
1. INTRODUCTION

1.1 BACKGROUND AND MOTIVATION

Honey is used all over the world. It is a sweet and versatile food that is consumed and enjoyed by people all over the world. It is also relatively easy to produce and store, making it a convenient and widely available product. Honey has a long shelf life and can be used in a variety of culinary applications, including as a sweetener in drinks and baked goods, as a spread on toast and other foods, and as a natural remedy for a number of ailments. Its unique flavor and versatility make it a popular choice for consumers, and its widespread availability makes it a universal commodity.

There are several ways that a middleman between a customer and seller can make the seller non-profitable during a honey sale. The middleman may add a markup to the price of the honey in order to make a profit, which can reduce the profit margin for the seller. The middleman may charge the seller fees for handling the sale, which can also reduce the seller's profit. He may negotiate the price of the honey with the customer, and the seller may have to accept a lower price in order to make the sale. This can reduce the seller's profit margin. The middleman may have more information about market conditions and demand than the seller, which can give the middleman an advantage in negotiating the price of the honey. This can also lead to a reduction in the seller's profit. Overall, the presence of a middleman in the honey sale process can create additional costs and reduce the profit margin for the seller.

Therefore an online portal for honey products can provide a number of benefits for both sellers and buyers. An online portal allows buyers to shop for honey from the comfort of their own home, and makes it easier for sellers to reach a wider audience of potential customers. This online portal can help sellers to increase the visibility of their products and reach more people who are interested in buying honey. It also allow sellers to compare prices and make more informed decisions about the price of their products, helping them to stay competitive in the market. An online portal can allow buyers to read reviews and ratings from other customers, which can help them to make more informed purchasing decisions. Overall, an online portal for honey products can provide a number of benefits for both sellers and buyers, making it an important tool for conducting sales and building a successful business

1.2 THE PROPOSED SYSTEM

Beehive Market is an online honey portal which is a website or platform that allows buyers and sellers to connect and transact business related to honey and honey products. An online honey portal can provide a range of services, including listing honey products for sale, facilitating transactions between buyers and sellers, and providing tools and resources for

managing inventory and shipping. Online honey portals also offer additional features such as customer reviews and ratings, as well as information and resources related to the honey industry. Online honey portals can be a convenient and efficient way for buyers and sellers to connect and conduct business related to honey products. The admin is responsible for handling the entries of the database. Reports are generated to the sellers by processing the entire data. The reports can be used to check and find out the orders. Through the reports the sellers can make necessary changes if needed, so that transparency and efficiency can be maintained.

The aim of an online honey portal to provide a platform for buyers and sellers to connect and conduct business related to honey and honey products. It offer a convenient and efficient way for consumers to purchase honey and honey products. Also it provide sellers with a way to increase the visibility of their products and reach a wider audience of potential customers.

1.3 PROJECT SCOPE

1.3.1.Limitations of Existing System

- **Limited reach**

Honey products may only reach a small, local audience, whereas online sales or distribution through retail stores can potentially reach a wider market.

- **Time and labor intensive**

Existing system can be time-consuming, as it may involve setting up tables or booths at farmers markets or other events, and interacting with customers in person.

- **Inconsistent sales**

Manually selling honey products may result in inconsistent sales, as it can be difficult to predict how much product you will sell at any given event or location.

- **Competition**

There may be other honey vendors at the same events or locations where you are selling, which can make it more difficult to attract customers.

- **Weather-dependent**

If you are selling honey products outdoors, your sales may be affected by inclement weather, which can be a risk.

- **Limited payment options**

Manually selling honey products may only allow for cash or check payments, whereas online sales or distribution through retail stores can potentially offer a wider range of payment options

1.3.2. Advantages of Proposed System

- **Wide selection**
Online honey portals often offer a wider selection of honey products than you may find in a physical store, including different types of honey, honeycomb, and honey-based products.
- **Easy price comparison**
With an online honey portal, it is easy to compare prices from different vendors to ensure you are getting the best deal.
- **Convenience**
With an online honey portal, you can purchase honey from the comfort of your own home, without having to physically visit a store.
- **Competitive prices**
Because online retailers do not have the same overhead costs as physical stores, they may be able to offer lower prices on their products.
- **Environmental benefits**
By shopping online, you can reduce your carbon footprint by eliminating the need to drive to a physical store.
- **No Data Loss**
As the data's are all stored in the Mysql database securely, there is no chance of losing the data.

2. SYSTEM ANALYSIS

2.1 INTRODUCTION

System analysis involves gathering the necessary information and using the structured tool for analysis [1]. This includes the studying existing system and its drawback, designing a new system and conducting cost benefit analysis. System analysis is a problem solving activity that requires intensive communication between the system users and system developers. The system is studied to the minute detail and analysed. The system is viewed as a whole and the inputs to the system are identified. The outputs from the organization are traced through various phases of processing of inputs.

Software Engineering is the analysis, design, construction, verification and management of technical or social entities. To engineer software accurately, a software engineering process must be defined. System analysis is a detailed study of the various operations performed by the system and their relationship within and module of the system. It is a structured method for solving the problems related to the development of a new system. The detailed investigation of the present system is the focal point of system analysis. This phase involves the study of parent system and identification of system objectives. Information has to be collected from all people who are affected by or who use the system. During analysis, data are collected on the variable files, decision point and transactions handled by the present system. The main aim of system is to provide the efficient and user friendly automation. So the system analysis process should be performed with extreme precision, so that an accurate picture of existing system, its disadvantages and the requirements of the new system can be obtained.

There are a number of different approaches to system analysis. When a computer based information system is developed, systems analysis (according to the Waterfall model) would constitute the following steps:

- The development of a feasibility study, involving determining whether a project is economically, technologically and operationally feasible.
- Conducting fact-finding measures, designed to ascertain the requirements of the system's end-users. These typically span interviews, questionnaires, or visual observations of work on the existing system.

Techniques such as interviews, questionnaires etc. can be used for the detailed study of these processes. The data collected by these sources must be scrutinized to arrive at a conclusion.

The conclusion is an understanding of how the system functions. This system is called the Existing System. The Existing system is then subjected to close observation and the problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as a proposal which is the Proposed System. The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is then presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is a loop that ends as soon as the user is satisfied with the proposal.

2.2 STAKE HOLDERS

2.2.1 Administrator

Administrator is the authorized person who handles the whole website. He can view and access all the details in the system. The admin can activate, deactivate, delete and edit the reports.

2.2.2 Sellers

Sellers are those who make the products. Sellers can register in this system and login using username and password. They can add different types of honey products. They can activate available products and deactivate unavailable products.

2.2.3 Customer

Customers are the users of this system. Customer can register in this portal with username, password, address, email and contact number. They can login into their account 24*7 using their username and password. He can view all the details from this

website about honey products. He can also see the reviews. Through this website a customer can book a new product.

2.3 SOFTWARE REQUIREMENT SPECIFICATION

2.3.1 Admin

1. Admin should have the provision for login using username and password.
2. Admin have the permission to add/view/delete location and district.
3. Admin have the permission to add/view/delete categories.
4. Admin should have the permission to accept users.
5. Admin should have the permission to reject users.
6. Admin can take reports of categories, customer details etc..
7. Admin can make a conclusion based on the reports
8. The system should have the provision to logout.

2.3.2 Seller

1. Sellers can login if they get approval from the admin.
2. Sellers should have the provision for home page.
3. Workers have the provision to logout.

2.3.3 Customers

1. Job seeker can login to the portal using username and password.
2. Job seeker can enter the home page.
3. Job seeker can view vacancies available.
4. Job seeker can update his/her personal details like phone number, name etc.
5. Job seeker can apply for a post.
6. Job seeker can logout.

Table 2.1 Sign off table

Sl. No.	Name & Designation	Date	Accepted (Yes/No)
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1	Mrs. Amitha Joseph Assistant Professor Santhigiri college of computer sciences.		
2	Arundhathy S Kochupara Developer		

2.4 FEASIBILITY STUDY

Feasibility is defined as the practical extent to which a project can be performed successfully. To evaluate feasibility, a feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Information such as resource availability, cost estimation for software development, benefits of the software to the organization after it is developed and cost to be incurred on its maintenance are considered during the feasibility study. The objective of the feasibility study is to establish the reasons for developing the software that is acceptable to users, adaptable to change and conformable to established standards. Various other objectives of feasibility study are listed below.

- To analyze whether the software will meet organizational requirements.
- To determine whether the software can be implemented using the current technology and within the specified budget and schedule.
- To determine whether the software can be integrated with other existing software.

When our project guide as well as our client Mrs. Neetha Thoms told us regarding the mini project and about Word to the Wise for getting the desired product developed, it comes up with rough idea about what all functions the software must perform and which all features are expected from the software.

Referencing to this information, we does a studies and discussions about whether the desired system and its functionality are feasible to develop and the output of this phase is a feasibility study report that should contained adequate comments and recommendations.

Various types of feasibility that we checked include technical feasibility, operational feasibility, and economic feasibility.

Technical Feasibility

Technical feasibility assesses the current resources (such as hardware and software) and technology, which are required to accomplish user requirements in the software within the allocated time and budget. For this, the software development team ascertains whether the current resources and technology can be upgraded or added in the software to accomplish specified user requirements. Technical feasibility also performs the following tasks.

- Analyses the technical skills and capabilities of the software development team members.
- Determines whether the relevant technology is stable and established.
- Ascertains that the technology chosen for software development has a large number of users so that they can be consulted when problems arise or improvements are required.

From our perspective there are two languages ANGULAR, HTML and database MySQL which are used to develop this web based applications. ANGULAR is used in the front end and MySQL is used in the back end. The Word to the Wise is web based and thus can be accessed through any browsers. As we are using these latest technologies which are currently trending and used by a number of developers across the globe, we can say that our project is technically feasible.

Operational Feasibility

Operational feasibility assesses the extent to which the required software performs a series of steps to solve business problems and user requirements. This feasibility is dependent on human resources (software development team) and involves visualizing whether the software will operate after it is developed and be operative once it is installed. Operational feasibility also performs the following tasks.

- Determines whether the problems anticipated in user requirements are of high priority.
- Determines whether the solution suggested by the software development team is acceptable.

- Analyses whether users will adapt to a new software.
- Determines whether the organization is satisfied by the alternative solutions proposed by the software development team.

We found that our project will be satisfied for the client since we were discussing every detail about the software with the client at every step. The most important part of operational feasibility study is the input from client. So the software is built completely according to the requirements of the client. We have used the current industry standards for the software. Hence we can say that this software is operationally feasible.

Economic Feasibility

Economic feasibility determines whether the required software is capable of generating financial gains for an organization. It involves the cost incurred on the software development team, estimated cost of hardware and software, cost of performing feasibility study, and so on. For this, it is essential to consider expenses made on purchases (such as hardware purchase) and activities required to carry out software development. In addition, it is necessary to consider the benefits that can be achieved by developing the software. Software is said to be economically feasible if it focuses on the issues listed below.

- Cost incurred on software development to produce long-term gains for an organization.
- Cost required to conduct full software investigation (such as requirements elicitation and requirements analysis).
- Cost of hardware, software, development team, and training.

It is estimated that our project is economically feasible as development cost is very minimal since the tools and technologies used are available online. Development time is well planned and will not affect other operations and activities of the individuals. Once the system has been developed, the companies purchasing the system will be providing with a manual for training purposes. There is no need to purchase new hardware since the existing computers can still be used to implement the new system.

2.5 SOFTWARE DEVELOPMENT LIFECYCLE MODEL

One of the basic notions of the software development process is SDLC models which stand for Software Development Life Cycle models [2]. SDLC – is a continuous process,

which starts from the moment, when it's made a decision to launch the project, and it ends at the moment of its full remove from the exploitation. Software development lifecycle (SDLC) is a framework that defines the steps involved in the development of software. It covers the detailed plan for building, deploying and maintaining the software. SDLC defines the complete cycle of development i.e. all the tasks involved in gathering a requirement for the maintenance of a Product.

Some of the common SDLC models are Waterfall Model, V-Shaped Model, Prototype Model,

Spiral Model, Iterative Incremental Model, Big Bang Model, Agile Model. We used Agile Model for our Project.

Agile Model

Agile Model is a combination of the Iterative and incremental model. This model focuses more on flexibility while developing a product rather than on the requirement. In the agile methodology after every development iteration, the client is able to see the result and understand if he is satisfied with it or he is not. Extreme programming is one of the practical use of the agile model. The basis of this model consists of short meetings where we can review our project. In Agile, a product is broken into small incremental builds. It is not developed as a complete product in one go. At the end of each sprint, the project guide verifies the product and after his approval, it is finalized. Client feedback is taken for improvement and his suggestions and enhancement are worked on in the next sprint. Testing is done in each sprint to minimize the risk of any failures.

Advantages of Agile Model:

- It allows more flexibility to adapt to the changes.
- The new feature can be added easily.
- Customer satisfaction as the feedback and suggestions are taken at every stage.
- Risks are minimized thanks to the flexible change process.

Disadvantages:

- Lack of documentation.

- If a customer is not clear about how exactly they want the product to be, then the project would fail.
- With all the corrections and changes there is possibility that the project will exceed expected time.

2.6 HARDWARE AND SOFTWARE REQUIREMENTS

2.6.1 Software Specification

This project is built upon the latest technology software.

Front end	:	ANGULAR
Back end	:	MySql + node js
Development tool	:	HTML,CSS,BootStrap p
Database	:	My SQL
Web server	:	WAMP server
Operating System	:	Windows 10

2.6.1.1 ANGULAR

Angular is an open-source, JavaScript framework written in TypeScript. Google maintains it and its primary purpose is to develop single-page applications. As a framework, Angular has clear advantages while also providing a standard structure for developers to work with. It enables users to create large applications in a maintainable manner.

Single-page applications are web applications or a special type of website that provide users with a very intuitive, responsive, and fast user experience. It is enriched with menus, multiple blocks, tiles, and interactive buttons on one page, helping users easily navigate the application. This helps to dynamically load a portion of the current page instead of reloading the entire page from the server. This is why angular based applications are called reactive fast speed loading pages.

Angular CLI is basically a command-line interface tool that automates the application development process by initializing new Angular applications and maintaining them directly from a command shell. As you plan to set up your project using Angular CLI, it will show all its built-in features. From there, you can learn about the various features that Angular provides for web application development.

Features of Angular

1. Multiple platforms: Angular helps develop desktop applications for different types of Operating systems. Native applications can also be built using Angular with Cordova, Native Script, or Ionic.

2. High performance and speed: Angular's performance is very high, and the reasons behind this high performance are:

Angular is used as a front-end web tool and can work in conjunction with PHP, Node.js, Struts or Java and has the ability for near-instant rendering using only CSS and HTML.

It optimizes the web application for improved SEO

Angular provides its applications with the ability to load faster with new component routers and single page application (SPA) support.

Creating templates in Angular is also done with a highly customized code.

3. Full-stack development: This framework also provides testing (Jasmine and Karma for unit testing), accessibility, automation, and supports full-stack development with Express JS, Node.JS, and MongoDB.

4. High Productivity: The angular framework provides a better yet, the simple and powerful syntax for templates, CLIs, and IDEs to increase the productivity of any application development.

UI views can be developed easily and rapidly using Angular's powerful templates. Intelligence and smart code completion IDEs, along with error detection editors, make development smart and efficient.

Angular's CLI can rapidly build and test components and deploy them immediately. Overall, it can be said that Angular is a powerful tool to work with and an efficient one from the developer's perspective.

2.6.1.2 MySQL

MySQL is the world's most popular open source database software, with over 100 million copies of its software downloaded or distributed throughout its history [3]. With its superior speed, reliability, and ease of use, MySQL has become the preferred choice for Web, Web 2.0, SaaS, ISV, Telecom companies and forward-thinking corporate IT

Managers because it eliminates the major problems associated with downtime, maintenance and administration for modern, online applications.

Many of the world's largest and fastest-growing organizations use MySQL to save time and money powering their high-volume Web sites, critical business systems, and packaged software — including industry leaders such as Yahoo!, Alcatel-Lucent, Google, Nokia, YouTube, Wikipedia, and Booking.com.

The flagship MySQL offering is MySQL Enterprise, a comprehensive set of production-tested software, proactive monitoring tools, and premium support services available in an affordable annual subscription.

MySQL is a key part of LAMP (Linux, Apache, MySQL, PHP / Perl / Python), the fast-growing open source enterprise software stack. More and more companies are using LAMP as an alternative to expensive proprietary software stacks because of its lower cost and freedom from platform lock-in.

MySQL was originally founded and developed in Sweden by two Swedes and a Finn: David Axmark, Allan Larsson and Michael "Monty" Widenius, who had worked together since the 1980's. MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by Oracle Corporation.

MySQL is a database management system. A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, you need a database management system such as MySQL Server. Since computers are very good at handling large amounts of data, database management systems play a central role in computing, as standalone utilities, or as parts of other applications.

