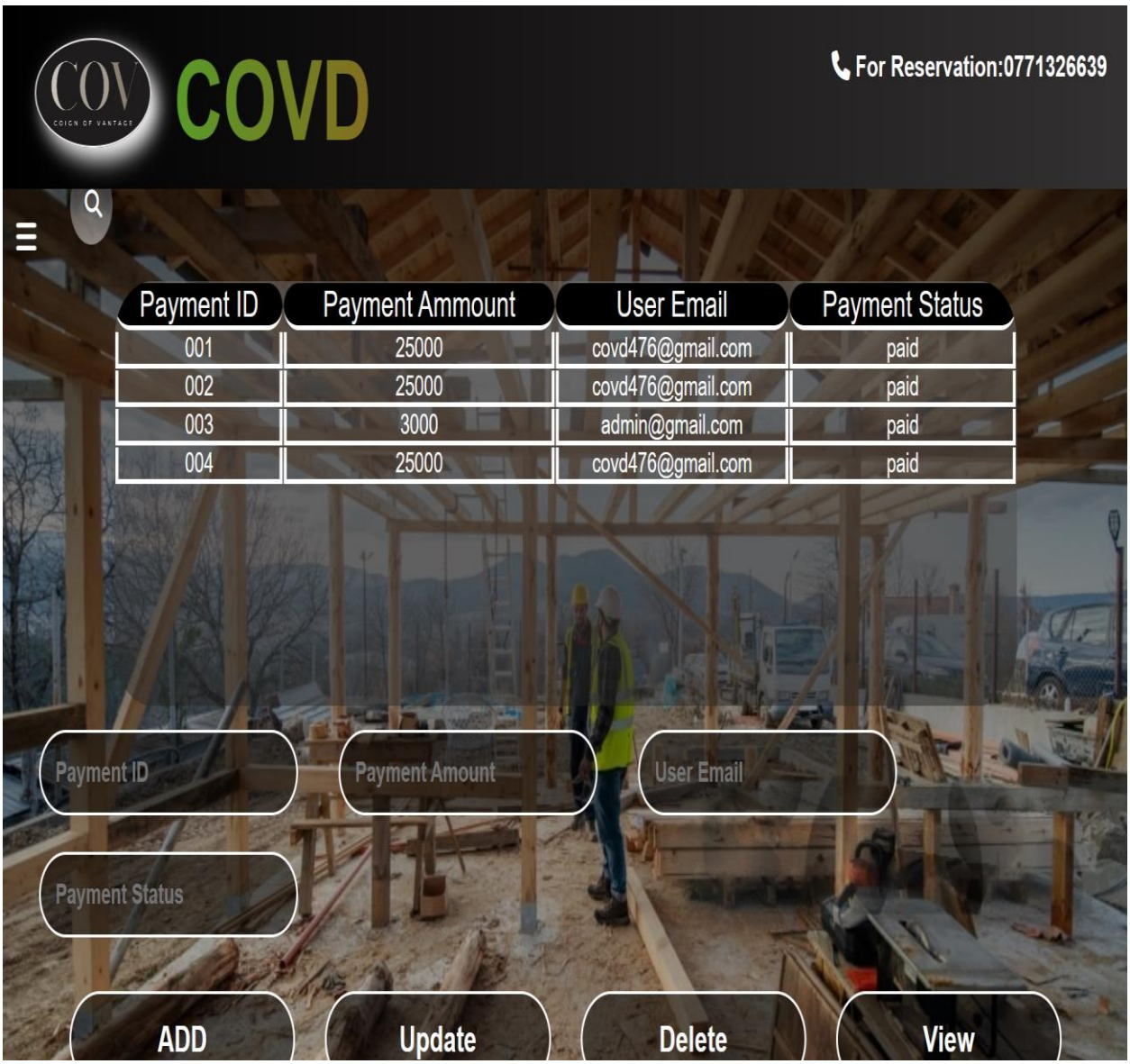


Figure 23 4.1.12(Admin maintaining the payment details.)

```
Start
// AdminHome Payment page
//Inputs: payemntid, amount, email, status.
//Output: add/update/delete databse
Start
if click the add button
                    if(payemntid, amount, email, status)
                       Add payment to database
                    else
                       display error message
                    end if
End if
if click the update button
                    if(payemntid, amount, email, status)
                       update payment to database
                    else
                       display error message
                    end if
End if
if click the delete button
                    if(payemntid, amount, email, status)
                       delete payment to database
                    else
```

```
                    display error message
                end if
End if
if click the view button
                refresh the page
End if
END
```

Interface ID : 13

Interface Name : Admincustomer.php

Interface Description : Admin Maintain the Customer Details

Interface Design :

Figure 24 4.1.13(Admin Maintain the Customer Details)

```
Start
// AdminHome Customer page
//Inputs: name, pass, email, contactno.
//Output: add/update/delete databse
Start
if click the add button
                    if(name, pass, email, contactno.)
                       Add Customer to database
                    else
                       display error message
                    end if
End if
if click the update button
                    if(name, pass, email, contactno.)
                       update Customer to database
                    else
                       display error message
                    end if
End if
if click the delete button
                    if(name, pass, email, contactno.)
                       delete Customer to database
                    else
```

```
                    display error message
                end if
End if
if click the view button
                refresh the page
End if
END
```

Interface ID : 14

Interface Name : Admincontactus.html

Interface Description : Admin can Ensure the contact details

Interface Design :

Figure 25 4.1.14(Admin can Ensure the contact details)

Interface ID : 15

Interface Name : CustomerHome.html

Interface Description : Customer Dashboard

Interface Design :

Figure 26 4.1.15(Customer Dashboard)

Interface ID : 16

Interface Name : Customerdash.html

Interface Description : Customer menu bar

Interface Design :

Figure 27 4.1.16(Customer menu bar)

Interface ID : 17

Interface Name : Customerprofile.php

Interface Description : Customer can manage the personal details.

