Woodworkers

Of

India

Submitted for partial fulfillment of the Degree of

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Abstract

Woodworkers of India Emphasize on creating new look and feel for the previously built system by changing the offline business to online. The design is made fully responsive and generates different views for different screen sizes. The design is intended to both touch and pointer friendly. Features has been added like how a company can access his clients and how to get all the detailed information about his account.

When we were first given this project, we met to determine how we were to carry out the task assigned to us. We drew up a time-line, discussed about the programming language to use to carry out the task beside java and android, we finally settled out with using xml, sql, and bootstrap. The task was to implement new Features and to fulfill the client's requirement which is like implementation of user accounts, creation of admin panel, moderation panel. Port the site into a web-App format to make it load easier and faster, making the older system more efficient and designing the database structure for the site. The user can create account by registering in the app and manage his account.

Acknowledgement

The six months industrial training project is a golden opportunity for learning and self-development. I consider myself very lucky and honoured to have so many wonderful people, lead me through in completion of this project.

I am highly grateful to Dr. M.S. Saini (Director, Guru Nanak Dev Engineering College, Ludhiana), for providing this opportunity to carry out the Six Months Industrial Training at Pandasoft, Ludhiana.

The constant guidance and encouragement received from Er. K.S.Mann, Dean of Training and Placement Cell, GNDEC Ludhiana has been of great help in carrying out the project work and is acknowledged with reverential thanks.

My grateful thanks to Sarabjit Singh for his constant guidance and direction.Without his help and motivation, it would not have been possible for me making this project.

Last but not the least there were so many who shared valuable information that helped in the successful completion of this project.

Bhupinder Singh

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Abbreviations

Sr. No.	Abbreviations	Expansion
1.	DBMS	Database Management System
2.	HTML	Hypertext Markup Language
3.	URL	Uniform Resource Locator
4.	CSS	Cascading Style Sheet
5.	GUI	Graphic User Interface
6.	SQL	Structured Query Language
7.	TB	Table
8.	DB	Database
9.	DFD	Data Flow Diagrams

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Chapter 1: Introduction to the Organization

Figure 1: Homepage

Pandasofts was established in 2011 with a vision to excel in the world of IT and Software Development. With an Urge to cater to the global clientele with profound and extensive knowledge in Web design and Web development, we always aimed to become the right partner for our clients across the globe by providing quality products and efficient and skilled development services in .NET, Mobile Website development and Graphics & Multimedia developments in the form of an offshore software development company.

At Pandasofts, We offer our clients a complete dynamic and client oriented web site solutions that will help them to generate huge returns from their online investment. Our distributed group of expertise takes complete responsibility to design and develop your web site that fulfill all your requirements but also fits in your budgets. Our motto is simply to enlarge your profits because we make websites; we make businesses.

The company is proud to have some highly experienced professional dedicated to providing total web solutions under one roof. Within a few years of inception, it has carved a niche for it selves in the ever growing internet/web industry and has expanded its footprint in this industry by delivering brilliant result time and time again. The joint efforts of highly professional and experienced members of staff make delicious web design succeed at every project it undertakes. Unlike other search engine marketing firms, the company the company treats basic need of every as an exceptional case requiring an exceptional internet marketing strategy. The company applies cutting edge online marketing tactics also continually developing strategies to promote client's website.

Pandasofts design websites for clients globally that extend from pure graphic interfaces to dynamic sites by employing videos and sound effects along with tailor made ecommerce solutions and animations. Its web promotions and SEO services aid businesses to target relevant traffic towards their websites and to convert those websites visitors into clients or customers. The key strength of Pandasofts is that its clients will make more profits at the expense of their competitors. To get the best of Internet Marketing solution, you need to work with pandasofts and you will find us a highly involved partner in your web business.

They are an ISO 9001:2008 certified organization providing services in the field of education, software development, web site development, and hosting services since almost decade now.

Chapter 2: Introduction to the Project

2.1 Overview

This project is based on the concept to connect carpenters, dealers and distributors with the company. Our mission is give the carpenters, dealers and distributors a right way to connect with the company which supports them by giving high qualified product as well as various gifts as per the purchasing. This project is developed by Java language using android studio and asp.net using visual studio. The carpenters, dealers and the distributers are required to resister on the Woodworkers Of India websites by providing the name, email, personal mobile number, location. Login form is the core form of the project. It permits the admin to login into the project. Every control of this project has it's individually functionally which makes our project more worthy. Admin has some authority to add the carpenters, dealers and distributors who register. When he was added to the company he has to now type his id and password to enter into the website. Whenever, user inserts correct username and password dynamically, dashboard is opened. In the dashboard he has his personal information like his name, id, points, date on which company added him, the expire date of the id and the days left for expiration. Further there is sub-option in the top left corner of the main page. There is sub option in the top left corner of the main page. In this he has many features to access. In the first, he has dashboard option or his main page where he gets all his personal information. After that there is Overview of the company. After that there is add point option, after opening it, there are two option i.e. scan code and enter code, the carpenters, dealers and distributor has to enter his coupon number by using either of the two methods he is comfortable with. After that he get the value of the coupon and now he can add this points/value to his account. He may check his point in the next option. He may also transfer his points by just typing client's id. In the redeem section he may check the goods he can buy from his collected points.

2.2 Existing System

1. There was no perfect model exist in the society.
2. Carpenters, Dealers, Distributors has to keep the coupon with him selves till he go to the company
3. Company has to keep the record of its customers in their diary etc. which is very difficult as there is lots of data via both by self or any natural disasters.
4. There may be biased regarding the coupon id or any misplace of it is almost impossible to recover

2.3 User Requirement Analysis

The software requirement specification is produced at the culmination of the analysis task. The function and performance allocated to software as part of system engineering are refined by establishing a complete information description, a detailed functional description, a representation of system behavior, an indication of performance requirement and design constraints appropriate validation criteria, and other information pertinent to requirement.

The introduction to software requirements specification states the goals and objectives of the software, describing it in the context of the computer based system. The information description provides a detailed description of the problem that the software must solve. Information content, flow and structure are documented.

A description of each function required to solve the problem is presented in the functional description. Validation criteria are probably the most important and ironically the most often neglected section of the software requirement specification. Software requirement specification can be used for different purpose.

2.4 Feasibility Study

Feasibility analysis aims to uncover the strengths and weaknesses of a Project. In its simplest term, the two criteria to judge feasibility are cost required and value to be attained. As such, a well-designed feasibility analysis should provide a historical background of the project, description of the project or service, details of the operations and management and legal requirements.

1. **Technical Feasibility**: To determine whether the proposed system is technically feasible, we take into consideration the technical issues involved behind the system. Under this factor, the proposed system is feasible as the technical requirements are pretty basic. This system can be developed using simple languages like ASP.NET, JavaScript, CSS, and HTML.
2. **Operational Feasibility**: To determine the operational feasibility of the system, we take into consideration the users. This system is operational feasible since the users are familiar with the technologies and hence there is no need to gear up the personal to use the system. Still some basic knowledge regarding use of web browser interface must be there.
3. **Economic Feasibility:** To determine the economic feasibility, we take into consideration the cost requirements of the system. Since this is a computer generated

website, the cost requirements is basically negligible. Hence, this system is economically feasible.

4. **Schedule Feasibility:** To determine the schedule feasibility, we take into consideration the time constraints. Under the given time constraints, core features of the proposed system can be developed. Hence, this system is feasible under this factor.

2.5 Objectives

Following are some objectives of the project:

1. **Digital Repository of all Carpenters, Dealers, Distributors:** Data of Carpenters, dealers, Distributors could not be lost.
2. **Interactive environment:** At Woodworkers Of India, Carpenters, Dealers and Distributors can interact with each other. They can share there points, etc.
3. **User accounts and their management**: The new site is also composed with the feature of sign in and signup.. The management of these accounts is done by the admin of site. The admin can assign roles to existing users' viz. admin user. Each role has different functionality and privilege.
4. **Audios and Videos (future):** The site will be much better in future. There will be addition of various audios and videos of related Company for Advertisement. They are provided in a light method using new features of HTML5 so as to make site fast and light.

Chapter 3: Product Design

3.1 Product Perspective

The project scope will define the boundaries of Woodworkers Of India, which includes system functionality and users.

Modules to develop are:

Modules in Proposal System:-

1. Login, User Accounts and Rules
2. Create new Account
3. Email System
4. Personal Number
5. Add Location
6. Registration
7. Requests and Responses Information
8. Profile Information
9. Skills Information
10. Add clients

Functional Requirements:-

Since this project uses database and control, it needs the retrieval of information the database. It needs access of database from frontend, as JSP struts is a Microsoft Family product, it gives easy linking to the database, along with flexibility required to develop a user friendly front end.

Some of functional requirements are:

1. **Usability:** The interface should use terms and concepts, which are drawn from the experience of the people who will make the system.
2. **Efficiency:** The system must provide easy and fast access without consuming more cost.
3. **Reliability:** User should never be surprised by the behavior of the system and it's easy to use to stored data.

3.2 Product Function

The Woodworker of India is a web-based application some of its features are pointed out here:

1. The proposal system can be accessed from any part of the world, as opposed to stand alone or manual system, and provides information at anytime, anywhere.

2. Even though it is a web-based application it will keep the details of its clients private.
3. No need to own any computer for sending requests and responses, it just requires user to register with the system.
4. It provides easy to use and user friendly interface for the user.
5. Our system saves a lot of time to find teacher and institutes at nearby location.
6. The system provides freedom to the user to move freely around various screens and status of the system returned, as it was when he/she left the screen.
7. User is given freedom to update their profile in his database.
8. The user can access the system at any time, because it's 24-hours availability.

3.3 User Characteristics

There are three types of users of the website:

1. Administrator
2. Registered User
3. Guest User

Administrator

The Administrator has the following rights:

- View list of all registered users.
- Check the total number of registration.
- Can perform actions like add carpenters, dealers and distributers.

Registered users

Registered users have the following rights:

- **Registered Carpenters**
  - Registered carpenters can add the coupon number to their account.
  - Can check their points of their purchase.
  - Can check there coupon value
  - Can transfer their points with any other but except the same trade people.
  - Can accept points from the other group
- **Registered Dealers**
  - Registered carpenters can add the coupon number to their account.
  - Can check their points of their purchase.
  - Can check there coupon value

- Can transfer their points with any other but except the same trade people.
- Can accept the points coming from the people.

- **Registered Institutes**

  - Registered carpenters can add the coupen number to their account.
  - Can check their points of their purchase.
  - Can check there coupon value
  - Can transfer their points with any other but except the same trade people.
  - Can accept the points coming from the people.

Guest users

Guest users have the following rights:

- Can Sign Up for an account.
- Can view the profile.
- Can give rating and reviews to Company.
- Can visit the almost whole site except Carpenters/Dealers/Distributors accounts.

3.4 Constraints

The constraints and limitation within a system are the drawbacks that occur during the implementation of the system. These limitation and constraints can crop up in almost every system the most important fact is to find a way to overcome these problems.

Software design is the first of three technical activities – design, code generation, and tests that are required to build and verify the software. Each activity transforms information in manner that ultimately results in validated computer software.

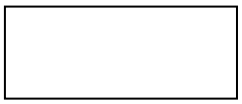
Some of the constraints are –

- User cannot register with same username more than once. User name is unique.
- In registration and login form, all fields are required to fill.
- For accessing coupons users are required to login.
- We launching our site in India but not in worldwide.
- Users can’t edit there profile one’s registered
- Ones the time limit of the id of user is at end he can’t review it.

3.5 Data Flow Diagrams (DFDs)

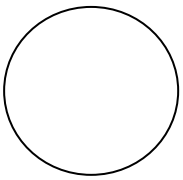
A data-flow diagram (DFD) is a graphical representation of the flow of data. The purpose of DFD is to clarify system requirements and identify major transformations that will become programs in system design. So it is the starting point of the design phase that functionally decomposes the requirements specifications to the lowest level in detail. These diagrams help to understand the basic Working of the system. It helps to make and recognize various parts and their inter relationships. It is a way of expressing system requirement in a graphical form; this leads to a modular design. It is also known as bubble chart. A DFD consists of series of bubbles joined by lines. The bubbles represent data transformations and the lines represent data flows in the system.