MySQL databases are relational. A relational database stores data in separate tables rather than putting all the data in one big storeroom. The database structures are organized into physical files optimized for speed. The logical model, with objects such as databases, tables, views, rows, and columns, offers a flexible programming environment. You set up rules governing the relationships between different data fields, such as one-to one, one-to-many, unique, required or optional, and —pointers between different tables. The database enforces these rules, so that with a well-designed database, your application never sees inconsistent, duplicate, orphan, out-of-date, or missing data.

The SQL part of —MySQL stands for —Structured Query Language. SQL is the most common standardized language used to access databases. Depending on your programming environment, you might enter SQL directly (for example, to generate reports), embed SQL statements into code written in another language, or use a language-specific API that hides the SQL syntax.

SQL is defined by the ANSI/ISO SQL Standard. The SQL standard has been evolving since 1986 and several versions exist. In this manual, —SQL-92 refers to the standard released in 1992,

—SQL:1999 refers to the standard released in 1999, and —SQL:2003 refers to the current version of the standard.

We use the phrase —the SQL standard to mean the current version of the SQL Standard at any time. MySQL software is Open Source. Open Source means that it is possible for anyone to use and modify the software. Anybody can download the MySQL software from the Internet and use it without paying anything. If you wish, you may study the source code and change it to suit your needs.

The MySQL software uses the GPL (GNU General Public License), <http://www.fsf.org/licenses/>, to define what you may and may not do with the software in different situations. If you feel uncomfortable with the GPL need to embed MySQL code into a commercial application, you can buy a commercially licensed version from us.

The MySQL Database Server is very fast, reliable, scalable, and easy to use. If that is what you are looking for, you should give it a try. MySQL Server can run comfortably on a desktop or laptop, alongside your other applications, web servers, and so on, requiring little or no attention. If you dedicate an entire machine to MySQL, you can adjust the settings to take advantage of all the memory, CPU power, and I/O capacity available. MySQL can also scale up to clusters of machines, networked together.

MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years. Although under constant development, MySQL Server today offers a rich and useful set of functions. Its connectivity, speed, and security make

MySQL Server highly suited for accessing databases on the Internet. MySQL Server works in client/server or embedded systems.

The MySQL Database Software is a client/server system that consists of a multi-threaded SQL server that supports different backends, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs). We also provide MySQL Server as an embedded multi-threaded library that you can link into your application to get a smaller, faster, easier-to-manage standalone product.

A large amount of contributed MySQL software is available. MySQL Server has a practical set of features developed in close cooperation with our users. It is very likely that your favourite application or language supports the MySQL Database Server.

2.6.1.3 Visual Studio Code

Visual Studio (VS) Code is an open-source code editor by Microsoft. It was a free-editor that helps the programmer write code, helps in debugging and corrects the code using the intelli-sense method [5]. In normal terms, it facilitates users to write the code in an easy manner.

Visual Studio Code was first announced on April 29, 2015, by Microsoft at the 2015 Build conference. A preview build was released shortly there after. On November 18, 2015, the source of Visual Studio Code was released under the MIT License, and made available on GitHub. Extension support was also announced.

On April 14, 2016, Visual Studio Code graduated from the public preview stage and was released to the Web. Microsoft has released most of Visual Studio Code's source code on GitHub under the permissive MIT License, while the releases by Microsoft are proprietary freeware. VS Code can be used with a variety of programming languages, including Java, JavaScript, Go, Node.js, Python, C++, C, Rust and Fortran. It is based on the Electron framework, which is used to develop Node.js Web applications that run on the Blink layout engine. Visual Studio Code includes basic support for most common programming languages. This basic support includes syntax highlighting, bracket matching, code folding, and configurable snippets. Visual Studio Code includes multiple extensions for FTP, allowing the software to be used as a free alternative for web development. Code can be synced between the editor and the server, without downloading any extra software.

VS Code is available for Windows, Linux, and macOS. Although the editor is relatively lightweight, it includes some powerful features that have made VS Code one of the most popular development environment tools in recent times.

2.6.1.4 Windows 10

Operating System is defined as a program that manages the computer hardware. An operating system can be viewed as a scheduler, where it has resources for which it has charge. Resources include CPU, memory, I/O device and disk space. In another view, the operating system is a new machine. The third view is that operating system is a multiplexer which allows sharing of resources provides protection from interference and provides a level of cooperation between users. This project is developed using Windows 10 as the operating system and supports its latest versions. Windows 10 is a series of personal computer operating systems produced by Microsoft as part of its Windows NT family of operating systems. It is the successor to Windows 8.1, and was released to manufacturing on July 15, 2015, and to retail on July 29, 2015. One of Windows 10's most notable features is support for universal apps. Windows 10 also introduced the Microsoft Edge web browser, a virtual desktop system, a window and desktop management feature called Task View, support for fingerprint and face recognition login, new security features for enterprise environments, and DirectX12. Windows 10 received mostly positive reviews upon its original release in July 2015. Critics praised Microsoft's decision to provide a desktop-oriented interfacing line with previous versions of Windows, contrasting the tablet-oriented approach of 8, although Windows 10's touch-oriented user interface mode was criticized for containing regressions upon the touch-oriented interface of Windows 8. Critics also praised the improvements to Windows 10's bundled software over Windows 8.1, Xbox Live integration, as well as the functionality and capabilities of the Cortana personal assistant and the replacement of Internet Explorer with Microsoft Edge. However, media outlets have been critical of changes to operating system behaviours, including mandatory update installation, privacy concerns over data collection performed by the OS for Microsoft and its partners and the adware-like tactics used to promote the operating system on its release.

2.6.1.5 Microsoft Word

Microsoft Word (or simply Word) is a word processor developed by Microsoft [6]. It was first released on October 25, 1983 under the name *Multi-Tool Word* for Xenix systems. Subsequent versions were later written for several other platforms including IBM PCs running DOS (1983), Apple Macintosh running the Classic Mac OS (1985), AT&T Unix PC (1985), Atari ST (1988), OS/2 (1989), Microsoft Windows (1989), SCO Unix (1994), and macOS (formerly OS X; 2001).

Commercial versions of Word are licensed as a standalone product or as a component of Microsoft Office, Windows RT or the discontinued Microsoft Works suite. Unlike most MSDOS programs at the time, Microsoft Word was designed to be used with a mouse. Advertisements depicted the Microsoft Mouse, and described Word as a WYSIWYG, windowed word processor with the ability to undo and display bold, italic, and underlined text, although it could not render fonts. It was not initially popular, since its user interface was different from the leading word processor at the time, WordStar. However, Microsoft steadily improved the product, releasing versions 2.0 through 5.0 over the next six years. In 1985, Microsoft ported Word to the classic Mac OS (known as Macintosh System Software at the time). This was made easier by Word for DOS having been designed for use with highresolution displays and laser printers, even though none were yet available to the general public. Following the precedents of LisaWrite and MacWrite, Word for Mac OS added true WYSIWYG features. It fulfilled a need for a word processor that was more capable than MacWrite. After its release, Word for Mac OS's sales were higher than its MS-DOS counterpart for at least four years.

2.6.1.6 SmartDraw

SmartDraw is a diagram tool used to make flowcharts, organization charts, mind maps, project charts, and other business visuals [7]. SmartDraw has two versions: an online edition and a downloadable edition for Windows desktop.

SmartDraw integrates with Microsoft Office products including Word, PowerPoint, and Excel and G Suite applications like Google Docs and Google Sheets. SmartDraw has apps

for Atlassian's Confluence, Jira, and Trello. SmartDraw is compatible with Google Drive, Dropbox, Box, and OneDrive.

Since 1994, the mission of SmartDraw Software has been to expand the ways in which people communicate so that we can clearly understand each other, make informed decisions, and work together to improve our businesses and the world. We accomplish this by creating software and services that make it possible for people to capture and present information as SmartDraw is a diagram tool used to make flowcharts, organization charts, mind maps, project charts, and other business visuals. SmartDraw has two versions: an online edition and a downloadable edition for Windows desktop.

SmartDraw integrates with Microsoft Office products including Word, PowerPoint, and Excel and G Suite applications like Google Docs and Google Sheets. SmartDraw has apps for Atlassian's Confluence, Jira, and Trello. SmartDraw is compatible with Google Drive, Dropbox, Box, and OneDrive.

Since 1994, the mission of SmartDraw Software has been to expand the ways in which people communicate so that we can clearly understand each other, make informed decisions, and work together to improve our businesses and the world. We accomplish this by creating software and services that make it possible for people to capture and present information as visuals, while being a pleasure to use. In 2019, we took this to the next level by launching VisualScript, which makes it easy to visualize data in relational formats like trees, flows, and timelines, automatically, without any human input. VisualScript is a relationship visualization platform that empowers organizations to visualize data across siloed ecosystems and gain critical insights in real-time. Today, SmartDraw Software is one of the most sophisticated digital marketing organizations in the world with over 90,000 unique visitors to our website each business day and in excess of 3,000,000 installations of our apps each year. SmartDraw is used by more than half of the Fortune 500 and by over 250,000 public and private enterprises of all sizes around the world. Privately held, SmartDraw Software is headquartered in San Diego, California.

2.6.1.7 WAMP Server

WAMP Server is a Windows web development environment. It allows you to create web applications with Apache2, PHP and a MySQL database. Alongside, PhpMyAdmin allows you to manage easily your databases [4]. WAMP Server refers to a software stack for the Microsoft Windows operating system, created by Romain Bourdon and consisting of the Apache web server, Open SSL for SSL support, MySQL database and PHP programming language. WAMP Server is a Web development platform on Windows that allows you to create dynamic Web applications with Apache2, PHP, MySQL and MariaDB. WampServer automatically installs everything you need to intuitively developed Web applications. You will be able to tune your server without even touching its setting files. Best of all, WampServer is available for free (under GPML license) in both 32 and 64 bit versions.

Wampserver is not compatible with Windows XP, SP3, or Windows Server 2003.

WAMP Server's functionalities are very complete and easy to use so we won't explain here how to use them.

With a left click on WAMP Server's icon, you will be able to:

- manage your Apache and MySQL services
- switch online/offline (give access to everyone or only localhost)
- install and switch Apache, MySQL and PHP releases
- manage your server's settings
- access your logs
- access your settings files
- create alias

2.6.2 Hardware requirements

The selection of hardware configuring is a very task related to the software development, particularly inefficient RAM may affect adversely on the speed and corresponding on the

efficiency of the entire system. The processor should be powerful to handle all the operations.

The hard disk should have the sufficient to solve the database and the application.

Hardware used for development:

CPU	:	Intel i3 Processor
Memory	:	4 GB
Cache	:	6 MB
Hard Disk	:	1 TB
Monitor	:	15.6" Monitor
Keyboard	:	Standard 108 keys Enhanced Keyboard
Mouse	:	Optical Mouse

Minimum Hardware Required For Implementation:

CPU	:	Pentium IV Processor
Memory	:	256MB Above
Cache	:	512 KB Above
Hard Disk	:	20 GB Above
Monitor	:	Any
Keyboard	:	Any

3. SYSTEM DESIGN

3.1 SYSTEM ARCHITECTURE

A system architecture or system's architecture is the conceptual model that defines the structure, behaviour and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structures of the system.

System architecture can comprise system components, the externally visible properties of those components, the relationships (e.g. the behaviour) between them. It can provide a plan from which products can be procured, and systems developed, that will work together to implement the overall system. There have been efforts to formalize languages to describe system architecture; collectively these are called architecture description languages (ADLs).

The system architecture can best be thought of as a set of representations of an existing (or to be created) system. It is used to convey the informational content of the elements comprising a system, the relationships among those elements, and the rules governing those relationships. The architectural components and set of relationships between these components that architecture describes may consist of hardware, software, documentation, facilities, manual procedures, or roles played by organizations or people. System architecture is primarily concerned with the internal interfaces among the system's components or subsystems, and the interface between the system and its external environment, especially the user.

The structural design reduces complexity, facilitates change and result in easier implementation by encouraging parallel development of different parts of the system. The procedural design transforms structural elements of program architecture into a procedural description of software components. The architectural design considers architecture as the most important functional requirement. The system is based on the three-tier architecture.

The first level is the user interface (presentation logic), which displays controls, receives and validates user input. The second level is the business layer (business logic) where the

application specific logic takes place. The third level is the data layer where the application information is stored in files or database. It contains logic about to retrieve and update data.

The important feature about the three-tier design is that information only travels from one level to an adjacent level.

3.2 MODULE DESIGN

Modular programming is a software design technique that emphasizes separating the functionality of a program into independent, interchangeable modules, such that each contains everything necessary to execute only one aspect of the desired functionality. Conceptually, modules represent a separation of concerns, and improve maintainability by enforcing logical boundaries between components.

Different modules in the project includes

1. Authentication Module

The authentication module manages the login of admin, honey farmer and customers by providing username and password. There is no limit for the number of characters for the username. But a username but be some words that cannot be easily guessed by someone. This is also the same case as in the case of a password. After logging in to the system the customer can view his/her information. If he/she wishes can update his/her details.

2. Registration Module

Registration is one of the primary modules in the data management system. This module contains the all registration process in the system. It performs the registration operations like customer and honey farmer registration. The registered details can use by the customers and also this module allow customers to register to our website. While registering basic information including Name, phone number, email id, password etc. are to be provide. This will keep inside the database that Admin can use this data.

3. Activity Module

This module includes the activities that can performed by the stake holders in the system. There are many activities that the stake holders can perform like post products/ deactivate unavailable products, edit/add new products, search etc....

4. Report Generation

This module deals with creation of various reports. It allows to generate various reports using the data in so that he get a clear idea of the data . The system provides the provision to get the percentage of customers ordered for a product. The system also provides the facility to the company to get the list of most sold products. It can include charts, diagram, product details etc.

3.3 DATABASE DESIGN

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make information access easy, quick, inexpensive and flexible for the users. The general theme behind a database is to integrate all information. Database design is recognized as a standard of management information system and is available virtually for every computer system. In database design several specific objectives are considered:

- Ease of learning and use
- Controlled redundancy
- Data independence
- More information at low cost
- Accuracy and integrity
- Recovery from failure
- Privacy and security
- Performance

A database is an integrated collection of data and provides centralized access to the data. Usually the centralized data managing the software is called RDBMS. The main significant difference between RDBMS and other DBMS is the separation of data as seen by the program and data has in direct access to stores device. This is the difference between logical and physical data.

3.3.1 Table Structure

Data is stored in tables, which is available in the backend the items and data, which are entered in the input, form id directly stored in this table using linking of database. We can link more than one table to input forms. We can collect the details from the different tables to display on the output. There are mainly 9 tables in the project. They are,

1. `tbl_adminlogin`
2. `tbl_sellerreg`
3. `tbl_customerreg`
4. `tbl_honeytype`
5. `tbl_productdetails`
6. `tbl_request`
7. `tbl_district`
8. `tbl_location`

1. Table: `tbl_adminlogin`

Description: it is used to store details admin login

Table 3.1 `tbl_adminlogin`

Field name	Data type	Constraints	Description
Adminlogin_id	int	Primary key, Auto increment	It is a unique identifier
adminusername	Varchar(50)	Not null	identifies a user when login into a website.
adminpassword	Varchar(50)	Not null	password for login and security procedure

2. Table: tbl_sellerreg

Description: It is used to store details of honey farmer

Table 3.2 tbl_sellerreg

Field name	Data type	Constraints	Description
Sellerid	int	Primary key, Auto increment	It is a unique identifier for registered honey seller
Sellername	Varchar(50)	Not null	It stores the name of seller
Email	Varchar(100)	Not null	To send mail to seller
Housename	Varchar(50)	Not null	To stores the address of seller
Pincode	int	Not null	To stores the pincode of seller
Reg_date	date	Not null	Registration date of seller
Password	Varchar(50)	Not null	password for login and security procedure

3. Table: tbl_customerreg

Description: It is used to store details of customers

Table 3.3 tbl_customerreg

Field name	Data type	Constraints	Description
Customer_id	int	Primary key, Auto increment	It is a unique identifier for registered customer
Customername	Varchar(50)	Not null	It stores the name of customer
Contactnumber	Bigint	Not null	To enter contact number.
Email	Varchar(60)	Not null	To enter email.

Customerreg_date	date	Not null	Registration date of customer
Housename	Varchar(50)	Not null	To enter house name of the customer
Pincode	Int	Not null	To enter pincode of place
Districtid	Int	Foreign key	It refers to the primary key in the tbldistrict
Locationid	Int	Foreign key	It refers to the primary key in the tbllocation
Password	Varchar(20)	Not null	To enter the login page.

4. Table: tbl_honeytype

Description: It is used to store different categories of products.

Table 3.4 tbl_honeytype

Field name	Data type	Constraints	Description
honeytypereg_id	int	Primary key, Auto increment	It is a unique identifier for the honey category or honey type registration
honeytypereg_name	Varchar(50)	Not null	It stores the category name
Description	Varchar(100)	Not null	To Stores the details of the field.
Image	Varchar(150)	Not null	To display image of the products

5. Table: tbl_productdetails

Description: It is used to add newproducts.