Interface Design :

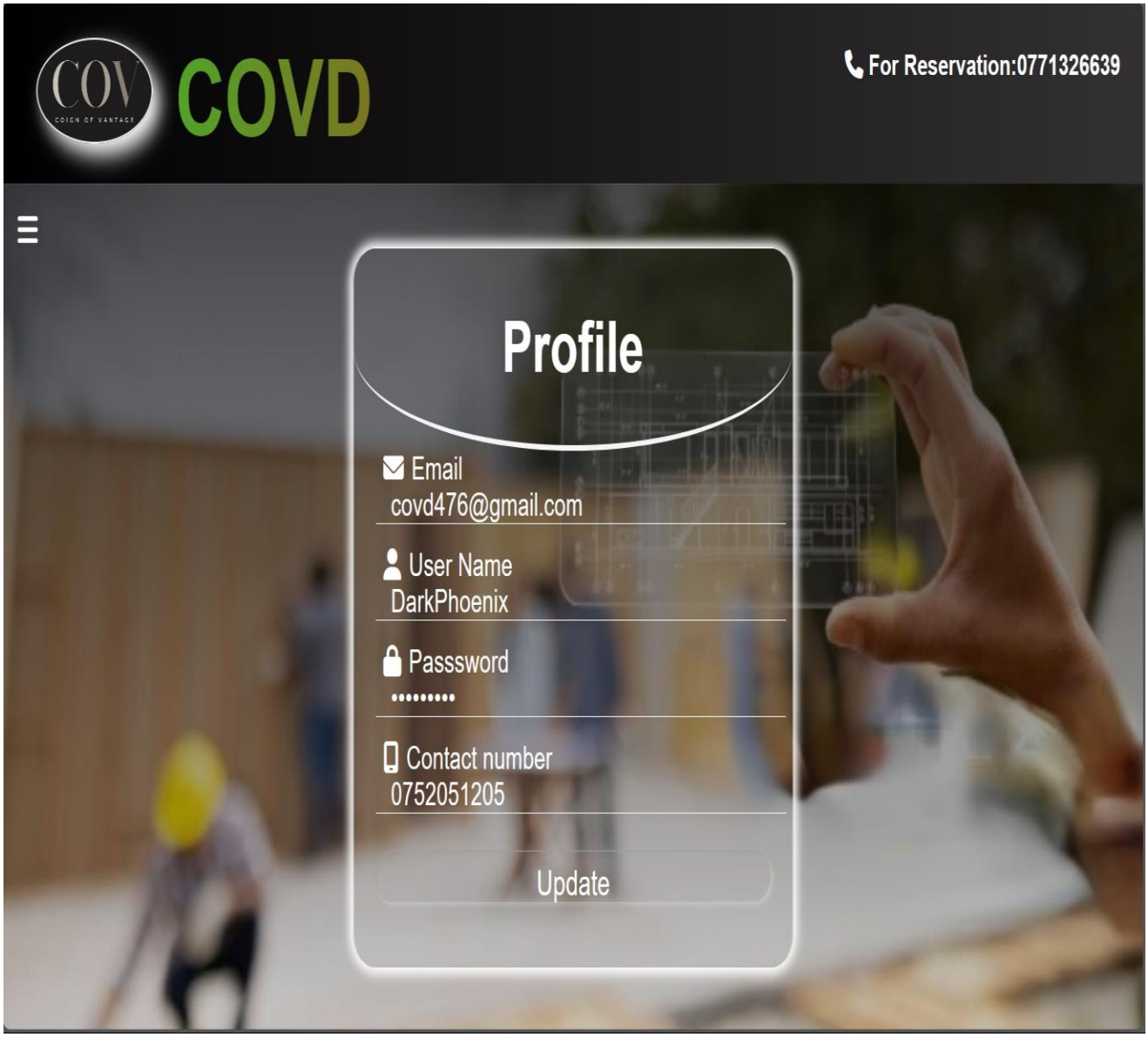


Figure 28 4.1.17(Customer can manage the personal details.)

Interface ID : 18

Interface Name : Customerdesign.php

Interface Description : Customer can view their designs.