DFD Symbols:

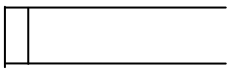


Defines the Source or Destination of data

Identifies data flow



Represents a process that transforms data flow



Represents a data store

Updates data flow

Figure 3.1 Flow Chart

3.5.1 Context level DFD

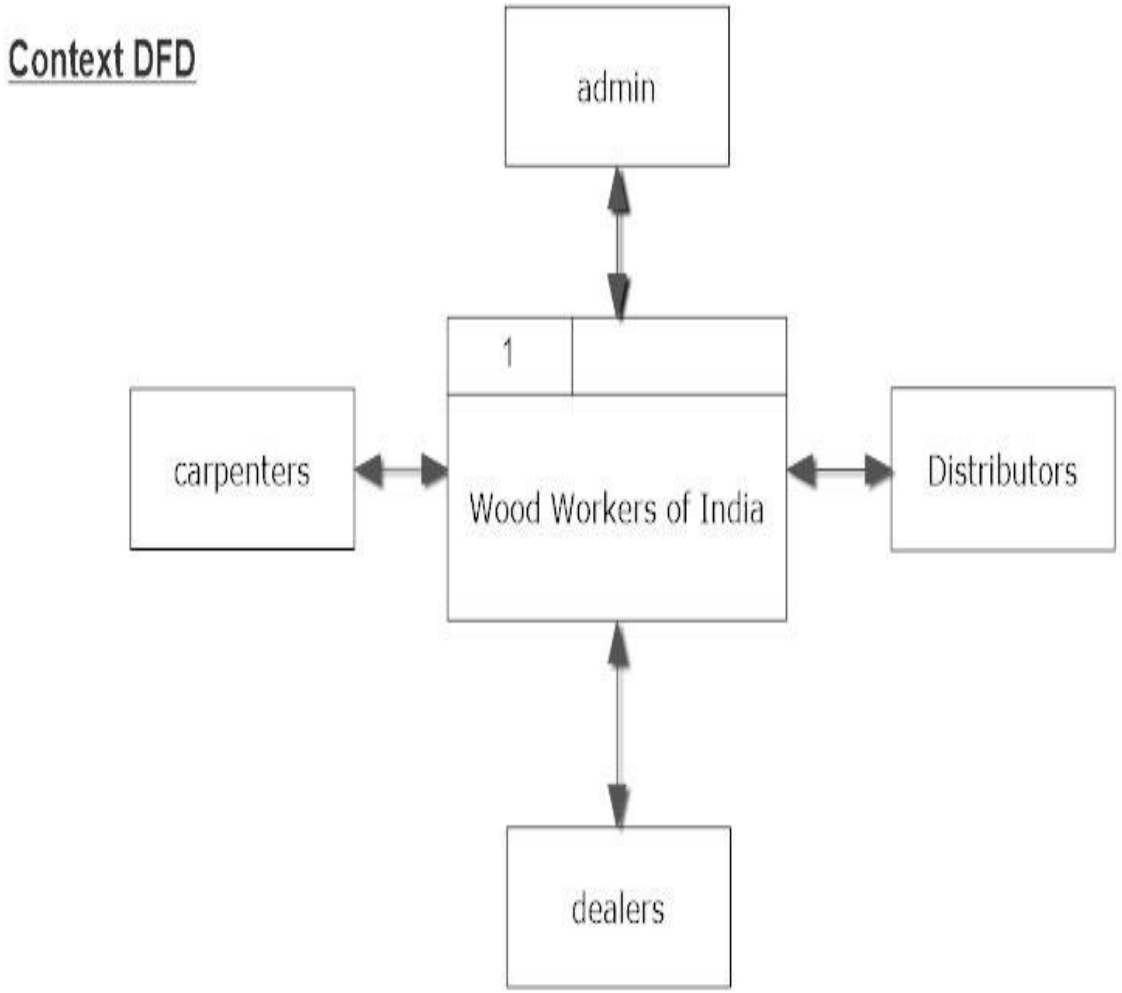


Fig. 3.2 Context DFD

3.5.2 Level 1 DFD

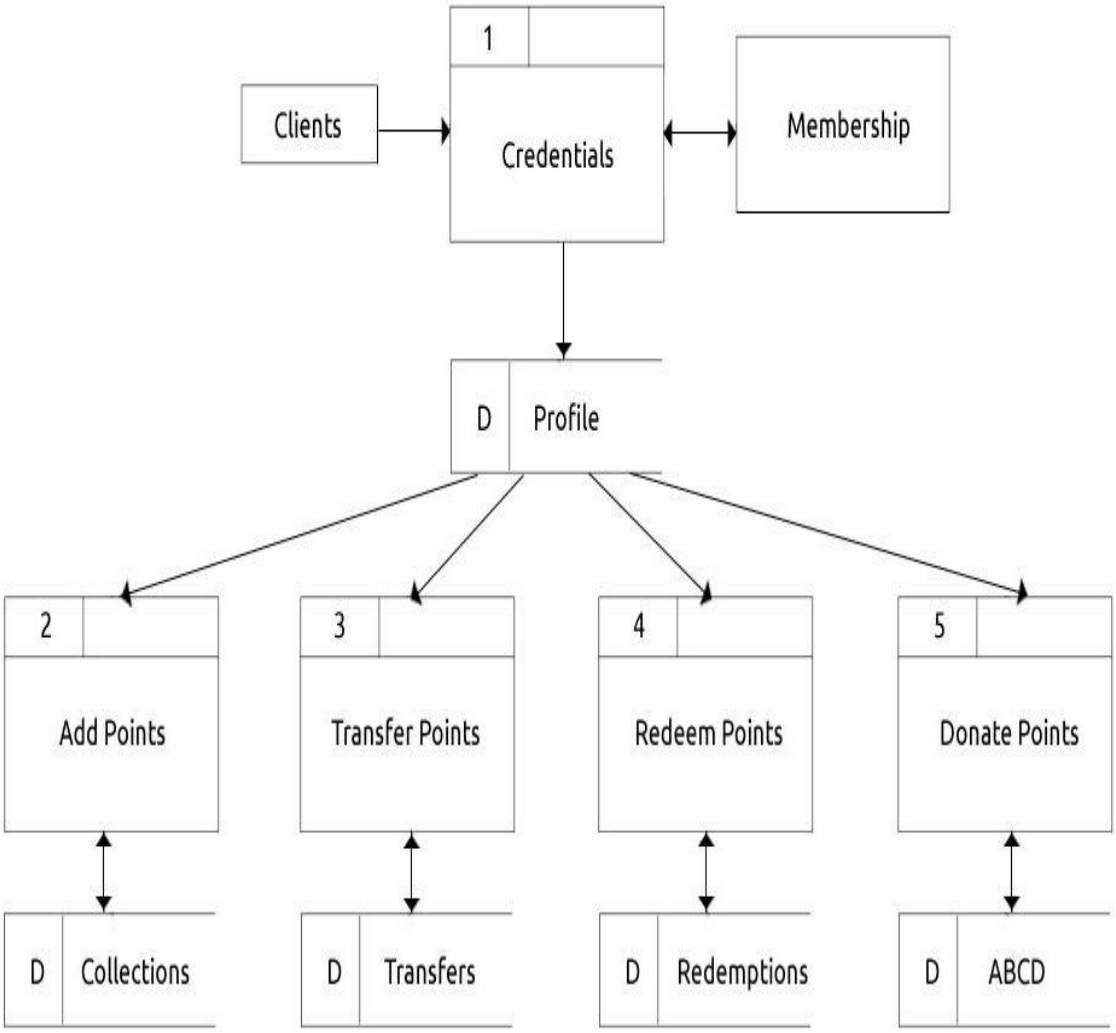


Fig 3.3 Level 1 DFD

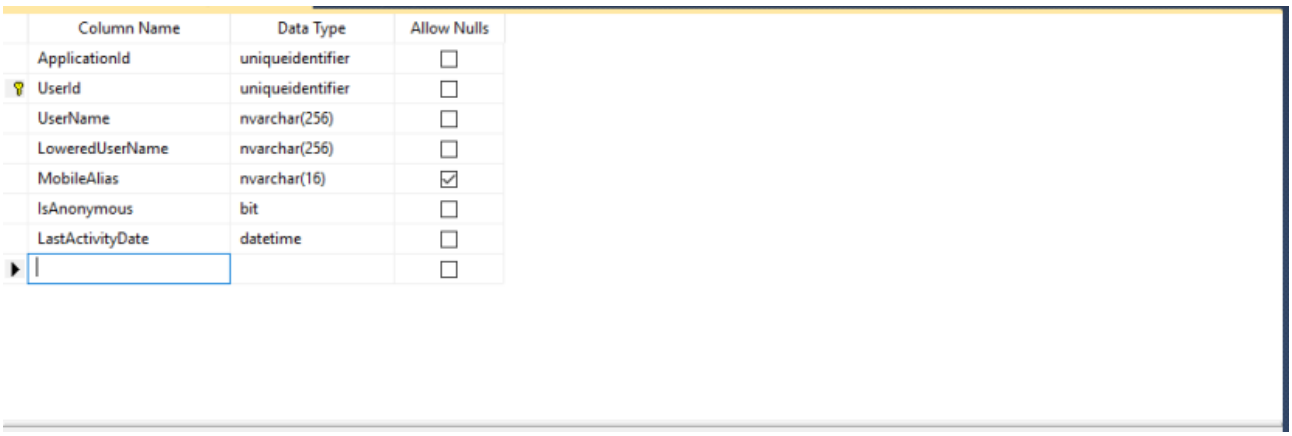
3.6 Database Design

A database design is a collection of stored data organized in such a way that the data requirements are satisfied by the database. The general objective is to make information access easy, quick, inexpensive and flexible for the user. There are some specific objectives like controlled redundancy from failure, privacy, security and performance. A collection of relative records make up a table. To design and store data to the needed database tables are prepared. Two essential settings for a database are:

- **Primary key:** The field that is unique for all the record occurrences.
- **Foreign key:** The field used to set relation between tables. Normalization is a technique to avoid redundancy in the tables.

The Database is for user and it has 11 tables which store the data of the user.

Database Design

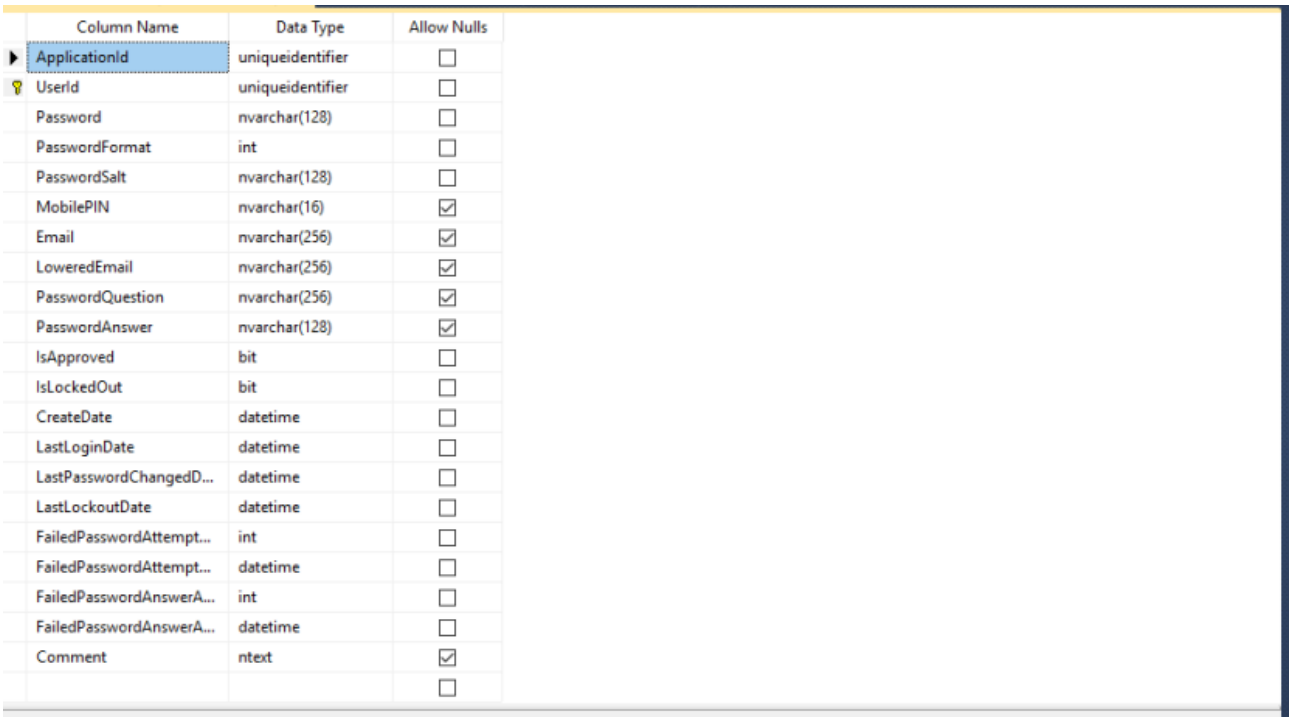


Column Name	Data Type	Allow Nulls
ApplicationId	uniqueidentifier	☐
UserId	uniqueidentifier	☐
UserName	nvarchar(256)	☐
LoweredUserName	nvarchar(256)	☐
MobileAlias	nvarchar(16)	☑
IsAnonymous	bit	☐
LastActivityDate	datetime	☐
		☐

