



Nepal Herbal Web Application

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ABSTRACT

The project, e-commerce for medicinal plants and herbs, is created with the goal of investigating the entrepreneurial benefits of an online platform for local farmers, mostly in Nepal, as well as recognizing the benefits and challenges that the digital platform brings. The website follows a Customer to Customer (C2C) business model to provide local entrepreneurs with a variety of new opportunities to connect to larger business networks in a cost-effective and reliable manner, allowing them to increase their self-sufficiency and growth while utilizing locally available resources. This study also discusses the commercial value of wise and long-term medical herb usage in Nepal, as well as the economic prospects of e-commerce.

Keywords: E-commerce, Medicinal Herbs and Plants.

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1. INTRODUCTION

Today's world is dominated by manufactured drugs and prescriptions, but many people are oblivious to the benefits of medicinal plants that started it all. These herbs have so

many health benefits that it would be a waste of resource if they are not utilized properly. Especially in Nepal, almost all sorts of natural herbs and medicinal plants can be found due to its favorable climatic conditions. Despite this, many medicinal plants in Nepal are not utilized to their full extent. “There are about 800 types of medicinal herbs in Nepal but only 70 are utilized as medicine”, (Kullabs, 2019). In addition to that, with the out-of-control wave of coronavirus hitting several counties, Nepal is having a hard time shaking the feeling of approaching catastrophe. As scientists across the world rush to develop a treatment and cure for COVID-19, health officials have begun to promote traditional to aid individuals to prevent the virus, most of which are available in Nepal. However, due to the lack of knowledge and resources to commercialize these herbs, majority of them have been found to be wasted. Locals who grow them are deprived of an opportunity to make a profit out of them. Not only this, but Nepal is also missing the liberty of improving its economy by securing its place in the international trade market.

With right set of circumstances and liability, Nepal also has the potential to reap the benefits of the unique and highly potent medicinal herbs. The logical way to achieve this would be via an e-commerce platform so more people can experience their benefits. E-commerce websites have exploded with popularity on the internet during the last decade, with rightful reasons. Not only does it require a relatively less capital to create and run an e-commerce site, but it also has the potential to reach an audience globally. Unlike the limitations of serving a particular geographical area a physical business might have, it is proven to be highly convenient for customers to be able to access and shop within the comfort of their home. Likewise, the availability of a 24-hour service at any day of the week will ensure ongoing profit for the company. By creating a platform that provides such easy access to these rarely available herbs will be an effective tool to analyze the root of the problem and boost the commercialization of these herbs. The website's major goal is to support rural farmers of the remote region to develop and supply high-quality herbal and organic agricultural products through promoting biodiversity protection. It will create a relationship and collaboration with farmers, groups, cooperatives, and businesses to bring high-quality herbal and organic agricultural goods to market while also preserving biodiversity. The Use Case Diagram (UML), Entity Relationship Diagram (ERD), HTML, CSS, JavaScript, PHP programming and, Oracle Server for database integration languages will be used to design and create the suggested framework (*This is explained in detailed in Review of Technology and Product Design*).

In order to carry out the research, several data collection techniques will be applied. First and foremost, a thorough reading of research papers from former researchers will be carried out for a better understanding of e-commerce website's influence on herbs commercialization. Along with firsthand data collection, information and data will also be collected from both primary and secondary sources such as, books, articles, and many more for an in-depth data analyzation. Once the process is complete, the next step will be focused on the critical analysis of the gathered data.

This report will provide a concise technical insight on the overall condition of medicinal herbs in Nepal and how an e-commerce platform can boost their commercialization. The report will also explore the possibility of creating business opportunities for locals with the assistance of a digital platform and eventually elevate the economy of the

country. Furthermore, a detailed recommendation on how to improve the issues that might have originated by the end of the analysis will also be provided.

2. Review of Literature:

A literature review was completed to look into recent research and existing practice in the areas of utilizing medicinal herbs and performance evaluation and risk assessment of commercializing them through a digital platform. This research aims to build a body of knowledge for a variety of reasons, including justifying the foundation for future research, learning as much as possible from other domains related to the topic, and providing a foundation for other researchers and students interested in learning about and contributing to the effects of E-business. One well-known research approach for amassing a corpus of information is literature review Bonnie et al. (2006). The sources for the literature review include published papers from former researchers at PRESBYTERIAN NURSES' TRAINING COLLEGE, University of Pretoria, etc. and current practices from other herbal e-commerce businesses. The review is summarized and divided into three sections: a general idea on natural herbs as traditional medicines, e-commerce and its impact on Nepal and related works and limitations.

2.1 Background:

Natural herbs have been used for thousands of years for their health and other benefits. They are highly recommended for their healing properties due to their great nutritional value. They have a distinct advantage over pharmaceuticals as they are known to have no negative effects and countless other benefits that help maintain a healthy mind and body. Apart from therapeutic benefits, these herbs can be used for food formulation, natural colors, pest control, teas, and perfumes, among other things. Numerous studies from around the world have concluded that there has been a considerable increase in the number of individuals turning to natural herbs for therapies and everyday use. Similarly, majority of Nepali household make use of readily available herbs as precautions and short-term medical treatments. However, there are over 800 highly potent medicinal plants in Nepal and people have access to only few of them. There is neither a shortage of medicinal herbs in Nepal nor a lack of demand or marketplace to commercialize them, yet there is very minimal access to them.

With the number of medicinal herbs growing in Nepal and the numerous health benefits it offers, commercializing them would eventually benefit the economy of the country. Although, Nepal is steadily making progress toward development it has been restricted by several problems. According to ADB economic data, Nepal's economy is rising among south Asian countries, with a GDP of 6.3 percent. The trade balance, on the other hand, is critical for accelerating growth and achieving the aim of 8% economic growth. By building export-driven industries like herbs commercialization, Nepal can largely profit off export-based economy and provide its citizen a new business opportunity. By utilizing the abundant number of natural herbs, it homes Nepal has a good probability of becoming a middle-income country in the next 11 years. With the

growing phenomena of integrating medicinal herbs to formulate pharmaceuticals and increasing popularity of natural herbs in other areas, Nepal will be able to secure a firm ground on the international trade market. In contrast to other nations, many of the medicinal and aromatic plants (MAPs) may be found in the Himalayan Mountain ranges, at high altitudes or in the foothills, which adds to their unique nature and utility. The manner these MAPs are grown, harvested, and processed sets them apart from others. These plants are known to have a high commercial value.

Despite the benefits of medicinal herbs and advantage Nepal has on profiting off them, there is still a lack of resource to properly make use of them. The herbs, despite being widely available, are barely accessible. Thus, the report aims at finding out how effective a digital commercialization of these natural herbs would be to elevate their accessibility and popularity.

Furthermore, if herbs are made as simply as possible accessible, which is the ultimate aim, it will encourage the community to use them even more and promote them internationally. Because of the convenience of internet commerce, more customers will be able to access them. On top of that, commercializing herbs online makes it easier to track and handle the income. Furthermore, there will be no more excursions to physical stores, inaccessibility, or wastage of natural herbs. Customers may easily visit the online store and shop with a single click of a button. This provides Nepal a platform to utilize what it already has and make a sustainable economic growth out of it by opening a door for employment opportunities.

2.2 NATURAL HERBS AS TRADITIONAL MEDICINE

According to the study done by researchers at Presbyterian Nurses' Training College in 2013, Medicinal plants have been utilized by mankind for their curative benefits since the dawn of civilization. A medicinal plant is any plant that exhibits organs that contains chemicals that can be utilized for therapeutic purposes or are sources for the production of valuable pharmaceuticals, as per World Health Organization (WHO, 1977). This definition distinguishes between plants whose therapeutic properties and constituents have been scientifically established and plants whose medicinal properties and contents have not. For thousands of years, nature has provided medical substances, and in today's day and age, an astounding number of modern medications have been extracted from natural sources. At least 25% of medications in today's pharmacopoeia are still extracted from plants, with many more being synthetic equivalents based on prototype chemicals discovered from plants. Many of these discoveries were made based on how the agents were used in traditional medicine. Natural herbs-based medicine system continues to play an important role in health care, with around 80% of the world's population relying on natural herbs for their primary health care (Owolabi et al., 2007). Ancient medicines and natural herbs have been widely used as therapeutic agents for the maintenance of good health in most underdeveloped countries (UNESCO, 1996).

As per several studies, the rising expenses of prescription pharmaceuticals in maintaining human health and wellness, as well as the genetic modification of new

plant-derived drugs, has fueled interest in medicinal plants as a potential health aid (Lucy and Edgar, 1999). Similarly, medicinal plants are becoming more popular, for a variety of other reasons, including a growing belief in herbal medicine (Kala, 2005). Furthermore, in industrialized civilizations, a growing reliance on medicinal plants can be related to the extraction and production of medications and chemotherapeutics from these plants, as well as traditional herbal medicines (UNESCO, 1998). The list of national and international scholars who have conducted study on traditional medicinal plants in Nepal is extremely fascinating. Antimicrobial, anticancer, anti-inflammatory, antidiabetic, and even antiviral activities have been discovered in several Nepalese plants. Medicinal plants, according to the World Health Organization, would be the best source to produce variety of pharmaceuticals. As a result, such plants should be studied further in order to gain a better understanding of their qualities, safety, and efficacy and utilize them to their full potential.

2.3 E-COMMERCE AND ITS IMPACT ON NEPAL

As per recent studies, most East Asian countries have altered their economies by are transitioning to export-led commerce, and they have done exceptionally well in dealing with competition from some huge corporations, as mentioned by Barutcu and Tunca (2012). Nepal, on the other hand, squandered this opportunity and rather, got reliant on imports. For much of the previous two decades, the country's persistent trade imbalance has harmed not just competitiveness, but also industrialization, job creation, and economic growth. It is high time for Nepal to get ahead on elevating exports, international trade, and try to reduce the rising imbalance. There are a number of ways to accomplish this but utilizing the developing e-commerce popularity in the domestic market and for export trade might work effectively if done quickly, consistently, and strategically. Online commerce has the ability to sweep the Nepalese market, aided by user-friendly shopping applications that provide 24-hour service and convenient payment methods. The advantage businesses have of not being limited to a geographical location by switching to a digital platform is paving the road for the e-commerce sector to see historic development. These days, small and medium businesses play a critical role in creating a large portion of a country's income. As a result, despite their limited resources, small corporations make a huge contribution to economic progress. According to Sin and et al. (2016), these businesses should be granted promotions in order to expand their businesses through E-business and create substantial profits.

The objective is to take advantage of the opportunities created by digital growth and use e-commerce to create jobs, fix present trade conditions, and achieve economic transformation and prosperity. To achieve this, the present resources, and assets in Nepal suitable to e-commerce, like medicinal herbs, must be created.

2.3 RELATED WORKS AND LIMITATIONS

Several studies related to the topic suggest that e-commerce website is a useful tool to increase the commercialization of natural herbs in Nepal. Institutions such as National Ayurveda Research and Training Center (NARTC), Kathmandu University, Pokhara University, Tribhuvan University, Agriculture and Forest University, Nepal Academy of

Science and Technology (NAST), Department of Plant Resources and various other colleges and research institutes in Nepal conduct scientific research on medicinal plants. Although much work has been done to identify Nepal's traditional medicinal plants, researchers have found it difficult to gather quality samples from Nepal's remote areas due to geographical, climatic, and topographical challenges (Shrestha, B. & Pandey, R., 2018). In addition, according to a study conducted by Kathmandu University, greater focus should be placed on domestication, commercialization, and biotechnological studies, followed by genetic enhancements to therapeutic plants.

There are several e-commerce websites in Nepal that are working towards the same goal such as: Herbs Nepal, Himaland, Taste of Nepal, Alternative Herbal Product, Herbs Production & Processing Co. Ltd. and many more. While there are a number of groups that are effectively commercializing these herbs, there is still a long way to go in terms of promoting their use and making them available to as many people as possible. Similarly, there is currently a lack of a web-based platform in Nepal that allows consumers to sell real herbs as well as acquire any other uncommon herbs to help fellow local farmers and use the herbs for their health benefit. This will not only give a platform for anybody who needs it to launch a company and attract attention to it, but it will also promote Nepalese herbal medicine in the long run.

3. Review of Technologies:

- OPERATING SYSTEM:

This project was created on the operating system **Windows 10**. It is part of Microsoft's Windows NT operating system family.

- WEB BROWSER:

Microsoft Edge is a cross-platform web browser that was utilized in the creation of this production project.

- LOCAL SERVER

XAMPP is an open-source web-solutions package that is short for Apache MYSQL PHP and Perl Cross-Platform. It facilitates variety of platforms such as: PHP, Apache API, MariaDB, Perl modules, as well as Apache delivery for a variety of command-line scripts and domains (DevOpsSchool, 2021). It is used in the project for carrying out and testing project functions.

- DATABASE SERVER

Created by Oracle Corporation, **Oracle** database is an RDMS (relational database management system). The application is built on a relational database architecture that allows users to query the database using SQL (Guru99). Oracle is best suited for this project since it operates on various platforms and provides query optimization from the start.

- TEXT EDITOR

Sublime Text is a cross-platform text editor for editing local files and code bases. It offers a variety of code editing features that help developers adjust to the rapidly evolving coding world (tutorials point).

- DESIGN:

QSEE SuperLite is a modeling environment for planning and designing purposes. It is utilized in the project's study and design of software-based systems.

Adobe Photoshop for Windows is a strong, dependable, and sophisticated image editor. Adobe Photoshop is a far better option than Picasa, PhotoScape, and Corel Painter in terms of creating simple designs, sophisticated 3D artwork, and easy retouches. The software is used to design the logo of the website.

For generating vector graphics, sketches, drawings, and artwork, **Adobe Illustrator** is one of the most popular, dependable, and feature-rich design tools. Multiple tools for high-quality design tasks are available through the program. Designers have the ability to create amazing designs from their ideas with brushes, special effects, layers, filters, color processing, gradient effects, and drawing tools. This software is used to design the wireframe of the webpages.

- PROGRAMMING LANGUAGE

HTML is the abbreviation for Hyper Text Markup Language. When an HTML file is viewed in a browser, the browser looks for these files and utilizes them to change the layout, insert photos, or create links to other websites.

CSS stands for Cascading Style Sheets, and it focuses on the website's general appearance and style. CSS is used to design a web document, whereas HTML is used to structure it. Colors, fonts, and page layouts of the websites are all controlled by CSS (skill crush).

JS, or JavaScript, is generally known as scripting language that is commonly used to enhance in HTML code. It allows websites to, among other things, show special effects, generate cookies, respond to events, validate data, accept changeable text, and recognize the user's browser.

PHP is a computer language that is built into HTML to help web developers build dynamically generated pages more quickly. Before converting PHP into HTML, it shows just the content that visitors need to view while obscuring all other features such as file operations, arithmetic operations, and so on. When the site is ready, it sends it to the visitor's web browser.

BOOTSTRAP is a Programming model that integrates and manages the layout of a website and helps to improve it (Hostinger Tutorials, 2019).

- API

PayPal Sandbox is a virtual testing environment that closely resembles the real-world PayPal environment. It provides a safe environment in which applications may be started and monitored as they process PayPal API calls without impacting genuine PayPal accounts. It is utilized to handle the payment feature of the project.

- LIBRARY:

PHPMailer is an open-source tool for sending emails from PHP applications (emailmarketingwp, 2021). In the project, PhpMailer is utilized to send emails to many recipients using BC and CC, to react to emails, and send files as attachments to the emails, among other things.

- DOCUMENTATION:

MS Project (MSP) is project management software that aids developers in project management. It is used to manage resources, organize projects, produce reports, allocate tasks, manage timelines, and more in the project.

To handle the documentation for this project, **Microsoft Word** was utilized. Microsoft Word is a graphical word processing program developed by Microsoft.

4. Software Requirement Specification

TYPE	SOFTWARE NAME
OPERATING SYSTEM	Windows 10
LOCAL SERVER	XAMPP
DATABASE SERVER	Oracle Server
TEXT EDITOR	Sublime Text 3
PROGRAMMING LANGUAGE	HTML CSS PHP SQL JS BOOTSTRAP
API	PayPal
LIBRARY	PHPMailer
WEB BROWSER	Microsoft Edge
DOCUMENTATION	MS Project MS Word
DESIGN	QSEE Superlite Adobe Illustrator

5. Methodologies

The methodology used to develop a software has a huge influence on the whole product planning and development process. Using an appropriate methodology helps

build a product efficiently and effectively by establishing a clear set of rules for how work will be completed.

Among several product management methodologies, the web-based platform will be developed using the **Agile Method**.

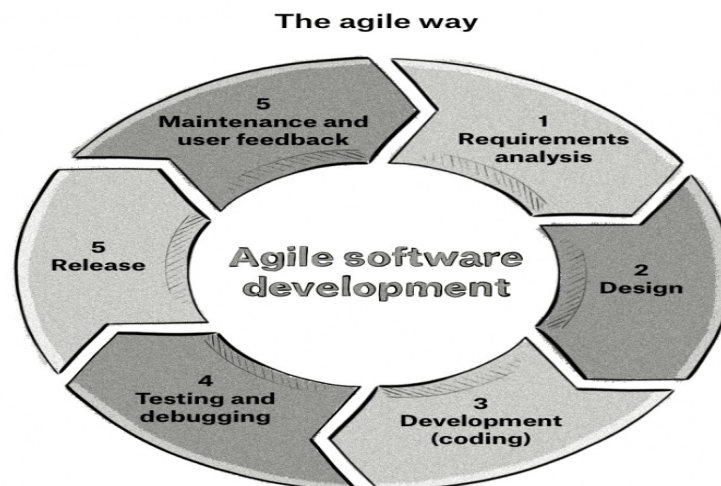
WHY AGILE PRODUCT MANAGEMENT?

Agile product management is a process that focuses on iteratively developing a product to achieve high-quality results. This method arose as a means of assisting software developers in adapting to client requests more quickly and efficiently. To implement smooth adaptation to change, and provide working solutions faster, agile method will be applied to the development of this product.

Customers/developers can change their minds about what they want at any time throughout the production process, according to one of Agile's fundamental concepts. Furthermore, any difficulties or obstacles may be addressed immediately as it focuses on increasing a developer's capacity to create rapidly and adapt to challenges or changes as they arise.

Along with that, the development process can be halted to review within each meeting with the supervisor, allowing time for fresh ideas or modifications, or even steering the project in a completely other path, if the situation may arise. This technique has the potential to reduce both risks and time to produce a high-functioning product.

Moreover, Agile method is chosen to create the best possible product. It allows for a place to constantly plan and re-plan the project in order to maximize its performance, keeping it competitive in the marketplace. Agile ensures that a product's market relevance is maintained and that it does not go underutilized and unreleased.



AGILE VS WATERFALL METHODOLOGY

There are several other popular methodologies that is used in project management and waterfall methodology is one of them. It is an out-of-date software development

technique that employs a sequential design process in which progress cascades downward like a waterfall. The procedure starts with the creation of an idea and progresses through design, development, manufacture, production, sales, and maintenance. The main differences between the two methodologies are:

AGILE	WATERFALL
Focuses on customer centric goals like satisfaction and user growth	Focuses on business-centric goals like scope, schedule, and budget.
Planned on a quarterly, monthly, or bi-weekly basis, with the ability to change the schedule as needed.	A long-term roadmap commitment to create particular features on a specified period is included in the yearly product plan.
Reprioritize on a regular basis to keep up with changing consumer, market, and company demands.	Focuses on one-time prioritizing.
As new information becomes available, criteria are constantly revised.	Criteria are completely specified in a product requirements document.
Assess progress toward strategic objectives and adjust plans as needed to account for changing circumstances.	The original scope must be provided on time and on budget in order for the project to be successful.

The reason for not applying Waterfall methodology in the product development is because, one activity occurs after other in the waterfall technique. This, however, does not function well in software development. Waterfall would imply that all project requirements could be established before to designing and coding, which is rarely the case. It is critical to have discussions and opportunities to adjust throughout the phases so that any mistakes may be detected, and improvements made. Otherwise, the development process might take an incredible amount of time. Agile allows for iteration of the development process and modifications to be made along the way, which streamlines the product development process and improves the product's performance.