Interface Design :

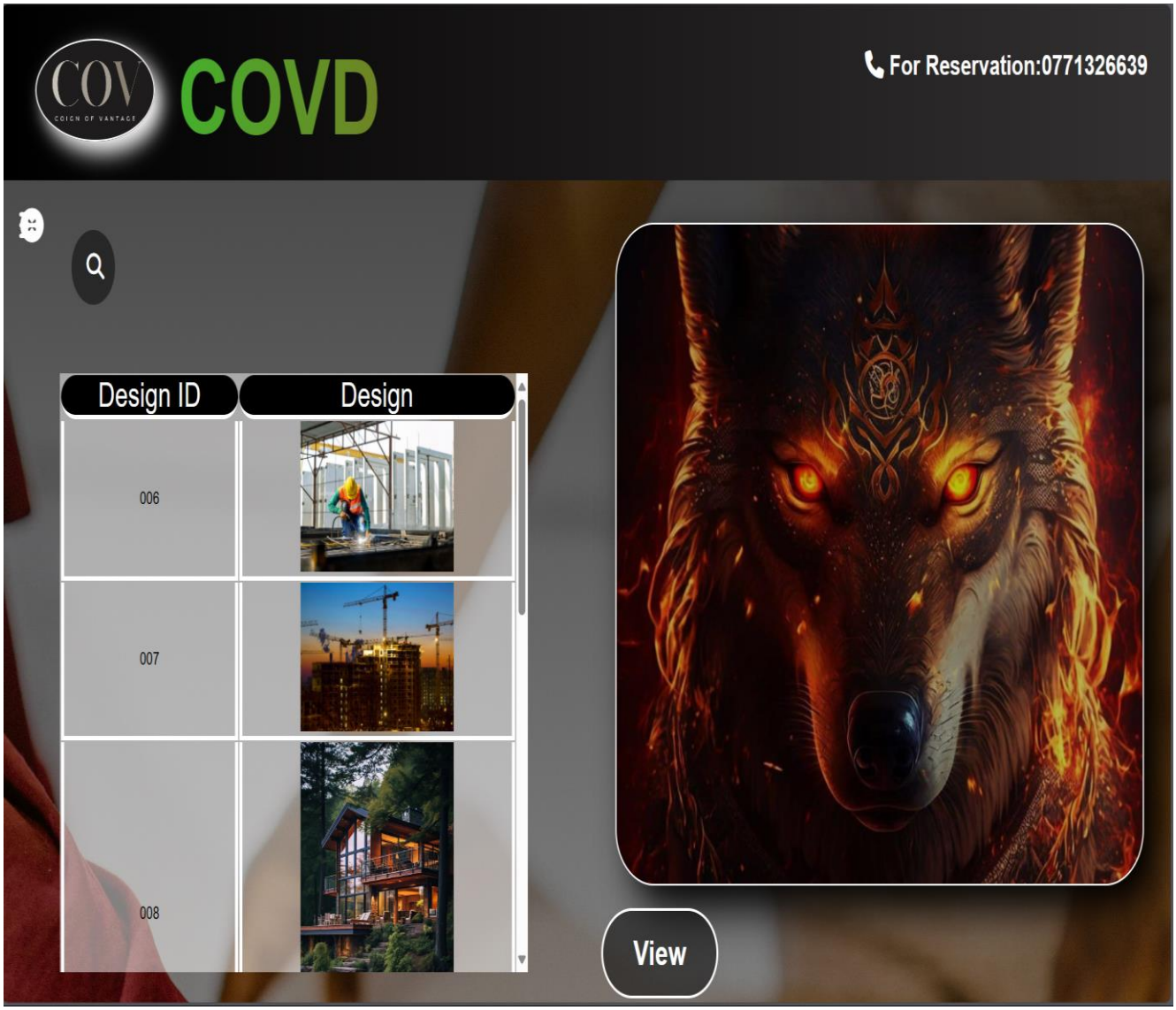


Figure 29 4.1.18(Customer can view their designs.)

Interface ID : 19

Interface Name : Customerpayment.php

Interface Description : Customer can view their payment details.

Interface Design :