Figure 3.4: Database Design for User

3.7 Table Structure:

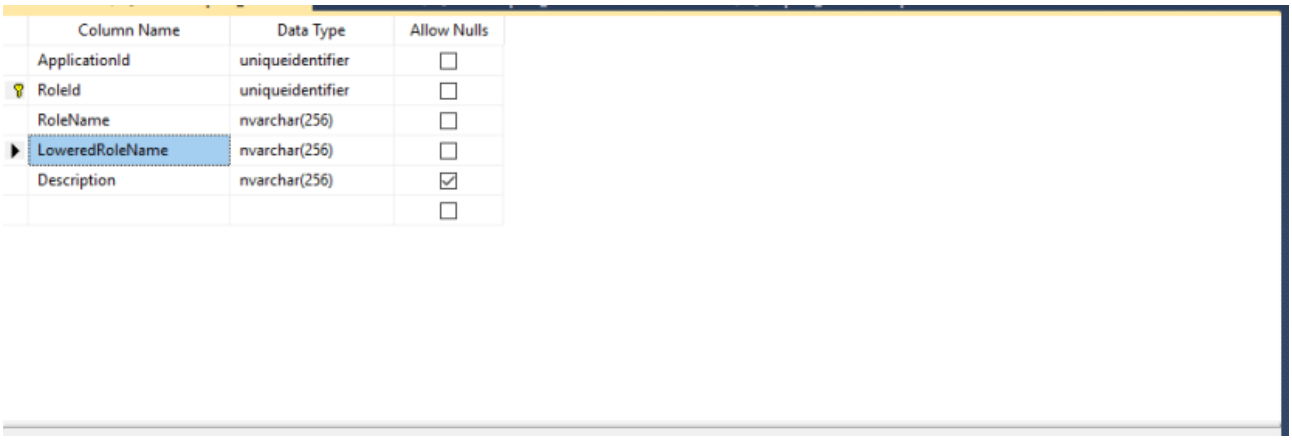
3.7.1 Table Name: Membership



Column Name	Data Type	Allow Nulls
ApplicationId	uniqueidentifier	☐
UserId	uniqueidentifier	☐
Password	nvarchar(128)	☐
PasswordFormat	int	☐
PasswordSalt	nvarchar(128)	☐
MobilePIN	nvarchar(16)	☑
Email	nvarchar(256)	☑
LoweredEmail	nvarchar(256)	☑
PasswordQuestion	nvarchar(256)	☑
PasswordAnswer	nvarchar(128)	☑
IsApproved	bit	☐
IsLockedOut	bit	☐
CreateDate	datetime	☐
LastLoginDate	datetime	☐
LastPasswordChangedD...	datetime	☐
LastLockoutDate	datetime	☐
FailedPasswordAttempt...	int	☐
FailedPasswordAttempt...	datetime	☐
FailedPasswordAnswerA...	int	☐
FailedPasswordAnswerA...	datetime	☐
Comment	ntext	☑
		☐

Figure 3.5: Membership Table

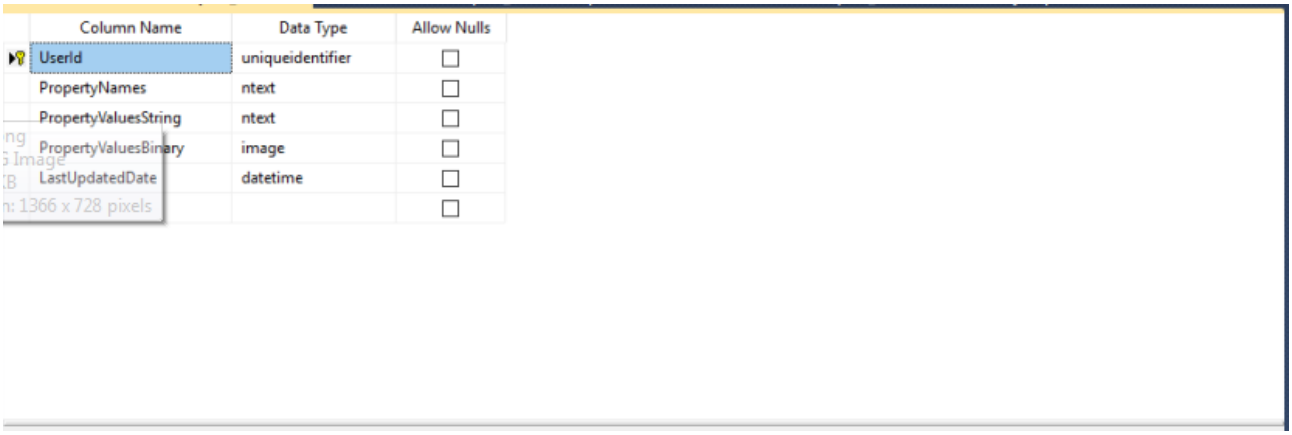
3.7.2 Table Name: Roles



Column Name	Data Type	Allow Nulls
ApplicationId	uniqueidentifier	☐
RoleId	uniqueidentifier	☐
RoleName	nvarchar(256)	☐
LoweredRoleName	nvarchar(256)	☐
Description	nvarchar(256)	☑
		☐

Figure 3.6: Roles Table

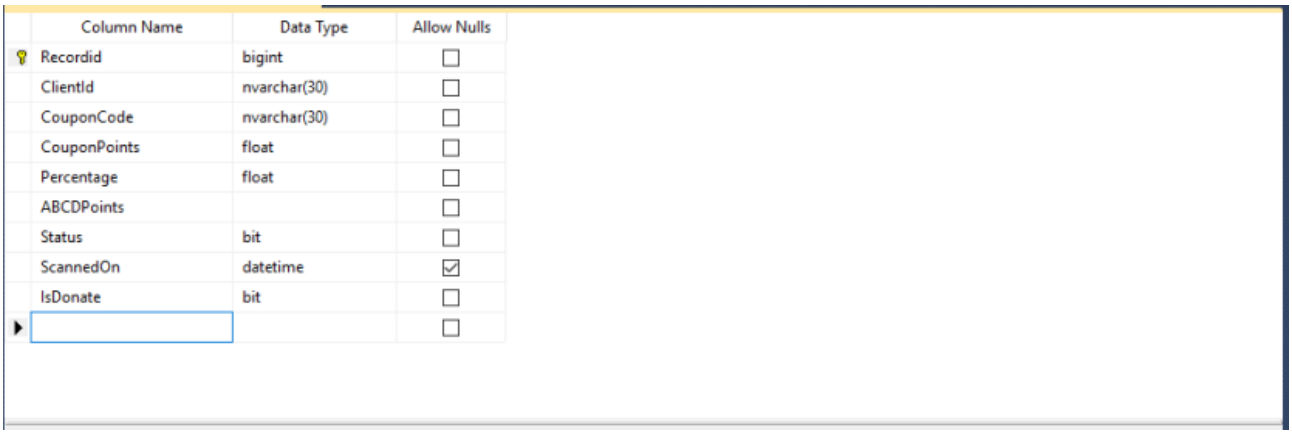
3.7.3Table Name: links



Column Name	Data Type	Allow Nulls
UserId	uniqueidentifier	☐
PropertyNames	ntext	☐
PropertyValuesString	ntext	☐
PropertyValuesBinary	image	☐
LastUpdatedDate	datetime	☐
		☐

Figure 3.7: Links Table

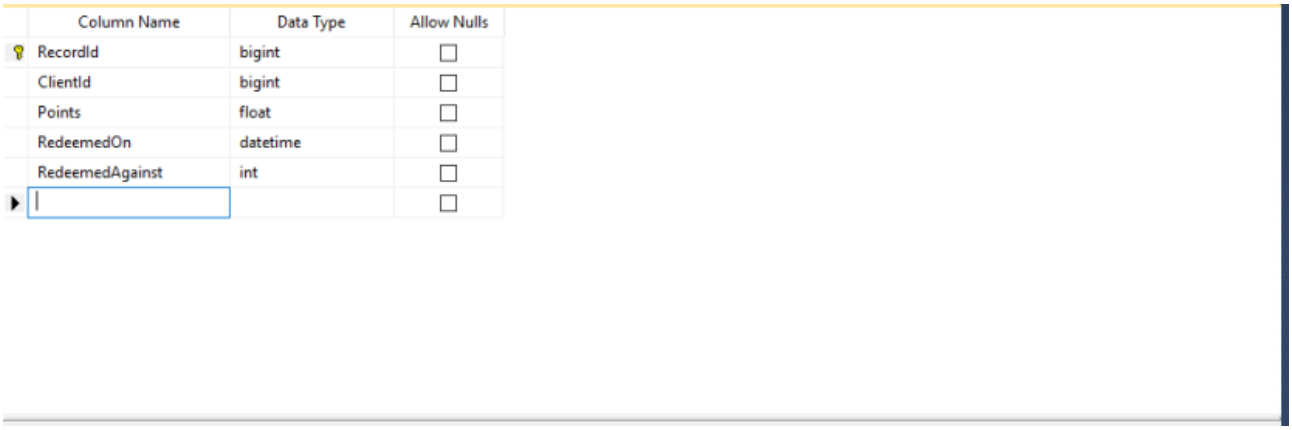
3.7.4 Table Name: ABCD



Column Name	Data Type	Allow Nulls
Recordid	bigint	☐
ClientId	nvarchar(30)	☐
CouponCode	nvarchar(30)	☐
CouponPoints	float	☐
Percentage	float	☐
ABCDPoints		☐
Status	bit	☐
ScannedOn	datetime	☑
IsDonate	bit	☐
		☐

Figure 3.8: ABCD Table

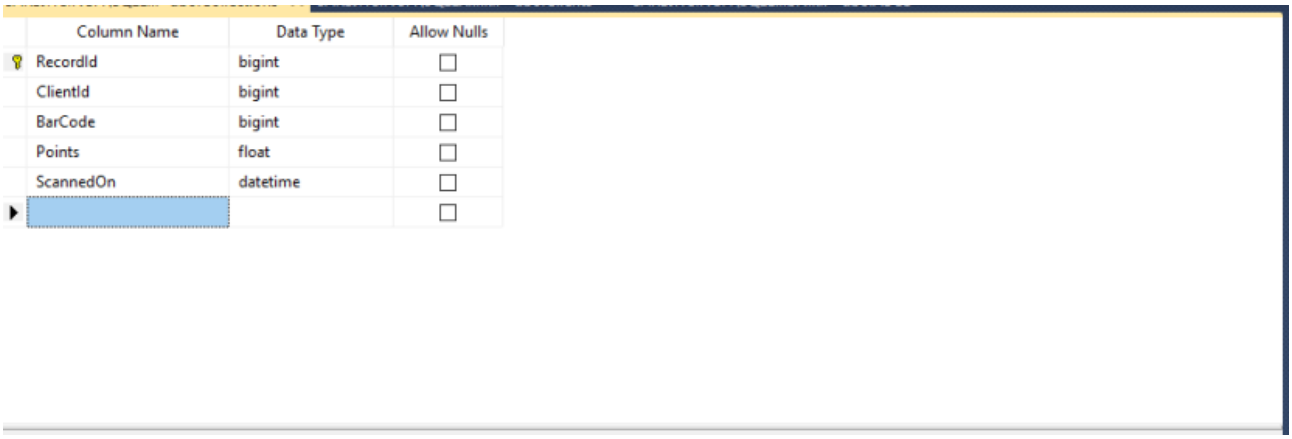
3.7.5 **Table Name:** Redeem



Column Name	Data Type	Allow Nulls
RecordId	bigint	☐
ClientId	bigint	☐
Points	float	☐
RedeemedOn	datetime	☐
RedeemedAgainst	int	☐
		☐

Figure 3.9: Redeem Table

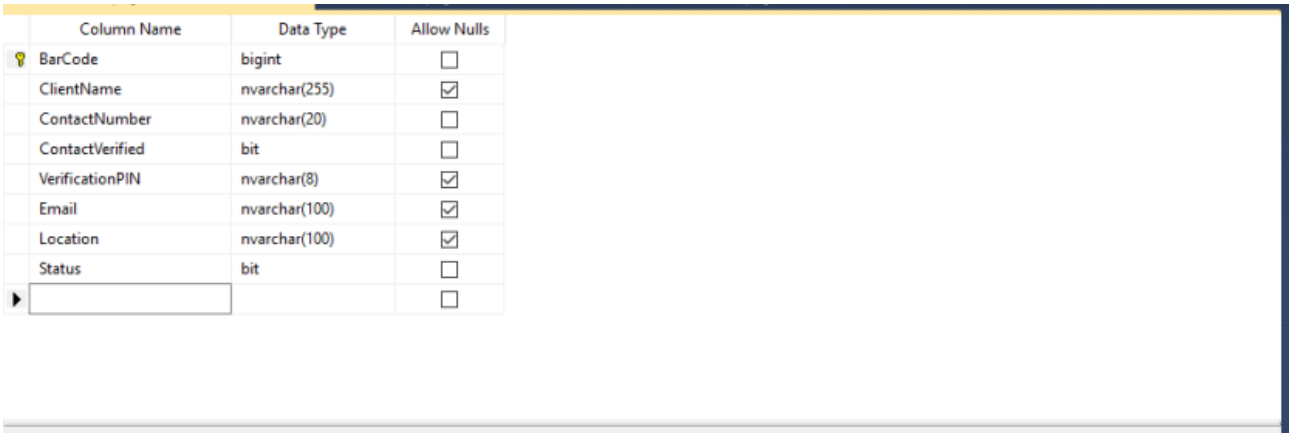
3.7.6 **Table Name:** Collection



Column Name	Data Type	Allow Nulls
RecordId	bigint	☐
ClientId	bigint	☐
BarCode	bigint	☐
Points	float	☐
ScannedOn	datetime	☐
		☐