PRODUCT DEVELOPMENT LIFE CYCLE

It includes seven stages for the completion of product development using the Agile method. The seven stages are listed below:

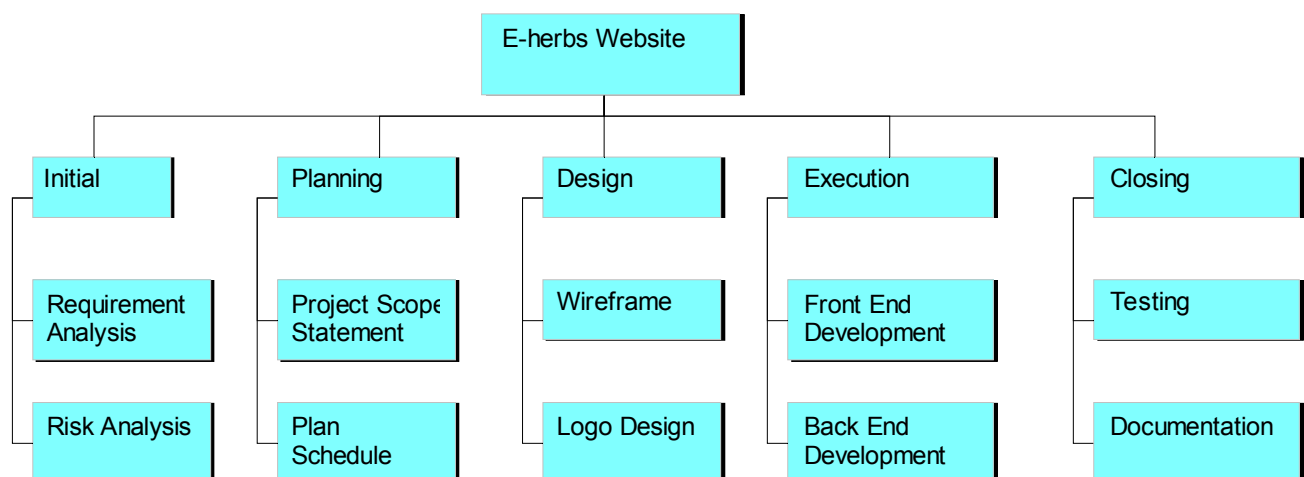
1. **Planning Project:** In this stage, the project's early planning begins. This entails developing a product vision as well as a road plan for the product. It includes research on the topics related to the product and determining the overall scope of the project.
2. **Product Design:** At this stage, the designing process of the product will be started. It will start with determining the overall design of the project along with the prototype of the product. There are several designing tools that can be utilized during this process. However, QSEE is the CAD software that will be utilized as it allows for Reverse Engineering, Hybrid Modeling, Nondestructive Testing, Knowledge-Based Engineering, and many other processes. The design process will include features like: Entity Relationship Diagram (ERD), Use Case Diagram, Overall Design Structure, Flow chart, Contextual Flow Diagram, and many more.
3. **Product Development:** This step entails determining each set of product features and when and how they will be completed. Completion of only feature must be planned at a time in Agile projects. The date will be help to utilize the time available to focus on developing the feature as efficiently as possible. This will allow to maximize its performance and time for fresh ideas or modifications. Progressively, after short periods of time, usually two weeks, a new product functionality will be created. A 15- to 30-minute meeting will be conducted every week or date accustomed by the supervisor, to discuss the previous accomplishments and allocate the tasks that must be completed until the following meeting. Any issues that arise within the meetings will also be discussed.
4. **Product Testing:** The created product will be examined and tested using various ways to assess its performance efficiency throughout this stage. At the conclusion of the product development process, a meeting will be convened to review what worked and what did not during the process, as well as what, if anything, may be done to make improvements.

6. Product Design

Product design is the method through which designers combine customer demands with commercial objectives in order to assist businesses in creating consistently successful goods. The method in which the website's features and advantages are presented to the client is an important step in product development. Understanding the end-user, for whom the product is being produced, is critical to successful product design. There are numerous Computer Aided Design Software available to properly design a website, however, the software used for this project are QSEE and Photoshop.

Work Breakdown Structure

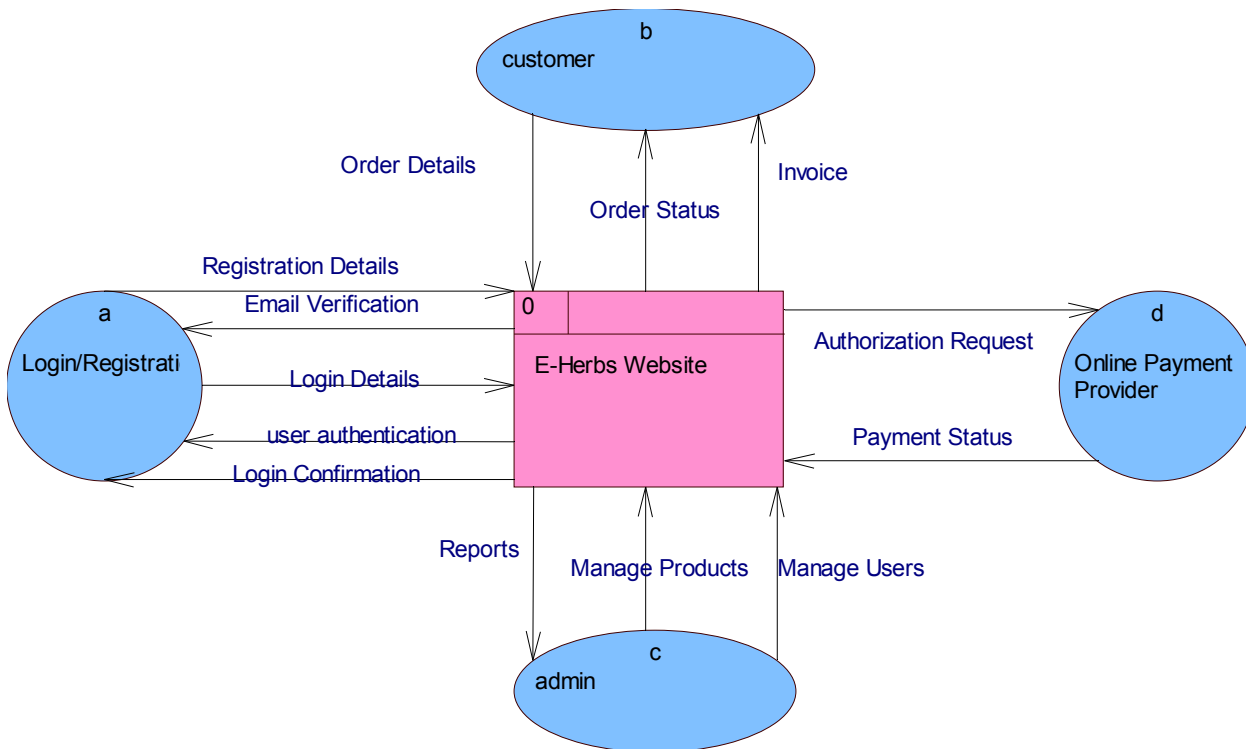
First of all, it is important to breakdown the requirements to complete the project for a smooth development. A work breakdown structure (WBS) will help to achieve that as it is a deconstruction of a project that is visible, hierarchical, and focused on deliverables. It is a useful diagram for project managers because it helps them to work backwards from a project's end product to identify all of the actions required to complete the project successfully.



Context Flow Diagram

The Context diagram, also known as the Level 0 Data Flow Diagram, is the highest level of a Data Flow Diagram. It is made up of a context bubble that is first drawn in the chart's midsection. A system context diagram depicts the entire software system as a whole by including any external components that may interact with it. This diagram centers the system and surrounds it with its exterior components, related entities, and surroundings. In the diagram, a conceptual barrier that encloses a set of interrelated processes and activities of a project is represented by a circular shape. It helped in brainstorming the current design and allowed room for omission of any blunders beforehand.

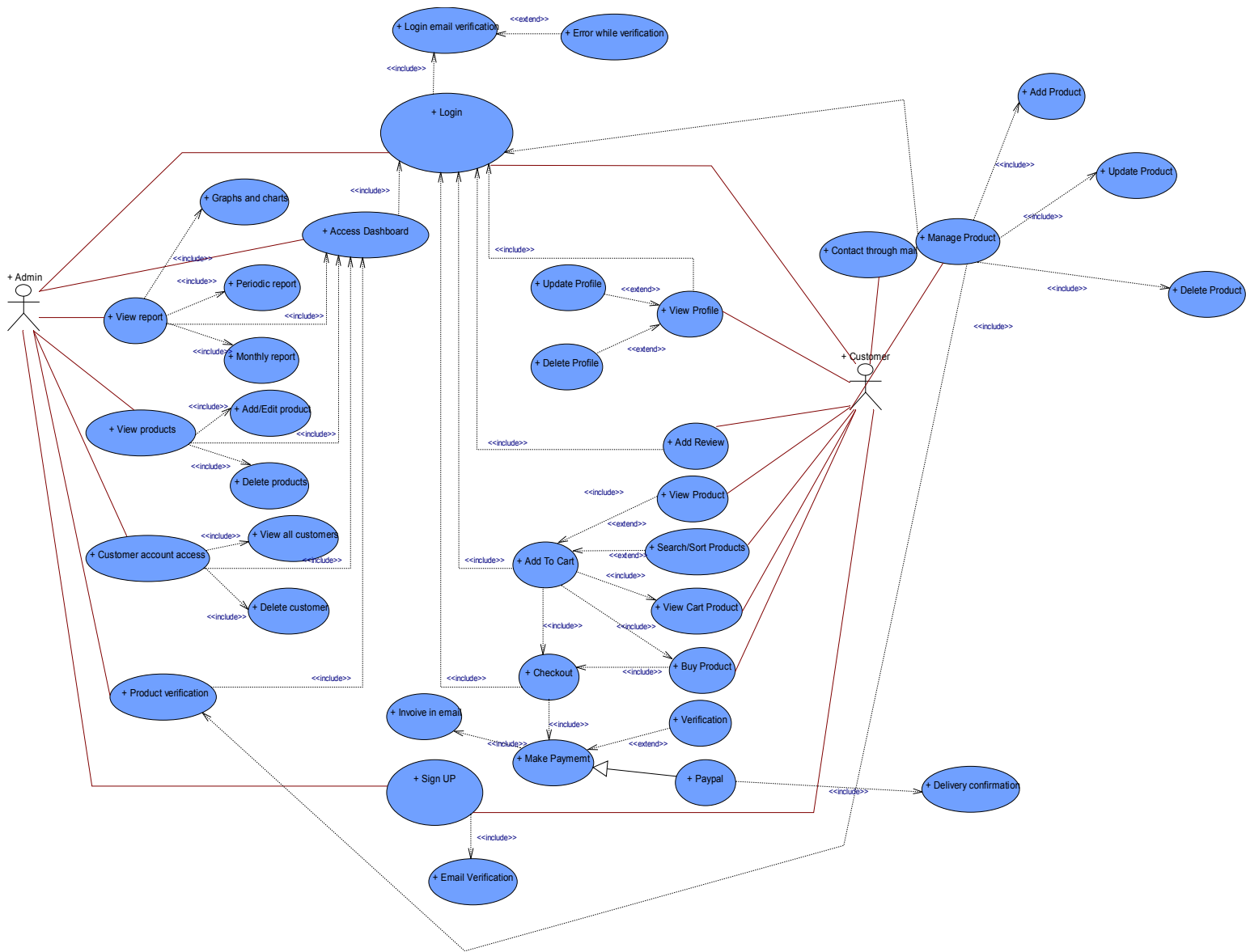
Customers, admin, login system, and the payment system are the external components in the suggested system. The diagram ensured that all parties involved are on the same page from the start and helped in defining the scope of the project on a distinct advanced hierarchy.



Use

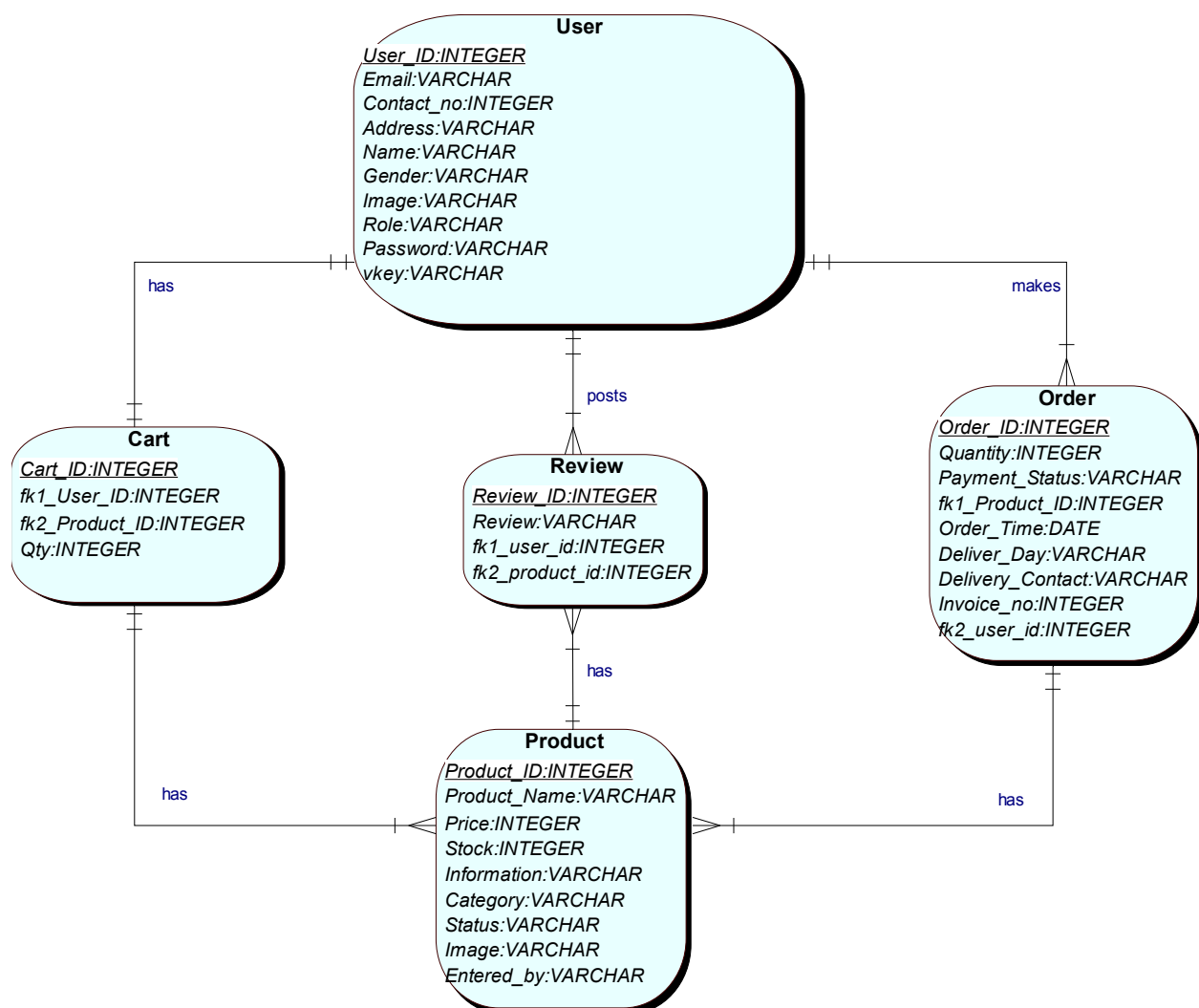
Case Diagram (UML)

The primary form of system/software requirements for an undeveloped software application is a UML use case diagram. In UML, the desired behavior is specified, not the specific technique of achieving it. Once defined, use cases can be represented both textually and visually, however, we have opted for visual presentation. By defining all externally apparent system behavior, it is an excellent approach for expressing system behavior in the user's terms. In the proposed system, the Admin and the Customer are the actors and their relationships between all the website features are analyzed using the diagram below. The main purpose of generating the Use case diagram below is to validate the system's architecture.



Entity Relationship Diagram (ERD)

The Entity Relationship Diagram, often known as the ERD, ER Diagram, or ER model, is a form of database architecture structure diagram. The primary entities within the system scope, as well as the inter-relationships among these entities, are visualized using different symbols and connectors in an ERD. It is an important part of Product design as changing a database schema directly in a DBMS might be dangerous depending on the magnitude of the change. It is critical to plan out updates carefully to prevent destroying data in a production database using the ERD. Determining an information system's needs by creating a conceptual ERD that describes the system's high-level business items will be an effective to for successful product development. In this case, the entities are User, Product, Cart, Order and Review.

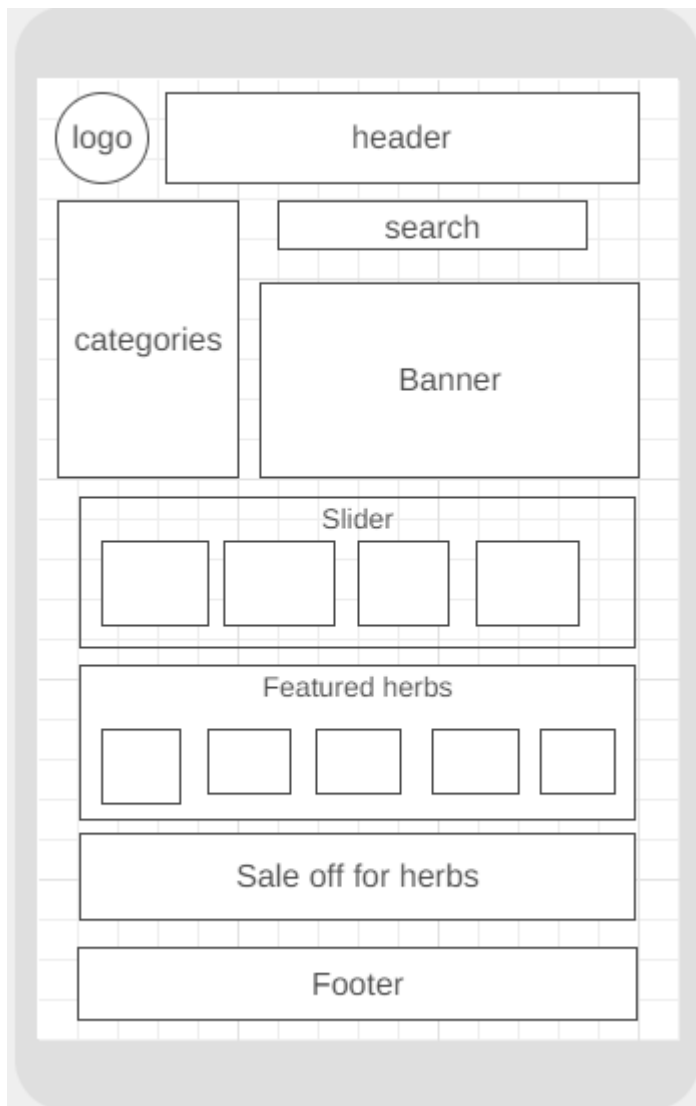


WIREFRAME

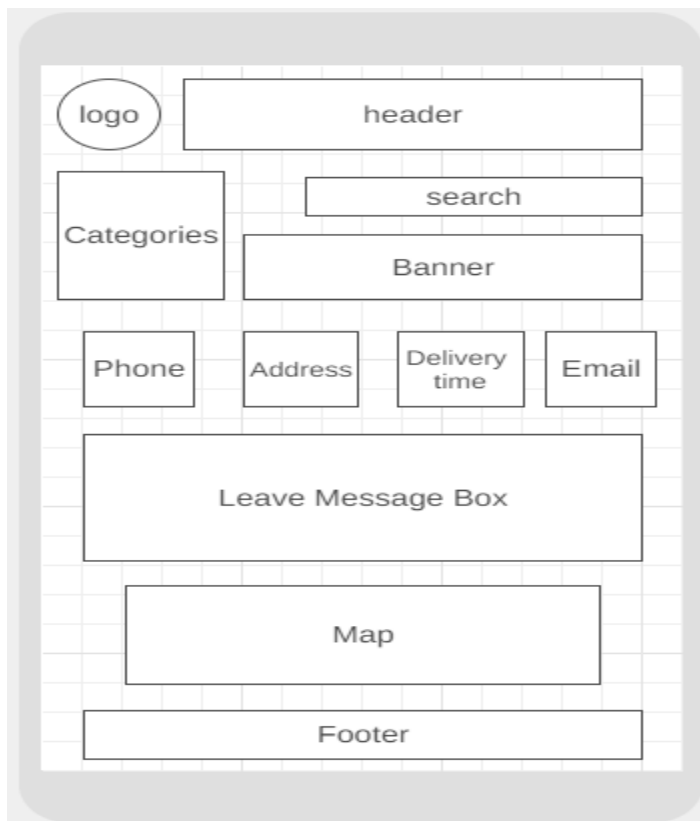
Wireframes are used in user interface design to build layouts for websites, web applications, mobile apps, and more. It helps developer stay organized and create layouts and designs that follow a well-thought-out concept. Wireframes improve user experience by allowing developers to visualize the design's outline or frame in advance. There are plenty of great tools that can be used to make wireframes. In this project, Adobe Illustrator best suited the requirements to create a prototype.