Table 3.5 tbl_productdetails

Field name	Data type	Constraints	Description
Product_id	int	Primary key, Auto	It is a unique identifier for the product

		increment	
honeytypereg_id	int	Foreign key	It is the primary key in tbl_honytypereg
Seller_id	int	Foreign key	It refers to the primary key in the tblsellerregistration
Product_name	Varchar(50)	Not null	It stores the product name
Description	Varchar(100)	Not null	To Stores the details of the field.
price	int	Not null	It is the cost of a product
Quantity	int	Not null	Number of products available
image	Varchar(150)	Not null	It stores image of the products

6. Table: **tbl_request**

Description: It is used to store details of available products.

Table 3.6 **tbl_request**

Field name	Data type	Constraints	Description
request_id	int	Primary key, Auto increment	It is a unique identifier for the request for a product
honeytype_id	int	Foreign key	It refers to the primary key in the tblhoneytypereg
Seller_id	int	Foreign key	It refers to the primary key in the tblsellerregistration
Product_id	int	Foreign key	It refers to the primary key in the tblproduct
customer_id	int	Foreign key	It refers to the primary key in the tblcustomerregistration

Request_date	date	Not null	Date on which request has been send
Amount	int	Not null	Amount of products
Quantity	int	Not null	Number of products
reqstatus	Varchar(30)	Not null	It stores the status of product that is number of product available and not
comment	Varchar(50)	Not null	To add any extra comments by customers like expected date of delivery

7. Table: tbl_district

Description: it is used to store district details

Table 3.7 tbl_district

Field name	Data type	Constraints	Description
Districtid	int	Primary key, Auto increment	It is a unique identifier
Districtname	Varchar(20)	Not null	It stores the district name

8. Table: tbl_location

Description: it is used to store details location

Table 3.8 tbl_location

Field name	Data type	Constraints	Description
Locationid	int	Primary key, Auto increment	It is a unique identifier
Locationname	Varchar(20)	Not null	It store the location name

Districtid	int	Foreign key	It refers to the primary key in the tbldistrict
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3.3.2 Data Flow Diagram

3.3.2.1 Introduction to Data Flow Diagram

Data Flow Diagram is a network that describes the flow of data and processes that change, or transform, data throughout the system. This network is constructed by use a set of symbols that do not imply a physical implementation. It is a graphical tool for structured analysis of the system requirements. DFD models a system by using external entities from which data flows to a process, which transforms the data and creates, output-data-flows which go to other processes or external entities or files. Data in files may also flow to processes as inputs.

There are various symbols used in a DFD. Bubbles represent the processes. Named arrows indicate the data flow. External entities are represented by rectangles. Entities supplying data are known as sources and those that consume data are called sinks. Data are stored in a data store by a process in the system. Each component in a DFD is labelled with a descriptive name. Process names are further identified with a number.

The Data Flow Diagram shows the logical flow of a system and defines the boundaries of the system. For a candidate system, it describes the input (source), outputs (destination), database (files) and procedures (data flow), all in a format that meet the user's requirements.

The main merit of DFD is that it can provide an overview of system requirements, what data a system would process, what transformations of data are done, what files are used, and where the results flow.

This network is constructed by use a set of symbols that do not imply a physical implementation. It is a graphical tool for structured analysis of the system requirements. DFD models a system by using external entities from which data flows to a process, which transforms the data and creates, output-data-flows which go to other processes or external entities or files. External entities are represented by rectangles. Entities supplying data are known as sources and those that consume data are called sinks. Data are stored in a data store by a process in the system. It is a graphical tool for structured analysis of the system requirements. DFD models a system by using external entities from which data flows to a


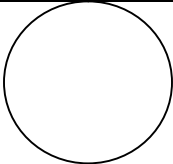
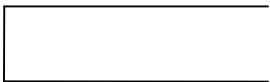

process, which transforms the data and creates, output-data-flows which go to other processes or external entities or files. Data in files may also flow to processes as inputs.

Rules for constructing a Data Flow Diagram

1. Arrows should not cross each other
2. Squares, circles and files must bear names.
3. Decomposed data flow squares and circles can have same time
4. Choose meaningful names for data flow
5. Draw all data flows around the outside of the diagram

Basic Data Flow Diagram Symbol

Table 3.9 Data Flow Diagram Symbols

	<p>A data flow is a route, which enables packets of data to travel from one point to another. Data may flow from a source to a process and from data store or process. An arrow line depicts the flow, with arrow head pointing in the direction of the flow.</p>
	<p>Circles stands for process that converts data in to information. A process represents transformation where incoming data flows are changed into outgoing data flows.</p>
	<p>A data store is a repository of data that is to be stored for use by a one or more process may be as simple as buffer or queue or sophisticated as relational database. They should have clear names. If a process merely uses the content of store and does not alter it, the arrowhead goes only from the store to the process. If a process alters the details in the store then a double-headed arrow is used.</p>
	<p>A source or sink is a person or part of an organization, which enters or receives information from the system, but is considered to be outside the contest of data</p>

	flow model.
--	-------------

3.3.2.2 Data Flow Diagram

Each component in a DFD is labeled with a descriptive name. Process name are further identified with number. Context level DFD is draw first. Then the process is decomposed into several elementary levels and is represented in the order of importance. A DFD describes what data flow (logical) rather than how they are processed, so it does not depend on hardware, software, and data structure or file organization.

Zeroth Level DFD for Beehive Market



Fig 3.1

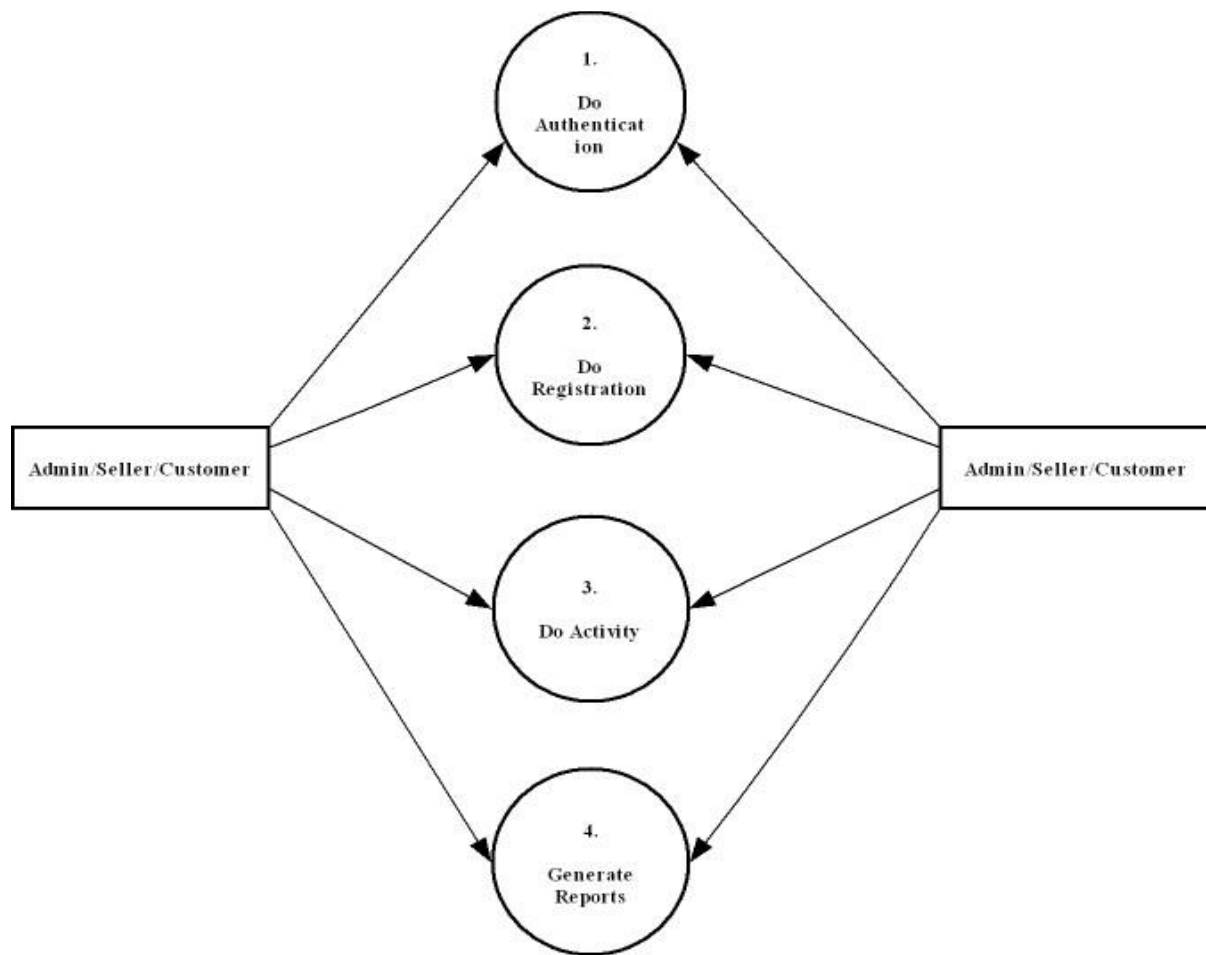
First Level DFD for Beehive Market

Fig 3.2

Second Level DFD for User Authentications

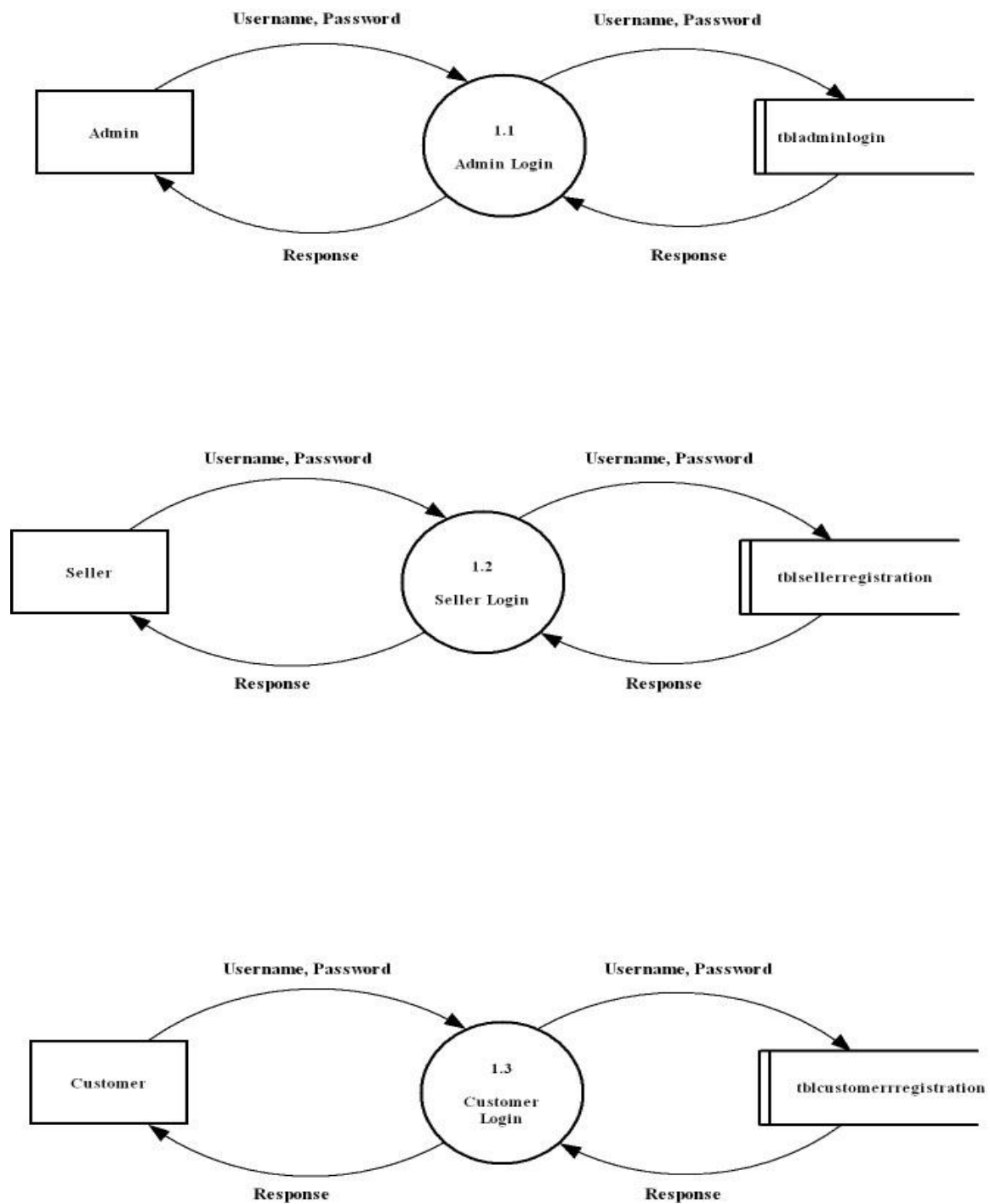
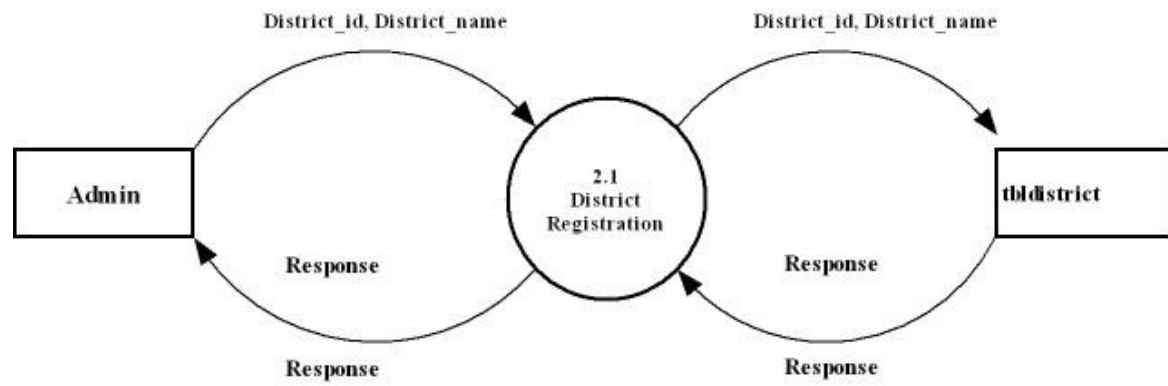