Figure 3.10: Collection Table

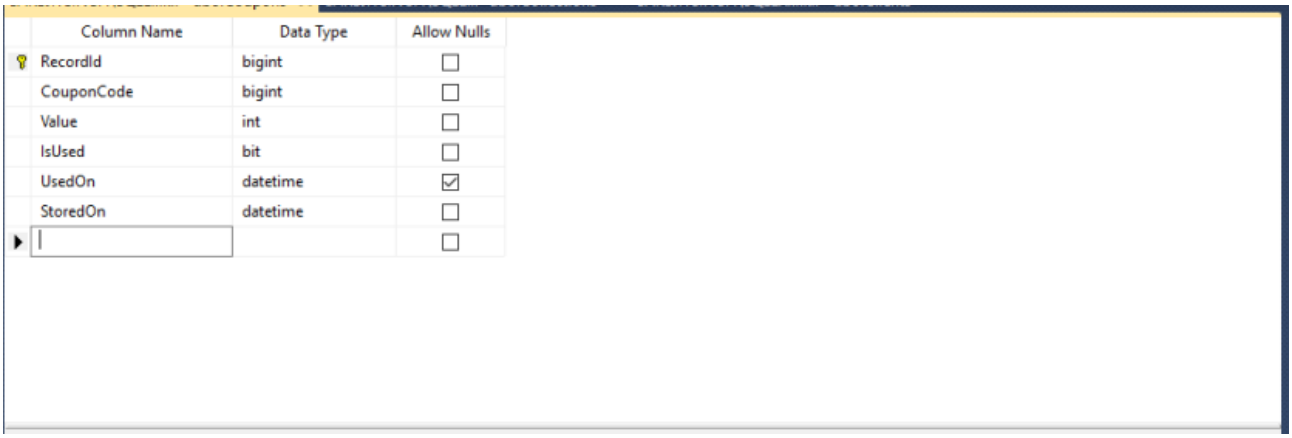
3.7.7 **Table Name:** Clients



Column Name	Data Type	Allow Nulls
BarCode	bigint	☐
ClientName	nvarchar(255)	☑
ContactNumber	nvarchar(20)	☐
ContactVerified	bit	☐
VerificationPIN	nvarchar(8)	☑
Email	nvarchar(100)	☑
Location	nvarchar(100)	☑
Status	bit	☐
		☐

Figure 3.11: Clients Table

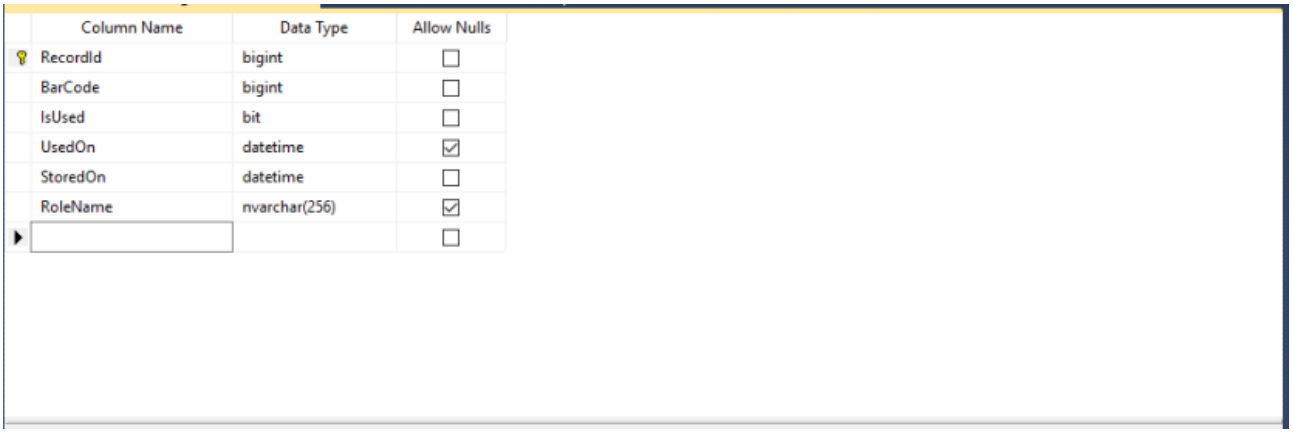
3.7.8 **Table Name:** users



Column Name	Data Type	Allow Nulls
RecordId	bigint	☐
CouponCode	bigint	☐
Value	int	☐
IsUsed	bit	☐
UsedOn	datetime	☑
StoredOn	datetime	☐
		☐

Figure 3.12: Users Table

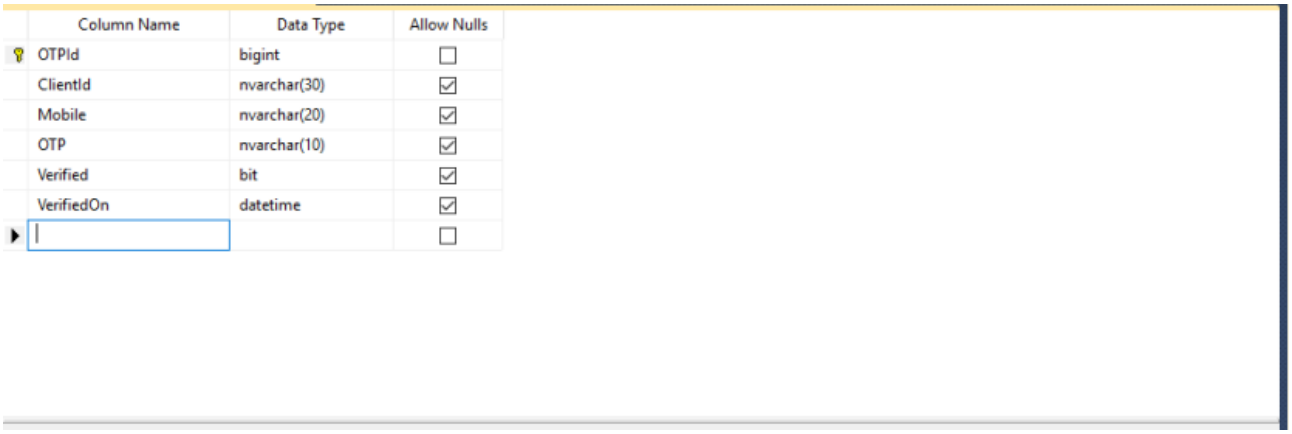
3.7.9 **Table Name:** Registration



Column Name	Data Type	Allow Nulls
RecordId	bigint	☐
BarCode	bigint	☐
IsUsed	bit	☐
UsedOn	datetime	☑
StoredOn	datetime	☐
RoleName	nvarchar(256)	☑
		☐

Figure 3.13: Registration Table

3.7.10 **Table Name:** One Time Password



Column Name	Data Type	Allow Nulls
OTPId	bigint	☐
ClientId	nvarchar(30)	☑
Mobile	nvarchar(20)	☑
OTP	nvarchar(10)	☑
Verified	bit	☑
VerifiedOn	datetime	☑
		☐

Figure 3.14: One Time Password

3.8 ER Diagram

Entity relationship model defines the conceptual view of database. It works around real world entity and association among them. At view level, ER model is considered well for designing databases.

Entity Set: An entity set is a collection of similar types of entities. Entity set may contain entities with attribute sharing similar values. For example, Students set may contain all the student of a school; likewise Teachers set may contain all the teachers of school from all faculties. Entities sets need not to be disjoint.

Attributes: Entities are represented by means of their properties, called attributes. All attributes have values. For example, a student entity may have name, class, age as attributes.

E-R Diagram Symbols

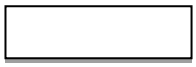
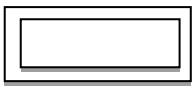
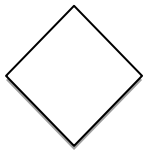
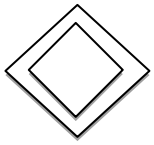
	Represent Entity		Represent weak Entity
	Represent attribute		Represent weak attribute
	Represent relationship		Weak relationship

Figure 3.15: E-R diag. symbols

3.8.1 Formation of clients

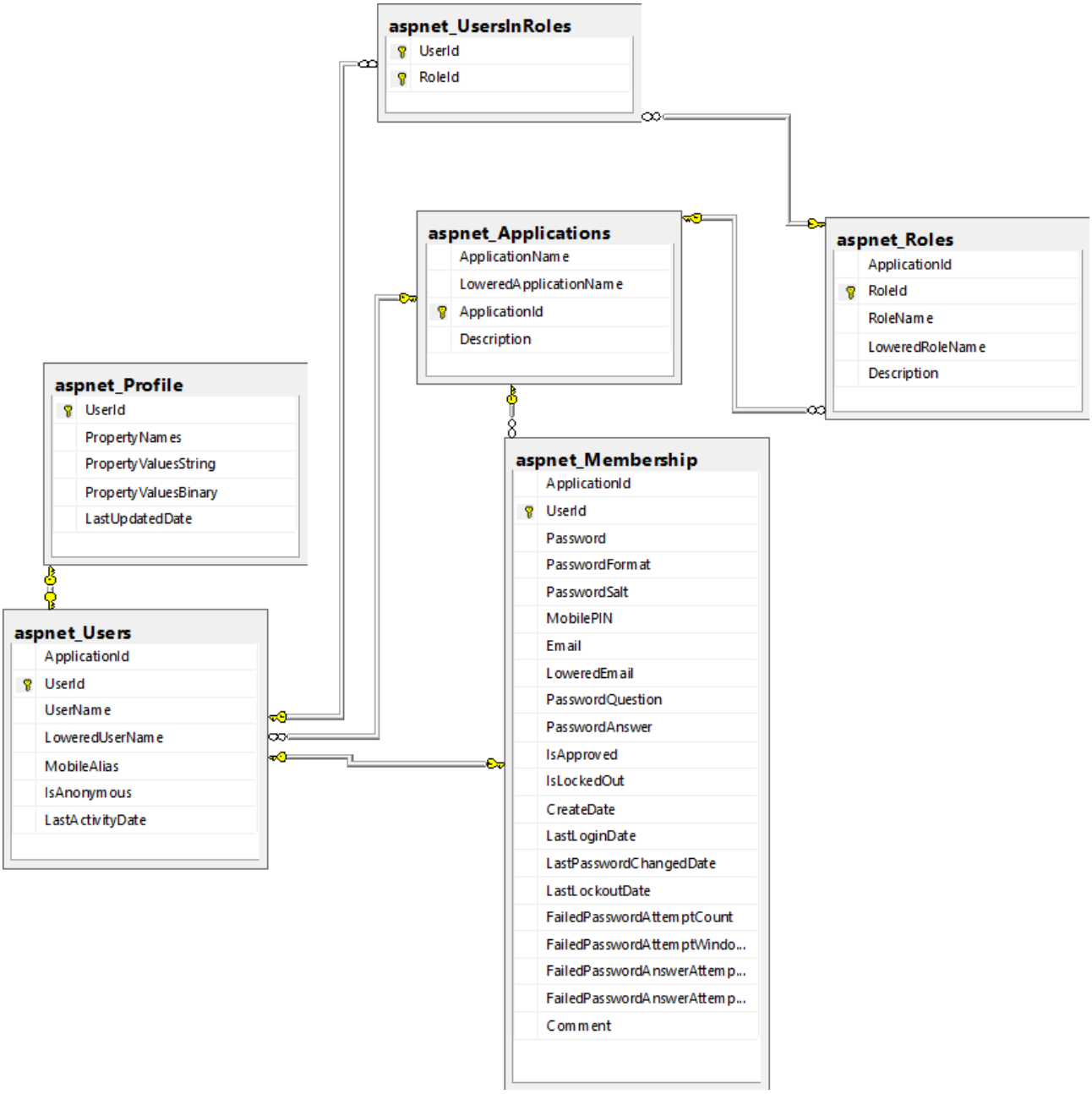


Figure 3.16: E-R Diagram of formation of clients

3.8.2 Registered clients

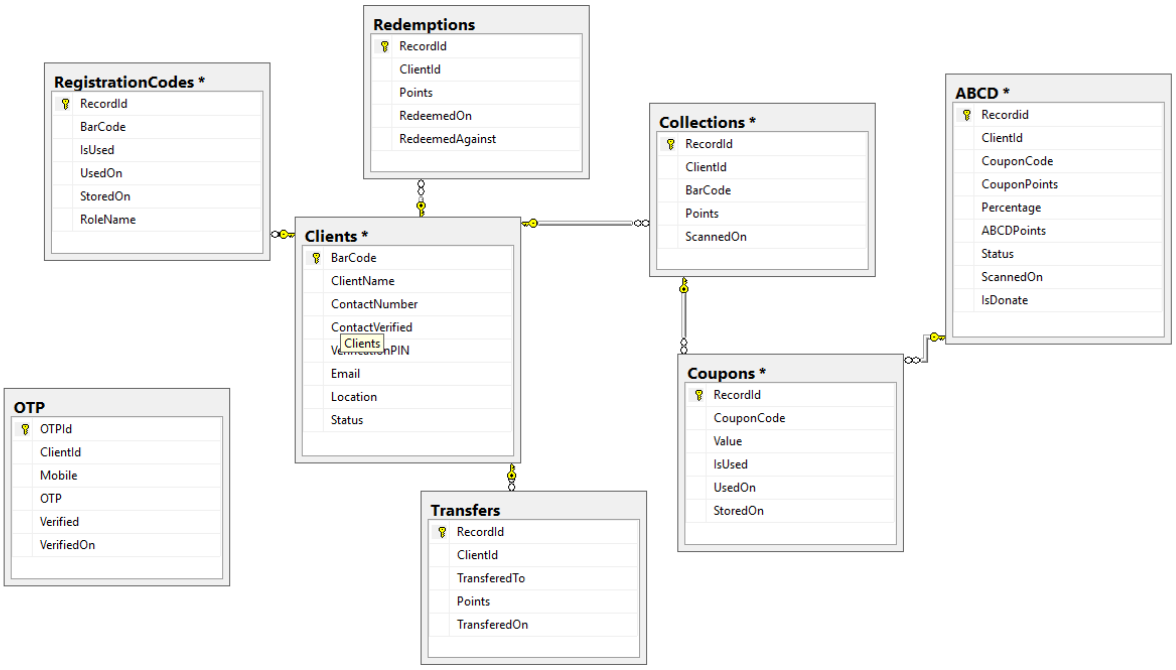


Figure 3.17. E-R DIAGRAM of registered clients

3.9 Assumptions and Dependencies

Some assumptions and dependencies are:

- User must be able to use basic computer functionalities.
- User must have the basic knowledge of English.
- The system must be able to respond to database software within reasonable time.
- The user should be able to use web browser.