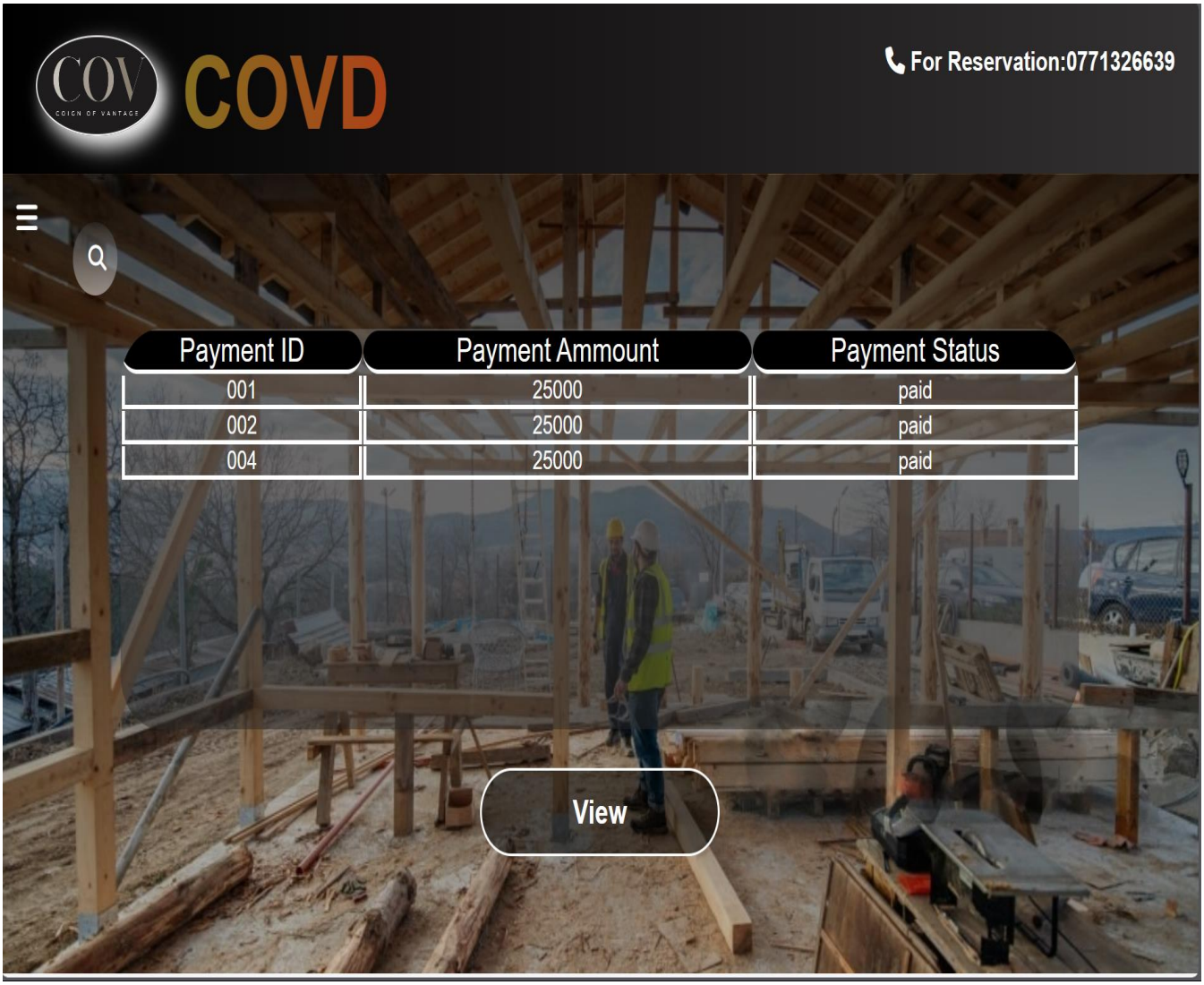


Figure 30 4.1.19(Customer can view their payment details.)

Interface ID : 20

Interface Name : Customercontactus.html

Interface Description : Customer contact company members through details

Interface Design :

Figure 31 4.1.20(Customer contact company members through details)

Interface ID : 21

Interface Name : Verify_email.html

Interface Description : Sent an Email verification to the entered email in register.

Interface Design :

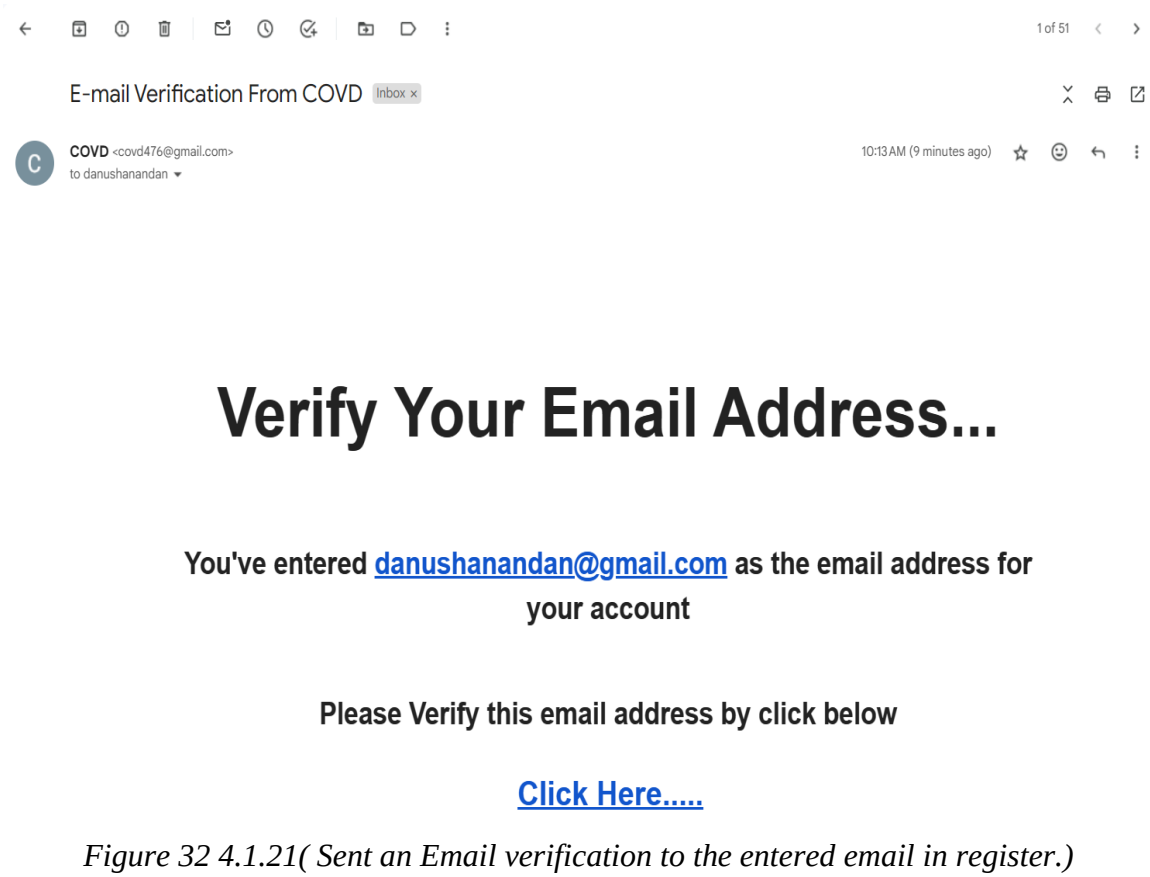


Figure 32 4.1.21(Sent an Email verification to the entered email in register.)