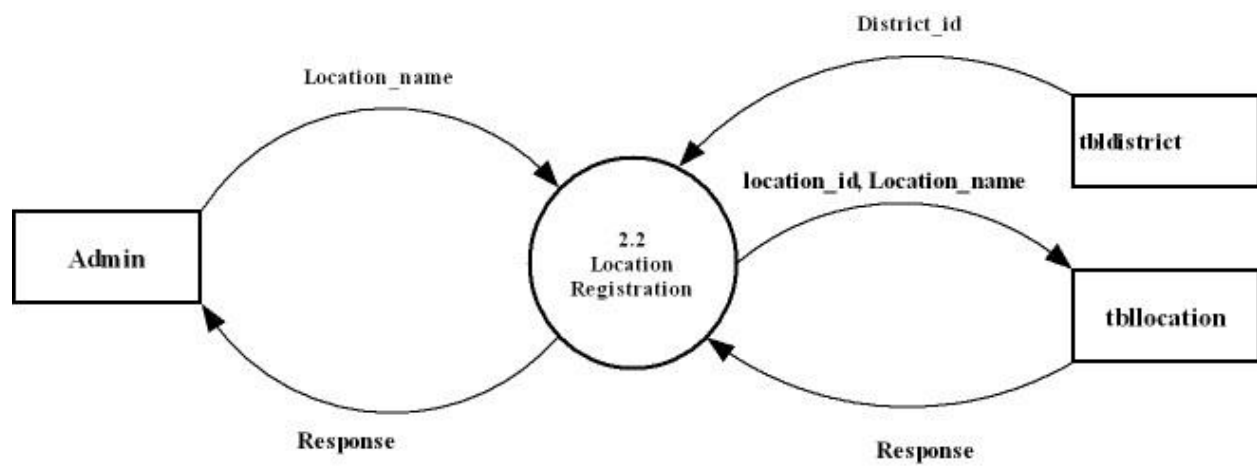
Fig 3.3

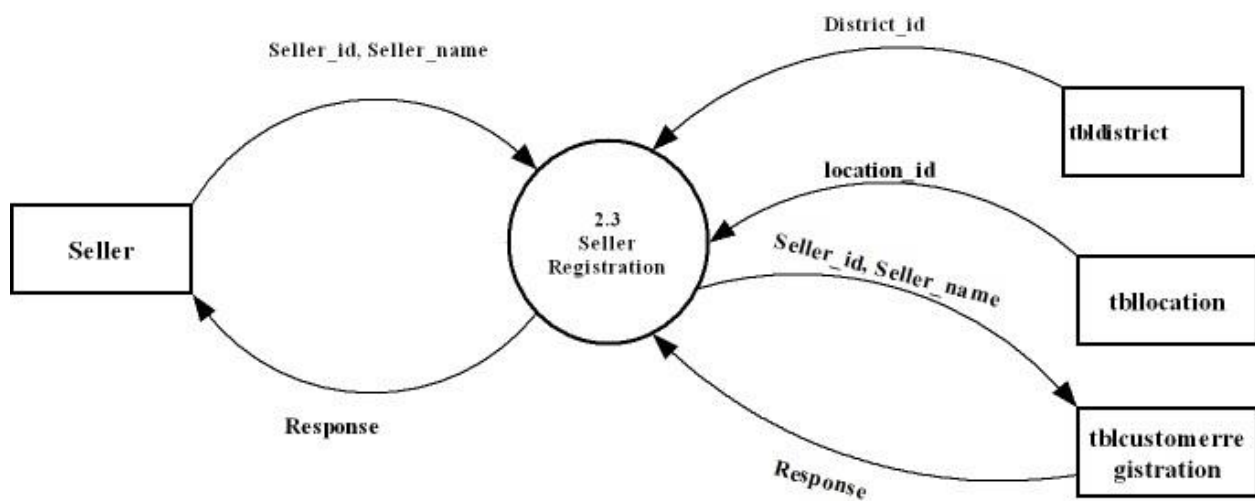
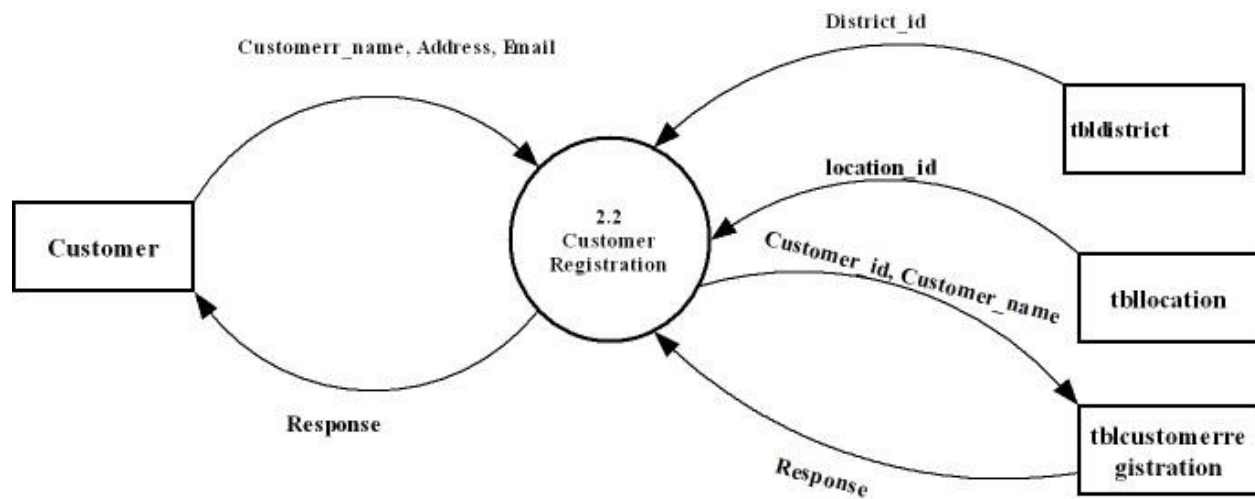
Second level DFD for Registration



District_id, District_name

District id, District name





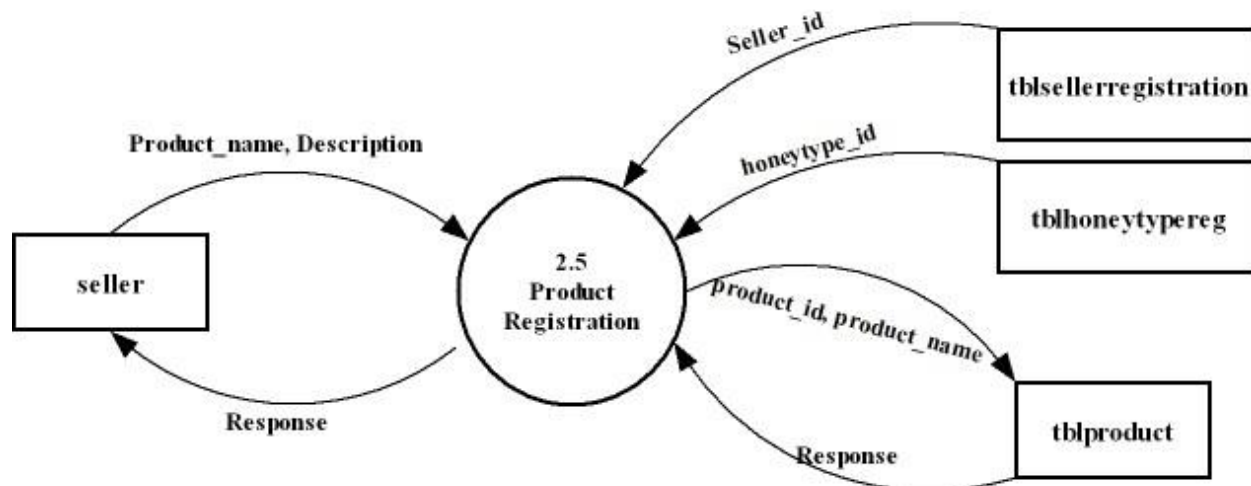
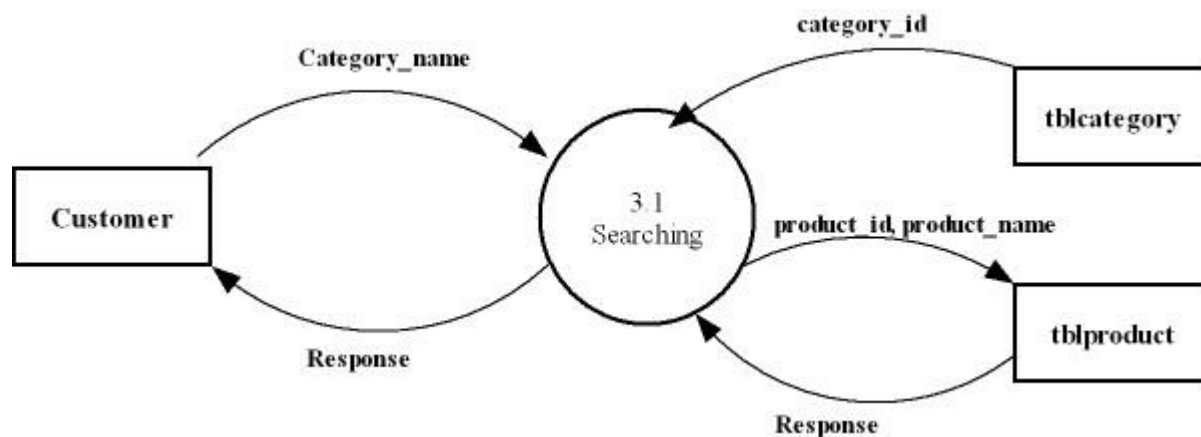


Fig 3.4 Second level DFD for Registration

Second level DFD for Activities



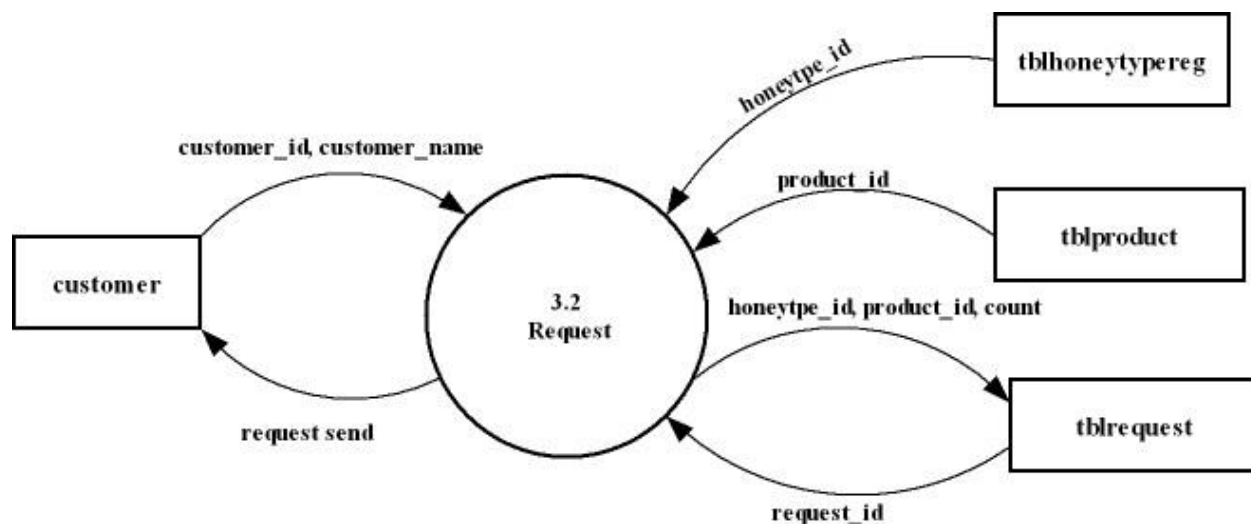
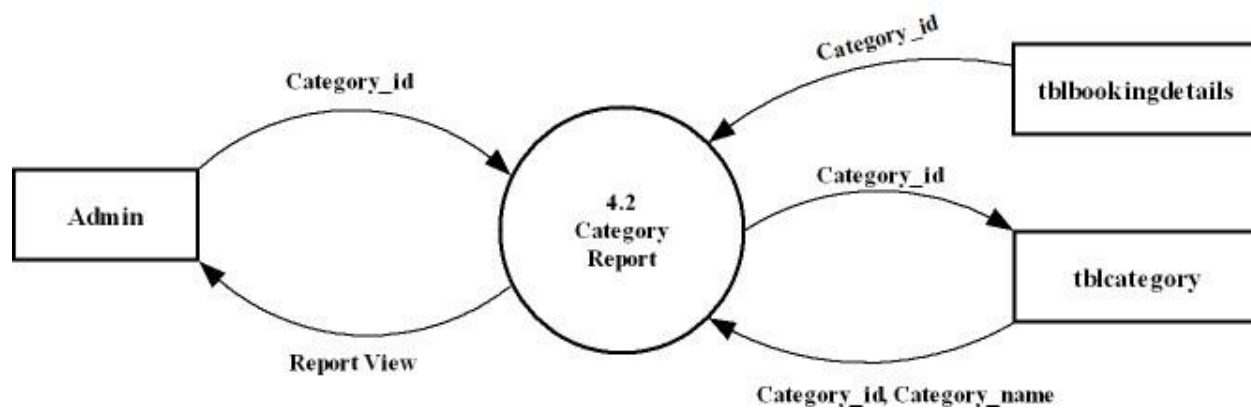


Fig 3.5 Second level DFD for Activities

Second level DFD for Generate Report



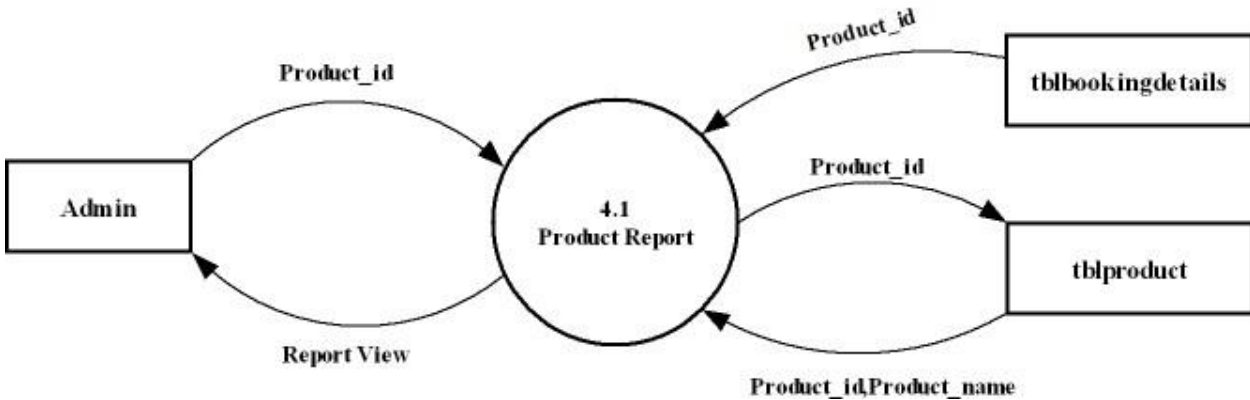


Fig 3.6 Second level DFD for Generate Report

3.4 INTERFACE DESIGN

These modules can apply to hardware, software or the interface between a user and a machine. An example of a user interface could include a GUI, a control panel for a nuclear power plant, or even the cockpit of an aircraft. In systems engineering, all the inputs and outputs of a system, subsystem, and its components are listed in an interface control document often as part of the requirements of the engineering project. The development of a user interface is a unique field.

3.4.1 User Interface Screen Design

The user interface design is very important for any application. The interface design describes how the software communicates within itself, to system that interpreted with it and with humans who use it. The input design is the process of converting the user-oriented inputs into the computer-based format. The data is fed into the system using simple inactive forms. The forms have been supplied with messages so that the user can enter data without facing any difficulty. The data is validated wherever it requires in the project. This ensures that only the correct data have been incorporated into system. The goal of designing input data is to make the automation as easy and free from errors as possible. For providing a good input design for the application easy data input and selection features are adopted. The input design requirements such as user friendliness, consistent format and interactive dialogue for giving the right messages and help for the user at right are also considered for development for this project. Input Design is a part of the overall design. The input methods can be broadly classified into batch and online. Internal controls must be established for monitoring the number of inputs and for ensuring that the data are valid.

The basic steps involved in input design are: 1. Review input requirements. 2. Decide how the input data flow will be implemented. 3. Decide the source document. 4. Prototype on line input screens. 5. Design the input screens. The quality of the system input determines the quality of the system output. Input specifications describe the manner in which data enter the system for processing. Input design features can ensure the reliability of the system and produce results from accurate data. The input design also determines whether the user can interact efficiently with the system. These are the two sample input forms

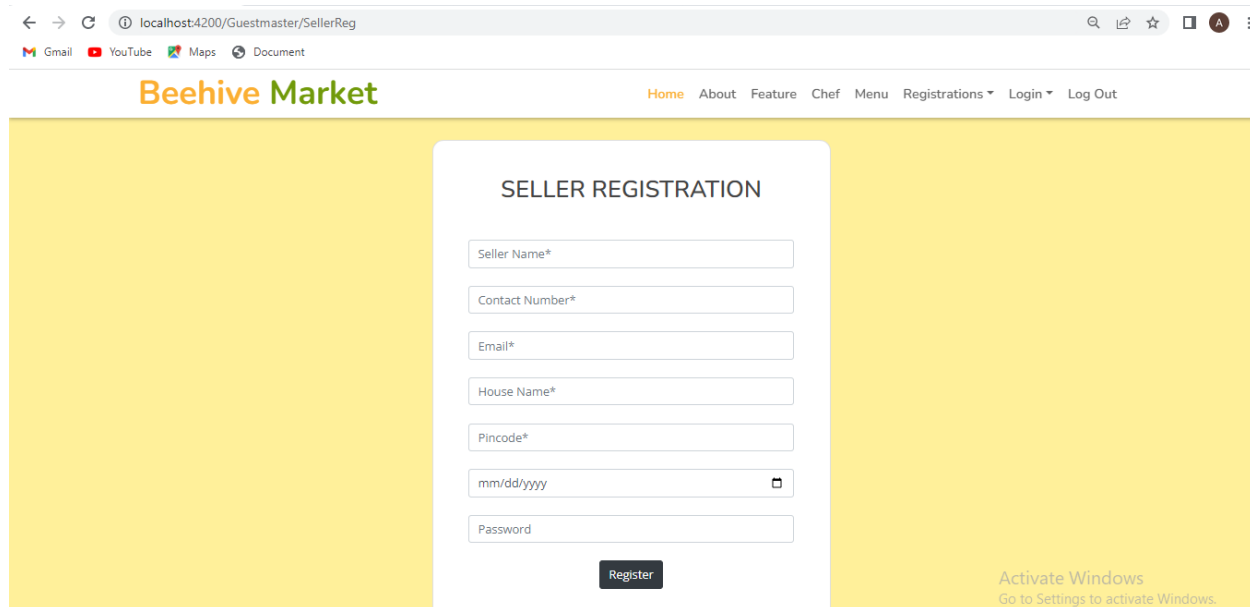
The image shows a web browser window displaying the 'Seller Registration' form on the 'Beehive Market' website. The browser's address bar shows 'localhost:4200/Guestmaster/SellerReg'. The website's header includes the 'Beehive Market' logo and navigation links: Home, About, Feature, Chef, Menu, Registrations, Login, and Log Out. The registration form is centered on a yellow background and contains the following fields: 'Seller Name*', 'Contact Number*', 'Email*', 'House Name*', 'Pincode*', a date field with the placeholder 'mm/dd/yyyy' and a calendar icon, and a 'Password' field. A 'Register' button is located below the password field. In the bottom right corner of the page, there is a watermark that says 'Activate Windows Go to Settings to activate Windows.'