3.10 Specific Requirements

System requirements are expressed in a software requirement document. The Software requirement specification (SRS) is the official statement of what is required of the system developers. This requirement document includes the requirements definition and the requirement specification. The software requirement document is not a design document. It

should set out what the system should do without specifying how it should be done. The requirement set out in this document is complete and consistent.

The software specification document satisfies the following:-

1. It specifies the external system behaviors.
2. It specifies constraints on the implementation.
3. It is easy to change.
4. It serves as reference tool for system maintainers.
5. It record forethought about the life cycle of the system.
6. It characterizes acceptable response to undesired events.

Software Requirements:

- Operating System : Windows, Mac, Linux, Android, IOS, BlackBerry (any)
- Front End : Microsoft Visual Studio 2013
- Back End : SQL Server 2008
- Design : Bootstrap, CSS, jQuery , Ajax
- Browser : Google Chrome , Safari , Opera and any other

Supported Architecture

- 32-bit (X86)
- 64-bit(X64)
- Mobile devices

Hardware Requirements:

- Processor: Intel(R)Core(TM),I3-2350M
- CPU@2.30Ghz
- RAM: 4GB
- System Type: 64-bit operating system
- Printer, Mouse & Keyboard
-

Non Functional Requirements:

Nonfunctional requirements deal with the characteristics of the system which cannot be expressed as functions– Such as the maintainability of the system, portability of the system, usability of the system, etc. Nonfunctional requirements may include:

- reliability issues
- accuracy of results

- human - computer interface issues
- Constraints on the system implementation, etc.

Functional Requirements:

Functional requirements deal with the characteristics of the system which can be expressed as functions. Nonfunctional requirements may include:

- Registration and login
- Rating and Reviews
- Managing accounts

Chapter 4: Development and Implementation

4.1 Introduction to Language

4.1.1 HTML

HTML (Hypertext Mark-Up Language) is what is known as a "mark-up language" whose role is to prepare written documents using formatting tags. The tags indicate how the document is presented and how it links to other documents.HTML is also used for reading documents on the Internet from different computers, thanks to the HTTP protocol, which allows users to remotely access documents stored at a specific address on the network, called a URL.The World Wide Web (WWW for short), or simply the Web, is the worldwide network formed by all the documents (called "web pages") which are connected to one another by hyperlinks.Web pages are usually organized around a main page, which acts as a hub for browsing other pages with hyperlinks. This group of web pages joined by hyperlinks and centeredon a main page is called a website.The Web is a vast living archive composed of a myriad of web sites, giving people access to web pages that may contain formatted text, images, sounds, video, etc.

HTML Document Structure

HTML documents are structured into two parts, the HEAD, and the BODY. Both of these are contained within the HTML element -- this element simply denotes this as an HTML document.The head contains information about the document that is not generally displayed with the document, such as its TITLE. The BODY contains the body of the text, and is where you place the document material to be displayed. Elements allowed inside the HEAD, such as TITLE, are not allowed inside the BODY, and vice versa.

4.1.2 CSS (Cascading Style Sheet)

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation semantics (the look and formatting) of a document written in a markup language. It’s most common application is to style web pages written in HTML and XHTML, but the language can also be applied to any kind of XML document, including plain XML, SVL and XUL.

CSS is designed primarily to enable the separation of document content (written in HTML or a similar markup language) from document presentation, including elements such as the layout, colors, and fonts. This separation can improve content accessibility, provide more

flexibility and control in the specification of presentation characteristics, enable multiple pages to share formatting, and reduce complexity and repetition in the structural content (such as by allowing for table less web design). CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech-based browser or screen reader) and on Braille-based, tactile devices. It can also be used to allow the web page to display differently depending on the screen size or device on which it is being viewed. While the author of a document typically links that document to a CSS file, readers can use a different style sheet, perhaps one on their own computer, to override the one the author has specified.

Syntax

CSS has a simple syntax and uses a number of English keywords to specify the names of various style properties. A style sheet consists of a list of rules. Each rule or rule-set consists of one or more selectors, and a declaration block.

Pseudo-classes are used in CSS selectors to permit formatting based on information that is outside the document tree. An often-used example of a pseudo-class is: hover, which identifies content only when the user 'points to' the visible element, usually by holding the mouse cursor over it. It is appended to a selector as in a: hover or #elementid:hover. A pseudo-class classifies document elements, such as: link or: visited, whereas a pseudo-element makes a selection that may consist of partial elements, such as: first-line or :first-letter.

Selectors may be combined in many ways, especially in CSS 2.1, to achieve great specificity and flexibility.

4.1.3 jQuery

Jquery is a JavaScript library. jQuery simplifies JavaScript programming. jQuery is easy to learn. The main purpose of jQuery is to make it much easier to use JavaScript on your website. jQuery takes a lot of common tasks that require many lines of JavaScript code to accomplish, and wrap them into methods that you can call with a single line of code. The jQuery library has HTML/DOM manipulation, CSS manipulation, HTML event methods, Effects and animation, AJAX and Utilities features. JQuery library as such is not a bulky library in term of size, execution time, etc. Therefore jQuery is lightweight, easy and fast.

There are various free plug-in's available on the internet which can use in our projects. For example, jquery tabs jtemplate, etc.

Features of jQuery

1. **Variables:** Variables are containers for values (strings, numbers, or Booleans [true| false]).Variable names are case sensitive and must begin with a letter or the underscore character. Variables created in a function only exist while the function is running; variables created outside functions exist as long as the page exists.
2. **Arrays:** Arrays are complex variables that contain sets of values. The index can either be numerical (starting at 0) or nominal. Arrays are useful for looping through a set of values.
3. **Objects:** Objects represent collections of values. Arrays are a type of object, an ordered collection of values. Objects can also contain unordered collections of values. An object's properties (values) can be accessed using "dot" notation: object.property.e.g. Car. Color = "green". A Web page is made up of dozens of objects called the "Document Object Model" (DOM). Each element of the DOM has predefined properties with values derived from how that particular page was coded.
4. **Methods:** Methods are like built-in functions. Particular types of objects are associated with particular methods (e.g., string objects have associated methods for string manipulations such as searching or making all of the letters lowercase)
5. **Event handlers:** Event handlers trigger functions based on user initiated events or on time. Event handlers can be attached to certain HTML elements or to the page itself the most common event handlers are: on click, on load.
6. **Loops & Conditional statements:** Loops are used to repeat an action on a set of values or a set number of times. The most common type of loop is for loop. Conditional statements allow you to execute different sets of code depending on the inputs. The most common conditional statement is if else.

4.1.4 Java

Java is a general-purpose computer programming language that is concurrent, class-based, object-oriented and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA) meaning that compiled Java code can run on all platforms that support Java without the need for recompilation. Java applications are typically compiled to byte code that can run on any Java virtual machine (JVM) regardless of computer architecture. As of 2016, Java is one of the most popular programming languages in use, particularly for client-server web applications, with a reported 9 million developers. Java was originally developed by James Gosling at Sun Microsystems (which has since been acquired by Oracle Corporation) and released in 1995 as a core component of Sun Microsystems' Java platform. The language derives much of its syntax from C and C++, but it has fewer low-level facilities than either of them.

Features of Java

1. **Simple:** Java is easy to learn and its syntax is quite simple, clean and easy to understand. The confusing and ambiguous concepts of C++ are either left out in Java or they have been re-implemented in a cleaner way.
2. **Object oriented:** In java everything is Object which has some data and behavior. Java can be easily extended as it is based on Object Model.
3. **Robust:** Java makes an effort to eliminate error prone codes by emphasizing mainly on compile time error checking and runtime checking. But the main areas which Java improved were Memory Management and mishandled Exceptions by introducing automatic Garbage Collector and Exception Handling
4. .**Platform Independent:** Unlike other programming language unlike other programming languages such as C, C++ etc which are compiled into platform specific machines. Java is guaranteed to be write-once, run-anywhere language. On compilation Java program is compiled into bytecode. This byte code is platform independent and can be run on any machine, plus this bytecode format also provide security.Any machine with Java Runtime Environment can run Java Programs.
5. **Secure:** When it comes to security, Java is always the first choice. With java secure features it enable us to develop virus free, temper free system. Java program always runs in Java runtime environment with almost null interaction with system OS, hence it is more secure.

6. **Multi Threading:** Java multithreading feature makes it possible to write program that can do many tasks simultaneously. Benefit of multithreading is that it utilizes same memory and other resources to execute multiple threads at the same time, like While typing, grammatical errors are checked along.
7. **Architectural Neutral:** Compiler generates byte codes, which have nothing to do with particular computer architecture, hence a Java program is easy to interpret on any machine.

8. **Portable:** Java Byte code can be carried to any platform. No implementation dependent features. Everything related to storage is predefined, example: size of primitive data types

9. **High Performance:** Java is an interpreted language, so it will never be as fast as a compiled language like C or C++. But, Java enables high performance with the use of just-in-time compiler.

4.1.5 XML

In computing, Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. The W3C's XML Specification and several other related specifications all of them free open standards define XML.The design goals of XML emphasize simplicity, generality, and usability across the Internet. It is a textual data format with strong support via Unicode for different human languages. Although the design of XML focuses on documents, the language is widely used for the representation of arbitrary data structures such as those used in web services. Several schema systems exist to aid in the definition of XML-based languages, while programmers have developed many application programming interfaces (APIs) to aid the processing of XML data.ASP.NET is an open source server-side application framework designed for web development to produce dynamic web pages. It

was developed by Microsoft to allow programmers to build dynamic websites, web applications and web services.

Features:

1. **XML separates data from HTML:** If you need to display dynamic data in your HTML document, it will take a lot of work to edit the HTML each time the data changes. With XML, data can be stored in separate XML files. This way you can focus on using HTML/CSS for display and layout, and be sure that changes in the underlying data will not require any changes to the HTML.With a few lines of JavaScript code, you can read an external XML file and update the data content of your web page.
2. **XML simplifies data sharing:** In the real world, computer systems and databases Contain data in incompatible formats.XML data is stored in plain text format. This provides a software- and hardware-independent way of storing data.This makes it much easier to create data that can be shared by different applications.

4.1.6 ANDROID

Android is a mobile operating system that is based on a modified version of Linux. It was originally developed by a startup of the same name, Android, Inc. In 2005, as part of its strategy to enter the mobile space, Google purchased Android and took over its development work (as well as its development team).This simple development model makes Android very attractive and has thus piqued the interest of many vendors. This has been especially true for companies acted by the phenomenon of Apples iPhone, a hugely successful product that revolutionized the smart phone industry. Such companies include Motorola and Sony Ericsson, which for many years have been developing their own mobile operating systems.

4.1.7 ASP.NET

ASP.NET was first released in January 2002 with version 1.0 of the .NET framework, and is the successor to Microsoft's Active Server Pages (ASP) technology.

1. ASP.NET works on top of the
2. HTTP protocol, and uses the HTTP commands and policies to start a browser-to-server bilateral communication and cooperation.