Wireframe for every page of the website is illustrated below:

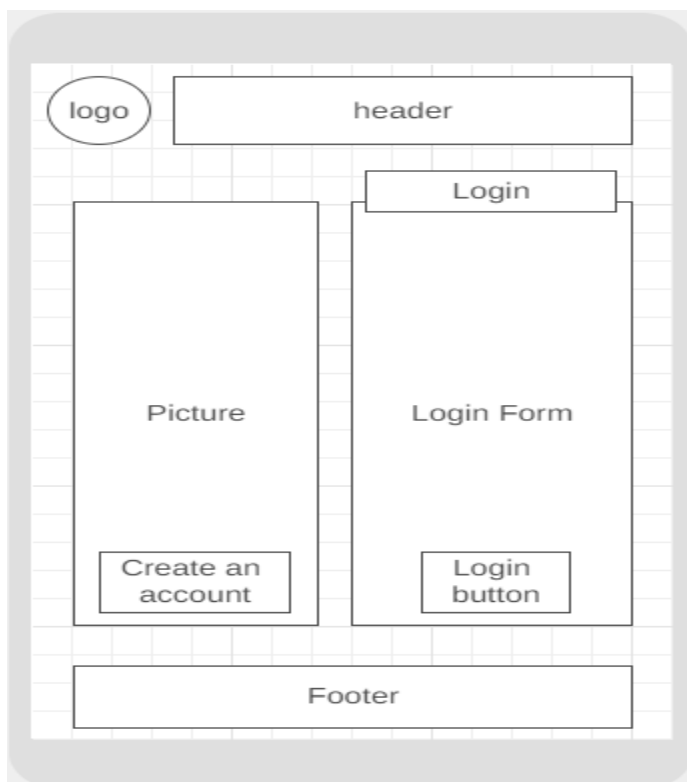
HOME PAGE



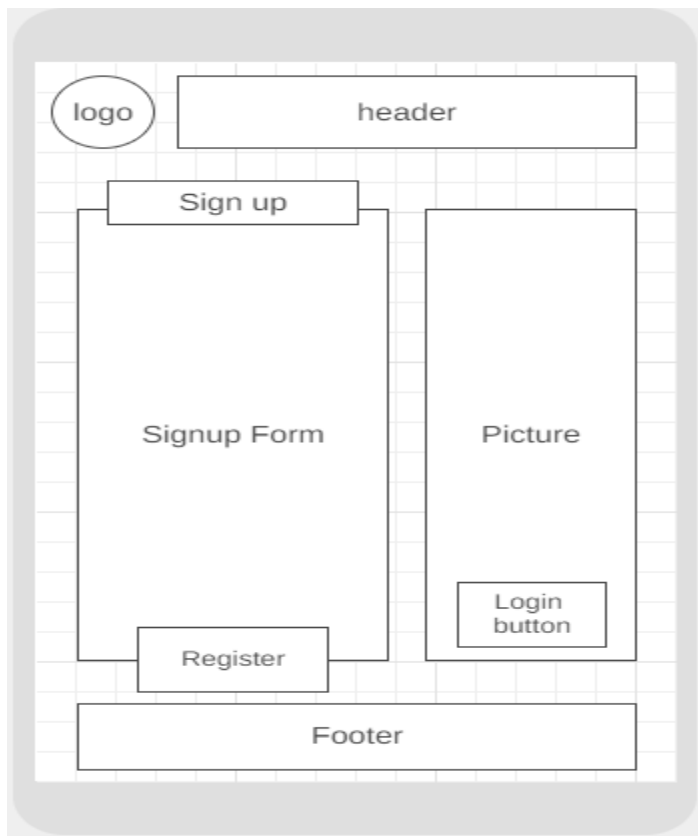
CONTACT PAGE



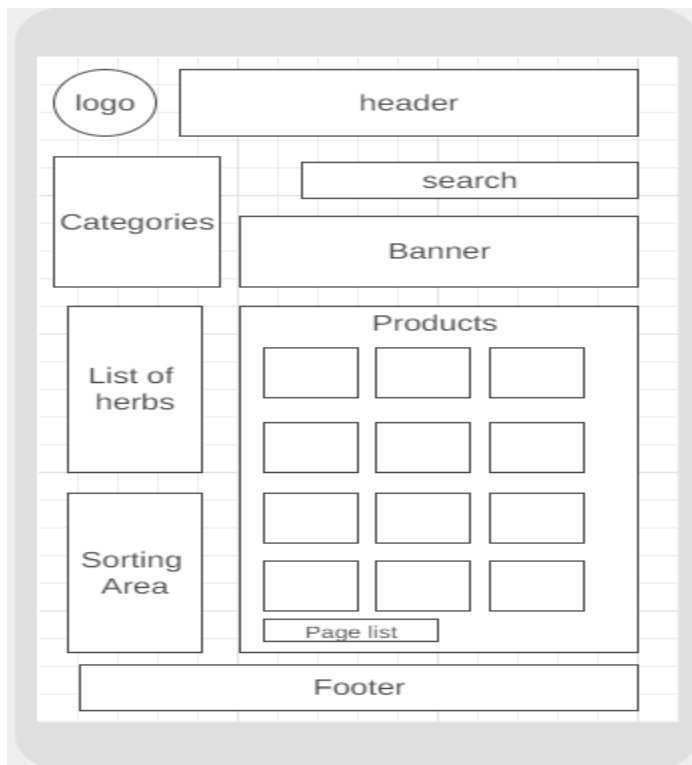
LOGIN PAGE



SIGNUP PAGE



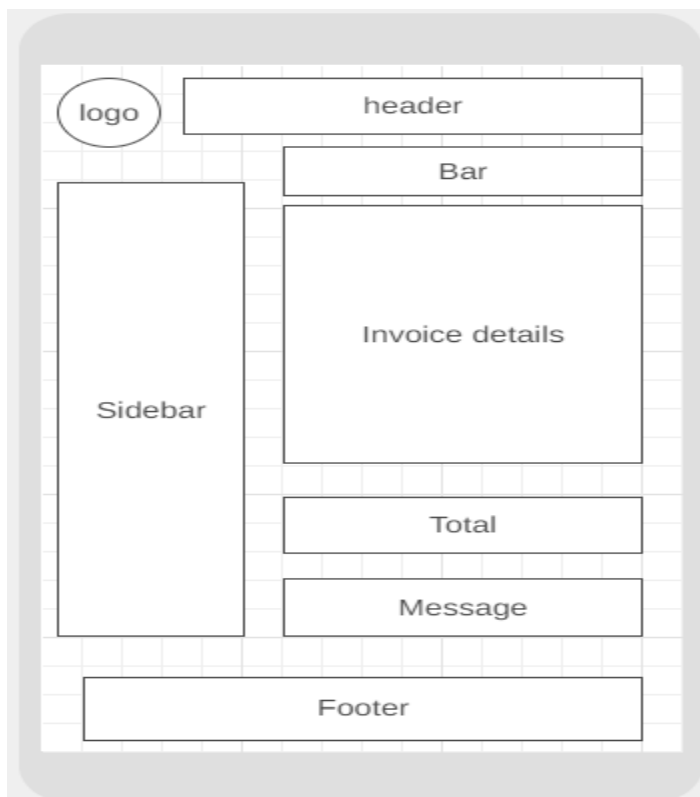
PRODUCT PAGE



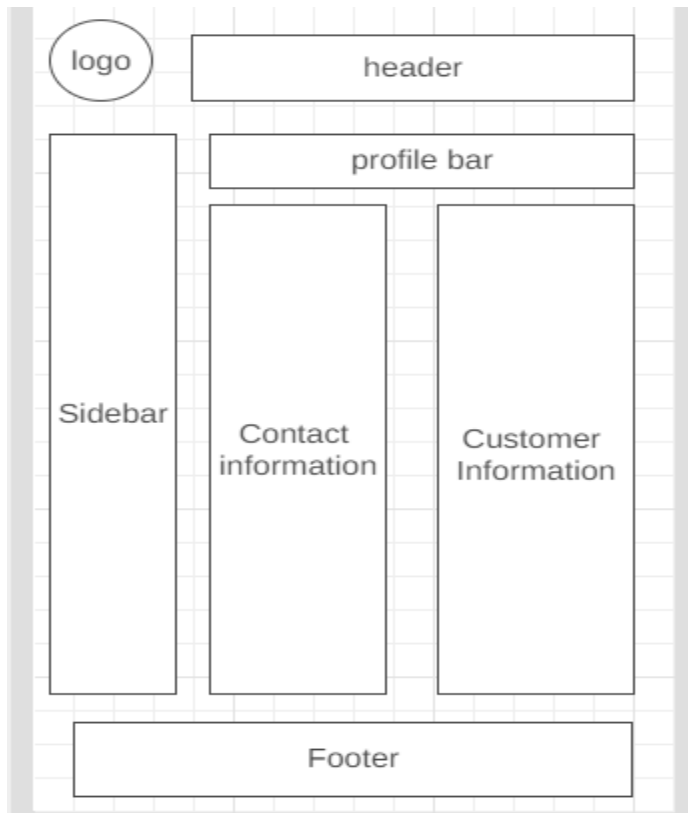
CART PAGE



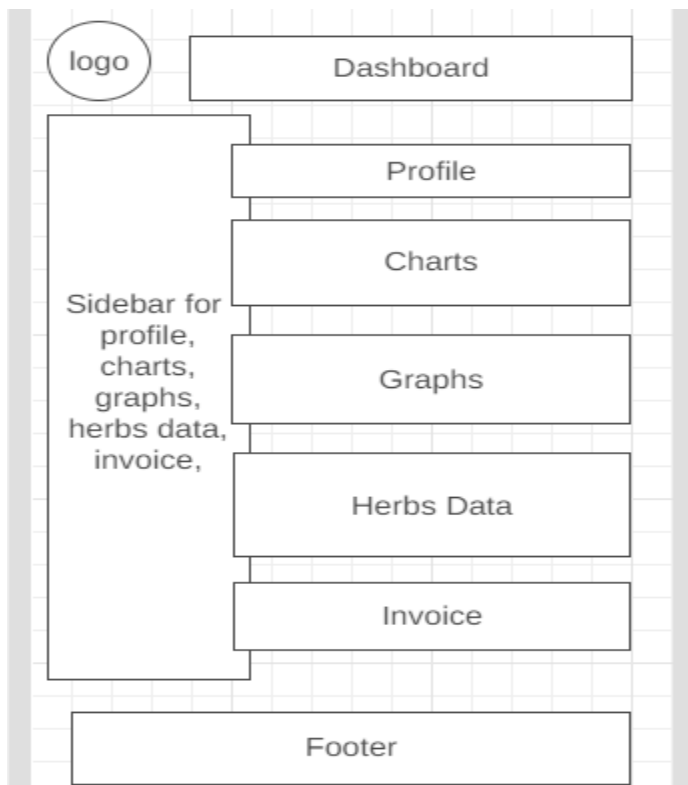
INVOICE PAGE



PROFILE PAGE



DASHBOARD PAGE



LOGO DESIGN

The foundation of a corporates' brand identification is a great logo (99designs). A fantastic logo makes it easier for people to grasp what a business is about and how they differ from the competitors. The process of combining symbols, pictures, text, and color to create a one-of-a-kind mark that communicates the spirit of your company is crucial. Hence, considering all of the above idea, the following design has been created for the brand logo.

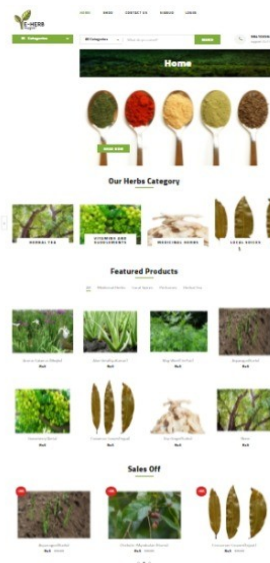


7. Implementation and Testing

E-herbs is an e-commerce site dedicated to marketing authentic Nepalese herbs. The main goal is to make these herbs as accessible as possible to anybody who visits the website as well as assist Nepal Herbal Sector in its efforts to improve the living circumstances of Nepalese people. To create a satisfying user experience, this concept is considered throughout the development of the entire website. The website features an entire list of medicinal plants of user's interest including medicinal, spices, perfumes, teas, and many more. The website holds features like email verification, multi- user login search bar, product sorting, personal cart, payment via PayPal, feedback option, contact organization feature, dashboard for both admin and customer, profile updates, and many more.

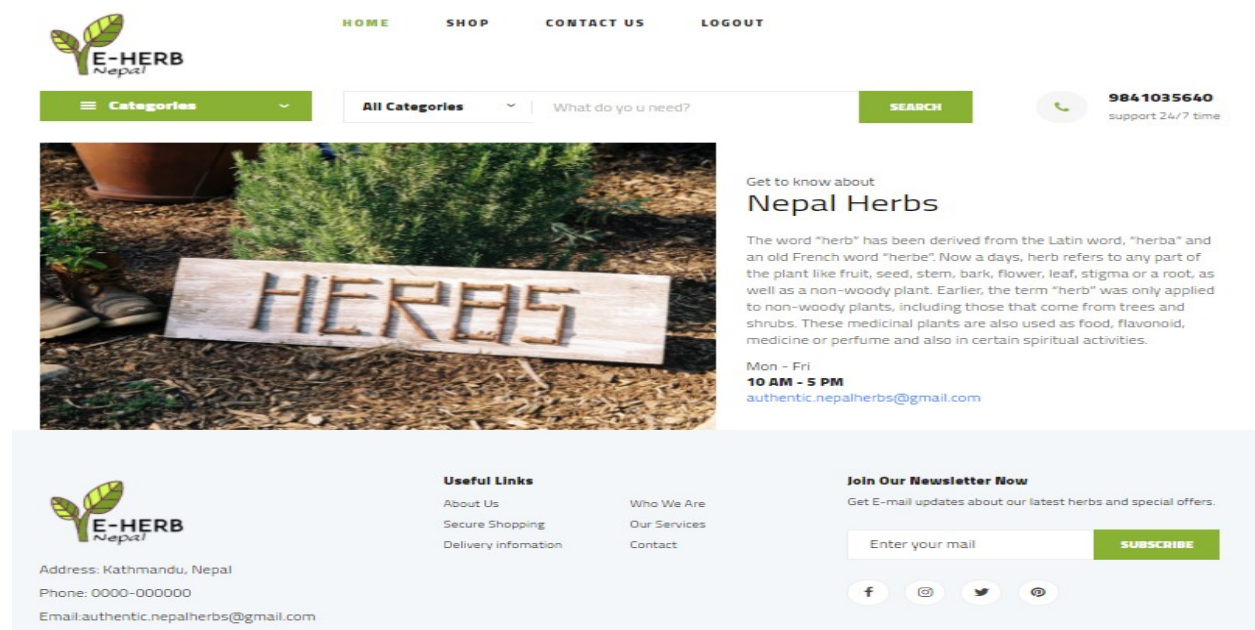
Home Page:

The homepage provides a fair indication of the website's focus. It comprises of a navigation bar with connections to all of the website's other pages. The logo, which also serves as the home button, can be located in the top left corner of the website. Another element on the navigation bar is a search button, which allows buyers to quickly find herbs they want to buy. The homepage also features all the shops associated with top-up as well as newly added products which will directly lead to the product page. The site also includes all of the top-up-related businesses, as well as freshly added items that will take you straight to the product page.



About Page:

Our offerings, which include bakery items, groceries, and delicatessen, are described in further detail on our About page. Customers who want to learn more about E-herbs can go to the about page.



Contact Page:

Customers can use the contact page to get in touch with top-up. They can email their questions to E-herbs directly using our contact form.

The screenshot shows the E-HERB Nepal website's Contact Us page. The header features a large green banner with the text "Contact Us" and "Home - Contact Us". Below the banner are four columns of contact information: Phone (+977-9841035640), Address (Thapathali, Kathmandu-Nepal), Open time (10:00 am to 7:00 pm), and Email (authentic.nepalherbs@gmail.com). Below this is a "Leave Message" section with a form containing two input fields for name and email, a text area for the message, and a "SEND MESSAGE" button.

Contact Message sent:

The customer's query will be sent directly to the administrator, who will respond as quickly as feasible.

Leave Message

Thank you for your feedback. Your message has been sent.








Ram Dahal

customer.nepal123@gmail.com

Registration Page:

Customers can create an account with E-herbs to have immediate access to herbs. They must complete the registration form, which may be seen below. To register successfully, users must fill out every field on the form. The form requires for users to fill out their information including their name, username, password, email, phone, and their role.

Sign up

	First Name
	Last Name
	User-Name
	Your Email
	Your address
	Your mobile number
	Enter password
<input type="radio"/> Male <input type="radio"/> Female	
<input type="radio"/> Admin <input type="radio"/> Customer	
<input type="button" value="Register"/>	



[I am already member](#)

Registration Page: Empty field

In order to register properly, the customer must complete out all fields. Because user information will be used throughout the payment process and for other website functions, this is required.

Registration Page: Same username

If the client inputs an already taken email address, the warning "username already taken" will appear as shown below.

Registration Page: Same email

If the customer enters an already taken email, the warning "email already taken" will be displayed as shown below.

Registration Page: Same password

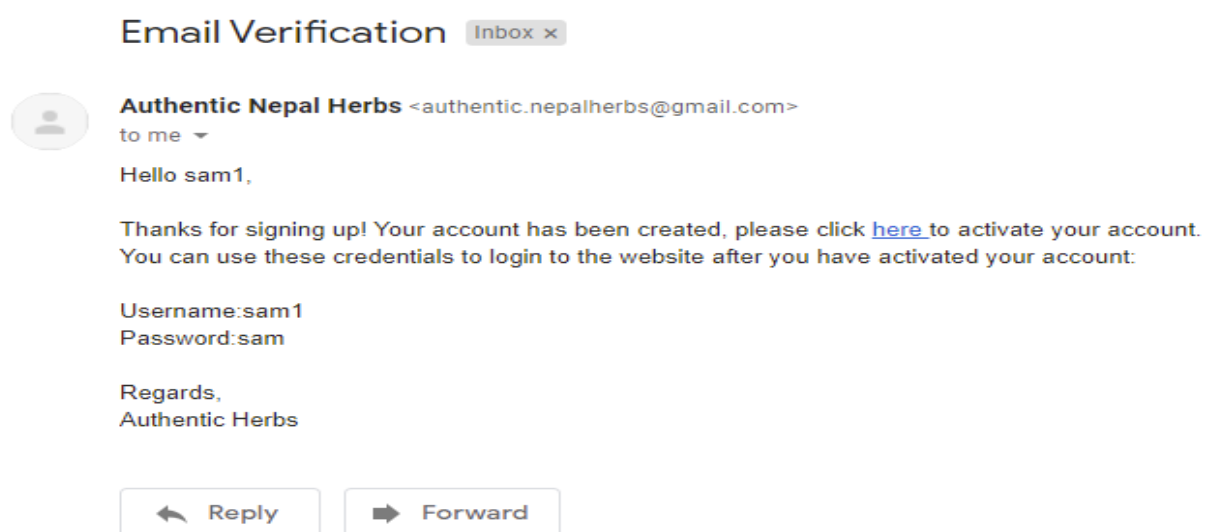
If the customer enters an already taken password, the warning "password already taken" will be displayed as shown below

Registration Complete:

Once the registration is complete successfully the user will be notified to check their email for verification.

Email Verification:

Customers will now get an email from E-herbs' official email to confirm their account registration, and they must click on the link in the email to successfully log in to their E-herbs account. This step is necessary because it will ensure user security.



Email verified:

After clicking on the link provided in the email, the user account will be fully verified, and they can proceed to login.


Login Page:


The next step would be for customers to access their E-herbs account by signing in using the login page after receiving email verification. To log in successfully, they must input valid credentials and completely fill out all the fields.



[Create an account](#)

Login





☒ Customer ☐ Admin

[Log in](#)

Login Page: Account not verified message.

If customer does not verify their account by clicking on the email link the following message is shown.



Login

Please verify your account first.




Login: Username/password wrong message

If customer provides wrong credentials, the following message is shown.



Login

Username not found. Please try again

 sam

Login: Match not found message:

All fields in the login form must be filled correctly otherwise, the following message will be shown.



Login

Match not found. Please try again.

 sam1

CUSTOMER INTERFACE

Customer Profile:

Customers will be routed to their customer profile page after successfully logging in, where they may easily view their profile settings. They can update their details like password and email in case of any change they would like to make as shown below.

The screenshot displays the 'Profile' page of a customer interface. On the left is a dark sidebar with navigation links: Home, Profile, My Herbs, Add Herbs, Shop, and Shopping Cart. The main content area is titled 'Profile' with a breadcrumb 'Home > Profile'. It features a profile picture placeholder with the username 'sam1'. Below this is a 'Contact Information' section listing: Email Address: customer.nepal123@gmail.com, Phone Number: 9865478510, Gender: male, and Address: Shankhamul. To the right is a 'Your Info' section titled 'Edit Your Personal Setting' with input fields for User Name (sam1), Password (sam), Email (customer.nepal123@gmail.com), Phone Number (9865478510), and Address (Shankhamul). An 'Update Information' button is at the bottom right.

Customer Dashboard:

Customers will be routed to their dashboard after a successful login. They may add numerous herbs by filling out the form on the dashboard with all of the necessary information and clicking on add herbs. Before their product may be posted on the product page, they must wait for admin clearance. Similarly, after the admin has authorized it, they may control their herbs (edit, delete, etc.) as well as view their sales report such as daily sales, weekly sales, monthly sales with sales summary.

Customer Dashboard: Add Product

Customers have the facility to add herbs from this page shown below.

Add Product

Home > [Add Herb](#)

Herb Name *

Herb Price *

Herb Stock *

Herb Category*

Lavander

200

12

Medicinal herbs

Choose Image*

Choose File

Cinnamon-Leaves.jpg

Herb Description *

Very aromatic

Add Herb

Customers are required to fill all the herb details in order to add their shop successfully. A message notifying the success will be displayed to the customer.

Customer Dashboard: Product CRUD




Customers have the ability to view, edit and delete products from this page shown below.

All Herbs

Home > [All Herbs](#)

Add Herb

All Herbs

#	Herb name	Price	Stock	Category	Seller	
	Acorus-Calamus (Bhojho)	5	15	Medicinal herbs	pravat	<div>EditDelete</div>
	Aloe-Vera (GyuKumari)	5	13	Medicinal herbs	pravat	<div>EditDelete</div>
	Gooseberry (Amla)	5	15	Local spices	pravat	<div>EditDelete</div>

Customer Dashboard: Update Product

Customers can make changes to their product by filling all the fields or else “All fields are mandatory” message will be displayed. A message will be displayed notifying the herb is updated.

Update Herb

[Home](#) > [Update Herb](#)

Herb Name *

Herb Price *

Herb Stock *

Herb Category*

Lavander

10

3

Medicinal herbs

Choose Image*

Choose File

No file chosen

Herb Description *

Lorem ipsum

Update

Customer Dashboard: Delete Product

Customers can delete their product any time they want using the delete button. A message will be displayed notifying the herb is deleted.