Email Verification Source code

File name:register.php

```
<?php

include ("dbcon.php");

//register

use PHPMailer\PHPMailer\PHPMailer;

use PHPMailer\PHPMailer\Exception;

require '../Web/phpmailer/src/Exception.php';

require '../Web/phpmailer/src/PHPMailer.php';

require '../Web/phpmailer/src/SMTP.php';

function sendemail_verify($email, $verify_token)

{

    // require '../web/phpmailer/PHPMailerAutoload.php';

    $mail = new PHPMailer(true);

    // $mail->SMTPDebug = 4;                        // Enable verbose debug output

    $mail->isSMTP();                             // Set mailer to use SMTP

    $mail->Host = 'smtp.gmail.com';  // Specify main and backup SMTP servers

    $mail->SMTPAuth = true;                      // Enable SMTP authentication

    $mail->Username = 'covd476@gmail.com';               // SMTP username

    $mail->Password = 'xnndbhuugimxyxrk';                        // SMTP password

     $mail->SMTPSecure = 'tls';                          // Enable TLS encryption, `ssl` also
accepted

    $mail->Port = 587;                           // TCP port to connect to
```

```
$mail->setFrom('covd476@gmail.com', 'COVD');

$mail->addAddress($email);     // Add a recipient

$mail->isHTML(true);                                // Set email format to HTML

// $mail->addAttachment('Emailverify.jpeg');    //Optional name

$mail->Subject = 'E-mail Verification From COVD';

// $email_template = "

// <img style='max: width 150px; padding:20px' src='Emailverify.jpeg' alt='image'>

// <h1><b>Verify Your Email Address</b></h1>

// <h3>You've entered $email as the email address for your account.

// Please verify this email address by click below link</h3>

   //  <a  href='http://localhost/web1/web/verify-email.php?token=$verify_token'>Click HERE.....</a>;

// ";

$email_template = "

<body style='margin: 0; padding: 0;border: 0;'>

<div class='main'>

    <div class='contain' style='display: grid;justify-content: center; padding: 10vh;'>

        <div id='pagebody'><img src=''></div>

            <div  style='font-size:  2vw;  text-align:  center;'><h1><b>Verify  Your  Email Address...</b></h1></div>

              <div  style='font-size:  1.5vw;  text-align:  center'><p><h3>You've  entered <b>$email</b> as the email address for your account</h3></p></div>

        <div style='font-size: 1.5vw; text-align: center '><h3><p>Please Verify this email address by click below</p></h3></div>
```

```
            <div><a href='http://localhost/web1/web/verify-email.php?token=$verify_token"
style='font-size: 2vw; margin-left: 40%;'><b>Click Here.....</b></a></div>
        </div>
    </div>
    </body>
    ";
       //   $mail->addEmbeddedImage(dirname(__FILE__).'/Image/Emailverify.jpeg','Email
Verify');
    $mail->Body = $email_template;
    // $mail->AltBody = 'This is the body in plain text for non-HTML mail clients';
    // $mail->send();
    if (!$mail->send()) {
        echo 'Message could not be sent.';
        echo 'Mailer Error: ' . $mail->ErrorInfo;
    } else {
        echo '<script>
        window.location.href ="index.html";
        alert("Message has been sent");
   </script>';
    }
}
if (isset($_POST["registerbutton"])) {
    //geting the input values using post method and store in a varibles
```

```
$email = $_POST['reemailtext'];

$name1 = $_POST['Nametext'];

$password = $_POST['repasswordtext'];

$contact = $_POST['contacttext'];

$verify_token = md5(rand());

$status = 0;

$user = "user";

//check the email already exist

$checkmail = "SELECT * from Customer_details where email='$email'";

//Execute query

$result1 = mysqli_query($con, $checkmail);

//checking the match

if (mysqli_num_rows($result1) > 0) {

    echo '<script>

    window.location.href ="index.html";

    alert("Email already taken try new");

</script>';

} else {

    //creating the insert query

    $sql = "INSERT INTO Customer_details(email,name,pass,contact,status,token,user)
values('$email','$name1','$password','$contact','$status','$verify_token','$user')";

    //checking the values added or not in database

    if (mysqli_query($con, $sql)) {
```

```
            sendemail_verify("$email", "$verify_token");
            echo '<script>
                window.location.href ="index.html";
                alert("Successfully ADDED...Verify Your Email..");
             </script>';
        } else {
            echo "Registration failed..Try again!!!" . $sql . "<br>" . mysqli_error($con);
        }
    }
    mysqli_close($con);
}
```