3. It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.
4. ASP.NET is a part of Microsoft .NET platform. ASP.NET applications are complied codes, written using the extensible and reusable components or objects present in .NET framework.
5. ASP.NET supports a large number of major protocols such as POP3, IMAP, and LDAP. ASP.NET added support for Java and distributed object architectures (COM and CORBA), making n-tier development a possibility for the first time.
6. ASP.NET application codes can be written in C#, Visual Basic.NET, J# etc. It consists of a large number of controls such as text boxes, buttons, and labels for assembling, configuration, and manipulating code to create HTML pages.
7. ASP.NET uses five types of controls, which are HTML controls, HTML server controls, ASP.NET server controls, ASP.NET Ajax server controls and user and custom controls.

Common uses of ASP.NET:

1. ASP.NET drastically reduces the amount of code required to build large applications.
2. With built-in Windows authentication and per-application configuration, your applications are safe and secured.
3. Provides simplicity as ASP.NET makes it easy to perform common tasks, from simple form submission and client authentication to deployment and site configuration.
4. Being language-independent, it allows you to choose the language that best applies to your application or partition your application across many languages.
5. It is purely server-side technology so, ASP.NET code executes on the server before it is sent to browser.
6. Easily works with ADO.NET using data-binding and page formatting features. It is an application which runs faster and counters large volumes of users without having performance problems.
7. It can encrypt data

.

4.1.8 Bootstrap

Twitter Bootstrap is a front end framework to develop web apps and sites fast. In modern web development, there are several components which are required in almost all web projects. Bootstrap provides you with all those basic modules - Grid, Typography, Tables, Forms, Buttons and Responsiveness. Besides, there is plethora of other useful front end components like Dropdowns, Navigation, Modals, and type head, Pagination, Carousal, Breadcrumb, Tab, Thumbnails and Headers etc. With these you can make a web project up and running quickly and easily. Moreover, since the entire framework is module based, you can customize it with your own bit of CSS or even go for a complete overhaul after getting started. Though there are criticisms, that all Bootstrap made projects looks same and you can make a web site up without much of a HTML+CSS knowledge, we need to understand that Bootstrap is a generic framework and like any other generic stuff, you need to customize it to look it exclusive. And you need to delve deep when you are on your way to customize it and that is not feasible without well understanding of HTML+CSS. Thousands of websites, including MSNBC and NASA, use Bootstrap to:

1. Save time and repetition with Bootstrap's powerful collection of pre-made templates, classes, and grid layouts.
2. Build and deploy "platform agnostic" websites at a pinch.
3. Fluid grid layouts and templates make mobile-first development easy.
4. Lightweight and expandable.
5. Compatibility across a huge range of browsers - including Internet Explorer 6!

4.1.9 BACKEND

4.1.9.1 SQL

SQL is the most popular database system used with ASP.NET.SQL is a fast, easy-to-use RDBMS being used for many small and big businesses.SQL is developed, marketed, and supported by SQL AB, which is a Swedish company.SQL is becoming so popular because of many good reasons:

1. SQL is released under an open-source license. So you have nothing to pay to use it.
2. SQL is a very powerful program in its own right. It handles a large subset of the functionality of the most expensive and powerful database packages.
3. SQL uses a standard form of the well-known SQL data language.

4. SQL works on many operating systems and with many languages including ASP.NET, PHP, PERL, C, C++, JAVA, etc.
5. SQL works very quickly and works well even with large data sets.
6. SQL is very friendly to ASP.NET, the most appreciated language for web development.
7. The default file size limit for a table is 4GB, but you can increase this (if your operating system can handle it) to a theoretical limit of 8 million terabytes (TB).
8. SQL is customizable. The open-source GPL license allows programmers to modify the SQL software to fit their own specific environments.

4.1.9.2 C# (C-Sharp)

C# pronounced (c-sharp) is a whole new language free of backward compatibility curse with a whole bunch of new, exciting and promising features. It is an Object Oriented programming language and has its core, many similarities to Java, C++ and VB. In fact, C# combine the power and efficiency of C#, the simple and OO design of Java and the language simplification of Visual Basic. C# does not allow multiple inheritance or use of pointers, but does provide garbage memory allocation at runtime, type and memory access checking. C# maintains the unique useful operators of C++ like operator overloading, enumeration, pre-processor directives, pointers, function pointers and promises to have template support in next versions. Like VB it also supports the concepts of properties (Context Sensitive Fields). In addition to this, C# comes up with some new and exciting feature such a remoting, threads, data access with ADO.NET and more.

Namespaces in C#

A namespace is simply a logical collection of related classes in C#. The namespaces can be defined in this way:

Namespace parent

{Namespace child {…}

}

The Using Keyword

The first line of program is

Using system;

The *using keyword* above allows us to use the classes in the ‘System’ namespace. Hence we might need to write

Using system, Collection;

In order to access the classes defined in the collection namespace which is a sub/internal namespace of the system namespace.

The Class Keyword

The entire C# program contains at least one class. The main method resides in one of these classes.

The Main ( ) Method

This is the standard signature of main method in C#. The main method is the entry point of our program. This method is designed as static as it will be called by the common language runtime (CLR) without making any object.

4.2 Implementation of the project with Screen Shots

4.2.1 Homepage

This is the Index or Home page of the website Nikil Chemicals. The page contains the header, body and footer of the webpage. The header contains Website Logo, Navigation Bar and Social icons. The body contains the search option to search carpenters, dealers, distributors and their respective details.

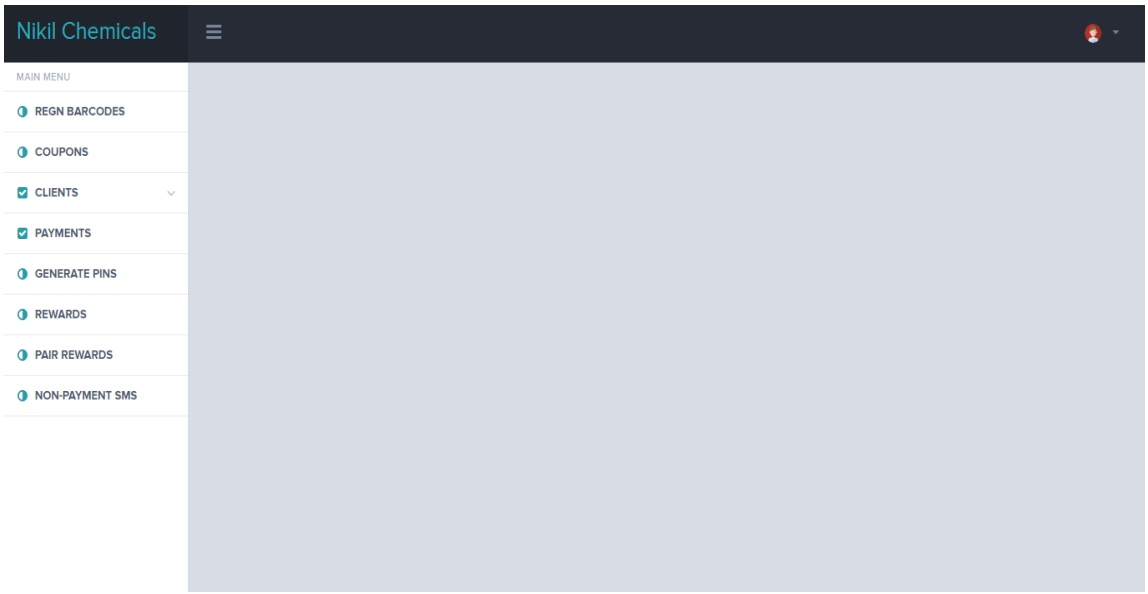


Figure 4.1 Homepage

4.2.2 Contact Us

This is the contact page of my website. This page provided the user to contact with the company by filling its name, phone, email and message. This page contains the Address of the company, phone number of the company, working Hours of the company and the email of the company. The user can easily contact with the company by filling these information in the form and then submit.

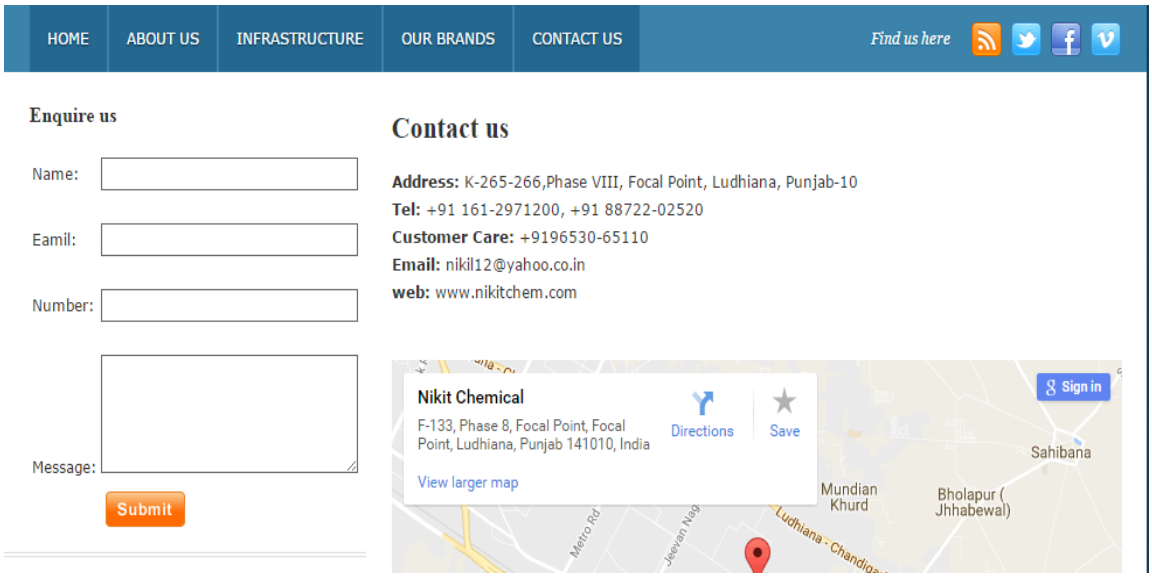


Figure 4.2: Contact Us

4.2.3 About Us

This is the about us page of my website. This page contains the information about the company or it contains the information about the product. This page also contains a header, footer and body as shown in screenshot.

Figure 4.3: About us

4.2.4 Create ID for Carpenters, Dealers and Distributors

In this form, the carpenter, dealers and distributors can register after the id is provided by the company to them.

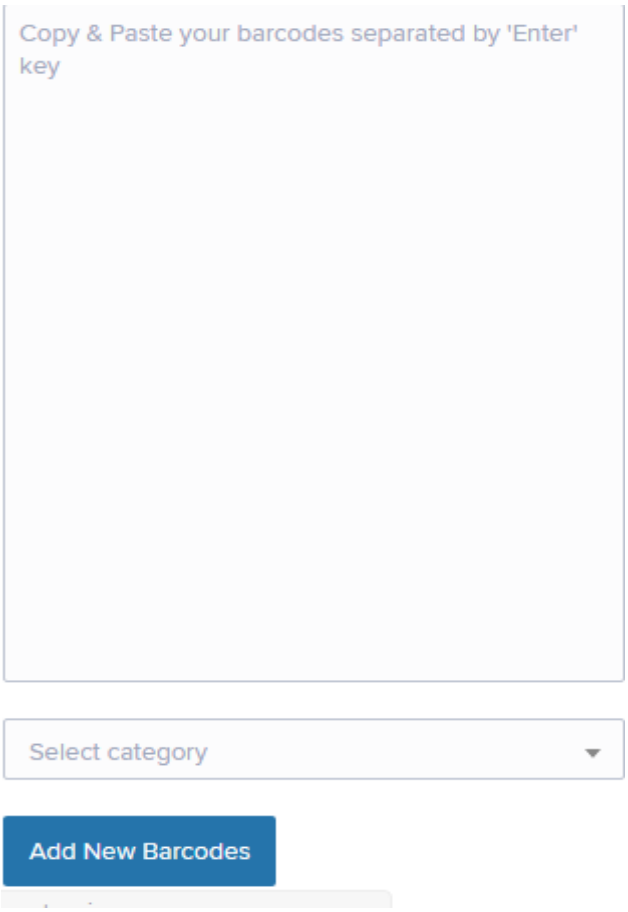


Figure 4.4: Create ID

4.2.5 Registration form as a Carpenters, Dealers and Distributers

In this the carpenters, dealers and distributers can register through app called Woodworkers of india by filling the necessary details in the following fields as shown in the figure.