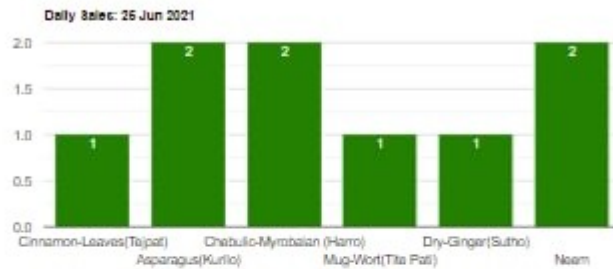
Customer Dashboard: Daily Sales

Customers may use their dashboard to view daily sales and daily sales summary of their herbs.

Daily Sales

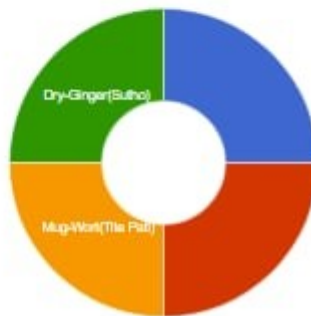
[Home](#) > [Charts](#)

Daily sales chart






Sales per herb chart

Sale Per Product



Herbs sold today

	Product Name	Quantity	Price	Total Sales
	Chebulic-Myrobalan (Harro)	1	\$5	\$5
	Cinnamon-Leaves(Tejpat)	1	\$5	\$5
	Dry-Ginger(Sutho)	1	\$5	\$5

Customer: Weekly Sales

Customers may use their dashboard to view daily sales and daily sales summary of their herbs.

Weekly Charts

Home > Weekly Charts

Weekly sales chart

Weekly Sales





Day	Sales
Monday	1
Thursday	8

Sales per herb chart

Weekly Sales Per Product

Product	Sales
Neem	2
Asparagus(Kurilo)	2
Chebulic-Myrobalan (Harro)	1
Cinnamon-Leaves(Teipat)	1
Other	2

Herbs sold this week

	Product Name	Quantity	Price	Total Sales
	Asparagus(Kurilo)	2	\$5	\$10
	Chebulic-Myrobalan (Harro)	1	\$5	\$5
	Chebulic-Myrobalan (Harro)	1	\$5	\$5
	Cinnamon-Leaves(Teipat)	1	\$5	\$5

Customer Dashboard: Monthly Sales

Customers may use their dashboard to view daily sales and daily sales summary of their herbs.

Monthly sales

[Home](#) > [Monthly Charts](#)

Monthly sales chart

Monthly Sales

10.0

9.5

9.0

8.5

8.0

9

JUN




Sales per herb chart


Monthly Sales Per Product

Neem

Asparagus(Kurilo)

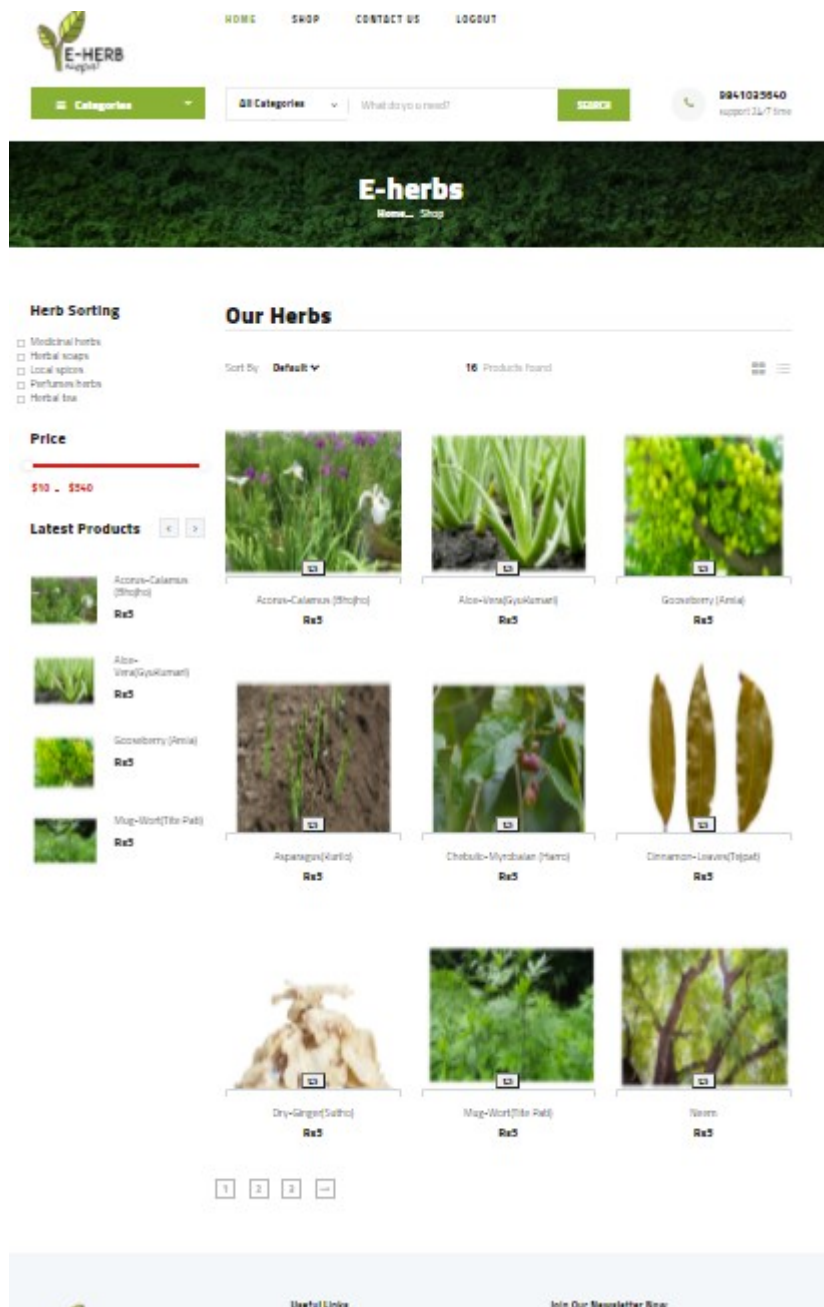
Herbs sold this month

	Product Name	Quantity	Price	Total Sales
	Asparagus(Kurilo)	2	\$5	\$10
	Chebulic-Myrobalan (Harro)	1	\$5	\$5
	Chebulic-Myrobalan (Harro)	1	\$5	\$5



Product page:

The product page allows customers to see and purchase items. It comprises of all product listings and a sidebar with tools for consumers to filter items by category and price. They may also use the navigation bar to search for items by name. On the same page, they may also click on the button and get more information on products and their reviews.




Product quick View/product description:

After clicking on the quick view button the following page will be displayed.

Herb Details

Home — Shop — Herb Details







Aloe-Vera(GyuKumari)

★★★★★ (18 reviews)

Rs5

It is commonly used on sunburns and cuts. Aloe Vera offers numberless benefits because this plant is used for internal applications and the lower leaf consists of a host of curative functions.

- 1 + **ADD TO CART**



Availability	13
Shipping	01 day shipping. Free pickup today
Share on	f t @ v

Product Page: Post Review.

Customers may submit a review by filling out the form and clicking the "write a review" button. They can also read consumer reviews, as seen below.

Reviews

Write a review here

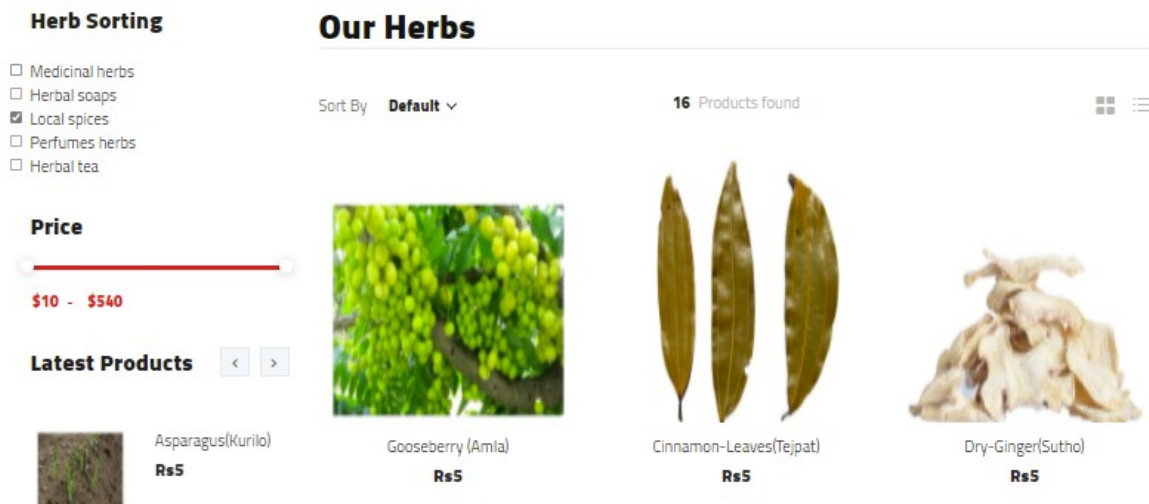
ADD REVIEW

sam1
very authentic herb

Product Page: Sorting

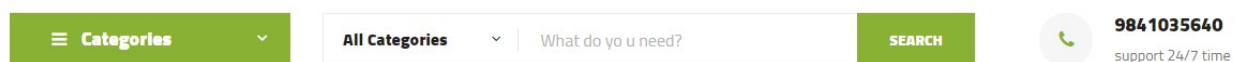
Filter by category:

Customers may filter results by category, shop, price, and alphabetically (i.e. by product name) by clicking the filter button.



Product Page: Search product

The search bar is available throughout the website to provide users an easy access to the herbs they are looking for. They may use the search bar to search for items by name.



In case, the product that user searched for is not available, they will be notified.




Cart page:

Customers may add herbs to their carts in order to purchase them now or in the future. They have the ability to delete or add multiple herbs at any moment. Only logged-in users have access to the cart page. Customers have the option of picking up their products at a time that is convenient for them. It will also show the total amount of all the items in the basket, allowing them to proceed to the checkout with ease.

The "Herb is added to cart" message will be displayed after the success.

Shopping Cart

Home — Shopping Cart

Herbs	Price	Quantity	Total	
Chebulic-Myrobalan (Harro)	5	- 2 +	10	
Acorus-Calamus (Bhojho)	5	- 1 +	15	
Aloe-Vera(Gyukumari)	5	- 3 +	30	

[CONTINUE SHOPPING](#)[UPDATE CART](#)

Cart Total

Subtotal	Rs30.00
Total	Rs30.00

[PROCEED TO CHECKOUT](#)

PayPal Login:


The next step after clicking the checkout button is that customers should input their PayPal account credentials after hitting the checkout button to complete the checkout process.


Cart Total

SubtotalRs30.00

TotalRs30.00

[Pay with PayPal](#)

 Debit or Credit Card

Powered by 



Pay with PayPal

With a PayPal account, you're eligible for free return shipping, Purchase Protection, and more.

☐ Stay logged in for faster purchases [?](#)

Log In

[Having trouble logging in?](#)

or

Pay with Debit or Credit Card

PayPal Payment:

After successful login customers will be asked to confirm the order details as well as payment method as shown below.

Test Store



\$30.00 USD

Hi, ram!

Ship to

ram prasad
1 Main St, San Jose, CA 95131

[Change](#)

☐ Make this my preferred shipping address

Pay with




Balance

\$30.00
USD

☐ Make this my preferred way to pay

E-herbs Invoice:

Customers will receive an invoice containing information such as the issue date, their name, the items they purchased, and the opportunity to print their invoice when payment is completed.



INVOICE

sam
Date Issued: 18-06-2021
Invoice No: 180620212098493494

sam
Shankhamul
customer.nepal123@gmail.com
9865478510



Herb Name	Price	Quantity	Subtotal
Chebulic-Myrobalan (Harro)	5	2	Rs10
Acorus-Calamus (Bhojho)	5	1	Rs5
Aloe-Vera(GyuKumari)	5	3	Rs15


**TOTAL
PRICE:30**

Thank You!!

The invoice also features a 'send pdf' button which, upon clicking, will email the invoice directly to the customer.


Invoice Details Inbox x



**Authentic Nepal Herbs** <customer.nepal123@gmail.com>
to me ▾

12:25 (1 minute ago) ☆ ↶ ⋮

Please Find Invoice details in attach PDF File.

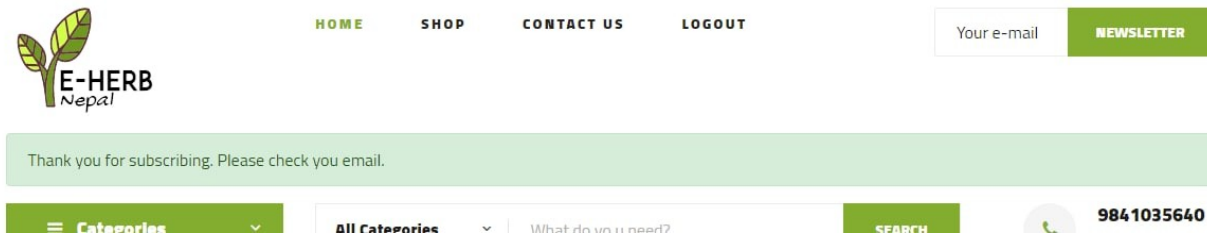
 5ccee8814883db6...

↶ Reply

➦ Forward

Newsletter:

Customers also have the facility to subscribe to the website weekly newsletter.



Upon subscribing they will receive weekly emails on different topic, product update, blog reports, and many more.



Logout:

Customers will be able to logout of their account by clicking on the logout link on their dashboard.

ADMIN INTERFACE

By logging in via the login page, administrators may see reports and tables on product sales as well as observe customer activity. To log in successfully, they must input valid credentials and complete out all forms; otherwise, an error will appear, exactly like in the customer interface.



Admin Dashboard:

The admin is redirected to the dashboard after login onto the website. The dashboard will have the following features:

1. Approve Herbs Placement
2. Manage Customers
3. Manage Herbs
4. View Herbs
5. Sales Data
6. Daily, Weekly and Monthly Sales Report with summaries

Admin Dashboard: Herbs Approval

When an administrator logs into the dashboard, he or she will get a list of all pending herbs requested by customers to put on sale in the main page. To modify the status of these herbs, the admin can click the approve button. Only the herbs that are approved will be displayed in the website's product page.

Herbs approval of customers											
Product	Name	Price	Stock	Category	Seller	Status	Action				
	Yarshagumba	15	2	Medicinal herbs	ram	Pending	<button>Approve</button>				
	Lavander	20	5	Medicinal herbs	ram	Pending	<button>Approve</button>				

Admin Dashboard: Manage Customers

When an administrator logs into the dashboard, he or she will get a list of all email confirmed customers in 'view user' page. To modify the status of customers, the admin can click the disable/enable link. Customers that are disabled are unable to access the website.

All Users
[Home](#) > [All Users](#)

All Users

Show entries

Search:

Name	E-mail	Address	Mobile	Password	Action
sam1	customer.nepal123@gmail.com	Jawalakhel	9865412478	sam	<div><div>Enable</div><div>Disable</div><div>Delete</div></div>

1-1 of 1 entries






Admin Dashboard: View Herbs

When an administrator selects View Products, he or she will be able to see all of the products added by traders to their designated stores, as well as their pricing, stock, herbs seller details and many more as shown below.

All Herbs
[Home](#) > [All Herbs](#)

Add Herb

All Herbs

#	Herb name	Price	Stock	Category	Seller	
	Acorus-Calamus (Bhojho)	5	15	Medicinal herbs	pravat	<div>EditDelete</div>
	Aloe-Vera (GyuKumari)	5	13	Medicinal herbs	pravat	<div>EditDelete</div>
	Gooseberry (Amla)	5	15	Local spices	pravat	<div>EditDelete</div>
	Asparagus (Kurilo)	5	19	Perfumes herbs	pravat	<div>EditDelete</div>
	Chebulic-Myrobalan (Harro)	5	17	Herbal soaps	pravat	<div>EditDelete</div>

Admin Dashboard: Manage Herbs

The admin has the ability to modify or remove the products as shown below.

Admin Dashboard: Add Herbs

Admin can add any product by filling all the fields or else “All fields are mandatory” message will be displayed.

Add Product
[Home](#) > [Add Herb](#)

Herb Name *	<input type="text" value="Lavander"/>
Herb Price *	<input type="text" value="200"/>
Herb Stock *	<input type="text" value="12"/>
Herb Category*	<input type="text" value="Medicinal herbs"/>

Choose Image*

Choose File

Cinnamon-Leaves.jpg

Herb Description *

Very aromatic

Add Herb

Admin Dashboard: Update Herbs

Admin can make changes to any product by filling all the fields or else “All fields are mandatory” message will be displayed. A message will be displayed notifying the herb is updated.

Update Herb
[Home](#) > [Update Herb](#)

Herb Name *	<input type="text" value="Lavander"/>
Herb Price *	<input type="text" value="10"/>
Herb Stock *	<input type="text" value="3"/>
Herb Category*	<input type="text" value="Medicinal herbs"/>

Choose Image*

Choose File

No file chosen

Herb Description *

Lorem ipsum

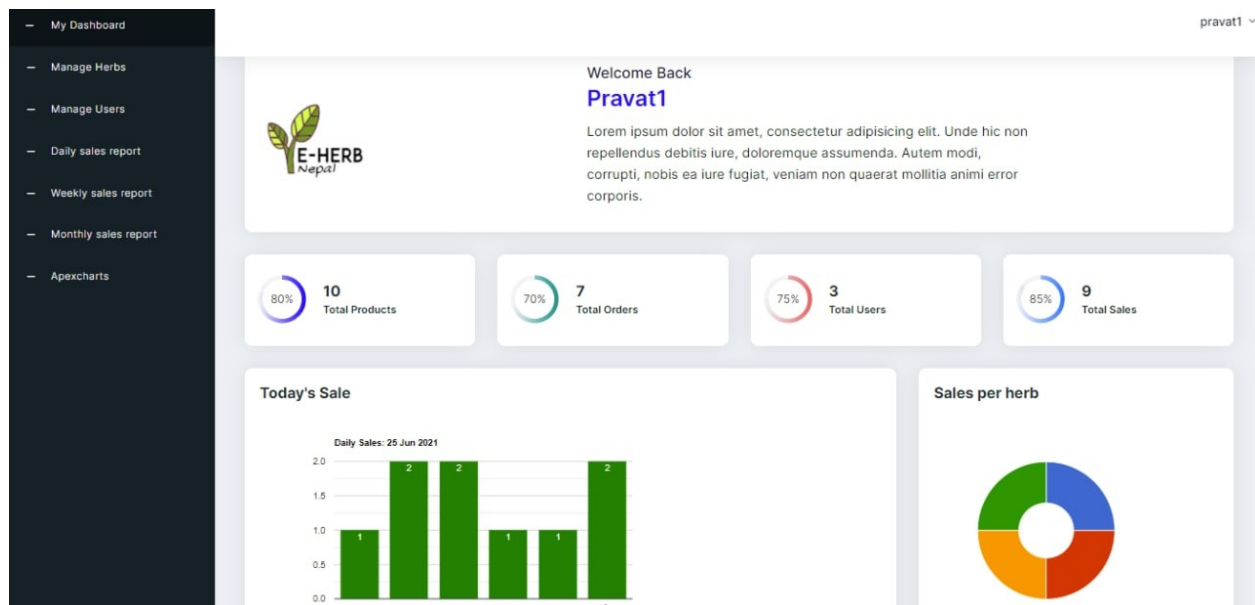
Update

Admin Dashboard: Delete Herbs

Admin has the facility to delete as many herbs they want. A message will be displayed notifying the herb is deleted.

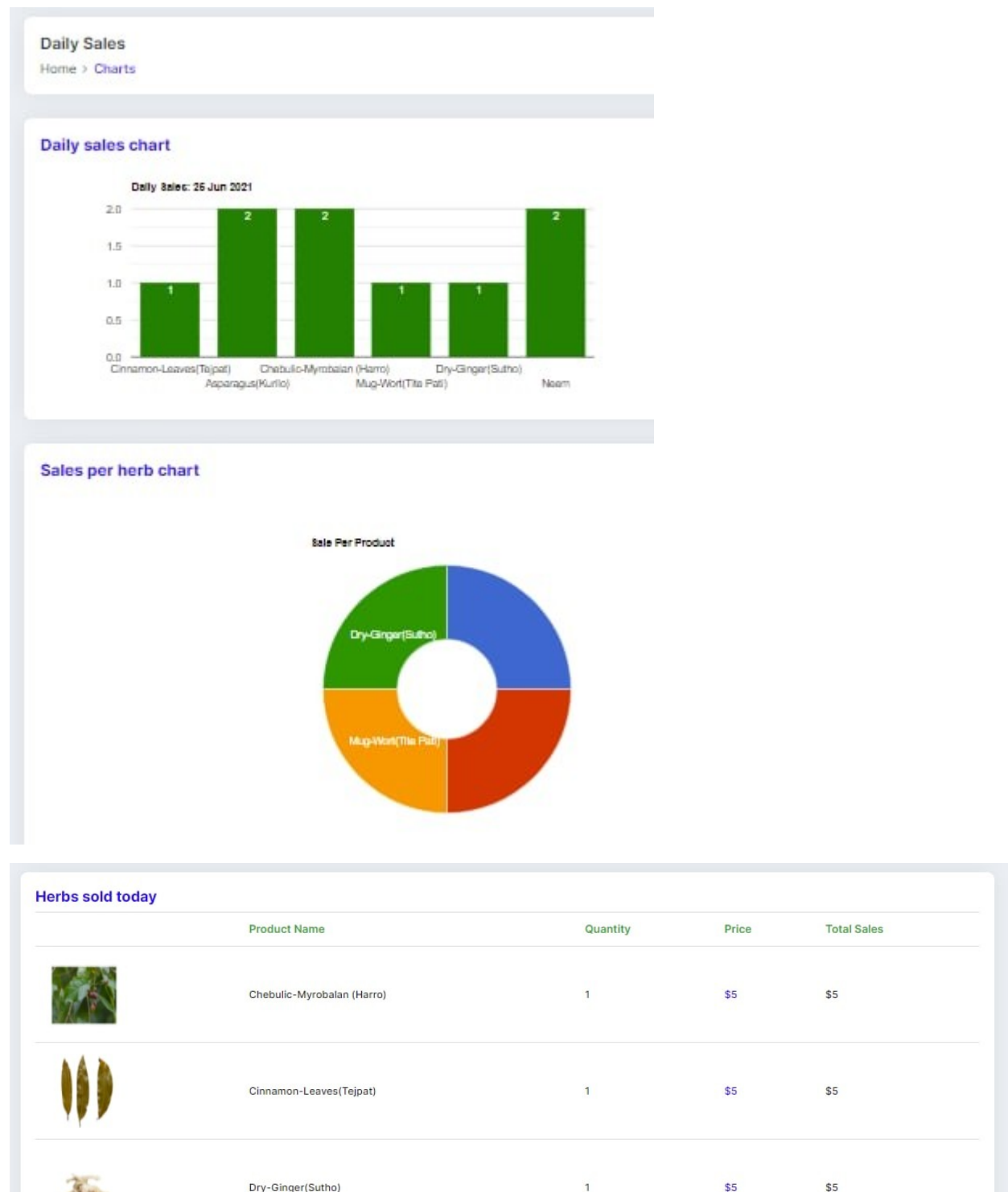
Admin Dashboard: Sales Data

When the administrator logs into the dashboard, they will be able to view a summary of product, users, orders, and sales data.