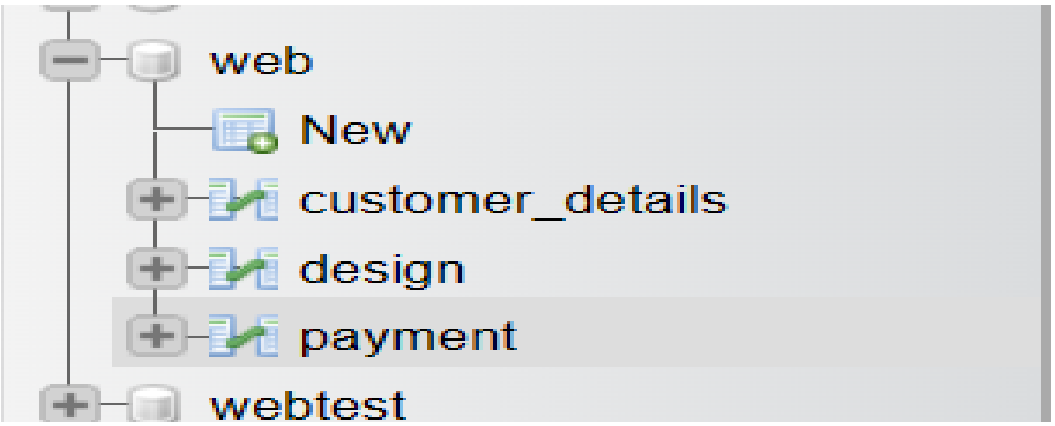
file name:verifyemail.php

```
<?php
include ("dbcon.php");
if (isset($_GET["token"])) {
    //get token from the link
    $token = $_GET["token"];
    //select the token same in the table
    $query = "SELECT token From Customer_details where token='$token'";
    //executing query
    $result = mysqli_query($con, $query);
    //check the result
    if (mysqli_num_rows($result) > 0) {
```

```
        //update the status fiel to activate the account
        $query1 = "UPDATE Customer_details SET status=1 Where token='$token'";
        mysqli_query($con, $query1);
        echo '<script>
        window.location.href ="index.html";
        alert("Verification Complete");
    </script>';
     } else {
        echo '<script>
        window.location.href ="index.html";
        alert("Verification Faild");
    </script>';
     }
} else {
     echo '<script>
        alert("Not Allowed");
    </script>';
}
?>
```

4.2 Database Table

Database Name : Web



Tables Name : 1.Customer_details(T1)

2.Design(T2)

3.Payment(T3)

	Table	Action						Rows	Type	Collation	Size	Overhead
☐	customer_details		Browse	Structure	Search	Insert	Empty	Drop	4	InnoDB	utf8mb4_general_ci	32.0 KiB	-
☐	design		Browse	Structure	Search	Insert	Empty	Drop	8	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	payment		Browse	Structure	Search	Insert	Empty	Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
	3 tables	Sum							16	InnoDB	utf8mb4_general_ci	64.0 KiB	0 B

Figure 33 4.2.4(Database Tables)

Table ID : T1

Table Name : customer_details

Table Description : Login and register details maintain of customer.

Table Organization : indexed.

Primary Key : Email

Column Name	Type
Email (PK)	varchar(100)
Name	varchar(100)
Pass	varchar(100)
Contact	varchar(100)
Status	Int(2)
Token	int(100)
user	varchar(100)

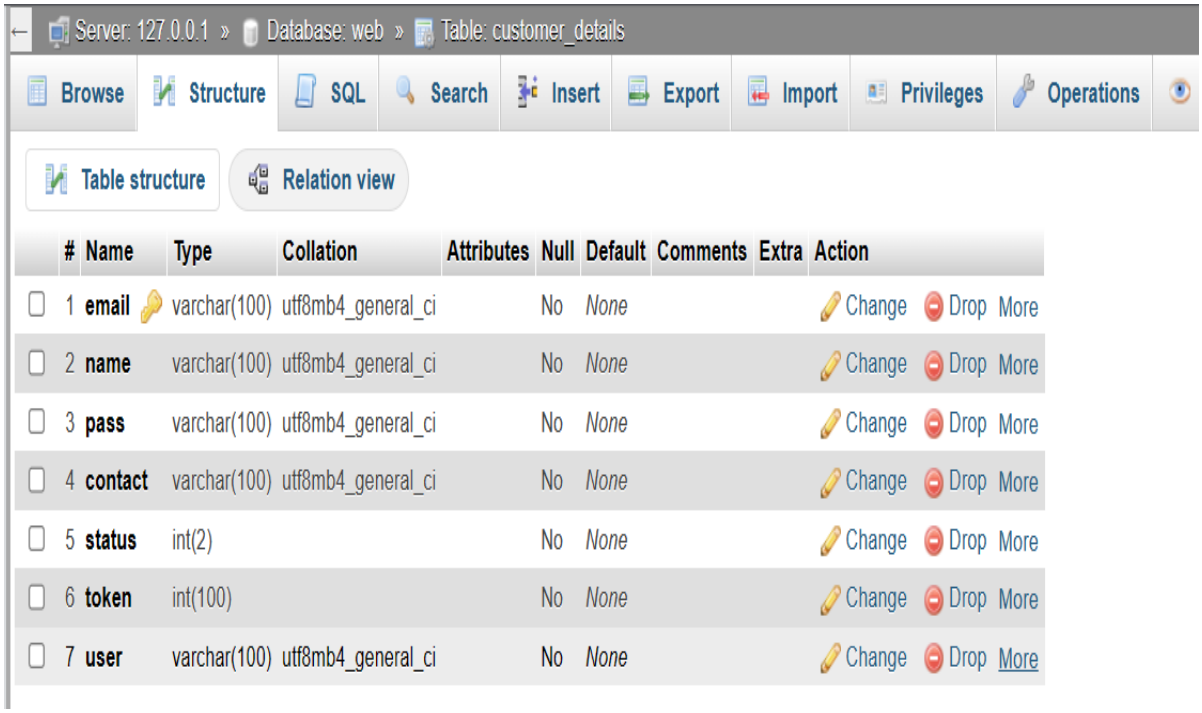


Figure 34 4.2.1(Login and register details maintain of customer.)