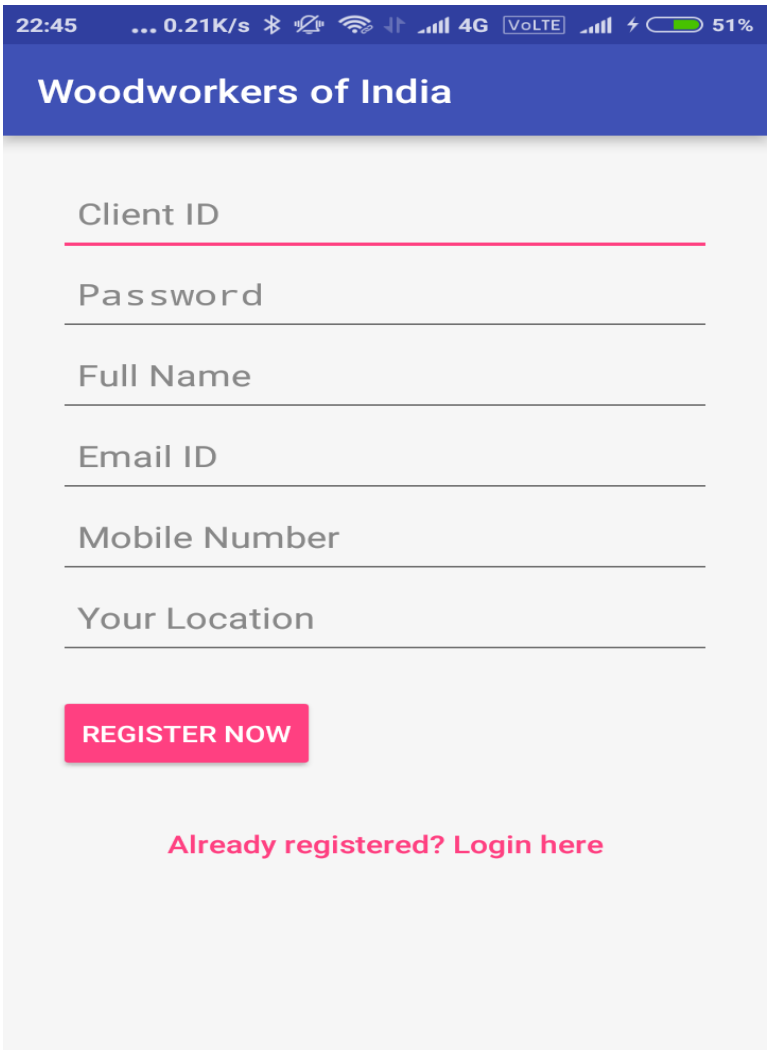


Figure 4.5 Registered user Homepage

4.2.6 Login Form

The login form is used by the registered carpenters, dealers, distributors but not by guest users. In this login form, the registered users can fill the username and password after clicking login button he is redirected to their dashboard pages according their roles.

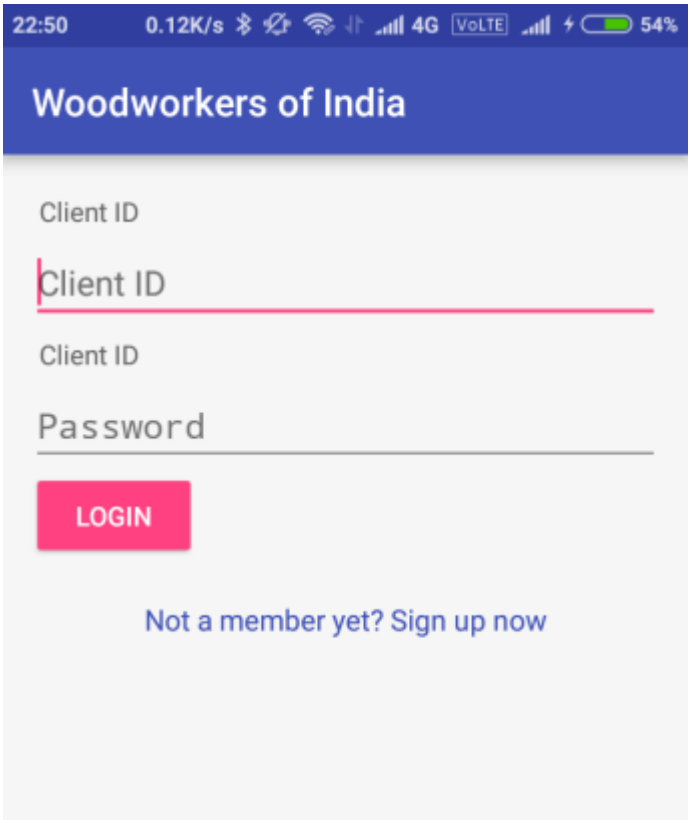


Figure 4.5: Login Form

4.2.7 Dashboard of Carpenters, Distributors and Dealers

When registered users are login then he is redirected to dashboard. Dashboard page contains the information about the registered users. Information contains such as name, id, points, and registered date, expire date and days left in the expiration of account.

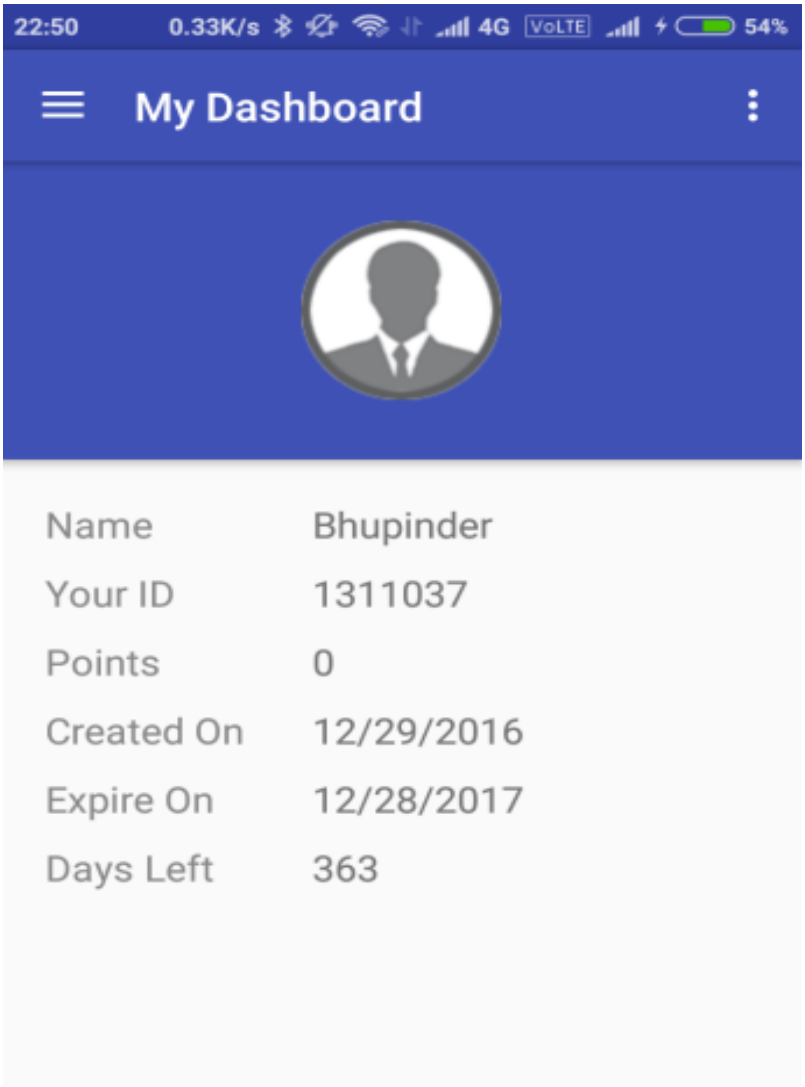


Figure 4.6 Dashboard

4.2.8 Different Pages

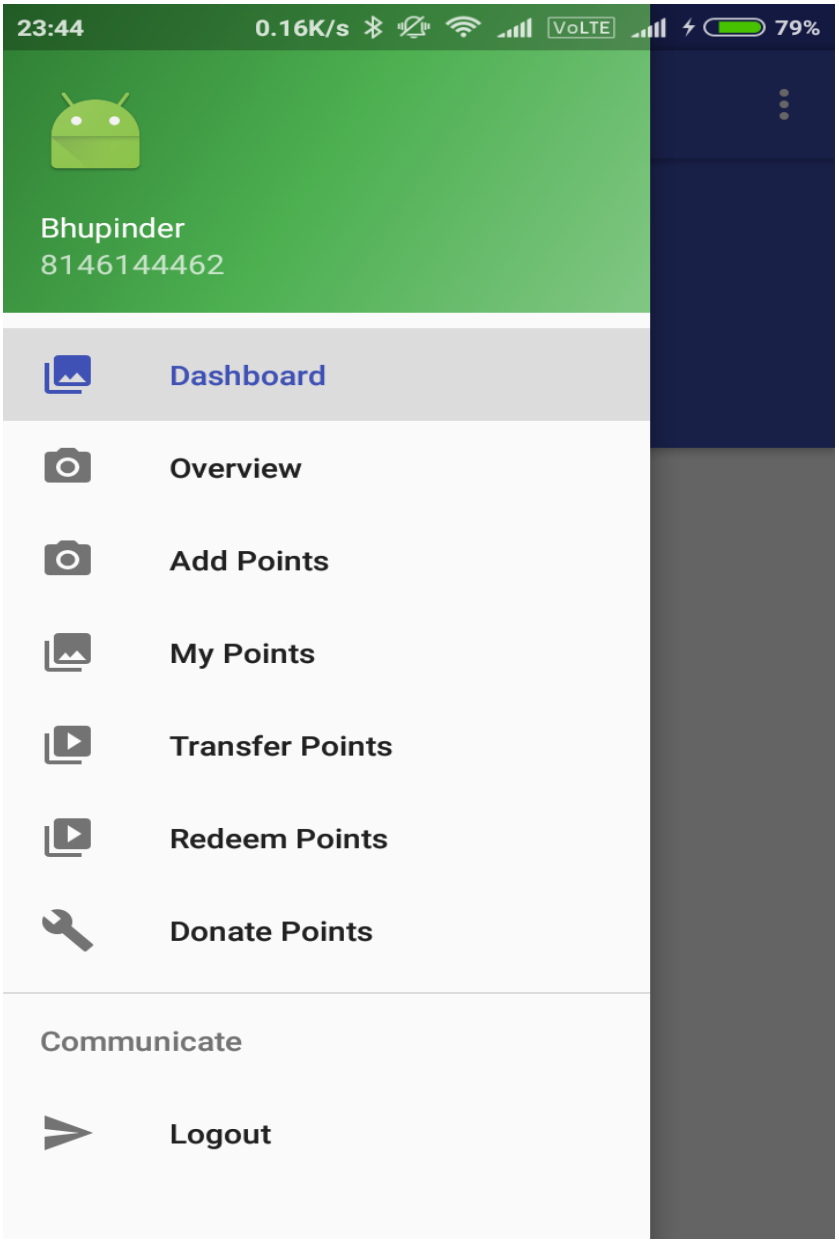


Figure 4.7: Different Pages

4.2.9 Admin panel

The admin is the head of the site. In our site, after login the admin can add users view the entire user and can change their passwords.

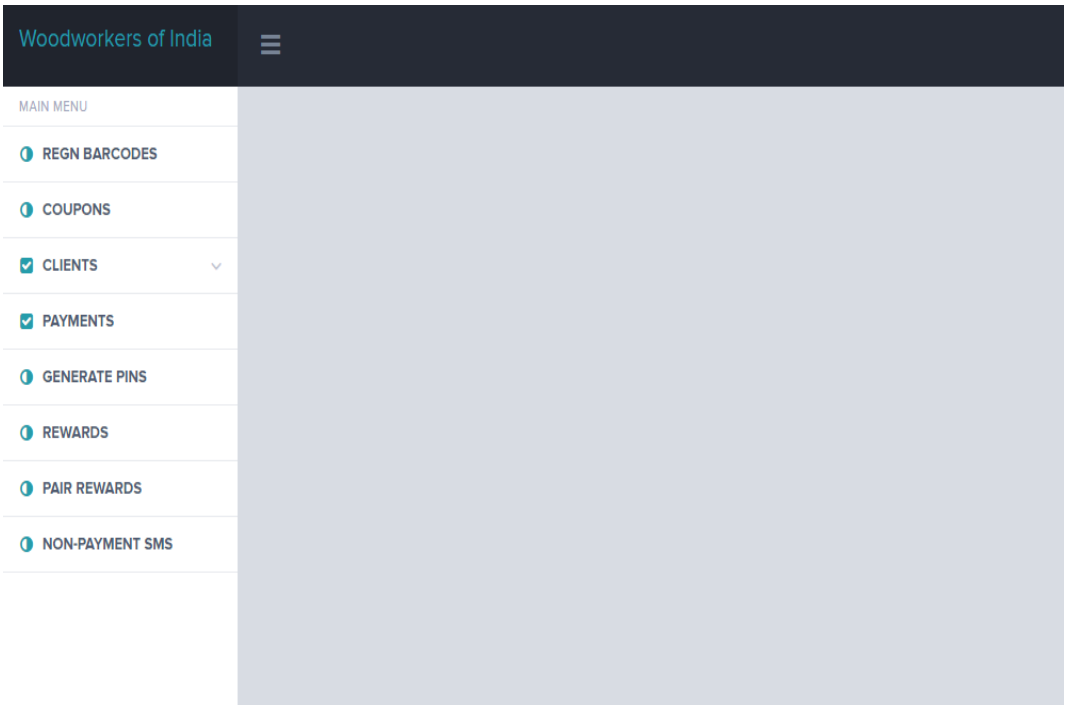


Figure 4.8 Admin Panel

4.2.10Manage Registration Barcode

Admin can manage all the registration in this option. He can generate id as well as can see his registered user.