Admin Dashboard: Daily, Weekly and Monthly Sales Report

The administrator can view the total daily sales as well as a daily sales summary report.

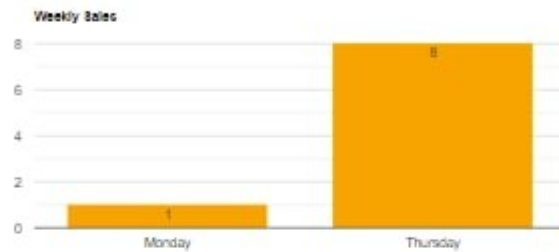


The administrator can view the total weekly sales as well as a weekly sales summary report.

Weekly Charts

[Home](#) > [Weekly Charts](#)

Weekly sales chart







Sales per herb chart

Weekly Sales Per Product



Herbs sold this week

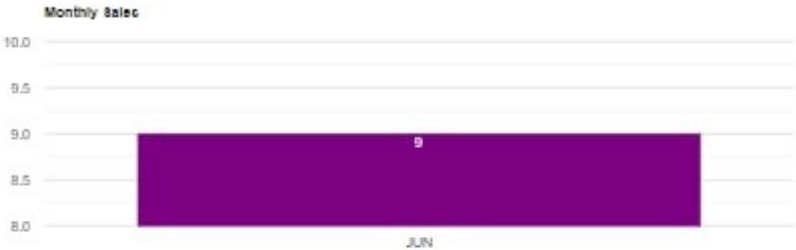
	Product Name	Quantity	Price	Total Sales
	Asparagus(Kurilo)	2	\$5	\$10
	Chebulic-Myrobalan (Harro)	1	\$5	\$5
	Chebulic-Myrobalan (Harro)	1	\$5	\$5
	Cinnamon-Leaves(Teipat)	1	\$5	\$5

The administrator can view the total monthly sales as well as a monthly sales summary report.

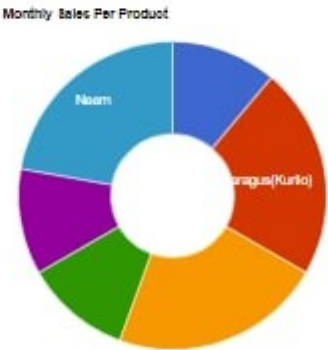
Monthly sales

Home > Monthly Charts




Monthly sales chart



Sales per herb chart



Herbs sold this month

	Product Name	Quantity	Price	Total Sales
	Asparagus(Kurilo)	2	\$5	\$10
	Chebolic-Myrobalan (Harro)	1	\$5	\$5
	Chebolic-Myrobalan (Harro)	1	\$5	\$5



TESTING

Features	Expected	Outcome	Evaluation
Registration	1) Registration for new users	1) Registration form is displayed	Pass
	2) Error message for invalid details	2) Error message is displayed. Signup will be unsuccessful.	Pass
	3) Error message for registering with leaving fields empty.	3) Error message is displayed. Signup will be unsuccessful.	Pass
	4) User registering with valid details.	4) Email, phone, username validation is shown	Pass
	5) E-mail is sent for verification of the user.	5) Email is received and registration is successful.	Pass
Login	1) Users should be able to login to their account.	1) Login form is displayed	Pass
	2) Error message for logging in with invalid details.	2) Error message is displayed. Login will be unsuccessful.	Pass
	3) Unverified login	3) Error message is displayed. Login will be unsuccessful.	Pass
	4) Users should login with valid details	4) Login is successful and user is directed to their dashboard.	Pass
	5) Buy featured products from every category	5) All products can be bought.	Pass
	6) Contact support team	6) Contact support team via contact box option located at the navigation.	Pass
Customer Interface	User can view the homepage of website.	View the homepage and could access all navigation options.	Pass
	Customer should register and login with valid details.	Customer could log in into website after entering valid details.	Pass
	Customers should have their own dashboard	Customer could log in into website after entering valid details.	Pass
	Customers should view herbs and can view each category.	Herb's page is displayed for the users.	Pass
	Customers should view details and	Registered customers can view	Pass

	feedbacks of each herb.	reviews and information of and each and every herbs.	
	Searching and sorting options	View each and every herb with sort and search options.	Pass
	Can add the herbs in cart as well as remove from it.	Registered customer can use the cart option and herbs are displayed.	Pass
	Can select the delivery time	Able to select the delivery time	Pass
	Can check out with the PayPal payment method	Can proceed with a PayPal payment.	Pass
	Customers get invoice after the payment procedure.	Get invoice with all the detail information.	Pass
	Customers should receive invoice in email	Invoice is sent to customers email	Pass
	Customer can print the invoice	Invoice is printed and can be saved.	Pass
	Customers are able to leave the feedback on products.	Get the review box option for the feedback.	Pass
	Customers can contact the support team on the website.	Contact can be done with the contact box option to reach support team.	Pass
	Customer can add products into their shops.	Can add any product for sale.	Pass
	Customer can view their pending/approved products.	Pending and approved will be displayed in a table in dashboard	
	Customer can update their products and details.	Customer can update their products as needed.	Pass
	Customer can delete their products.	Customer can delete their products as needed.	Pass
Admin Interface	Enable/Disable customers in website	Customers are disabled or enabled by admin	Pass
	View herbs and their details	Admin can view all herbs.	Pass
	Add new herbs	Herbs can be added	Pass
	Update existing herbs	Herbs can be deleted as needed	Pass
	Delete existing herbs		Pass

		Herbs can be edited as required.	
	Admin should verify herbs from users before placement in product page	Verified herbs are shown in customer dashboard	Pass
	View Daily sales from dashboard with the daily summary	Admin could view daily sale of product from all sellers.	Pass
	View Weekly sales from dashboard with the weekly summary	Admin could view weekly sale of product from all sellers.	Pass
	View Monthly sales from dashboard with the monthly summary	Admin could view monthly sale of product from all sellers.	Pass

8. Product Evaluation

Product evaluation is the process of determining the appropriateness and performance of a manufactured product for customer usage. Product evaluation is carried out for two major reasons:

to guarantee that the product complies with applicable standards.

to detect and correct manufacturing or design flaws.

Similarly, in the context of the website, a thorough evaluation will be carried out in order to analyze the overall performance and quality of a product to ensure its success.

Firstly, to measure the success of the website, the initial product specification will be used as a baseline to compare the current website.

INITIAL PRODUCT SPECIFICATION

Functional Requirements	MOSCOW
All customers can buy/view/sell herbs	Must
Herbs will be verified by admin before it is posted to the website	Must
Customers can search for herbs using the search bar	Must
Customers can pay using PayPal	Must
Customers can add to cart/schedule delivery time	Must
Customers can register for their account	Must
Email Verification for account registration.	Should
Multi-user login for admin/customer.	Must
Users can edit/update their profile.	Should
Daily/periodic reports on total sale on admin dashboard	Could
Provide discounts and offers	Could
Provide weekly newsletters	Could
Non-Functional Requirements	MOSCOW

Website must be properly tested and evaluated	Must
Website should be user friendly and easy to navigate	Should
Platform independent website	Could

As per the functional requirement, a simple and secure registration/login system has been effectively integrated into the website. The initial requirement was to implement a registration system that will verify the user via an email which is implemented on the website. The users cannot proceed the registration without verifying their account via the link sent in their email. Similarly, a multi-user login form that is properly validated and authenticated the user is also implemented on the website as per the requirement.

Likewise, a user interface where registered users can have access to the featured local herbs has been successfully integrated. In addition to that, an individual product page where users can view their details, stock and reviews posted by other customers has also been added. Customers also have the facility to search for products they wish to buy by directly entering the name in the search bar. Similarly, product sort is another feature successfully added to the website that will assist user in shopping according to their needs as per the requirement. Users also have their own shopping cart, where they can add or remove product anytime they want. Another feature present on the website following the project specification is the PayPal integration for online payment. Customers can effectively proceed with their checkout by logging onto their Sandbox account and confirming their payment. One of the additional functionalities implemented on the website that is not mentioned in the initial project specification is the invoice emailing system. Website allows users to save their invoice by providing an emailing option where the invoice will be emailed in a pdf format, or they can simply print it using the print button.

Following the specification, users have the facility to edit/update their profile details anytime they want using their profile settings page. However, the new and modification made to the website is that users will be provided with their own dashboard. Since, any customers can add their own herbs it is crucial to provide a platform where they can manage and track them. Hence a customer dashboard where they can add, update, delete, herbs is implemented on the website. Along with that, users can also clearly view their pending as well as approved products in a separate table.

Similarly, an admin dashboard is also implemented as mentioned in the specification. In the dashboard, admin will have the facility to view pending as well as approved product, approve or disable them, as well as add, edit, or delete them. They will also be provided with daily, weekly, and monthly sales reports and summary chart. In addition to that, a new feature different from the specification, where they can manage users has also been successfully implemented. Admin can enable as well as disabled user accounts using their dashboard.

Overall, the website has effectively executed the majority of the initial requirements. However, several significant improvements were required to improve the website's performance and user experience.

9. Project Evaluation

The performance, usability and the functionalities of the project are all evaluated, and the results are combined to offer an overall assessment of the project (Queensland Treasury, 1997). All of the effects of the project are recognized, and its overall development process is assessed, so that the project chosen can be optimized to its full potential.

The following project management tools have been utilized for an efficient development of the product. These tools proved to be an excellent help in time management during the production journey. They have been developed using MS Project.

Timeline:



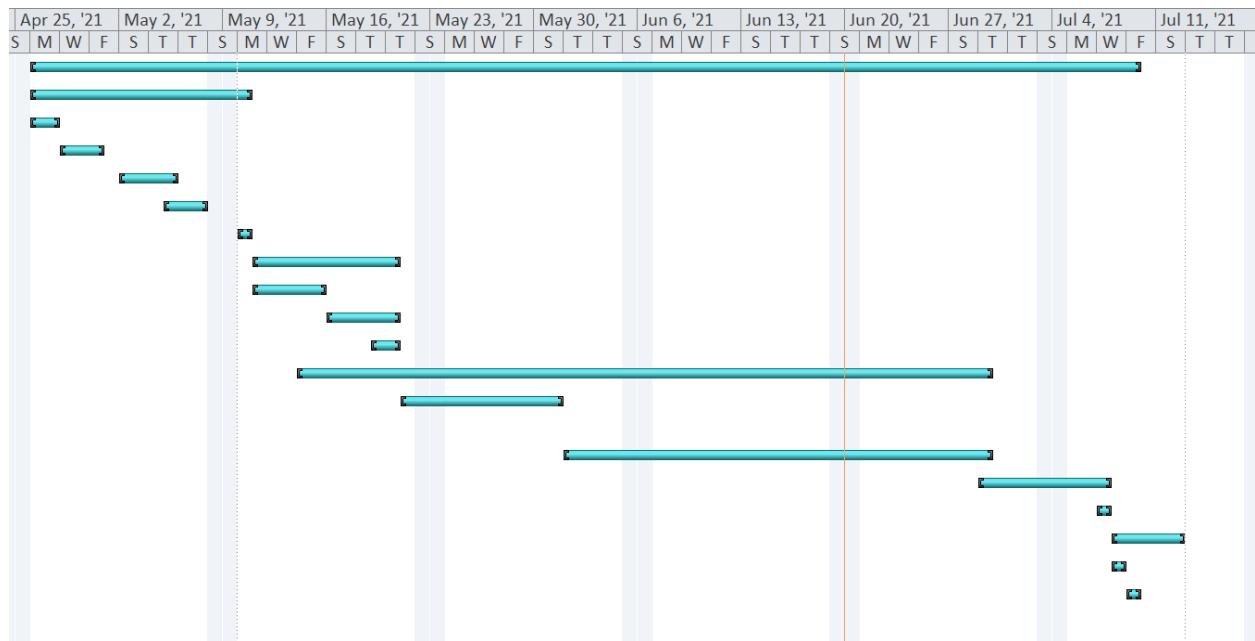
The figure above illustrated the timeline of the overall production project. The time divisions for each phase of product development proved to be extremely beneficial for completing the product in time.

Task Sheet:

Task Mode	Task Name	Duration	Start	Finish
	Final Project	55 days	Mon 4/26/21	Fri 7/9/21
	Initial Project Plan	11 days	Mon 4/26/21	Mon 5/10/21
	Search Topic	2 days	Mon 4/26/21	Tue 4/27/21
	Requirement Gathering	3 days	Wed 4/28/21	Fri 4/30/21
	Initial Project Plan Research	4 days	Sun 5/2/21	Wed 5/5/21
	Create Initial Project Document	3 days	Wed 5/5/21	Fri 5/7/21
	Submit Initial Project Plan	1 day	Mon 5/10/21	Mon 5/10/21
	Research	8 days	Tue 5/11/21	Thu 5/20/21
	Literature Review	5 days	Tue 5/11/21	Sat 5/15/21
	Research Methodology	5 days	Sun 5/16/21	Thu 5/20/21
	Risk Register	2 days	Wed 5/19/21	Thu 5/20/21
	Product Development	33 days	Fri 5/14/21	Tue 6/29/21
	Front End (Prototype Presentation)	7 days	Fri 5/21/21	Mon 5/31/21
	Back End Development	21 days	Tue 6/1/21	Tue 6/29/21
	Testing And Evaluation	7 days	Tue 6/29/21	Wed 7/7/21
	Ethical Consent Form	1 day	Wed 7/7/21	Wed 7/7/21
	Closing	3 days	Thu 7/8/21	Mon 7/12/21
	Final Product Submission	1 day	Thu 7/8/21	Thu 7/8/21
	Presentation	1 day	Fri 7/9/21	Fri 7/9/21

Similarly, the figure above highlights the breakdown of each task for the product development, known as 'Task Sheet'.

Gantt Chart:



The figure above demonstrated the graphical representation of each task during the production of the project.

Aims/Objective Analysis:

The main aim of the initiative is to assist Nepal's herbal industry in its efforts to market Nepalese herbs through a virtual platform.

The following are the primary objectives for product development:

- An e-shop to sell certified therapeutic plants in Nepal that would otherwise go to waste.
- Make medicinal plants available to the general public with as much ease as possible (especially during the pandemic).
- To promote and popularize Nepalese herbal products.
- To provide Nepalese farmers growing therapeutic herbs a platform to connect with a larger commercial network.

The website can be an effective tool in the near future to publicize Nepalese herbal industry in the hopes of increasing Nepal trade business and offering a source of income for herb producers. The final product will be able to accomplish the majority of the goals and objectives for which it was designed. The system is simple to use, helpful, and accomplishes the project's primary aim.

Post Implementation Review:

Overall, the web-based platform has the potential to accomplish its primary objective. Every feature and functionalities of the product has been carefully considered and implemented with the goal of providing an exceptional user experience. The usability of

the website was one of the top objectives during the project's development, since it is critical to improve the website's performance for a better user experience. To accomplish this, the agile approach used to create the product proved to be an excellent strategy, as each of the website's features was able to receive a great deal of focus and completed within the specified period. Along with that, additional project management tools such as product design, timetable, job breakdown, task sheet, and others were used to help with time management. The software used to create the website also proved to be the right decision.

Despite the fact that the overall production was a success, website testing may have yielded greater results if different alternatives had been utilized. Because these approaches were not real-time, qualitative data could not be obtained from the participants' actions or the amount of time it took them to complete each activity. A one-on-one interview would have provided greater insight about their decision. Other than that, the final website proved to be an overall success.

10. Summary And Conclusion

SUMMARY

Indigenous medicinal plants found across Nepal's Hilly, Terai, and Mountain areas have a lot of potential. The efforts of national and international researchers in Nepal's traditional medicinal plant research are commendable, and the results obtained from them clearly demonstrate the importance of Nepal's traditional medicinal plants and justify their use by Nepalese for treatment of various diseases since ancient times. The preservation, management, production, and utilization of this resource, which contains thousands of species, the majority of which are exclusively found in the Himalayan Zone, should be a top priority for the country. Although there is a huge demand for these herbs and they may be grown on a wide scale, the rare medicinal plant species have no means of being utilized to their full potential. In order to develop a rational and sustainable use of Nepalese biodiversity to aid in economic development, there is a need for a fast, secure, and intuitive way of utilizing these herbs so that users can have access to these rare, potent herbs easily within the comfort of their home. The aim of this work is to design and develop a Web Based Online Commerce Platform where, the shopping website will allow herb farmers to put their herbs on sale and delivers it to the general public who wish to buy them. The proposed system will provide will be an innovative way of promoting Nepal's herbal industry. The platform will provide employment opportunities for those who need it and eventually assist in country's economic growth.

Despite the fact that the project production was an overall success, it would have been beneficial to obtain more firsthand research for a better understanding of the field. Since, the herbal industry in Nepal expand to a large scope, there are a lot of aspects that need thorough research on. Although traditional herbal medicine is efficacious in preventing a variety of diseases when ritual and socio-cultural norms are taken into account, the medication is known to be frequently administered without regard for scientific understanding, and potential adverse effects are disregarded. Therefore, in

light of modern science, traditional herbal therapy deserves extensive research before commercializing them.

CONCLUSION

The e-commerce platform will help to globally market Nepalese herbal plants and increase local entrepreneurs' self-sufficiency and growth by utilizing locally accessible natural resources to improve their livelihood. If used appropriately, Nepal's medicinal plants have the ability to provide a variety of advantages. The commercial worth of medicinal herbs and plants found in Nepal is significant, however this may and should be done as part of a sustainable business model. Using an e-commerce platform to encourage sustainable harvesting in order to conserve ecosystems would not only make it possible for a large audience to experience their benefits but also aid thousands of small-scale farmers by improving their financial well-being. Hence, the local government, the University Grants Commission (UGC), and other agencies should coordinate adequate facilities and funds to investigate the potential of traditional medicinal plants in Nepal. It is critical to make a significant effort to encourage more scientists and researchers to investigate in the relevant fields so, more web based innovative platforms have the ability to emerge for a sensible and long-term utilization of Nepalese biodiversity.

11. REFERENCES

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12. Appendix:

APPENDIX A:

Project Scope:

The following are the primary scope of the product development:

- An e-shop to commercialize verified medicinal herbs in Nepal that would otherwise go to waste.
- Provide easy access to medicinal herbs for public (especially during the pandemic).
- To popularize and foster Nepalese herbal products.
- To provide a platform for Nepalese farmers who grow medicinal herbs to connect with a larger business network.

Project Specification

Functional Requirements	MOSCOW
All customers can buy/view/sell herbs	Must
Herbs will be verified by admin before it is posted to the website	Must
Customers can search for herbs using the search bar	Must
Customers can pay using PayPal	Must
Customers can add to cart/schedule delivery time	Must
Customers can register for their account	Must
Email Verification for account registration.	Should
Multi-user login for admin/customer.	Must
Users can edit/update their profile.	Should
Daily/periodic reports on total sale on admin dashboard	Could
Provide discounts and offers	Could
Provide weekly newsletters	Could

Non-Functional Requirements	MOSCOW
Website must be properly tested and evaluated	Must
Website should be user friendly and easy to navigate	Should
Platform independent website	Could

System Features:

The website will facilitate:

- Admin/Customer Login
- Email Verification for account registration
- Customer to Customer business model
- Search Bar
- Product Filter
- Personal Cart
- PAYPAL payment procedure
- Invoice emailing system.
- Customer and Admin Dashboard to manage (add/update/delete/view) products.
- Profile Settings Page.
- Admin verification before product placement.
- Daily, weekly, monthly sales reports and charts.
- Customer Service Form.
- Newsletter.

APPENDIX B: ETHICAL CONSENT FORM

Leeds Beckett University

School of Computing, Creating Technology & Engineering

Consent Form

To be completed by the participant. If the participant is under 18, to be completed by parent/ guardian or person acting in loco parentis.