Table ID : T2

Table Name : design

Table Description : Store the design and maintaining.

Table Organization : indexed.

Primary Key : Design_id

Column Name	Type
Design_id (PK)	varchar(100)
User_email	varchar(100)
Design	varchar(1000)

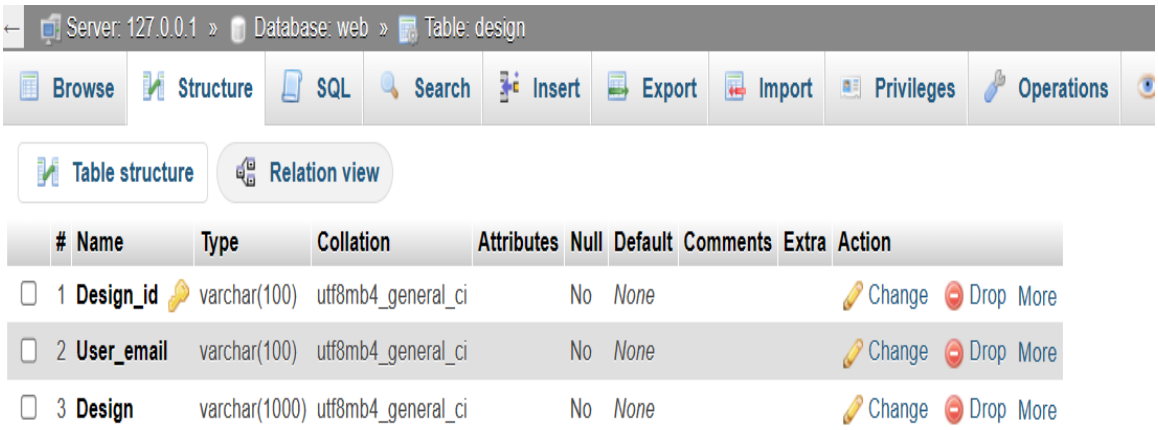


Figure 35 4.2.2(Store the design and maintaining.)

Table ID : T3

Table Name : payment

Table Description : Maintain the Payment details of the customer.

Table Organization : indexed.

Primary Key : paymentid

Column Name	Type
Paymentid (PK)	varchar(100)
Amount	int(11)
Email	varchar(100)
status	varchar(100)

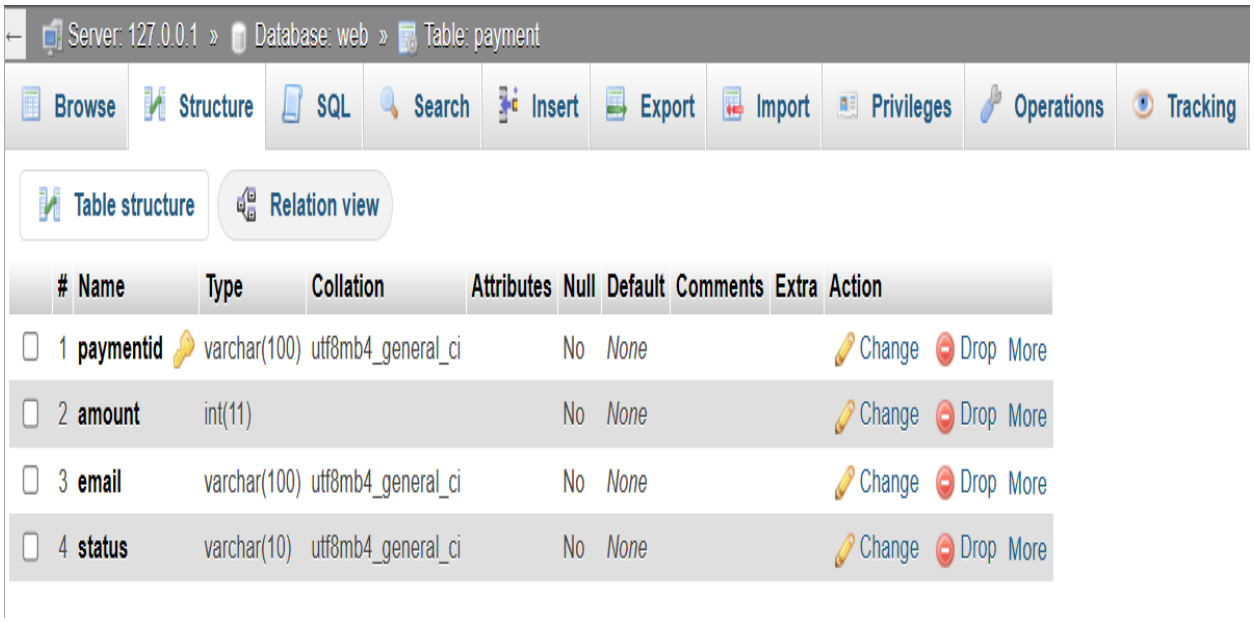


Figure 36 4.2.3(Maintain the Payment details of the customer)

4.6 Message interfaces

Figure 37 4.6.1(Login Message)