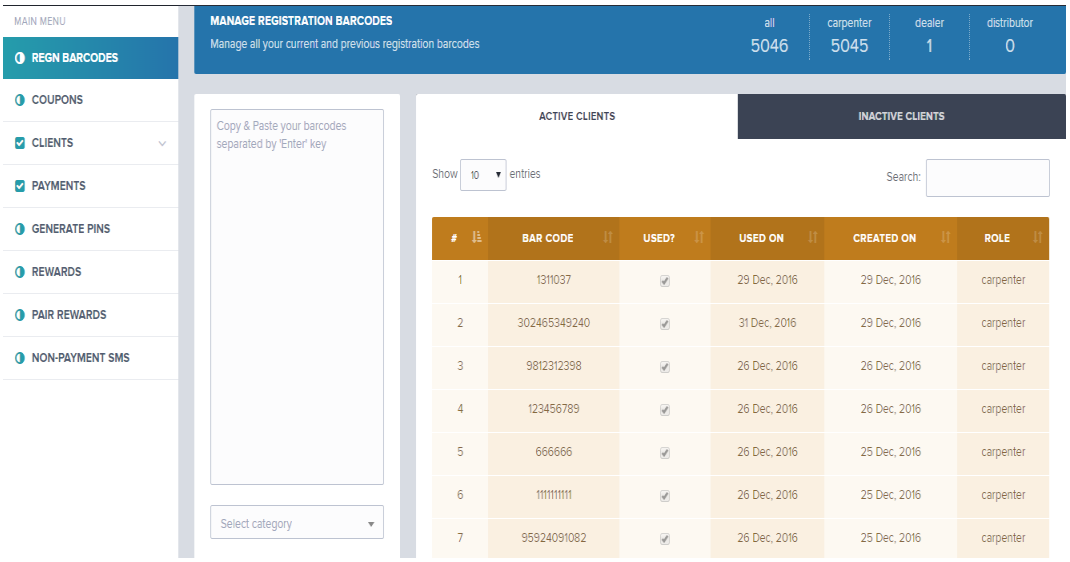
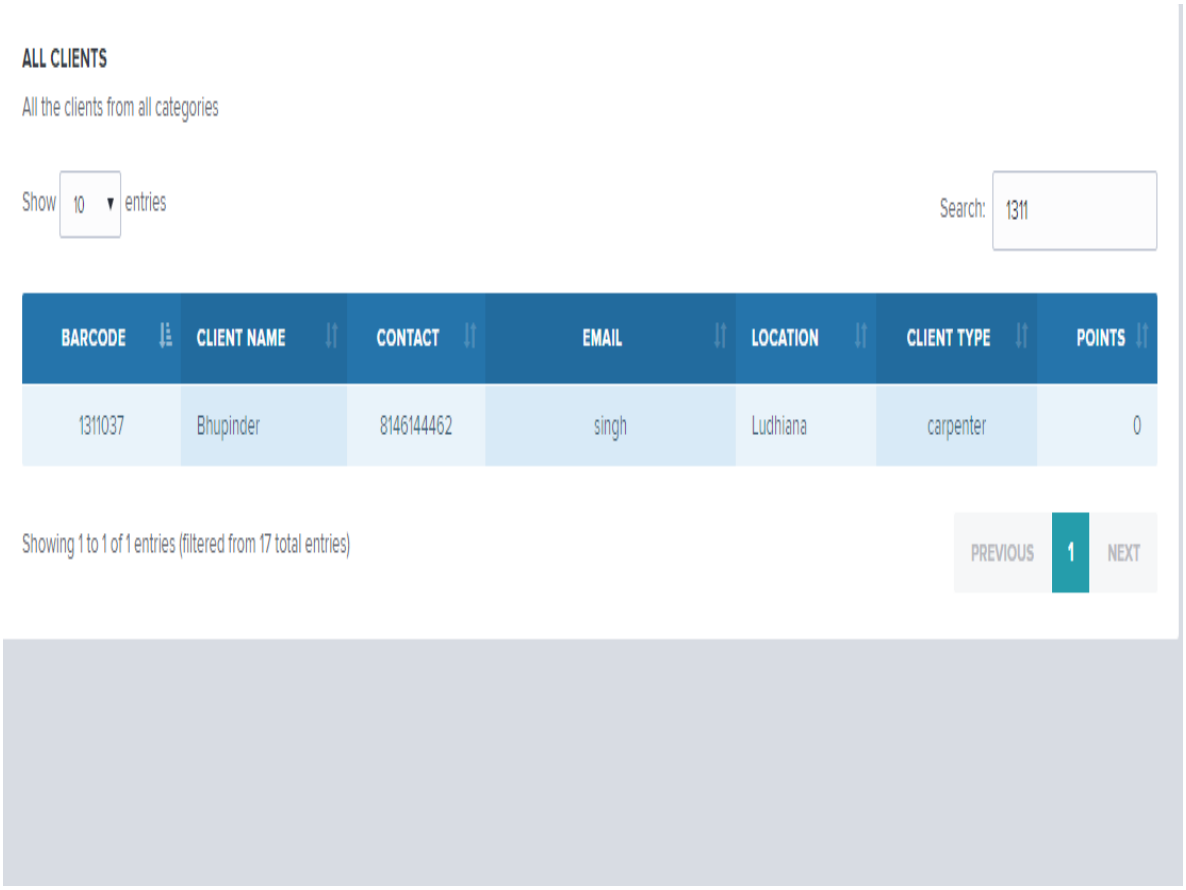


Figure 4.9: Registered Barcodes

4.2.10 Search Option

4.2.11 Search Option

Search option important feature of our site to the users. Admin can search the carpenters, dealers and distributors by just typing their names.



.

Figure 4.10: Search option

4.2.11 Profile of Carpenters, Dealers and Distributers

This view shows the profile of students which includes personal details like bar code, registered date created on and role etc

#	BAR CODE	USED?	USED ON	CREATED ON	ROLE
1	1311037	☑	29 Dec, 2016	29 Dec, 2016	carpenter
2	693537462419	☐		29 Dec, 2016	carpenter
3	912917289942	☐		29 Dec, 2016	carpenter
4	477635637649	☐		29 Dec, 2016	carpenter
5	51589239555	☐		29 Dec, 2016	carpenter
6	712228279639	☐		29 Dec, 2016	carpenter
7	577818708389	☐		29 Dec, 2016	carpenter
8	646644755252	☐		29 Dec, 2016	carpenter
9	936843891350	☐		29 Dec, 2016	carpenter
10	993119637795	☐		29 Dec, 2016	carpenter

12345678910...

Figure 4.11: Profile

4.2.12 Admin Panel-Change Role

Admin can change role of any user account when change role button is clicked he is presented with a change role dialog option. After Save changes is clicked a confirmation message is given. He can also create any new role.

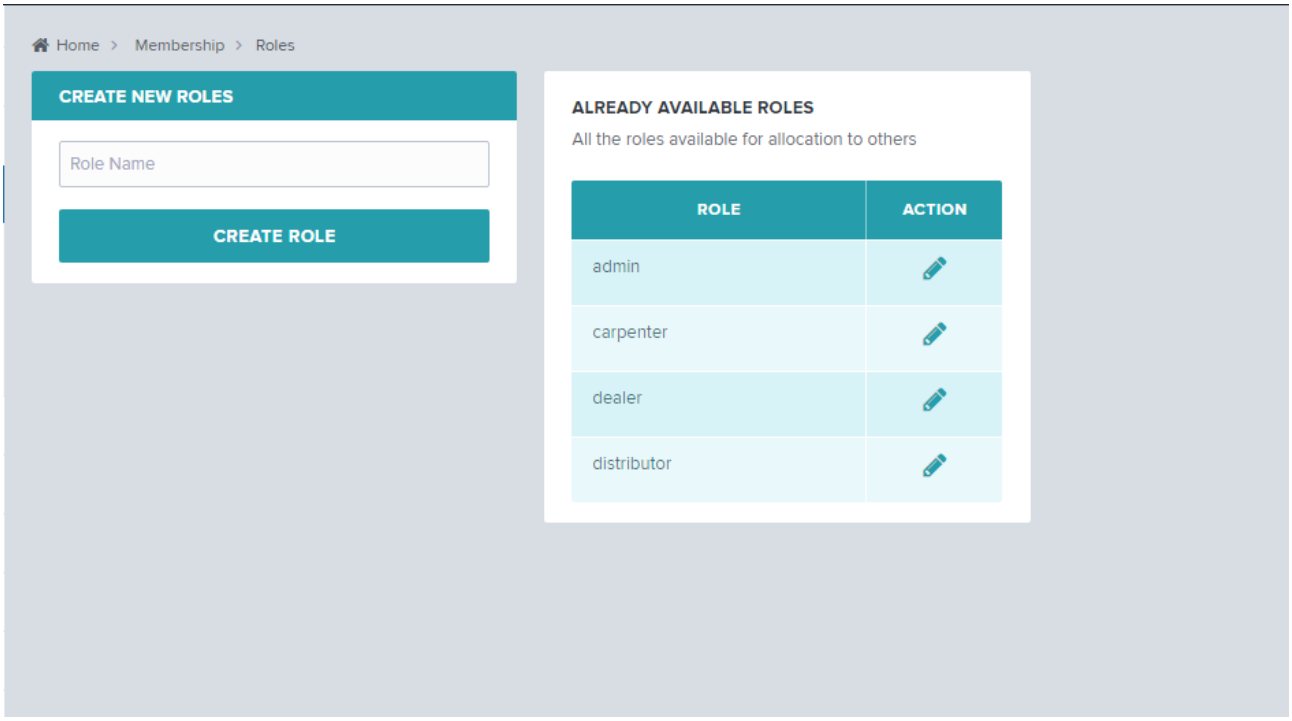


Figure 4.12: Admin Panel-change role

4.3 Testing

Software testing is an empirical investigation conducted to provide stakeholders with information about the quality of product or service under test with respect to the context in which it is intended to operate. Software testing also provides an objective, an independent view of the software to allow the business to appreciate and understand the risks at implementation of software. Test techniques includes, but are not limited to, the process of executing a program or application with an intent of finding software bugs. It can also be stated as the process of validating and verification that a software program/application/product meets the technical and business requirement that guided its design and development, so as it works as expected and can be implemented the same characteristics.

Software testing, depending on the testing method employed can be implemented at any time in the development process, however the most test effort is employed after the requirements have been defined and coding process has been completed.

Unit Testing:

The primary goal of unit testing is to take the smallest piece of testable software in the application, isolate it from the remainder of the code, determine whether it behaves exactly as you expected. Each unit is tested separately before integrating into the modules to test the interface between modules. Unit testing has large proven its value in that large percentage of defects is identified during its use.

Each module of product, whether it is front end and backend was tested with traditional way of testing like:

- Mutant testing.
- Print testing. Etc.

In testing Chrome **Inspect element** was highly used, along with **debugger**.

Integration Testing:

Integration testing, also known as integration and testing (I&T), is a software development process which program units are combined and tested as group in multiple ways. In this context, a unit is defined as the smallest testable part of an application. Integration testing can expose problems with the interfaces among program components before trouble occurs in the real program execution. Integration testing is a component of Extreme programming, a pragmatic method of software development that takes a meticulous pragmatic method of software development that takes a meticulous.

There are two major ways of carrying out an integration test, called the bottom-up method and top-down method. Bottom-up integration testing begins with unit testing, followed by tests of progressively higher-level combinations of units called modules or builds. In the top-down integration testing, the highest-level modules are tested first and progressively lower-level modules are tested after that. They way I performed testing was:

- First testing each module of front end.
- Then testing each module of back end.
- Then integration testing.

Validation testing:

At the validation level, testing focuses on users visible actions and user recognizable output from the system. Validation testing is said to be successful when software functions in the manner that can be reasonably expected by the customer. Two types of validation testing:

1. **Alpha testing:** Alpha testing is simulated or actual operational testing by potentials users/customers or an independent test team at the developer's site. Alpha testing is often employed for off-the-shelf software as a form of internal acceptance testing, before the software goes to beta testing. For the application, I tested app along with some colleagues.
2. **Beta testing:** Beta testing comes after alpha testing. Versions of the software known as beta versions are released to a limited audience outside the program team. The software is released to groups of people so that further testing can ensure the product has faults or bugs.

Chapter 5: Conclusion and Future Scope

5.1 Conclusion

This is to conclude that the project that I undertook was worked upon with a sincere effort. Almost all of the requirements of the client have been met to his satisfaction. The site is fully functional and lightweight than earlier, it is deployed on web and is functioning upto the mark and is fresh site.

5.2 Future Scope

The development of this project surely prompts many new areas of investigation. Moreover some parts of the project are yet to be added. First of all new requests from client make place for future enhancements. Some of them are:

- **Addition discussion forum:** The site can be loaded with a fully functional forum
- **Addition of documents**: Documents like audios; video etc. can also be uploaded.
- **Upload facility:** Facility of uploading new images to the galleries can also be added.

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