Fig 3.7 Seller Registration Form

Here the new user can create the profile themselves into the site with the registration form. The details of the new register who registered will be saved in the database. Only by registering, one will become a user. Otherwise, he/she will only be a guest. In the registration form, he/she need to enter their name, contact number, email, house name, pin code, date, password.

3.4.2 Output Design

A quality output is one, which meets the requirements of end user and presents the information clearly. In any system result of processing are communicated to the user and to the other system through outputs. In the output design it is determined how the information is to be displayed for immediate need. It is the most important and direct source information is to the user. Efficient and intelligent output design improves the system's relationships with the user and helps in decision -making. The objective of the output design is to convey the information of all the past activities, current status and to emphasis important events. The output generally refers to the

results and information that is generated from the system. Outputs from computers are required primarily to communicate the results of processing to the users. Output also provides a means of storage by copying the results for later reference in consultation.

4. IMPLEMENTATION

Implementation is the stage of the project when the theoretical design is turned into a working system. The implementation stage is a systems project in its own right. It includes careful planning, investigation of current system and its constraints on implementation, design of methods to achieve the changeover.

4.1 CODING STANDARDS

Writing an efficient software code requires a thorough knowledge of programming. This knowledge can be implemented by following a coding style which comprises several guidelines that help in writing the software code efficiently and with minimum errors. These guidelines, known as coding guidelines, are used to implement individual programming language constructs, comments, formatting, and so on. These guidelines, if followed, help in preventing errors, controlling the complexity of the program, and increasing the readability and understandability of the program.

A set of comprehensive coding guidelines encompasses all aspects of code development. To ensure that all developers work in a harmonized manner (the source code should reflect a harmonized style as a single developer had written the entire code in one session), the developers should be aware of the coding guidelines before starting a software project. Moreover, coding guidelines should state how to deal with the existing code when the software incorporates it or when maintenance is performed. Since there are numerous programming languages for writing software codes, each having different features and capabilities, coding style guidelines differ from one language to another. However, there are some basic guidelines which are followed in all programming languages. These include naming conventions, commenting conventions, and formatting conventions.

1. **File header comments** are useful in providing information related to a file as a whole and comprise identification information such as date of creation, Name of the creator, and a brief description of the software code.
2. **Trailing comments** are used to provide explanation of a single line of code. These comments are used to clarify the complex code. These also specify the function of the abbreviated variable names that are not clear. In some languages, trailing comments are used with the help of a double slash (//).
3. **Indentation:** This refers to one or more spaces left at the beginning of statements in the program. Indentation is useful in making the code easily readable. However, the spaces used for indentation should be followed in the entire program.
4. **Implementing coding guidelines:** If coding guidelines are used in a proper manner, errors can be detected at the time of writing the software code. Such detection in early stages helps in increasing the performance of the software as well as reducing the additional and unplanned costs of correcting and removing errors. Moreover, if a well-defined coding

guideline is applied, the program yields a software system that is easy to comprehend and maintain.

4.2 SAMPLE CODE

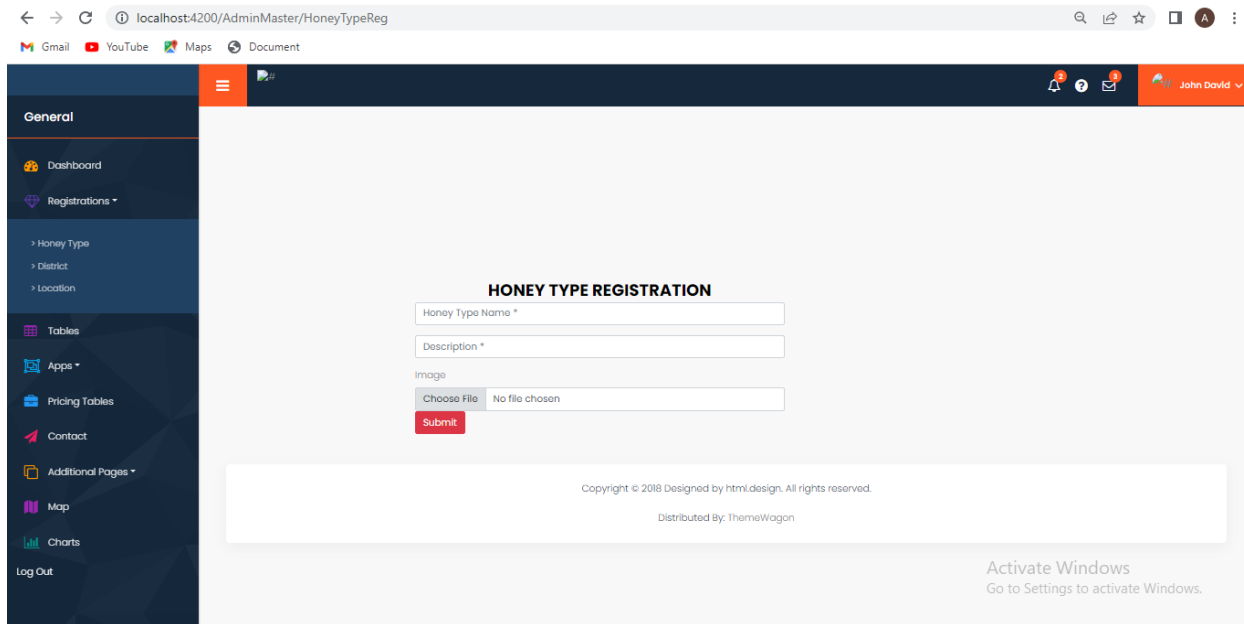


Fig 4.1 Sample Code

```
<div style="margin-left: 200px;margin-top: 250px;">
  <div class="container login-container">
    <div class="row">
      <div class="col-md-6 login-form-2">
        <h3 style="text-align: center;"> Honey Type Registration</h3>
        <form [formGroup]="HoneytypeFormGroup" enctype="multipart/form-data">
          <div class="form-group">
            <input      type="text"      class="form-control"      formControlName="honeytypename"
            placeholder="Honey Type Name *" />
          </div>
          <label
            *ngIf="HoneytypeFormGroup.controls['honeytypename'].errors['required'] &&
            validationstatus"
            class="text-danger">Please enter the Honey typename</label>
```

```

<div class="form-group">
  <input      type="text"      class="form-control"      formControlName="description"
placeholder="Description *"/>
</div>

<label
*ngIf="HoneytypeFormGroup.controls['description'].errors['required'] &&
validationstatus"
class="text-danger">Please enter the Description</label>

<div class="field">
  <label class="label_field">Image</label>
  <input      type="file"      class="form-control"      formControlName="image"
(change)="selectFile($event)" placeholder="Image *"/>
</div>

<div class="form-group">
  <button      type="submit"      (click)="OnSubmit()"      class="btn      btn-danger"
rounded="true">Submit</button>
</div>

<!-- <div class="form-group">
<a routerLink="/CourseRegform">Sign Up</a>
</div> -->

</form>
</div>
</div>
</div>
<router-outlet></router-outlet>

```

5. TESTING

Coding conventions are a set of guidelines for a specific programming language that recommend programming style, practices and methods for each aspect of a piece program written in this language. These conventions usually cover file organization, indentation, comments, declarations, statements, white space, naming conventions, programming practices, programming principles, programming rules of thumb, architectural best practices, etc. These are guidelines for software structural quality. Software programmers are highly recommended to follow these guidelines to help improve the readability of their source code and make software maintenance easier.

5.1 TEST CASE

The objective of system testing is to ensure that all individual programs are working as expected, that the programs link together to meet the requirements specified and to ensure that the computer system and the associated clerical and other procedures work together [9]. The initial phase of system testing is the responsibility of the analyst who determines what conditions are to be tested, generates test data, produced a schedule of expected results, runs the tests and compares the computer produced results with the expected results with the expected results. The analyst may also be involved in procedures testing. When the analyst is satisfied that the system is working properly, he hands it over to the users for testing. The importance of system testing by the user must be stressed. Ultimately it is the user must verify the system and give the go-ahead.

During testing, the system is used experimentally to ensure that the software does not fail, i.e., that it will run according to its specifications and in the way, users expect it to. Special test data is input for processing (test plan) and the results are examined to locate unexpected results. A limited number of users may also be allowed to use the system so analysts can see whether they try to use it in unexpected ways. It is preferably to find these surprises before the organization implements the system and depends on it. In many organizations, testing is performed by person other than those who write the original programs. Using persons who do not know how certain parts were designed or programmed ensures more complete and unbiased testing and more reliable software parallel running is often regarded as the final phase of system testing. Since he parallel operation of two systems is very demanding in terms of user resources it should be embarked on only if the user is satisfied.

With the results of testing -- it should not be started if problems are known to exist. Testing is the major quality control measure during software development. Its basic function is to detect errors in the software. Thus, the goal of testing is to uncover requirement design and coding errors in the program. Testing is the process of correcting a program with intends of finding an error. Different types of testing are,

1. Unit Testing
2. Integrated Testing
3. Black Box Testing
4. White Box Testing
5. Validation Testing
6. User Acceptance Testing

5.1.1 Unit Testing

In computer programming, unit testing is a method by which individual units of source code, sets of one or more computer program modules together with associated control data, usage procedures, and operating procedures are tested to determine if they are fit for use. In this testing we test each module individual and integrated the overall system. Unit testing focuses verification efforts on the smaller unit of software design in the module. This is also known as module testing. The modules of the system are tested separately. The testing is carried out during programming stage itself. In this testing step each module is found to working satisfactory as regard to the expected output from the module. There are some validation checks for verifying the data input given by the user which both the formal and validity of the entered. It is very easy to find error debug the system.

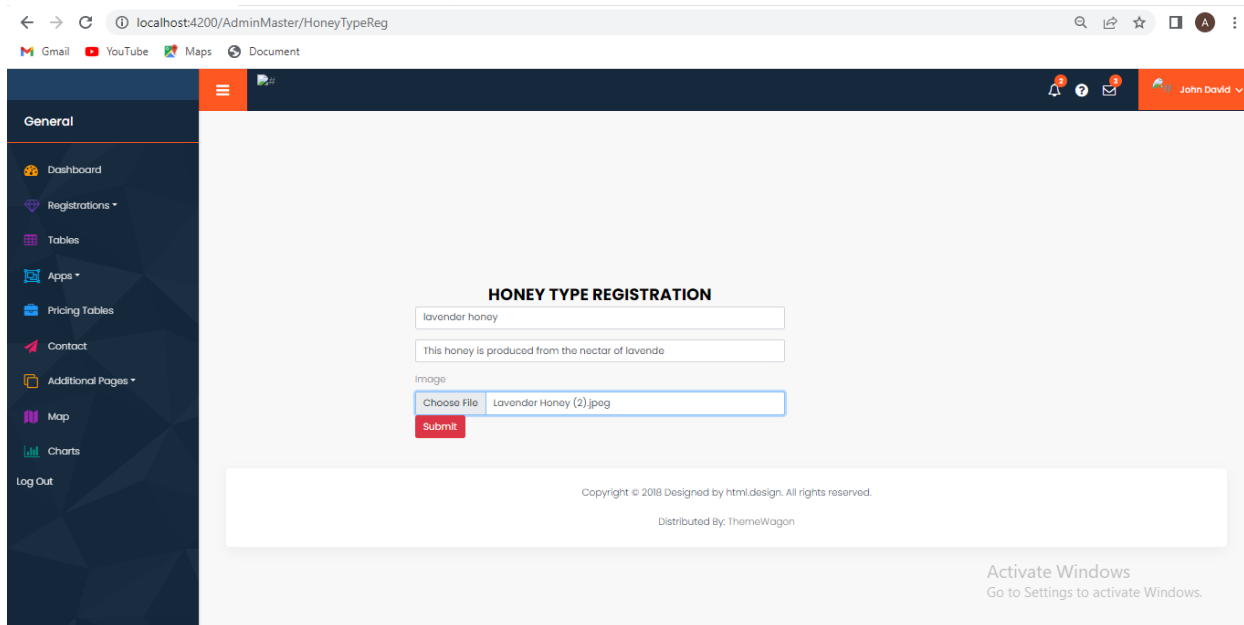


Fig 5.1 Unit Testing

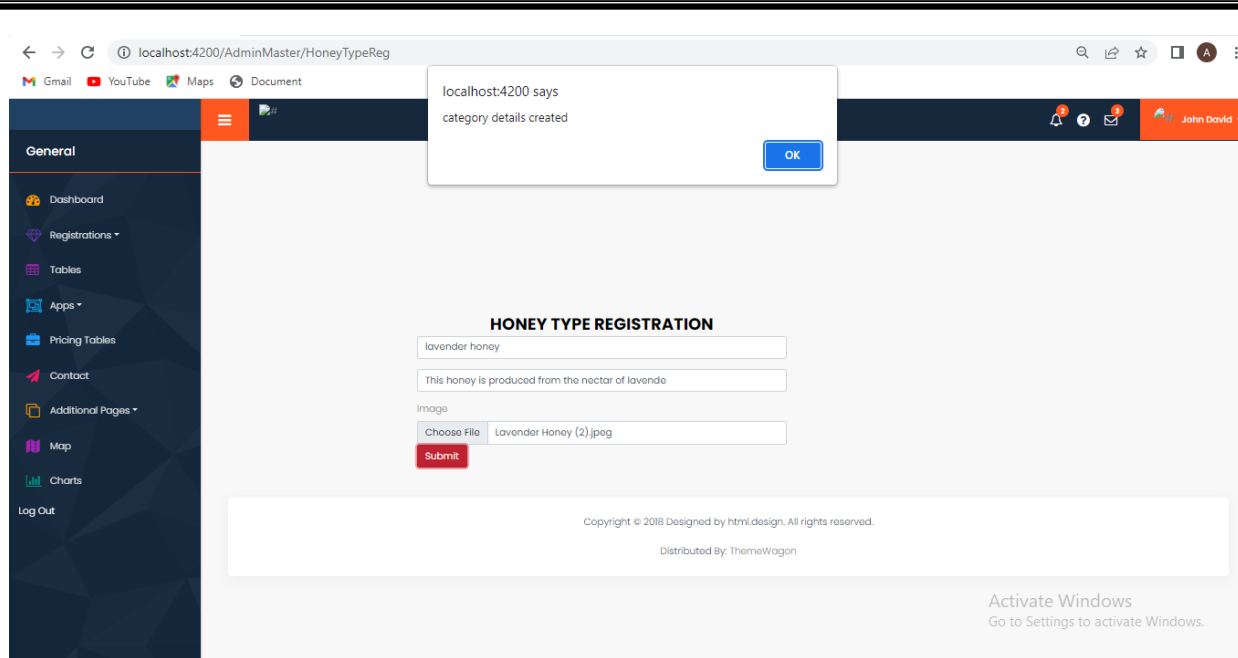


Fig 5.2 Unit Testing Result

I have continued Unit Testing from the starting of the coding phase itself. Whenever I completed one small sub module, some amount of testing was done based on the requirements to see if the functionality is aligned to the gathered requirements.

5.1.2 Integration Testing

Integration testing (sometimes called integration and testing, abbreviated I&T) is the phase in software testing in which individual software modules are combined and tested as a group. Software components may be integrated in an iterative way or all together ("big bang"). Normally the former is considered a better practice since it allows interface issues to be located more quickly and fixed. Data can be lost across an interface; one module can have an adverse effect on the other sub functions when combined by, may not produce the desired major functions. Integrated testing is the systematic testing for constructing the uncover errors within the interface. This testing was done with sample data. The developed system has run success full for this sample data. The need for integrated test is to find the overall system performance.

Integration testing is a logical extension of unit testing. In its simplest form, two units that have already been tested are combined into a component and the interface between them is tested. A component, in this sense, refers to an integrated aggregate of more than one unit. Integration testing identifies problems that occur when units are combined. By using a test plan that requires you to test each unit and ensure the viability of each before combining units, you know that any errors discovered when combining units are likely related to the interface between units.

This method reduces the number of possibilities to a far simpler level of analysis. Progressively larger groups of tested software components corresponding to elements of the architectural design are integrated and tested until the software works as a system.