Project title: E-shop to promote Nepal Herbs.

Researcher's name: Prabhat Adhikari

Supervisor's name: Resham Pun

This Consent Form has 2 parts:

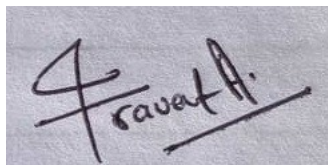
- Participant Information Sheet.
- Confirmation of Consent Form (for signature if you agree to take part)
Please tick the boxes to confirm you have read and agree to each point.
- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me.

✓

- I have had the opportunity to ask questions and I have received satisfactory answers to all my questions. ☒
- I understand the purpose of the research project, my involvement in it and I agree to take part. ☒
- I understand that my participation is voluntary and that I may withdraw from the research project at any stage, without giving any reason. ☒
- I understand that information gained during the study may be used to generate statistics and may be included in a published report. ☒
- I understand that my personal details will remain confidential, and that all data will be anonymised prior to publication. ☒
- I understand that data (i.e., transcripts and audio recordings) will be stored in researcher's device, will not be shared to third party and will only be used for the completion of the project. ☒
- I understand that any data, images, video, or audio recordings captured during this research project will be held securely and will not be used after completion of the research project, unless permission is explicitly given to do so. ☒
- I understand that I may contact the supervisor [Resham Pun] if I require further information about the research [by emailing], and that I may contact the Research Ethics Coordinator [Rohit Pandey] of the School of Computing, Creative Technology and Engineering, Leeds Beckett University, [by emailing] if I wish to withdraw from the research project or to make a complaint relating to my involvement in the research. ☒

I have read the above information [or it has been read to me]. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research project.

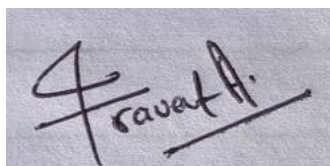
Signed (Research participant):



Print name Prabhat Adhikari

Date 5/30/2021

Signature of Researcher:

**Contact details**

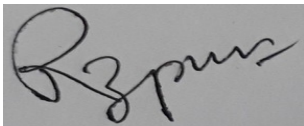
Researcher: adpravat15@gmail.com

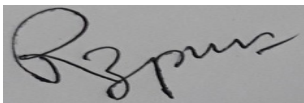
Supervisor: rpun@thebritishcollege.edu.np

School Ethics Coordinator: rpandey@thebritishcollege.edu.np


**APPENDIX C:
MEETING RECORD SHEET**

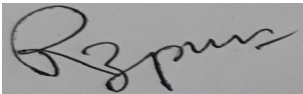
School of Computing, Creative Technologies and Engineering 2020/21	
Level 6 Production Project	
MEETING RECORD SHEET:	Meeting Number:1
Student: Prabhat Adhikari	Student I.D.: c7202503
Date of Meeting: 5/17/2021	Supervisor: Resham Pun
Agreed Actions to complete before next meeting:	
1	Changes on Initial Project plan and discussion
2	Start Risk register
3	Start Marking scheme

Comments of supervisor (if any): No feedback (meeting attained)	Supervisor Signature: 
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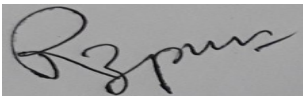
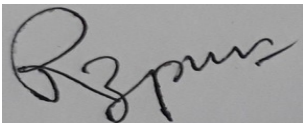
MEETING RECORD SHEET:		Meeting Number: 2
Date of Meeting: 5/19/2021		
Actions agreed at previous meeting (completed or comment):		
1	Changes on Initial Project Plan (Completed)	
2	Risk Register (Started)	
3	Marking Scheme (Started)	
Comments of student (if any): None		
Next meeting (date/time): 5/20/2021		
Agreed Actions to complete before next meeting:		
1	Additional change on Initial Project Plan	
2	Start working on product development	
Comments of supervisor: Focus on the analytical part of the product		Supervisor Signature: 

MEETING RECORD SHEET:		Meeting Number: 3
Date of Meeting: 5/20/2021		
Actions agreed at previous meeting (completed or comment):		
1	✓ Completed Initial Project Plan	
2	✓ Started working on product development	
Comments of student (if any): None		
Next meeting (date/time): 5/26/2021		

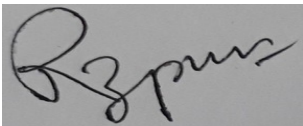
Agreed Actions to complete before next meeting:	
1	Complete Risk register
2	Demonstrate Marking Scheme Progress
Comments of supervisor: None	Supervisor Signature: 

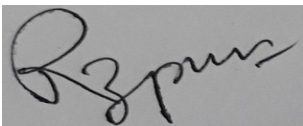
MEETING RECORD SHEET:		Meeting Number: 4
Date of Meeting: 5/26/2021		
Actions agreed at previous meeting (completed or comment):		
1	Completed Risk Register	
2	Marking scheme progress demonstrated	
Comments of student (if any): None		
Next meeting (date/time): 5/27/2021		
Agreed Actions to complete before next meeting:		
1	Complete marking scheme	
Comments of supervisor (if any): None	Supervisor Signature: 	

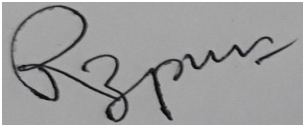
MEETING RECORD SHEET:		Meeting Number: 5
Date of Meeting: 5/27/2021		
Actions agreed at previous meeting (completed or comment):		
1	Marking Scheme completed	
Comments of student (if any): None		
Next meeting (date/time): 5/28/2021		
Agreed Actions to complete before next meeting:		

1	Prototype Presentation (1 st Progress Meet)	
Comments of supervisor: On next meeting project to be completed up to 65%		Supervisor Signature: 
MEETING RECORD SHEET:		Meeting Number: 6
Date of Meeting: 5/28/2021		
Actions agreed at previous meeting (completed or comment):		
1	Completed product up to 65%	
Comments of student (if any): None		
Next meeting (date/time): 6/11/2021		
Agreed Actions to complete before next meeting:		
1	Prototype Presentation (2 nd Progress Meet)	
Comments of supervisor: On next meeting project to be completed up to 80%		Supervisor Signature: 

MEETING RECORD SHEET:		Meeting Number: 7
Date of Meeting: 6/11/2021		
Actions agreed at previous meeting (completed or comment):		
1	Completed product up to 80%	
Comments of student (if any): None		
Next meeting (date/time): 6/14/2021		
Agreed Actions to complete before next meeting:		
1	Complete first Report Draft and demonstrate	
Comments of supervisor: Brush up website, start focusing on report		Supervisor Signature:

MEETING RECORD SHEET:		Meeting Number: 8
Date of Meeting: 6/14/2021		
Actions agreed at previous meeting (completed or comment):		
1	First draft of report completed	
Comments of student (if any): None		
Next meeting (date/time): 6/18/2021		
Agreed Actions to complete before next meeting:		
1	Prototype Presentation (3 rd Progress Meet)	
Comments of supervisor: Make changes on 'Product Evaluation' part of report, complete product development up to 90%.		Supervisor Signature: 

MEETING RECORD SHEET:		Meeting Number: 9
Date of Meeting: 6/18/2021		
Actions agreed at previous meeting (completed or comment):		
1	Completed product up to 90%	
Comments of student (if any): None		
Next meeting (date/time): 6/21/2021		
Agreed Actions to complete before next meeting:		
1	Final Draft for report needs to be completed	
Comments of supervisor (if any): Complete product development up to 90%.		Supervisor Signature: 

MEETING RECORD SHEET:		Meeting Number: 10
Date of Meeting: 6/21/2021		
Actions agreed at previous meeting (completed or comment):		
1	Final Draft of report completed	
Comments of student (if any): None		
Next meeting (date/time):		
Agreed Actions to complete before next meeting:		
1	None	
Comments of supervisor (if any): Work on citation, table of contents and abstract.		Supervisor Signature: 

APPENDIX D:
RISK ANALYSIS

ID	Risk Description	Likelihood	Impact	Severity	Owner	Mitigation	Status
1	Limited research on available herbs and market analyzation due to the pandemic	High	Medium	Medium	Prabhat Adhikari	There is limited first-hand resources available on the internet regarding medicinal herbs and their conditions in Nepal as in person research is not possible. Regardless, the best-case scenario would be to utilize the information available in the internet.	Open
2	Experience on the chosen framework might be inadequate	Low	Medium	Medium	Prabhat Adhikari	Dedicating learning hours for required topics via YouTube/internet lectures and tutorials is necessary.	Open
3	User participation for website evaluation might not be possible in person.	Low	Low	Low	Prabhat Adhikari	In person user involvement to evaluate the website might not be possible so the evaluation can be done via online surveys.	Open
4	Internet connection and electricity failure.	Low	Medium	Low	Prabhat Adhikari, ISP, NEA	Use mobile data packages to connect to the internet. Contact Internet Service Providers for better connection.	Open
5	Project unable to complete on deadline in case	Low	High	Low	Prabhat Adhikari	Negotiate a new deadline with the approval of project	Open

	tested positive for covid-19/ Natural calamity					supervisor.	
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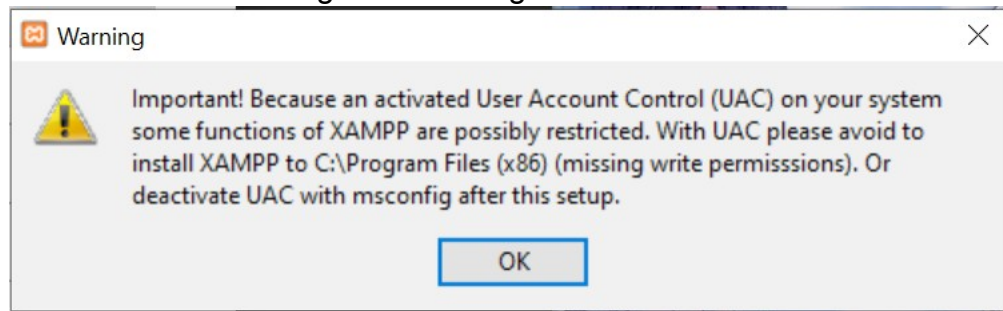
APPENDIX E:

INSTALLATION GUIDELINE

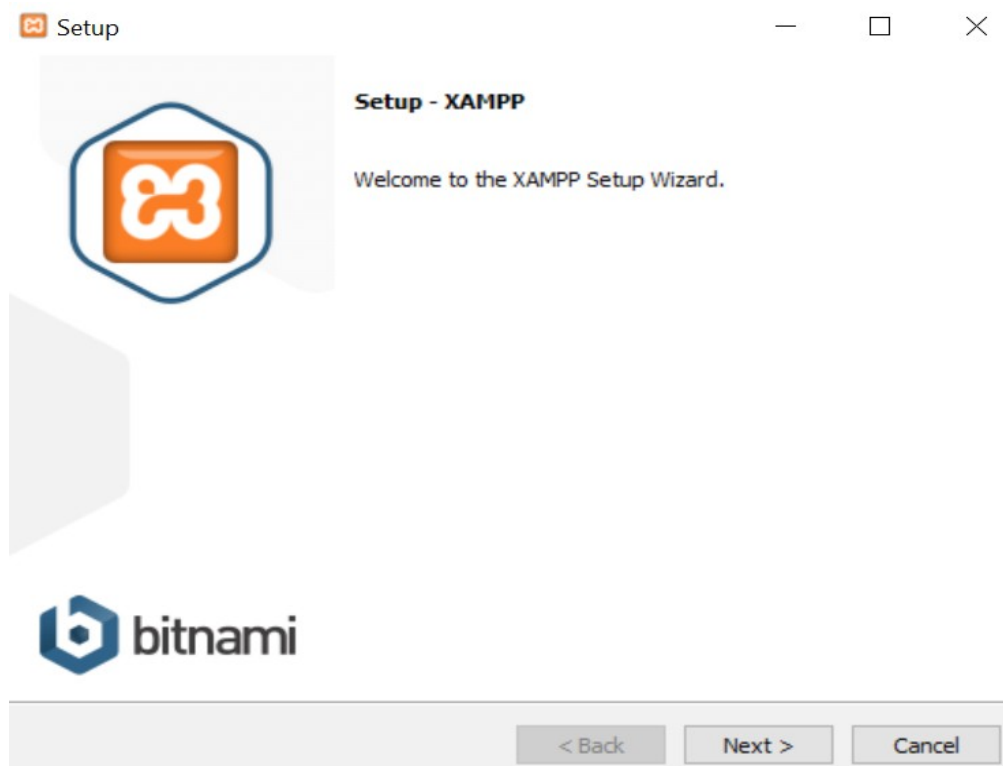
This section of the report provides a systematic guideline on installation of all the required software to develop and run the product.

XAMPP

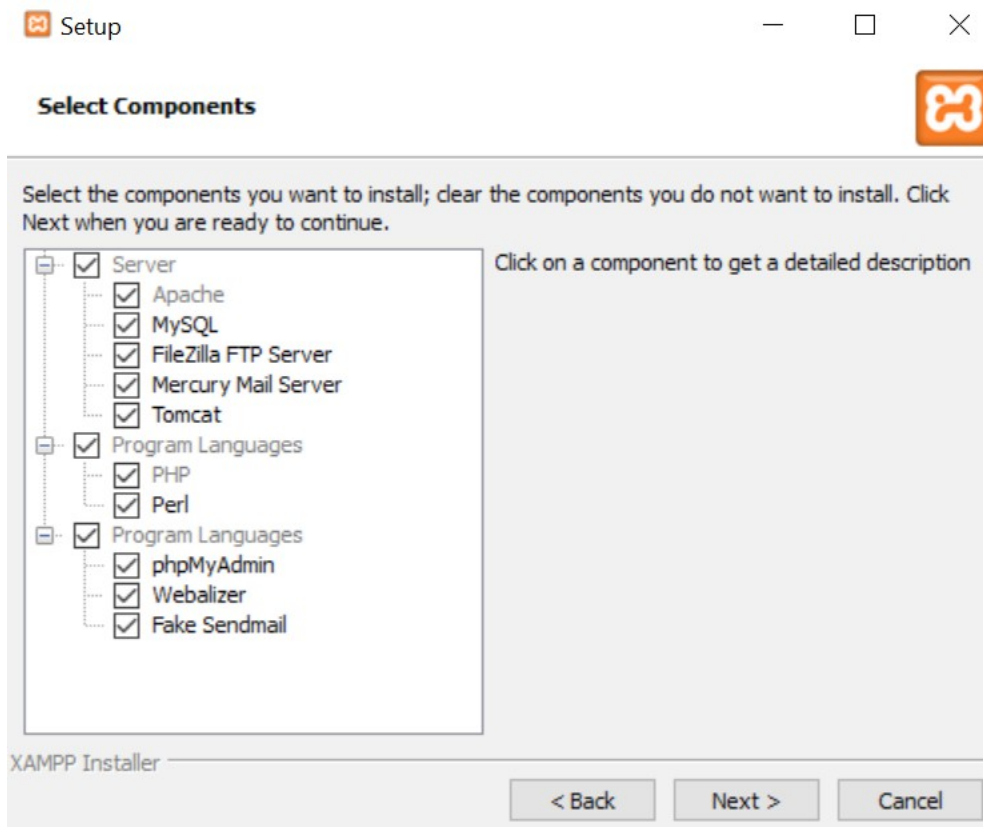
1. Go to <https://www.apachefriends.org/index.html> and download XAMPP
2. Click on the file and run the installer
3. Click on OK to continue through the warning



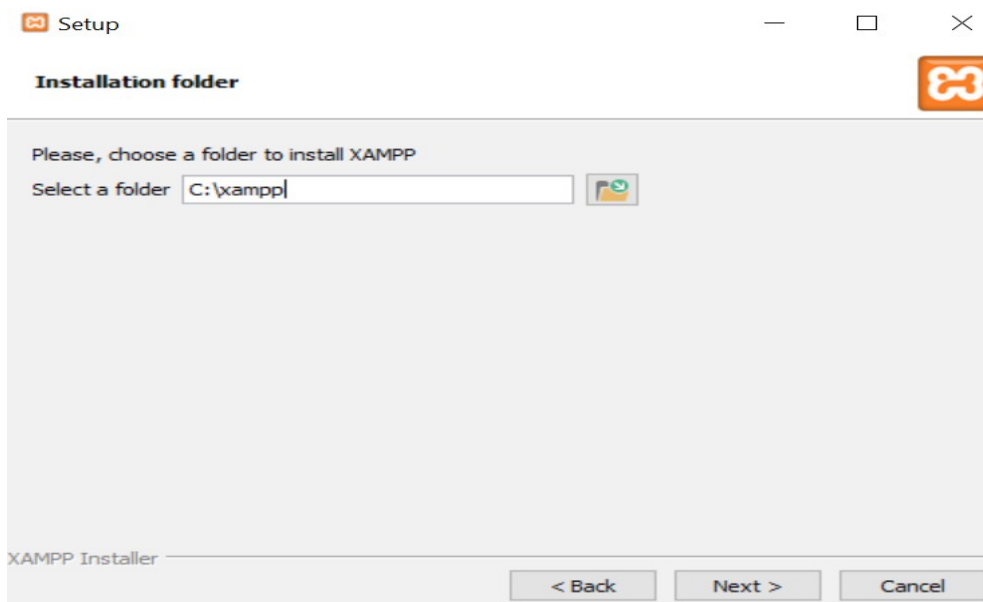
4. Click on the next button



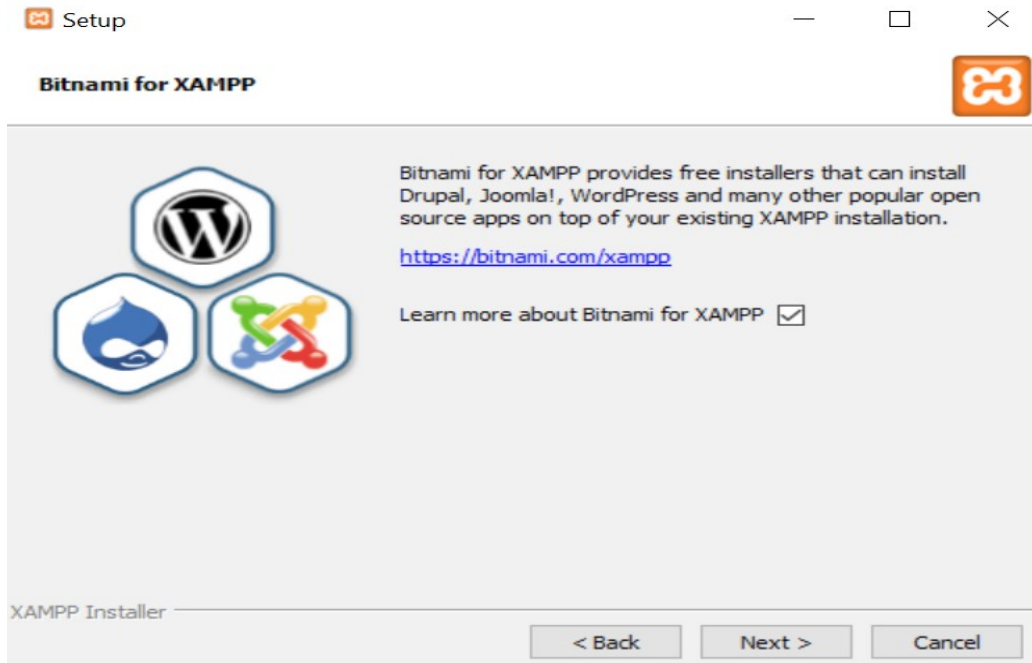
5. XAMPP provides a selection of components which will most likely be of use for this project. Thus, it is recommended to set it on default selection and click Next



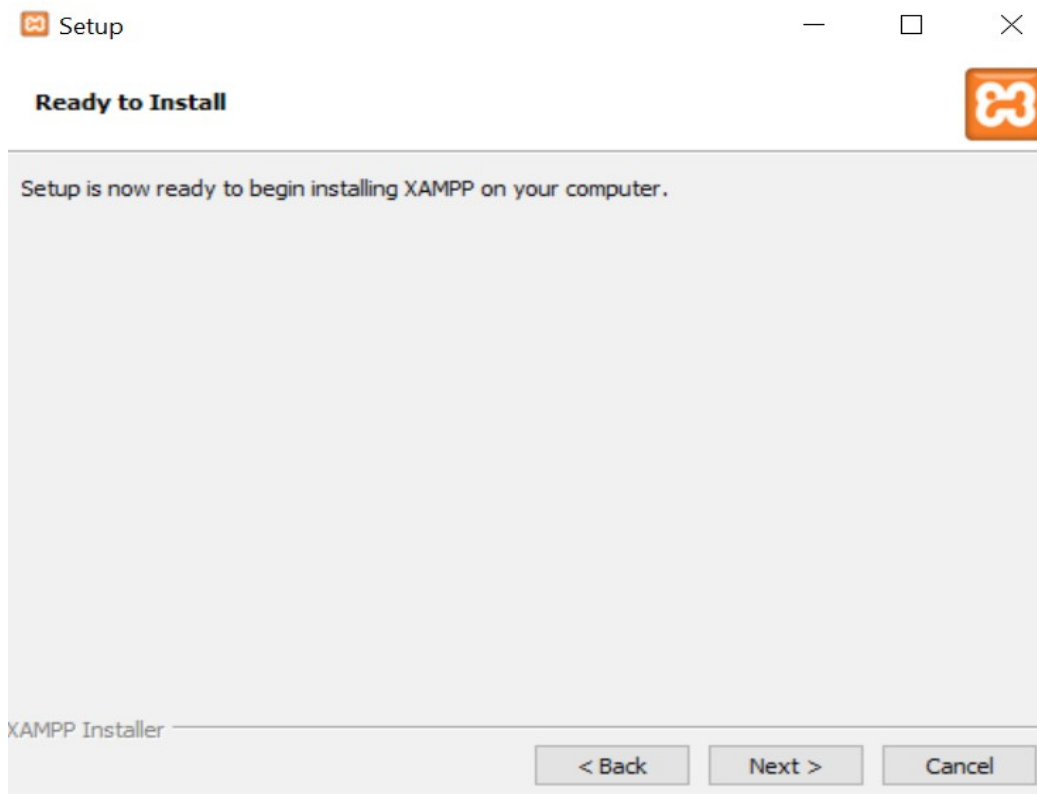
6. Provide a specific folder or choose the default location where XAMPP is to be installed and click Next