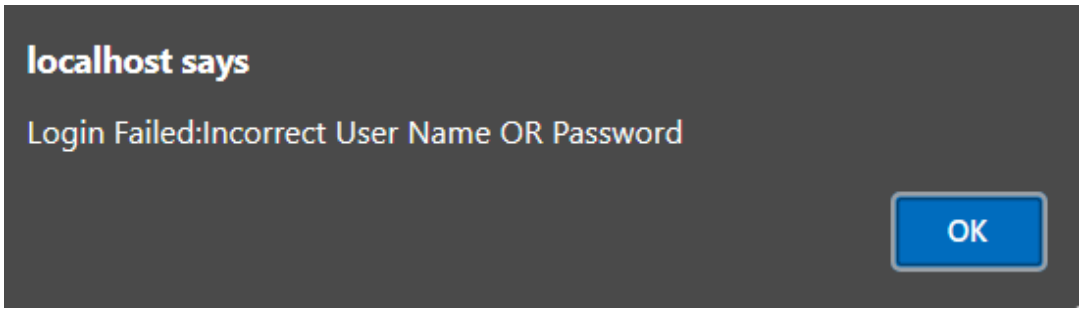


Figure 38 4.6.2(Login Failed Message)

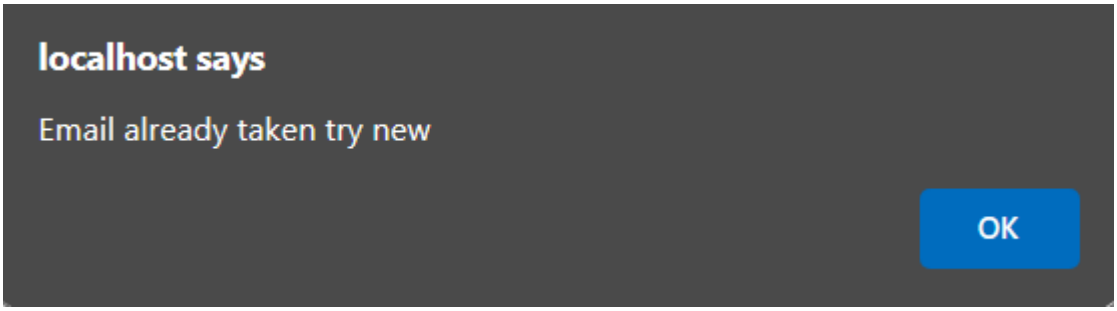


Figure 39 4.6.3(Email Valid Message)

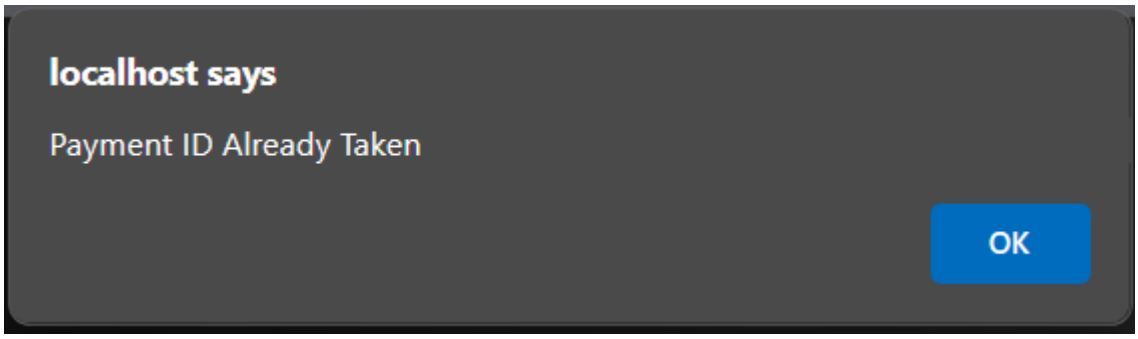


Figure 40 4.6.4(Payment Error Message)

CHAPTER 5

5.1 CONCULUSION

1.Requirement:

- Define the specific requirements of the engineering construction system. This may include features, functionalities, performance criteria, and any regulatory compliance needed.

2.Cost:

- Initial Investment: Calculate the upfront costs required to implement the system. This can include expenses such as software/hardware procurement, licensing fees, installation costs, and initial training.

- Operational Costs: Estimate ongoing expenses associated with maintaining and operating the system. This may include maintenance fees, software updates, hardware upgrades, energy consumption, and personnel costs.

- Potential Risks and Contingencies: Consider potential unforeseen costs such as project delays, regulatory changes, or technological obsolescence. Allocate funds for contingencies to mitigate these risks.

3.Benefits:

- Time Savings: Evaluate how the construction system will streamline processes and reduce project timelines. Consider factors such as faster project planning, design iterations, and construction execution.

- Cost Reduction: Estimate the potential cost savings resulting from improved efficiency, resource optimization, and waste reduction. This can include savings in labor, material costs, and overhead expenses.

- Quality Improvement: Assess how the system will enhance the quality and accuracy of construction projects. Consider factors such as improved design precision, error reduction, and compliance with industry standards.

- Risk Mitigation: Analyze how the system will mitigate project risks and enhance safety measures. This can include early detection of design flaws, better project coordination, and compliance with safety regulations.

- Scalability and Flexibility: Consider the system's ability to scale with project demands and adapt to changing requirements. Evaluate how it enables future expansion, facilitates collaboration, and accommodates diverse project need.

References

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youtube. (2023, 03 15). Retrieved from logic First Tamil: https://youtu.be/QqLrLGARR94?si=J6T34mMTxNGIlVd-

LOGSHEET

Meeting Date	Students Indices (participated	Supervisor Comments	Signature of the supervisor

THANK YOU…