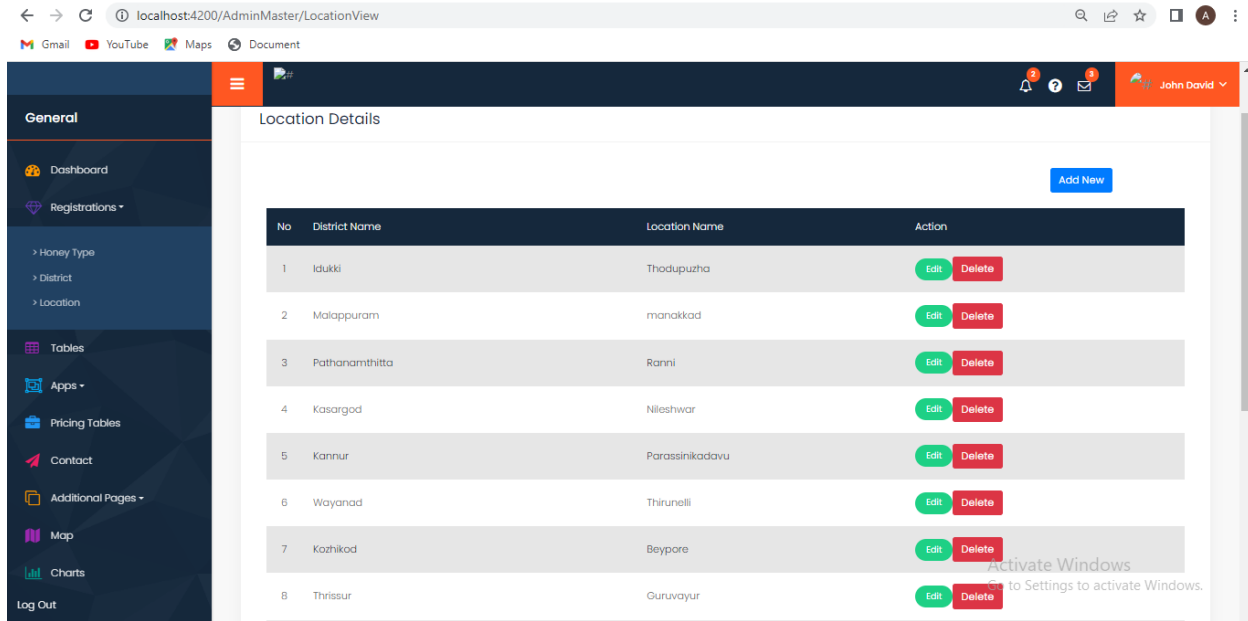


Fig 5.3 Integration Testing

I have performed integration testing whenever I have combined two modules together. When two modules are combined, I have checked whether the functionality works correctly or not through integration testing.

5.1.3 Black Box Testing

Black-box testing is a method of software testing that examines the functionality of an application (e.g. what the software does) without peering into its internal structures or workings. This method of test can be applied to virtually every level of software testing: unit, integration, system and acceptance. It typically comprises most if not all higher-level testing, but can also dominate unit testing as well [10]. In black box testing the structure of the program is not considered. Test cases are decided solely on the basis of the requirements or the specification of the program or module, and the internals of the module or program are not considered for selection of the test cases. In the Black Box testing tester only knows the input that can be given to the system and what output the system should give. In other words, the basis of deciding test cases in functional testing is requirements or specifications of the system or module. This form of testing is also called functional or behavioural testing. One advantage of the black box technique is that no programming knowledge is required. Whatever biases the programmers may have had, the tester likely has a different set and may emphasize different areas of functionality. On the other hand, black-box testing has been said to be "like a walk in a dark labyrinth without a flashlight." Because they do not examine the source code, there are situations when a tester writes many test cases to check something that could have been tested by only one test case, or leaves some parts of the program untested.

5.1.4 White Box Testing

White-box testing (also known as clear box testing, glass box testing, and transparent box testing and structural testing) is a method of testing software that tests internal structures or workings of an application, as opposed to its functionality. In white-box testing an internal perspective of the system, as well as programming skills, are used to design test cases. The tester chooses inputs to exercise paths through the code and determine the appropriate outputs. This is analogous to testing nodes in a circuit, e.g. in-circuit testing (ICT).

While white-box testing can be applied at the unit, integration and system levels of the software testing process, it is usually done at the unit level. It can test paths within a unit, paths between units during integration, and between subsystems during a system-level test. Though this method of test design can uncover many errors or problems, it might not detect unimplemented parts of the specification or missing requirements. White Box testing is concerned with testing the implementation of the program. The intent of this testing is not to exercise all the different input or output conditions but to exercise the different programming structures and data structures used in the program.

White-box test design techniques include:

- Control flow testing
- Data flow testing
- Branch testing
- Path testing
- Statement coverage
- Decision coverage

5.1.5 Validation Testing

At the culmination of Black Box testing, software is completely assembled as a package, interface errors have been uncovered and corrected and final series of software tests, Validation tests begins. Validation testing can be defined many ways but a simple definition is that validation succeeds when the software functions in a manner that can be reasonably accepted by the customer. After validation test has been conducted one of the two possible conditions exists.

1. The function or performance characteristics confirm to specification and are accepted.
2. A derivation from specification uncovered and a deficiency list is created.

I have given various validations in our forms so that there will be a neat format for the data's that are entered on to the website. I have also given an already existing validation so that the data redundancy is reduced; same data is not entered twice.

5.1.6 User Acceptance Testing

Acceptance Testing is a level of the software testing process where a system is tested for acceptability. User Acceptance testing is the software testing process where system tested for acceptability & validates the end-to-end business flow [8]. Such type of testing executed by client in separate environment & confirms whether system meets the requirements as per requirement specification or not. UAT is performed after System Testing is done and all or most of the major defects have been fixed. This testing is to be conducted in the final stage of Software Development Life Cycle (SDLC) prior to system being delivered to a live environment. UAT users or end users are concentrating on end-to-end scenarios & typically involves running a suite of tests on the completed system. User Acceptance testing also known as Customer Acceptance testing (CAT), if the system is being built or developed by an external supplier. The CAT or UAT are the final confirmation from the client before the system is ready for production. The business customers are the primary owners of these UAT tests. These tests are created by business customers and articulated in business domain languages. So ideally it is collaboration between business customers, business analysts, testers and developers. It consists of test suites which involve multiple test cases & each test case contains input data (if required) as well as the expected output. The result of test case is either a pass or fail.

5.2 TEST CASE DOCUMENTS

A test case is a set of conditions or variables under which a tester will determine whether a system under test satisfies requirements or works correctly. The process of developing test cases can also help find problems in the requirements or design of an application. A sample of test case document format is given below.

Table 5.1 Test Case

T C No	Test Steps	Expected Result	Actual Result	Status	Comment
1	Run application and navigate to login screen	Login screen is displayed. A field for entering username, a field for entering password and a button to submit should be present	Login screen has been displayed, fields for entering username and password together with a log in button is available.	Pass	
2	Enter an invalid username and password and press the login	A message should be displayed stating that data not inserted, please check data.	A message has been displayed stating that data not inserted, please check data.	pass	

	button.				
3	Enter a valid username and password and press the button	User must successfully login to the webpages.	User is successfully navigated to home page	pass	Using admin as the username and admin as the password
4	Enter a valid username and leave password and press the button	A message should be displayed stating that please enter the user name and password	A message has been displayed stating that please enter the user name and password	pass	
5	Leave username and password and press the button	A message should be displayed stating that please enter the user name and password	A message has been displayed stating that please enter the user name and password	Pass	
6	Leave username and enter a valid password and press the button	A message should be displayed stating that please enter the user name and password	A message has been displayed stating that please enter the user name and password	Pass	

6. CONCLUSION

The project was successfully completed within the time span allotted. All the modules are tested separately and put together to form the main system. Finally, the modules are tested with real data and it worked successfully.

Thus, the system has fulfilled the entire objective defined. This project will help the users to register and login to the website using the username and password. Then the goal of developing this “Beehive Market” has come to a good result without many defects.

6.1 FUTURE ENHANCEMENTS

The system has been designed in such a way that it can be modified with very little effort when such needs arise in the future. New features can be added with slight modifications of software which make it easy to expand the scope of this project. Though the system is working on various assumptions, it can be modified easily to any kind of requirements. The system is also expected to be improvised by adding various features. Now the system provides the information about the schemes. Features including a two-step verification can be implemented using mobile networks and OTPs, so that the account is more secured.

7. REFERENCES

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- [5] https://en.wikipedia.org/wiki/Microsoft_Visual_Studio
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- [7] <https://en.wikipedia.org/wiki/SmartDraw>
- [8]<https://www.guru99.com/user-acceptance-testing.html>
- [9] <http://softwaretestingfundamentals.com/test-case/>
- [10] <http://softwaretestingfundamentals.com/black-box-testing/>