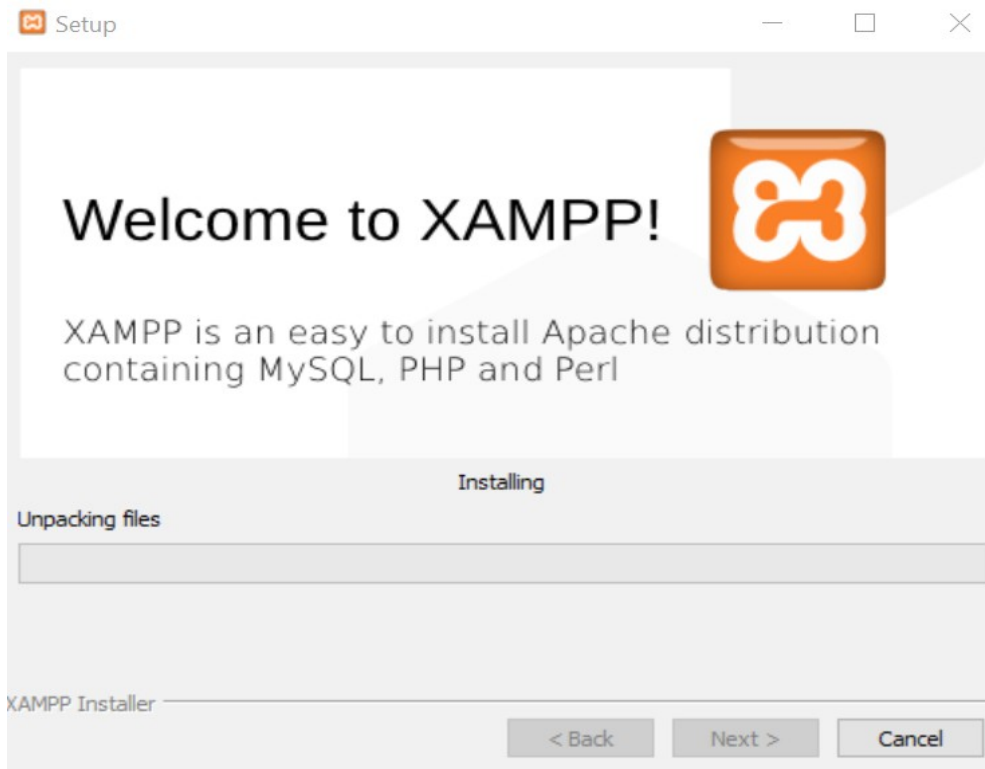
7. Click Next here



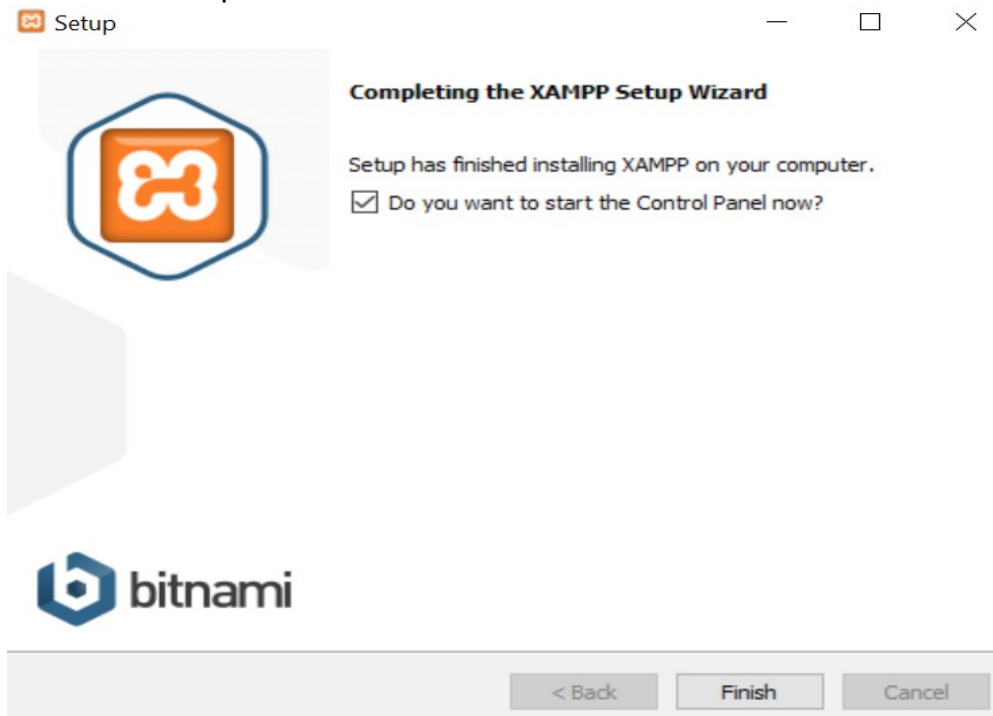
8. XAMPP is ready to be installed. Click on Next to continue.



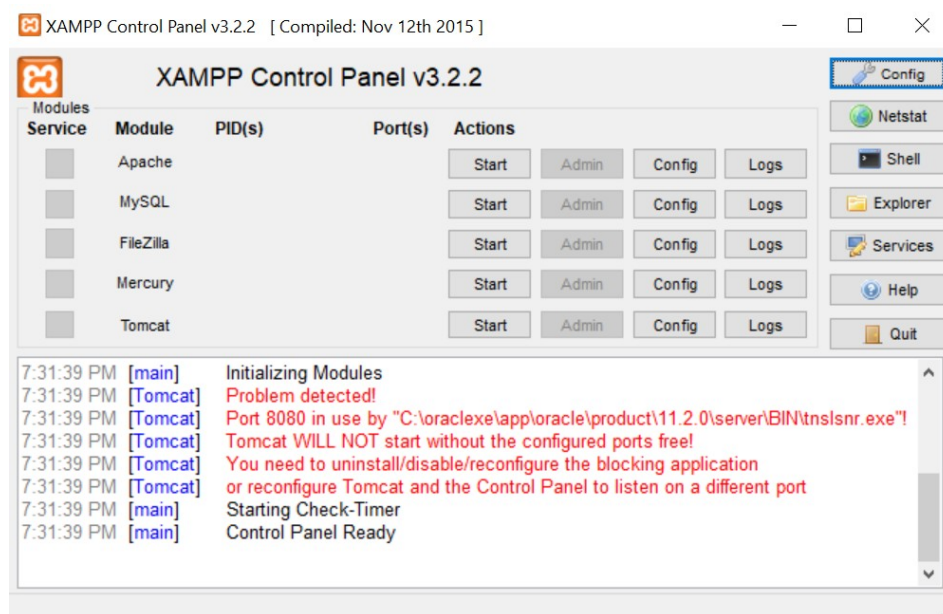
9. Wait for a few minutes for the installation to complete then click next.



10. Installation is now completed with a click on the Finish button.



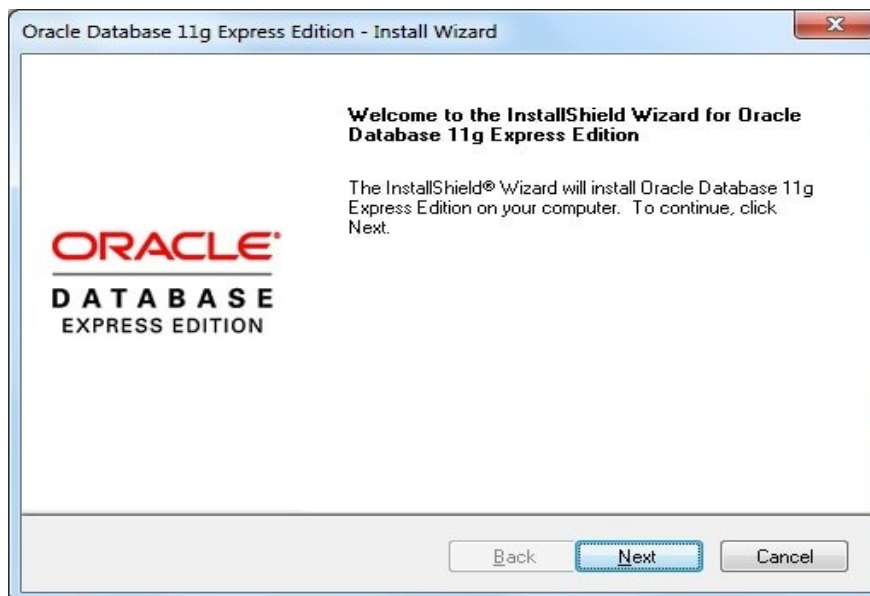
11. XAMPP control panel is provided below which is used to start up the various



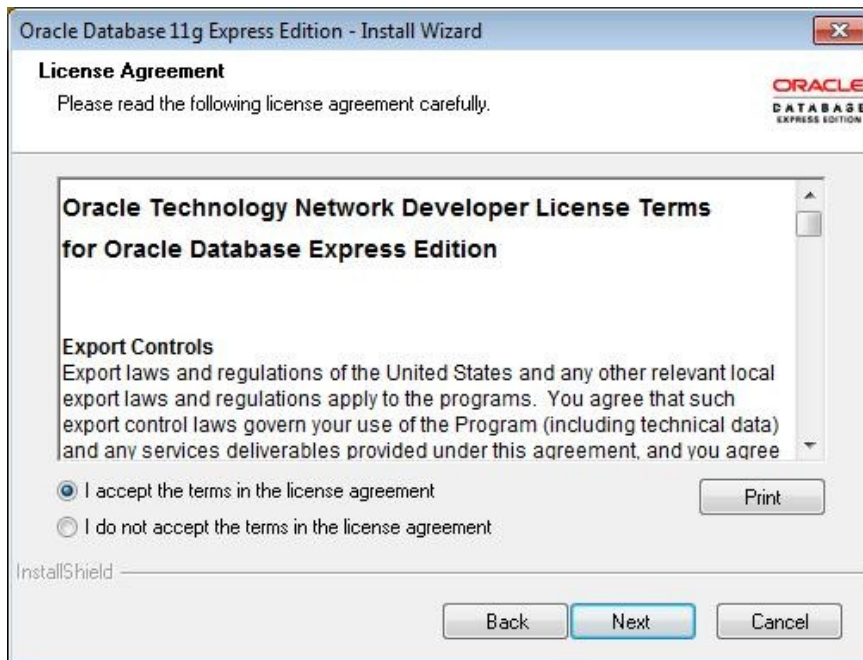
components.

ORACLE

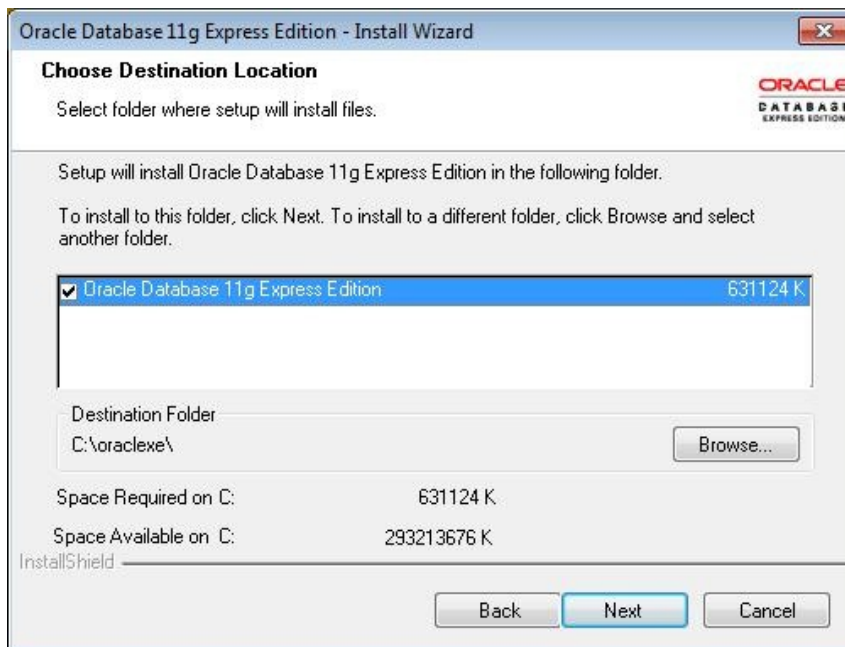
1. Go to <https://www.oracle.com/database/technologies/xe-downloads.html> and download Oracle 11g setup
2. Extract the zip and run the installer
3. Click on Next to continue the installation.



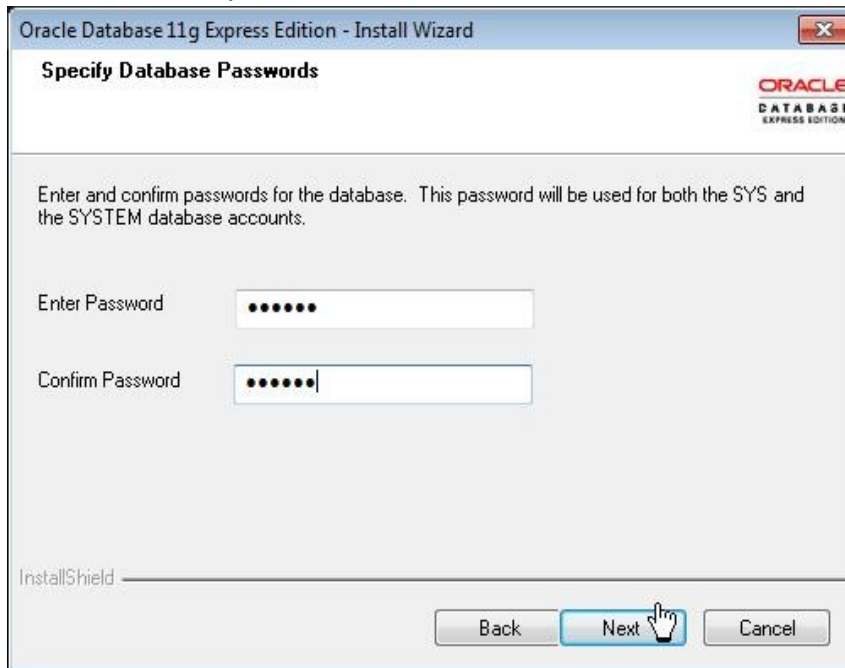
4. Accept the agreement and click on Next



5. Click on Next



6. Password is requested for the installation



Oracle Database 11g Express Edition - Install Wizard

Specify Database Passwords

Enter and confirm passwords for the database. This password will be used for both the SYS and the SYSTEM database accounts.

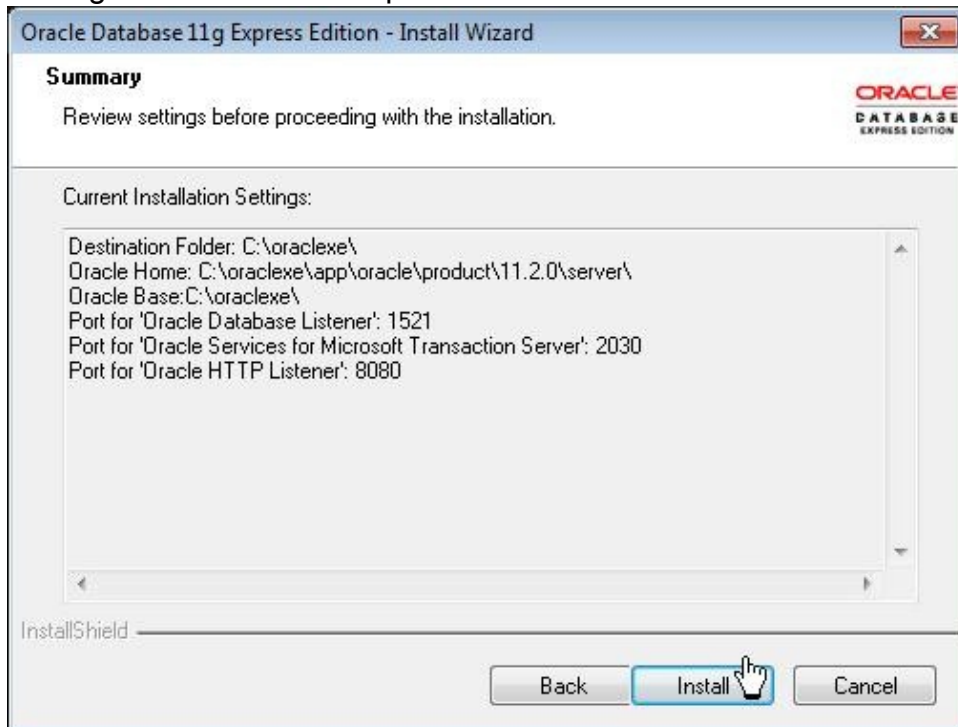
Enter Password: [password field]

Confirm Password: [password field]

InstallShield

Back Next Cancel

7. Settings are reviewed and proceeded to install



Oracle Database 11g Express Edition - Install Wizard

Summary

Review settings before proceeding with the installation.

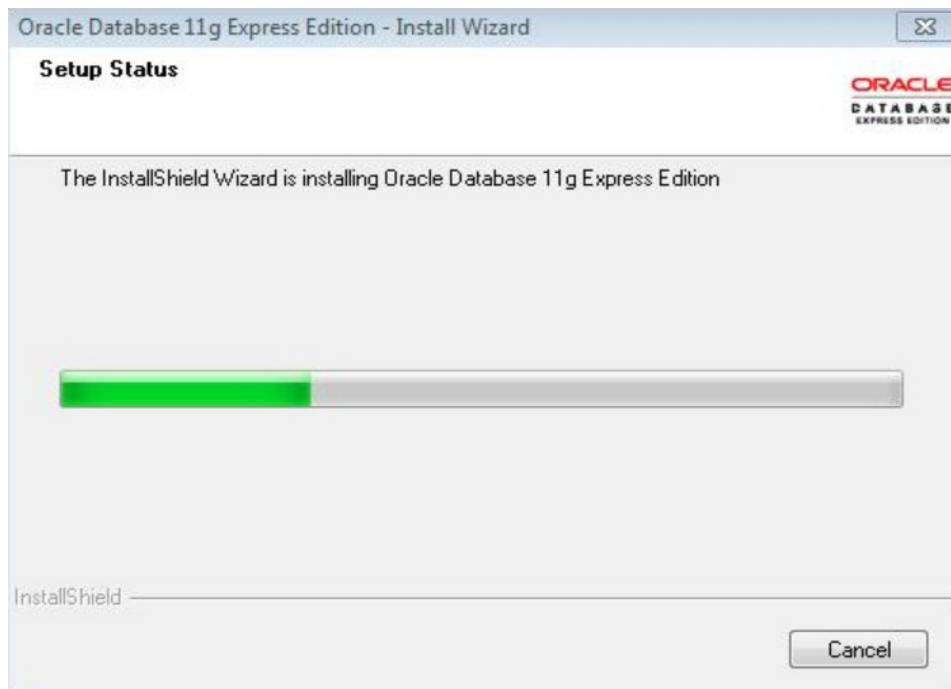
Current Installation Settings:

- Destination Folder: C:\oraclexe\
- Oracle Home: C:\oraclexe\app\oracle\product\11.2.0\server\
- Oracle Base: C:\oraclexe\
- Port for 'Oracle Database Listener': 1521
- Port for 'Oracle Services for Microsoft Transaction Server': 2030
- Port for 'Oracle HTTP Listener': 8080

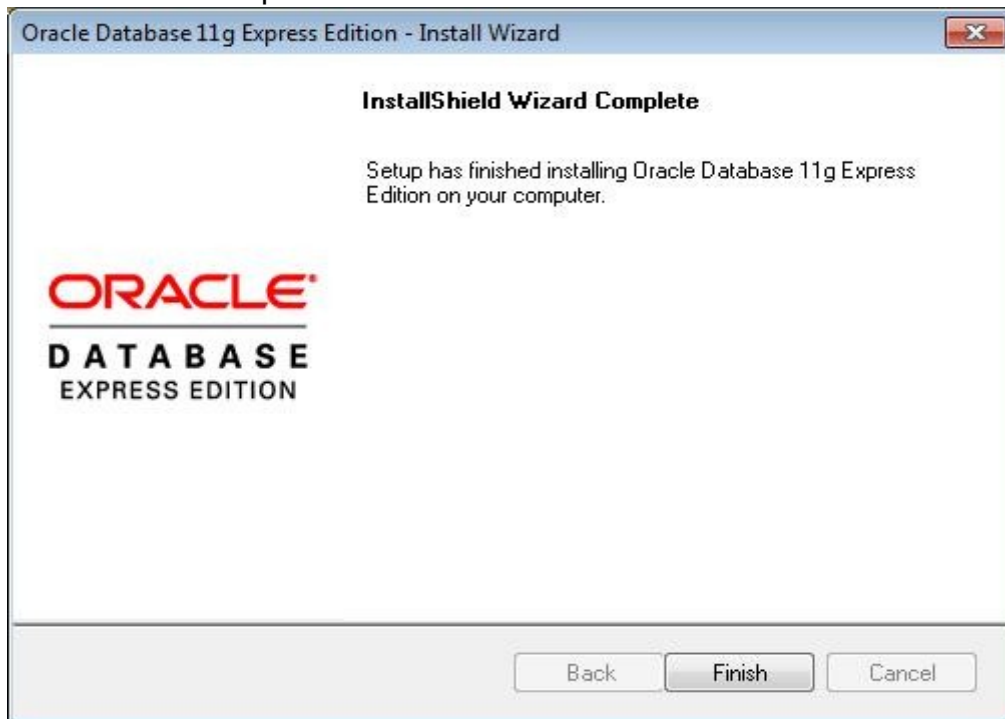
InstallShield

Back Install Cancel

8. Wait for a few minutes for the installation then click on Next to continue



9. Installation is completed with the click on Finish



Updating Oracle

1. Double-click the zip file twice to change the working directory to apex.
2. Run sql plus and establish a connection to the Oracle XE database.