8. APPENDIX

8.1 SCREENSHOTS

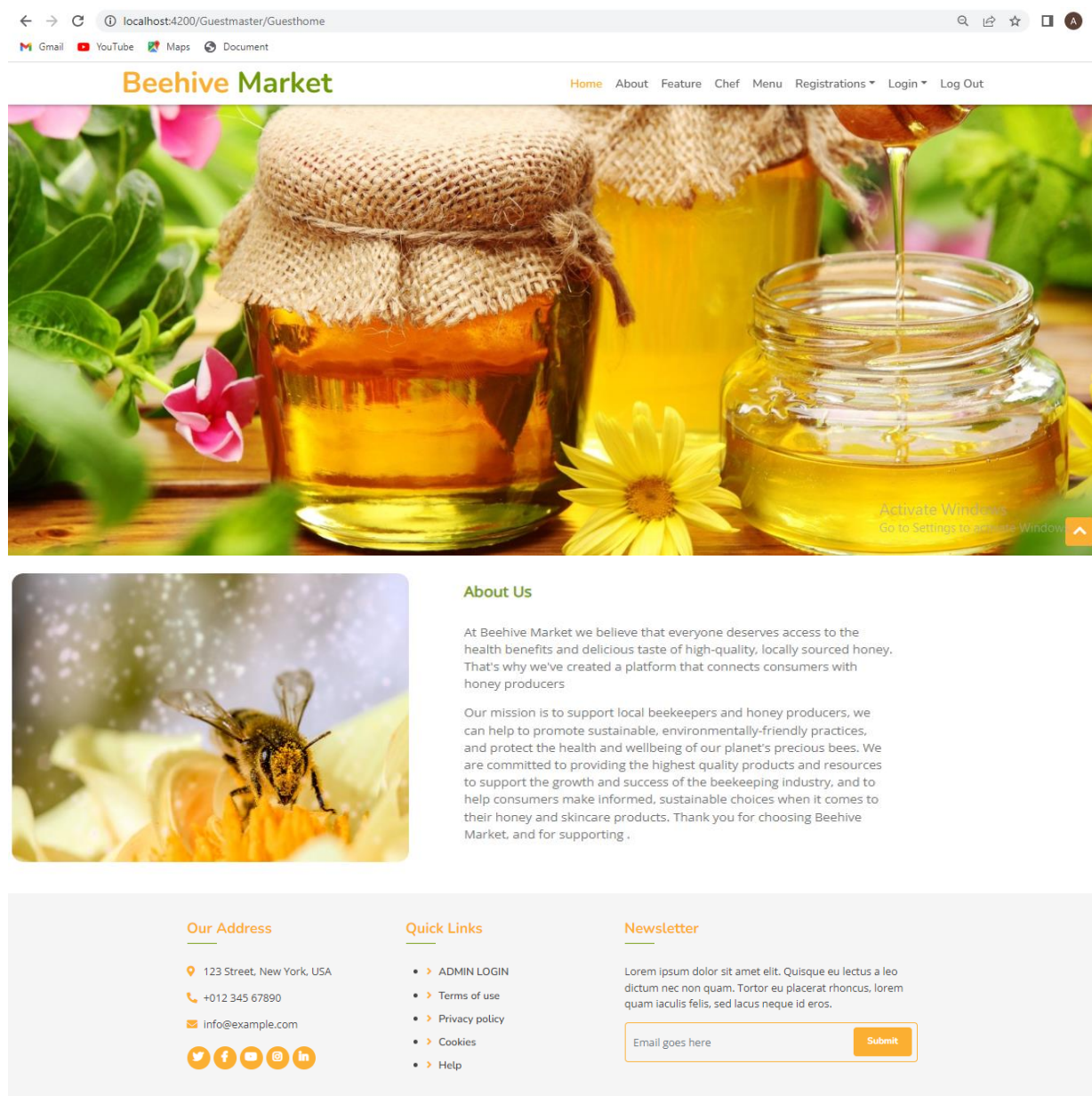


Fig 8.1 Guest home Page

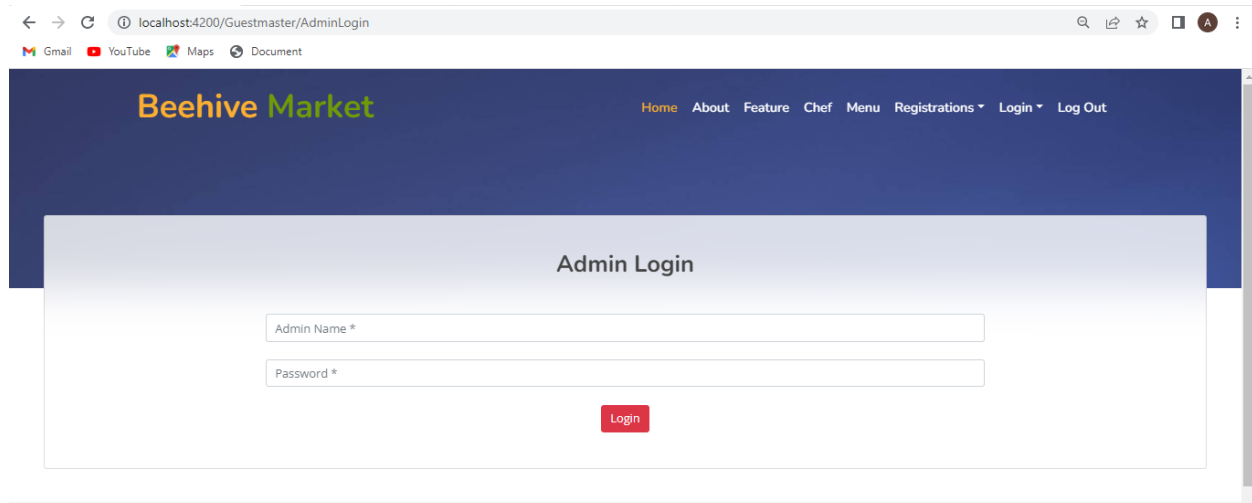


Fig 8.2 Admin Login

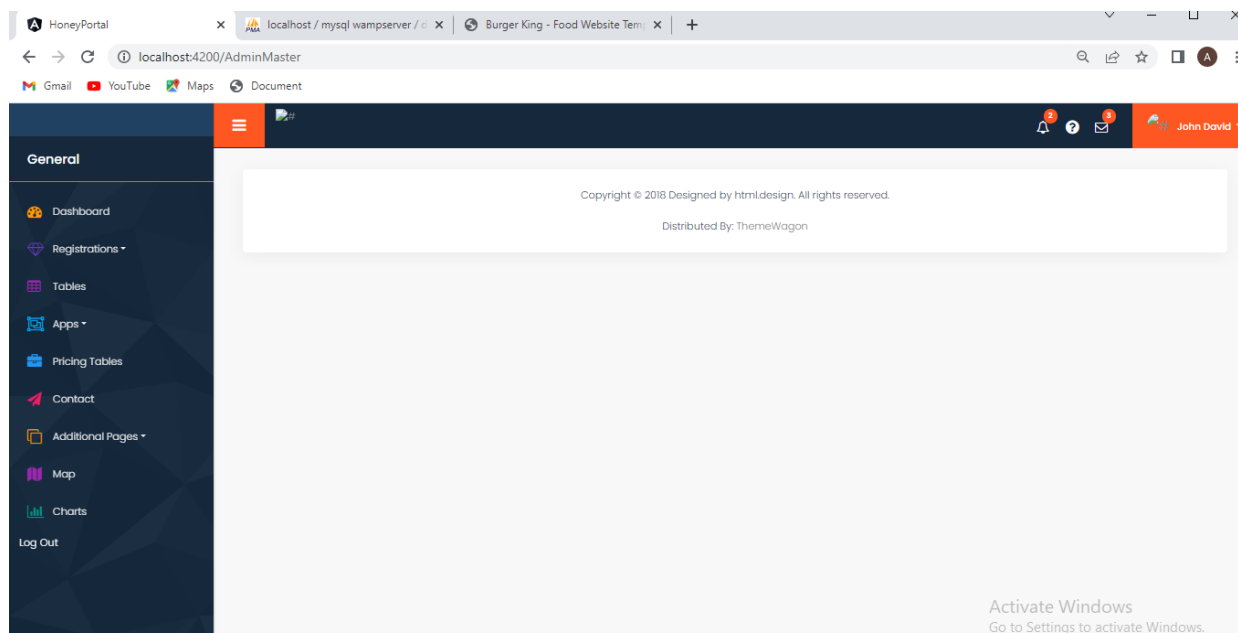
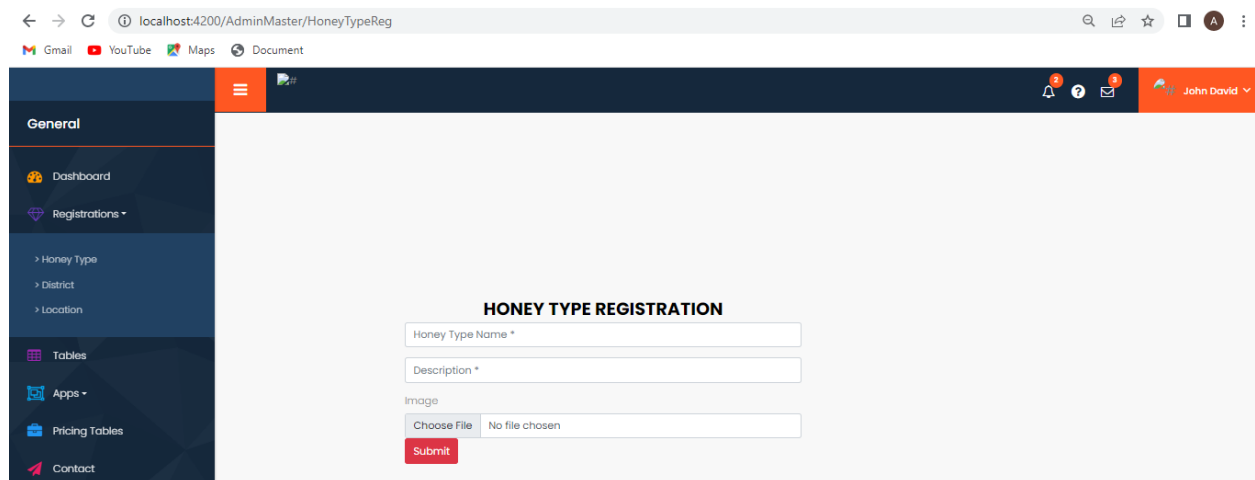
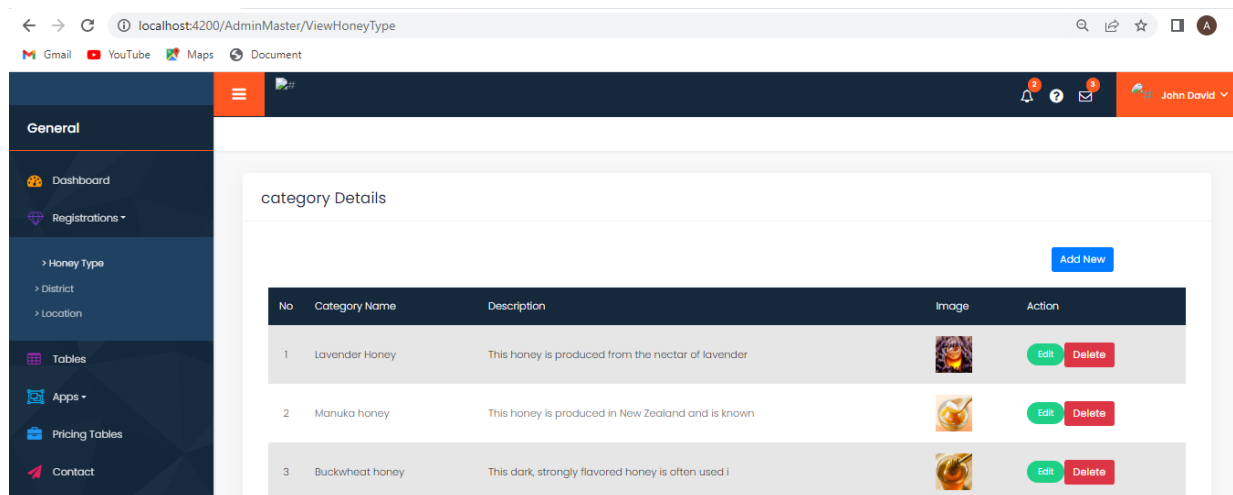


Fig 8.3 Admin Login Page



The screenshot shows a web browser at localhost:4200/AdminMaster/HoneyTypeReg. The page has a dark blue sidebar with a 'General' menu containing 'Dashboard', 'Registrations', 'Honey Type', 'District', 'Location', 'Tables', 'Apps', 'Pricing Tables', and 'Contact'. The main content area is titled 'HONEY TYPE REGISTRATION' and contains a form with the following fields: 'Honey Type Name *', 'Description *', and 'Image'. The 'Image' field has a 'Choose File' button and a 'No file chosen' text. A red 'Submit' button is at the bottom of the form. The top right of the page shows a user profile for 'John David' with notification and help icons.

Fig 8.4 Honey Type Registration Page



The screenshot shows a web browser at localhost:4200/AdminMaster/ViewHoneyType. The page has the same dark blue sidebar as Fig 8.4. The main content area is titled 'category Details' and features a table of honey categories. An 'Add New' button is located at the top right of the table. The table has columns for 'No', 'Category Name', 'Description', 'Image', and 'Action'.




No	Category Name	Description	Image	Action
1	Lavender Honey	This honey is produced from the nectar of lavender		Edit Delete
2	Manuka honey	This honey is produced in New Zealand and is known		Edit Delete
3	Buckwheat honey	This dark, strongly flavored honey is often used i		Edit Delete

Fig 8.5 Honey Type View Page

The screenshot shows the 'Edit Honey Type' page. The left sidebar contains a menu with options: General, Dashboard, Registrations, Honey Type, District, Location, Tables, Apps, Pricing Tables, Contact, Additional Pages, Map, Charts, and Log Out. The main content area is titled 'SERVICE REGISTRATION' and contains a form with the following fields:

- Honey Type: Buckwheat honey
- Name: (empty)
- Description: This dark, strongly flavored honey is often used i
- Images: Buckwheat honey

A green 'Submit' button is located at the bottom of the form. The browser address bar shows 'localhost:4200/AdminMaster/EditHoneyType/23'.

Fig 8.6 Honey Type Edit Page

The screenshot shows the 'District Details' page. The left sidebar is the same as in Fig 8.6. The main content area displays a table of districts:

No	District Name
1	Kasaragod
2	Kannur
3	Wayanad
4	Kozhikod
5	Malappuram
6	Palakkad
7	Thrissur
8	Emakulam
9	Idukki
10	Kottayam
11	Alappuzha
12	Pathanamthitta
13	Kollam
14	Thiruvananthapuram

The browser address bar shows 'localhost:4200/AdminMaster/ViewDistrict'.

Fig 8.7 District View Page

localhost:4200/AdminMaster/LocationReg

General

Dashboard

Registrations

Honey Type

District

Location

Tables

Apps

Pricing Tables

Contact

Additional Pages

Map

Charts

Log Out

LOCATION REGISTRATION

choose district

--Select--

Location Name

Submit

Activate Windows
Go to Settings to activate Windows.

Fig 8.8 Location Registration Page

localhost:4200/AdminMaster/LocationView

General

Dashboard

Registrations

Honey Type

District

Location

Tables

Apps

Pricing Tables

Contact

Additional Pages

Map

Charts

Log Out

Location Details

Add New

No	District Name	Location Name	Action
1	Idukki	Thodupuzha	Edit Delete
2	Malappuram	manakkad	Edit Delete
3	Pathanamthitta	Ranni	Edit Delete
4	Kasargod	Nileshwar	Edit Delete
5	Kannur	Parassinikadavu	Edit Delete
6	Wayanad	Thirunelli	Edit Delete
7	Kozhikod	Beyapore	Edit Delete
8	Thrissur	Guruvayur	Edit Delete

Activate Windows
Go to Settings to activate Windows.

Fig 8.8 Location View Page

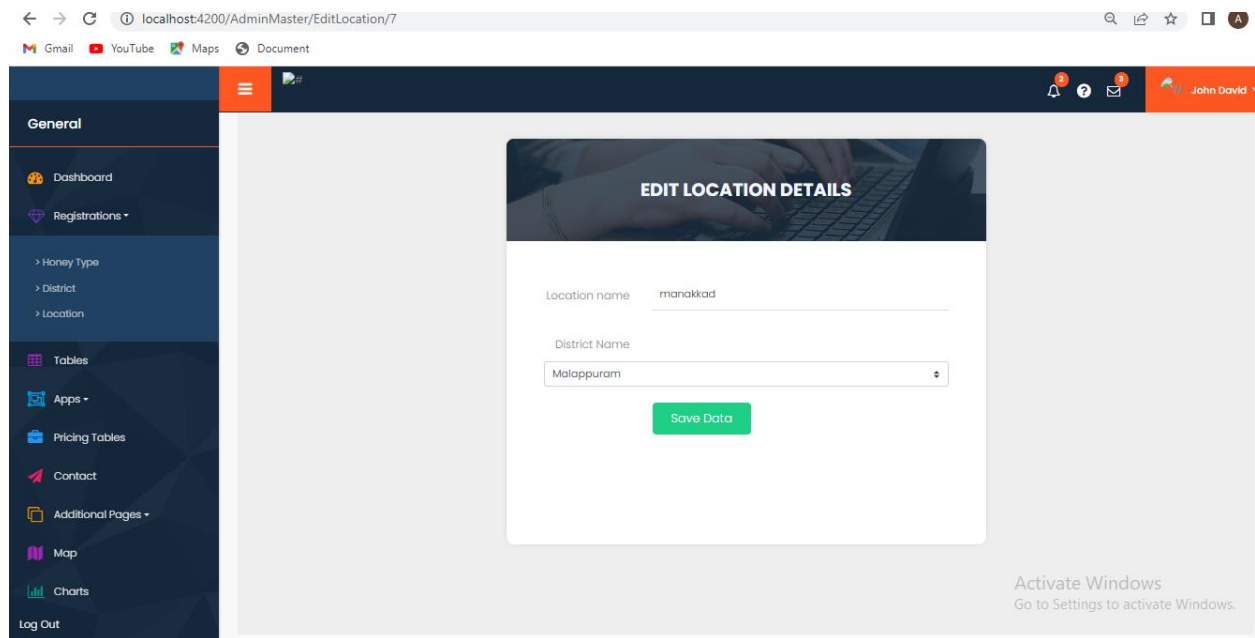


Fig 8.9 Location Edit Page

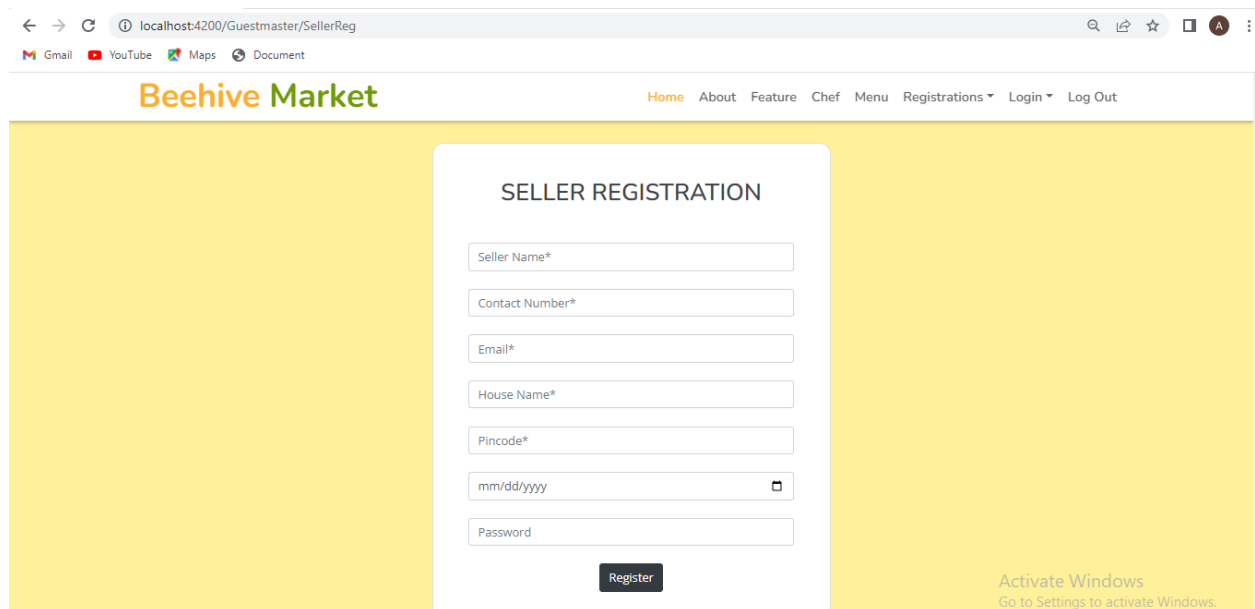


Fig 8.10 Seller Registration Page

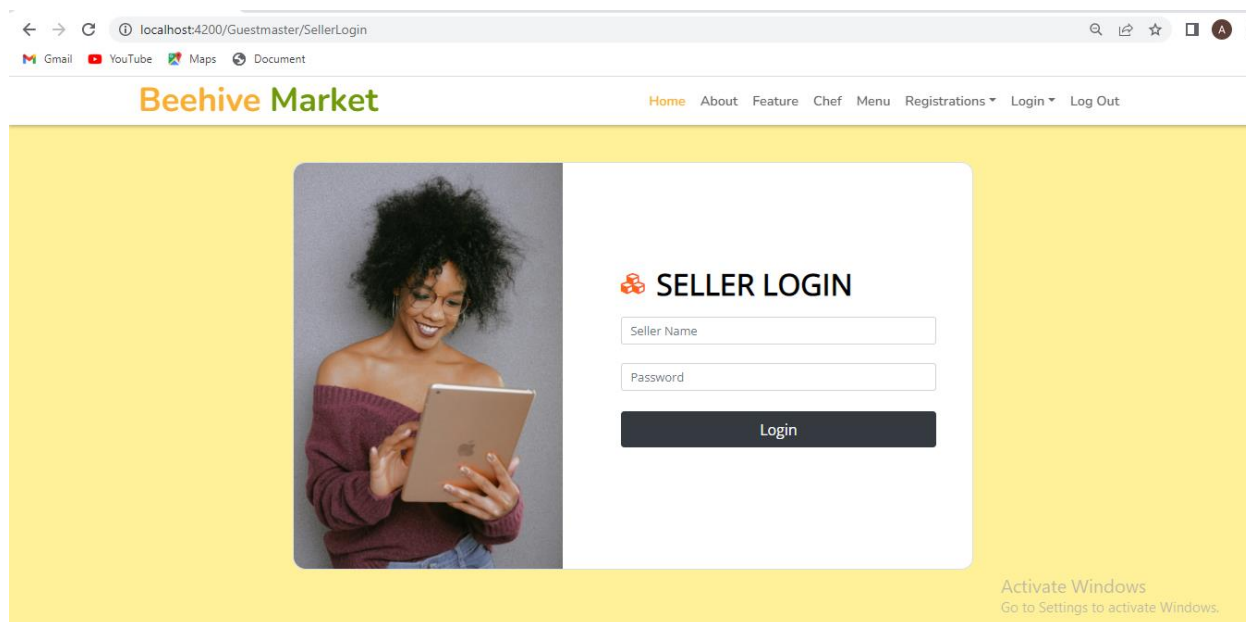


Fig 8.11 Seller Login Page

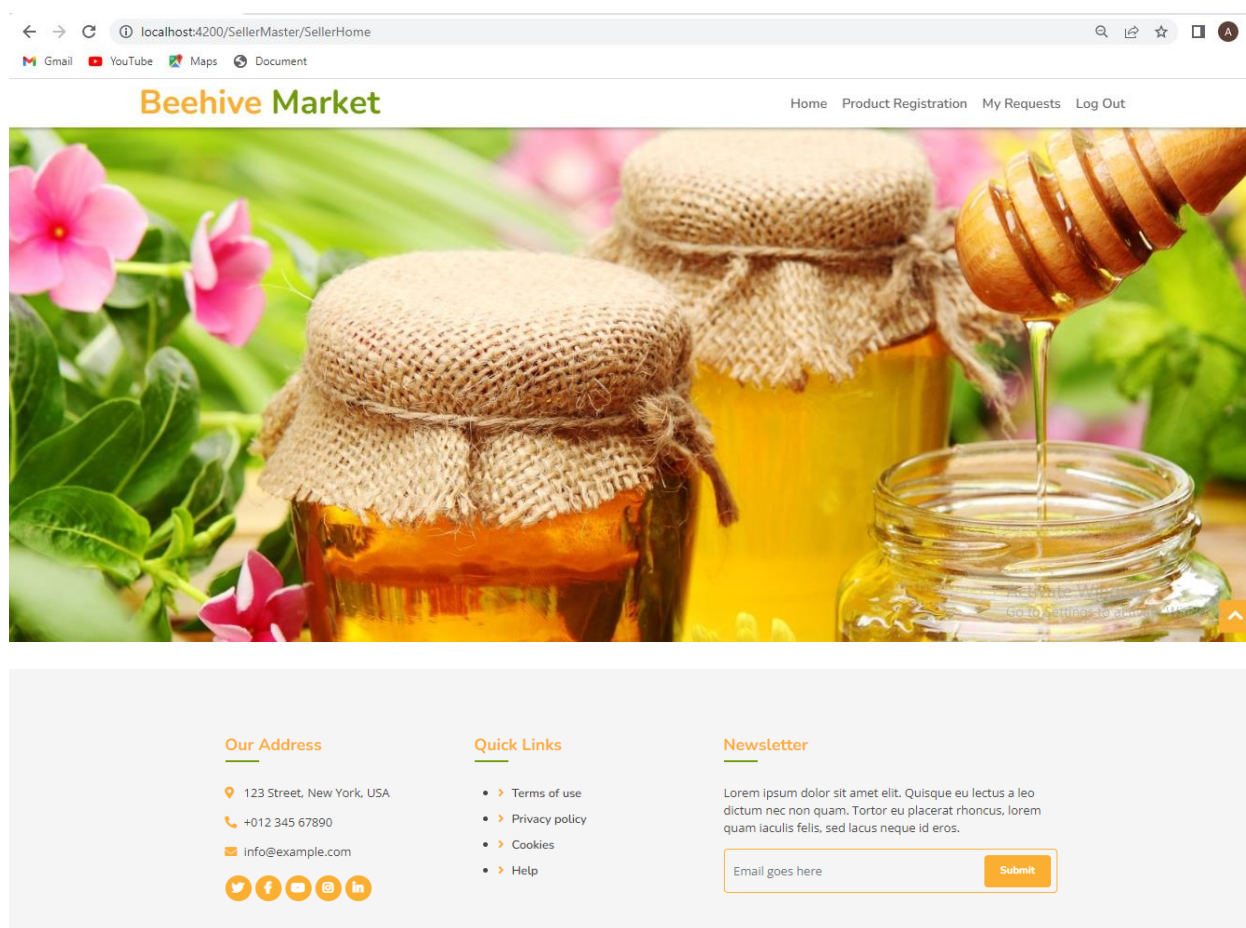


Fig 8.12 Seller Home Page

localhost:4200/SellerMaster/ProductReg

Gmail YouTube Maps Document

Beehive Market Home Product Registration My Requests Log Out

PRODUCT REGISTRATION

Product Name

--Select--

Quantity

Description

Price

Image

Choose File No file chosen

Register

Activate Windows
Go to Settings to activate Windows.