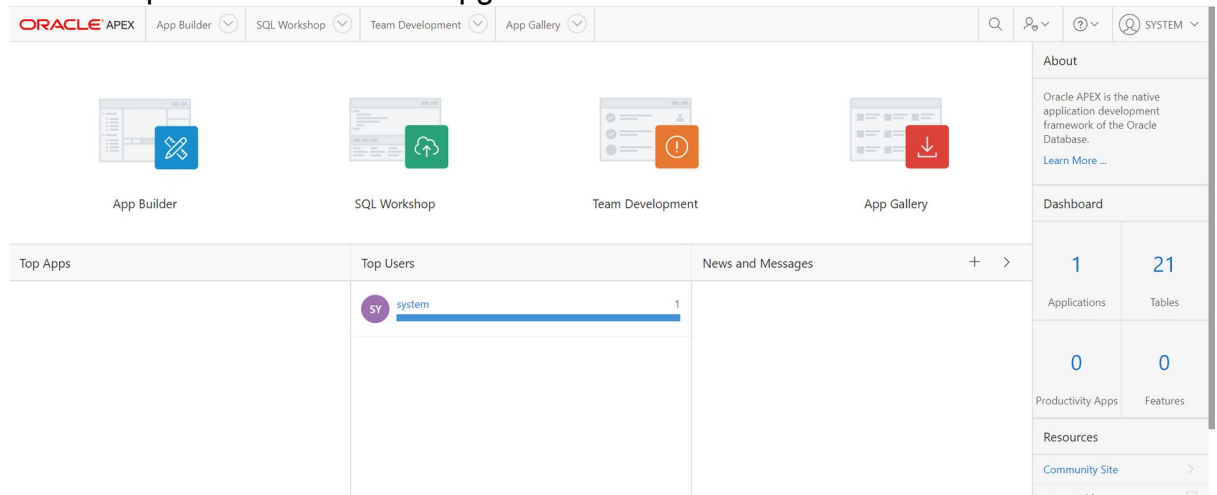
```
C:\apex>sqlplus
```

3. Download and install the program express.

4. SQL plus should be logged in, and the embedded PL/SQL gateway should be set up. APEX is the name of the directory to which you have been allocated.



```
SQL> @apex_epg_config.sql APEX
```

5. Upgrade the password on the express
6. In a web browser, go to the Oracle Application Express Administration Services application. Enter the password from step 5 as admin.
7. Oracle express has now been upgraded.



Oracle Connection

1. Place the necessary files in the XAMPP extension.

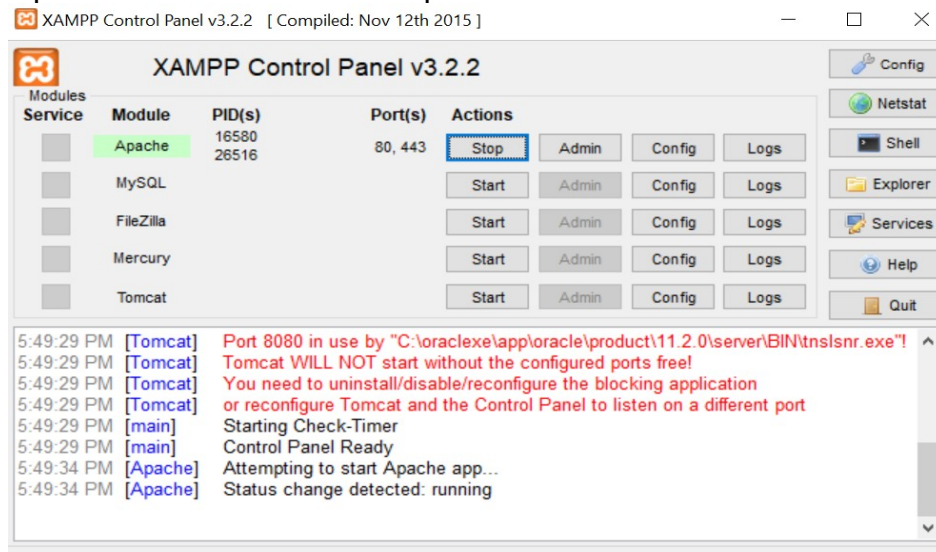
 php_oci8_11g.dll	133,120	49,291	Application extensi...	12/10/2018 6:2...	527C5A9D
 php_oci8_11g.pdb	847,872	191,304	PDB File	12/10/2018 6:2...	F5B272F7

2. In Sublime Text or any other text editor, write the needed codes for connection.

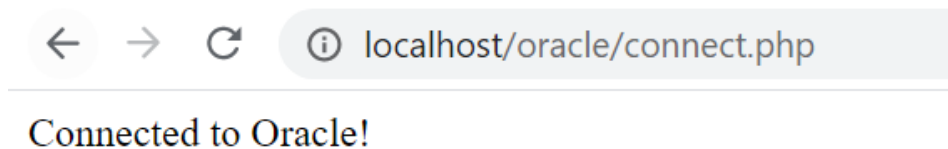
```
<?php

$conn = oci_connect('SYSTEM', 'ORACLE123', '//localhost/xes');
if (!$conn) {
    $m = oci_error();
    echo $m['message'], "\n";
    exit; } else {
    print "Connected to Oracle!"; }
oci_close($conn);
?>
```


3. Open XAMPP and start the Apache server

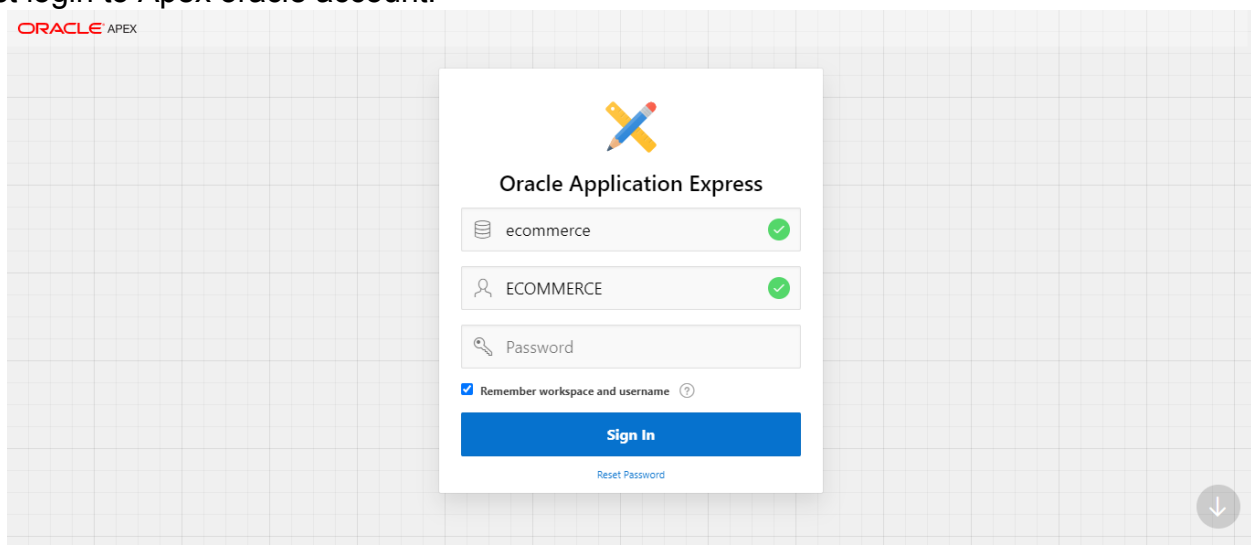


4. Open a web browser and type in the url

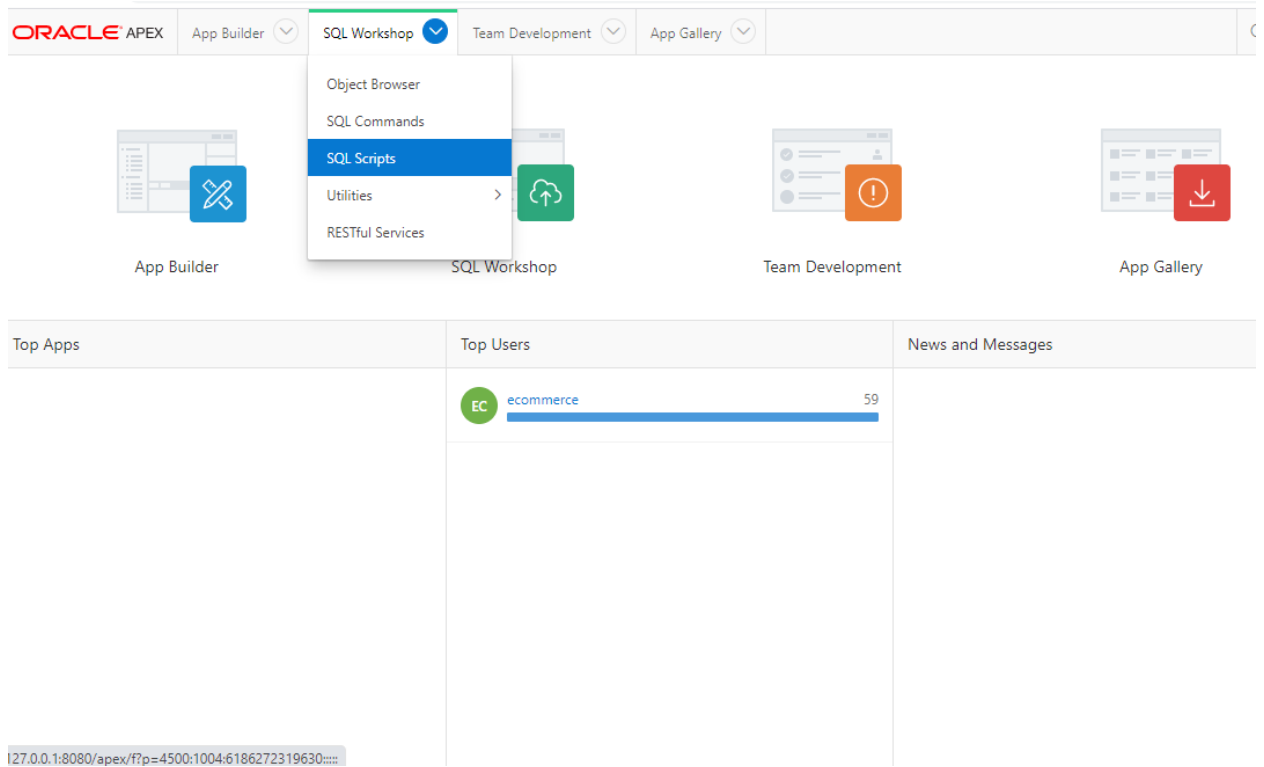


Uploading Script:

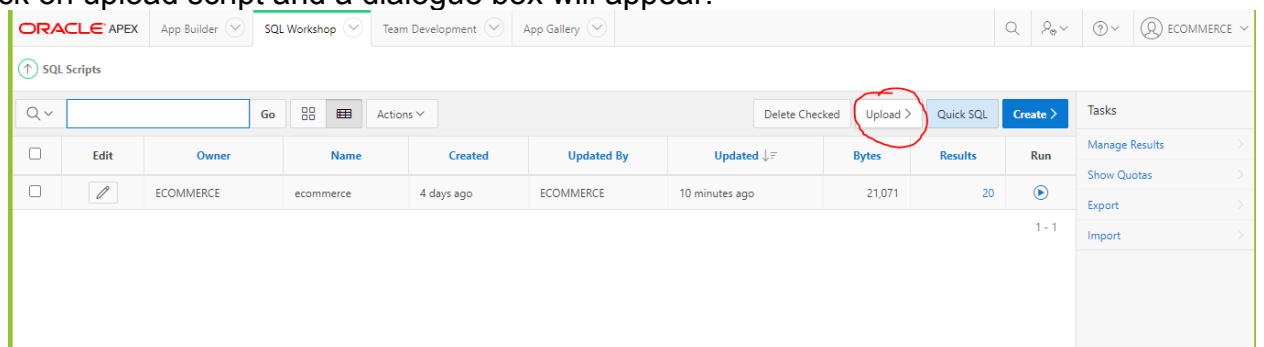
1. First login to Apex oracle account.



2. Go to SQL scripts.



3. Click on upload script and a dialogue box will appear.



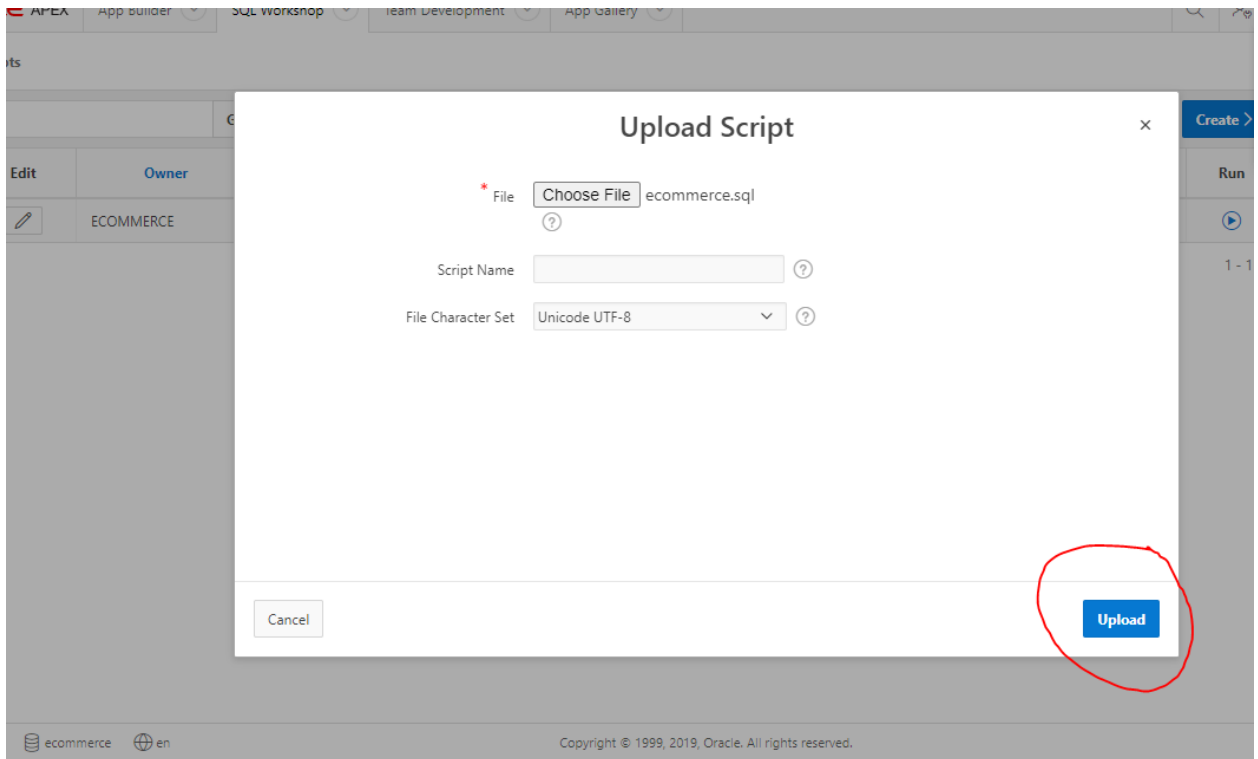
4. Choose your script by clicking on choose file button as shown below.

The screenshot shows a modal dialog box titled "Upload Script" with a close button (X) in the top right corner. The dialog contains three main input fields, each with a help icon (question mark in a circle) to its right:

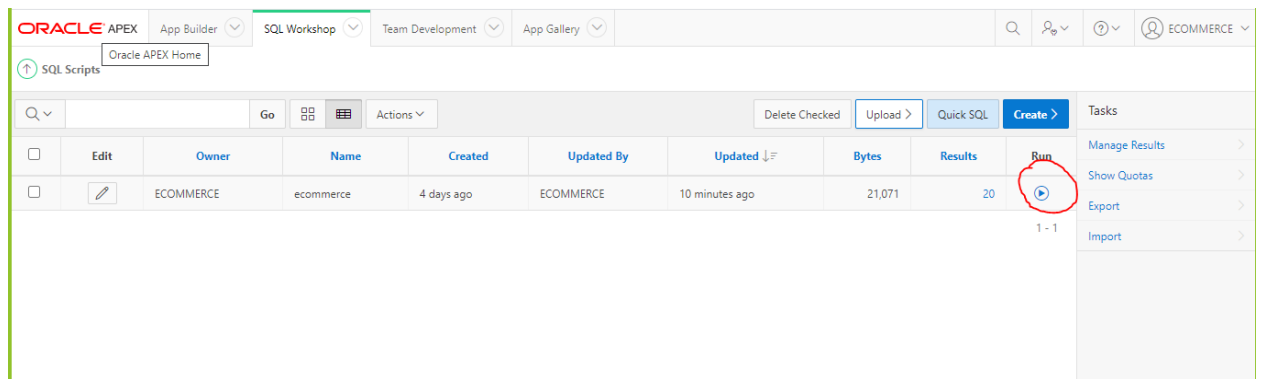
- File:** Labeled with a red asterisk (*). It contains a "Choose File" button and the text "ecommerce.sql".
- Script Name:** An empty text input field.
- File Character Set:** A dropdown menu currently showing "Unicode UTF-8".

At the bottom of the dialog, there are two buttons: "Cancel" on the left and "Upload" on the right. The "Upload" button is highlighted in blue. Below the dialog, a footer line reads: "Copyright © 1999, 2019, Oracle. All rights reserved."

5. After choosing the SQL file, click upload button as shown below.



6. Select run now to run the script.



7. Again, select run now button.



Run Script

You have requested to run the following script. Please confirm your request.

Script Name	ecommerce
Created	on 06/12/2020 07:50:14 PM by ECOMMERCE
Updated	on 06/17/2020 06:14:32 PM by ECOMMERCE
Number of Statements	71
Script Size in Bytes	21,071

Run Now

Copyright © 1999, 2019, Oracle. All rights reserved.

Application Express 11

8. Lastly, result is shown as below.

ORACLE APEX

App Builder

SQL Workshop

Team Development

App Gallery

Q

🔍

?

🔍 ECOMMERCE

SQL Scripts Results

Script: ecommerce

Status: Complete

Create App

Edit Script

View: Detail Summary

Rows: 15

Go

Number ↑	Elapsed	Statement	Feedback	Rows
1	0.13	DROP TABLE USERS CASCADE CONSTRAINTS	Table dropped.	0
2	0.03	DROP TABLE PRODUCTS CASCADE CONSTRAINTS	Table dropped.	0
3	0.02	DROP TABLE SHOP CASCADE CONSTRAINTS	Table dropped.	0
4	0.01	DROP TABLE PRODUCT_REVIEW CASCADE CONSTRAINTS	Table dropped.	0
5	0.04	DROP TABLE ORDER_P CASCADE CONSTRAINTS	Table dropped.	0
6	0.03	DROP TABLE CART CASCADE CONSTRAINTS	Table dropped.	0
7	0.25	CREATE TABLE "USERS" ("USER_FIRST_NAME" VARCHAR2(200)	Table created.	0
8	0.09	CREATE TABLE "SHOP" ("SHOP_ID" NUMBER NOT NULL ENABLE,	Table created.	0
9	0.13	CREATE TABLE "PRODUCTS" ("PRODUCT_ID" NUMBER NOT NULL	Table created.	0
10	0.01	ALTER TABLE "PRODUCTS" ADD CONSTRAINT "PRODUCTS_FK" FOREIGN	Table altered.	0
11	0.17	CREATE TABLE "PRODUCT_REVIEW" ("USER_ID" NUMBER NOT NU	Table created.	0
12	0.00	ALTER TABLE "PRODUCT_REVIEW" ADD CONSTRAINT "PRODUCT_REVIEW	Table altered.	0
13	0.01	ALTER TABLE "PRODUCT_REVIEW" ADD CONSTRAINT "PRODUCT_REVIEW	Table altered.	0
14	0.47	CREATE TABLE "ORDER_P" ("ORDER_ID" NUMBER NOT NULL ENA	Table created.	0
15	0.01	ALTER TABLE "ORDER_P" ADD CONSTRAINT "ORDER_P_FK" FOREIGN K	Table altered.	0

Download

row(s) 1 - 15 of 64 Next ▶

64

Statements Processed

64

Successful

0

With Errors

🔍 ecommerce

📄 ecommerce

🌐 en

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Application Express 19.2.0.0.16