Fig 8.13 Product Registration Page

localhost:4200/SellerMaster/ProductView

Gmail YouTube Maps Document

Beehive Market Home Product Registration My Requests Log Out

Add New

Product Name	Honey Type Name	Quantity	Description	Price	Image	Action
Face Masks	Lavender Honey	200	Lavender honey face masks, whi	85		Edit

Activate Windows
Go to Settings to activate Windows.

Fig 8.14 Product View Page

localhost:4200/SellerMaster/EditProduct/10

Gmail YouTube Maps Document

Beehive Market Home Product Registration My Requests Log Out

EDIT PRODUCT

Face Masks

Lavender Honey

200

Lavender honey face masks, whi

85

lavender face mask.jpeg

Submit

Activate Windows
Go to Settings to activate Windows.

Fig 8.15 Product Edit Page

localhost:4200/SellerMaster/SellerReqView

Gmail YouTube Maps Document

Beehive Market Home Product Registration My Requests Log Out

Add New

No	Customer Name	Contact Number	Email	Address	Honey Type	Product Name	Request Date	Status
1	Esta	8590975944	arundhathysk132002@gmail.com	Kochuparackal(H) Idukki Thodupuzha	Lavender Honey	Face Masks	03-02-2023	Accept Reject

Activate Windows
Go to Settings to activate Windows.

Fig 8.16 Seller Request View Page

The screenshot shows a web browser at the URL `localhost:4200/Guestmaster/CustomerReg`. The page has a yellow background and a navigation bar with links: Home, About, Feature, Chef, Menu, Registrations, Login, and Log Out. The main heading is "Beehive Market". The "CUSTOMER REGISTRATION" form includes the following fields: "Customer Name *" (text input), "Contact Number *" (text input), "Email*" (text input), "House Name*" (text input), "Pincode*" (text input), "Choose District" (dropdown menu with "--Select--"), "ChooseLocation" (dropdown menu with "--Select--"), and a date field showing "02/11/2023". A "Submit" button is at the bottom. An "Activate Windows" watermark is visible in the bottom right corner.

Fig 8.17 Customer Registration Page

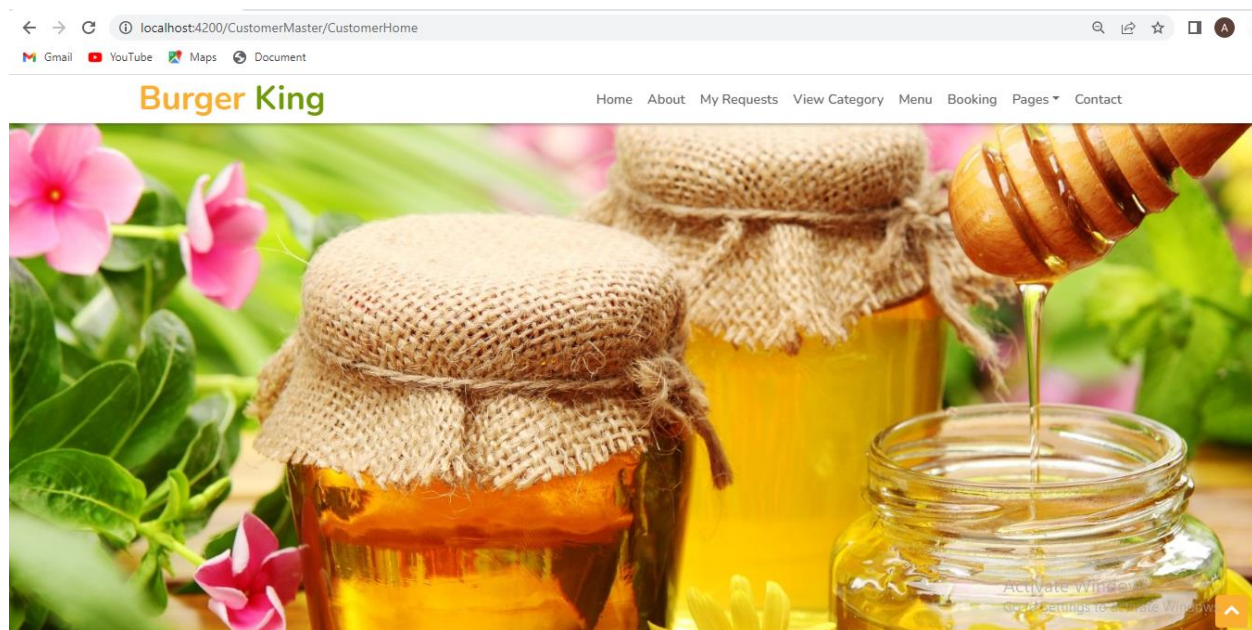


Fig 8.18 Customer Home Page

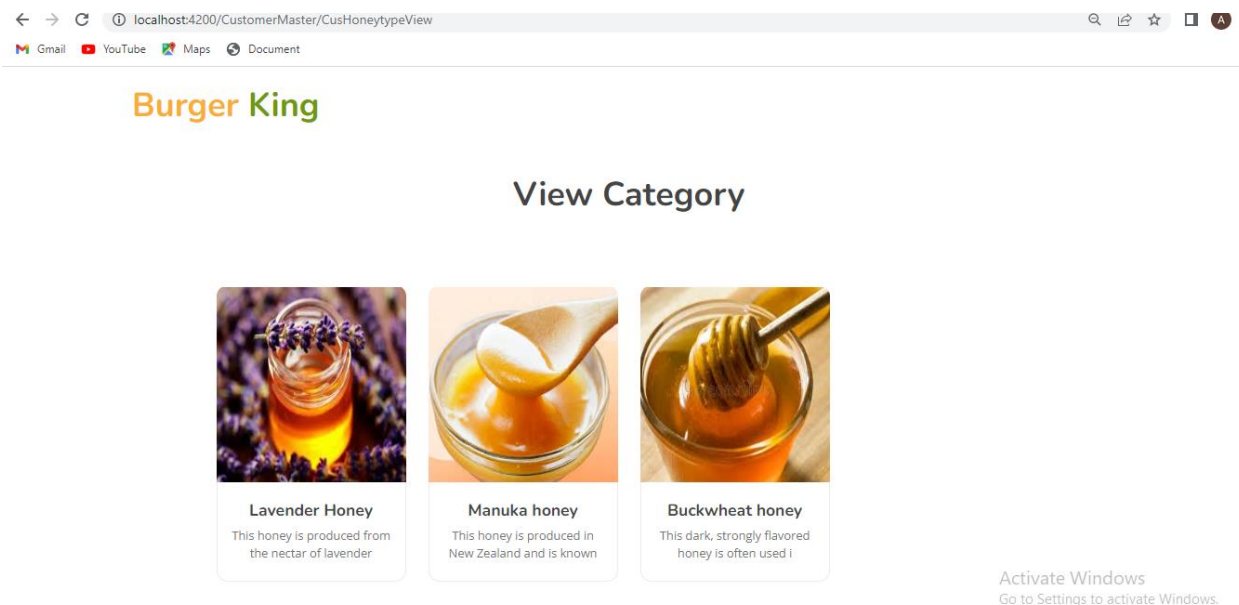


Fig 8.19 Category View Page

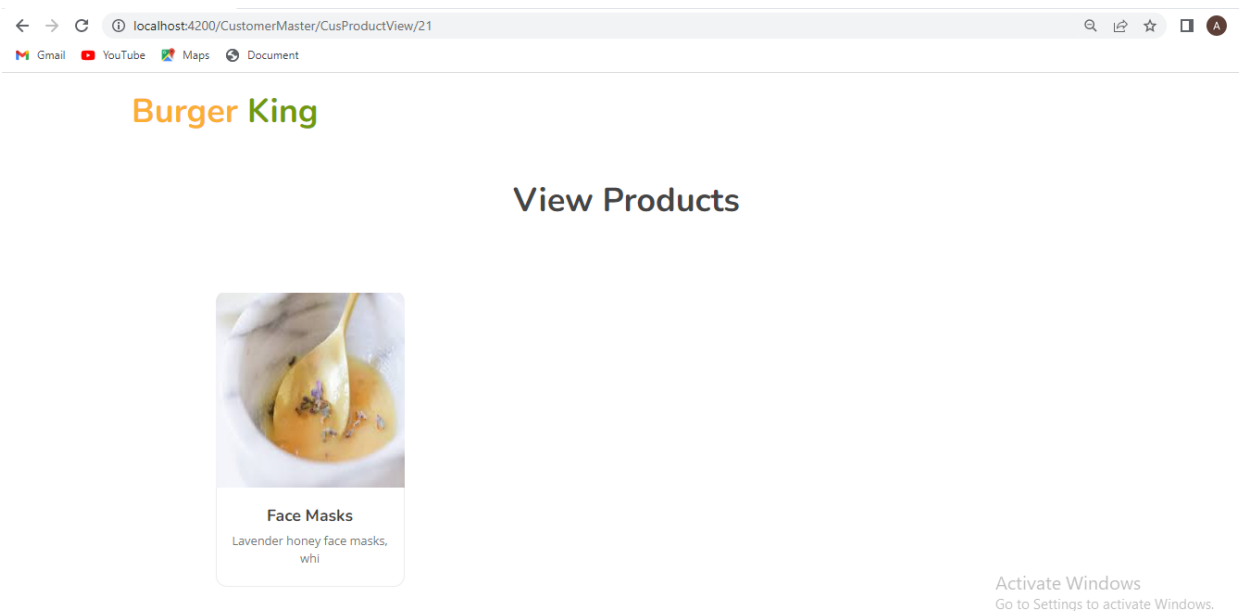


Fig 8.20 Product View Page

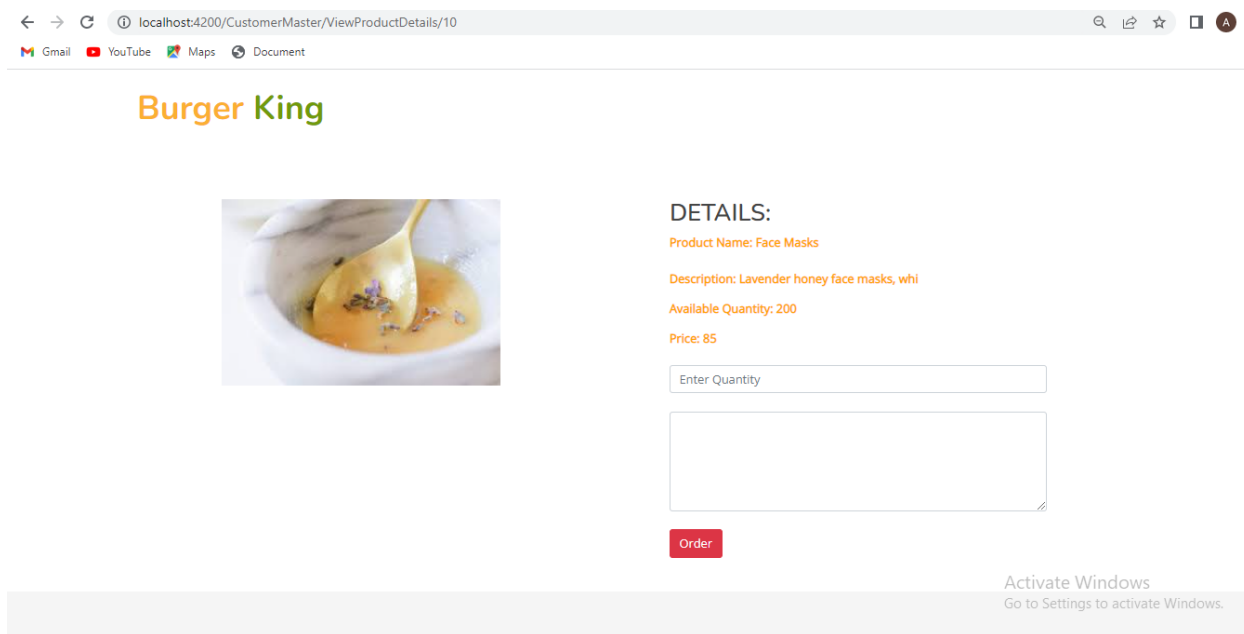


Fig 8.21 View More Page

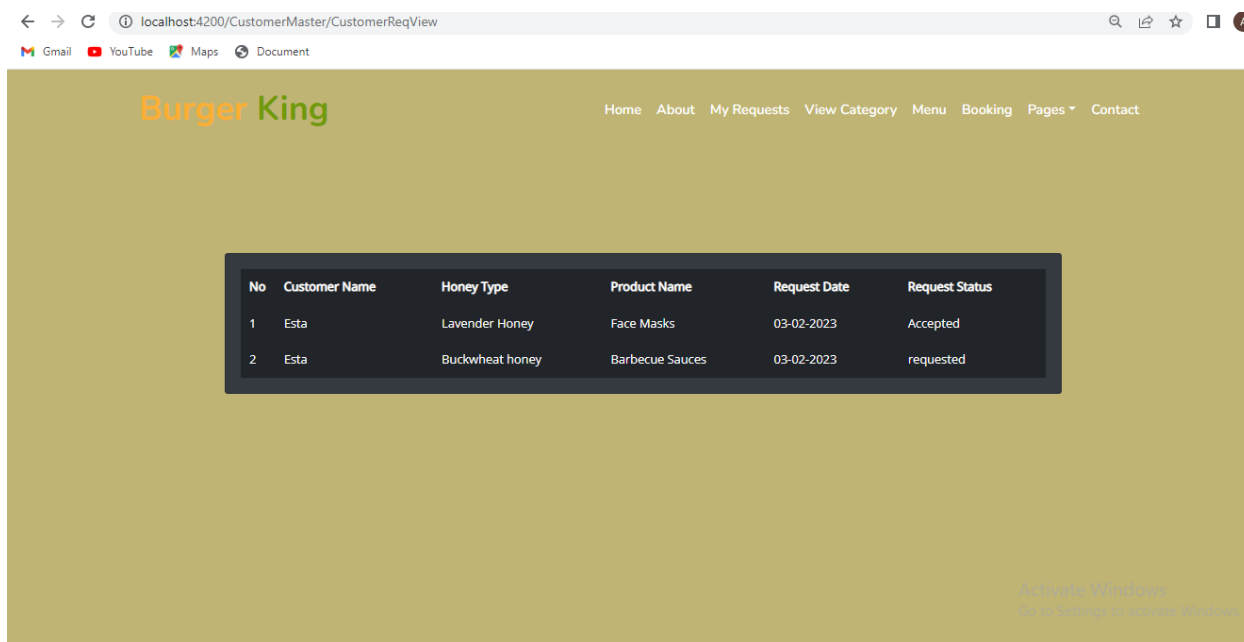


Fig 8.22 Customer Request View Page

