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**ASIA PACIFIC UNIVERSITY**  
**OF TECHNOLOGY & INNOVATION**

<b>Module Code</b>	CT081-3-3-MWM
<b>Intake Code</b>	APD3F2402IT(MBT)
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<b>Hand-out Date</b>	26 February 2024
<b>Hand-in Date</b>	9 June 2024

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## **Acknowledgement**

I would like to express my gratitude to all individuals who have contributed to the completion of this assignment on mobile and web multimedia where the focus is the development of a dynamic and mobile-responsive website.

First, I would like to extend my warmest appreciation to Mr. Daniel Mago Vistro whose guidance and lecturing have been indispensable throughout this journey. Your discerning feedback and steadfast support have greatly improved my understanding of this subject and allowed me to produce an inclusive project.

I am also much obliged towards my classmates and peers for their collaboration and constructive criticism which have elevated the learning experience and built a spirit of teamwork. Our discussions and idea exchanges have been influential in clarifying the concepts and techniques employed in the creation of the website.

Last but not least, I am deeply grateful to my friends and family for their encouragement and understanding throughout this journey. Their trust and belief in my abilities and skill has been a constant source of motivation, pushing me to strive for excellence in every aspect of this assignment.

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## 1.0 Introduction

### 1.1 Background of the Website



*Figure 1: Website logo*

Chateau du Nox is a vineyard located at Napa Valley, California where all renowned wines are being processed, fermented, aged and bottled to be sold at an expensive price but it is worth for its divine taste. The website itself, developed by a programmer, is a publicity and e-commerce platform for the vineyard to hit the market faster by offering online delivery services to its customers' doorstep. Since it is both online sales and management website, it requires administration to manage the selling wine, orders, and reviews. Guests can view a variety of wine while discovering the vineyard and are allowed to make purchases and manage profile after registering as one of many Chateau du Nox users. Even though the website is still in testing phase, Chateau du Nox website is designed in such way that it is appealing and attractive towards its intended target user.

### 1.2 Objectives

The website is developed to create an opportunity for Chateau du Nox to perform online sales where its customers can purchase wines directly from the winery without having increased prices from other retailers. It also provides convenience to new or loyal customers as it includes a doorstep delivery service.

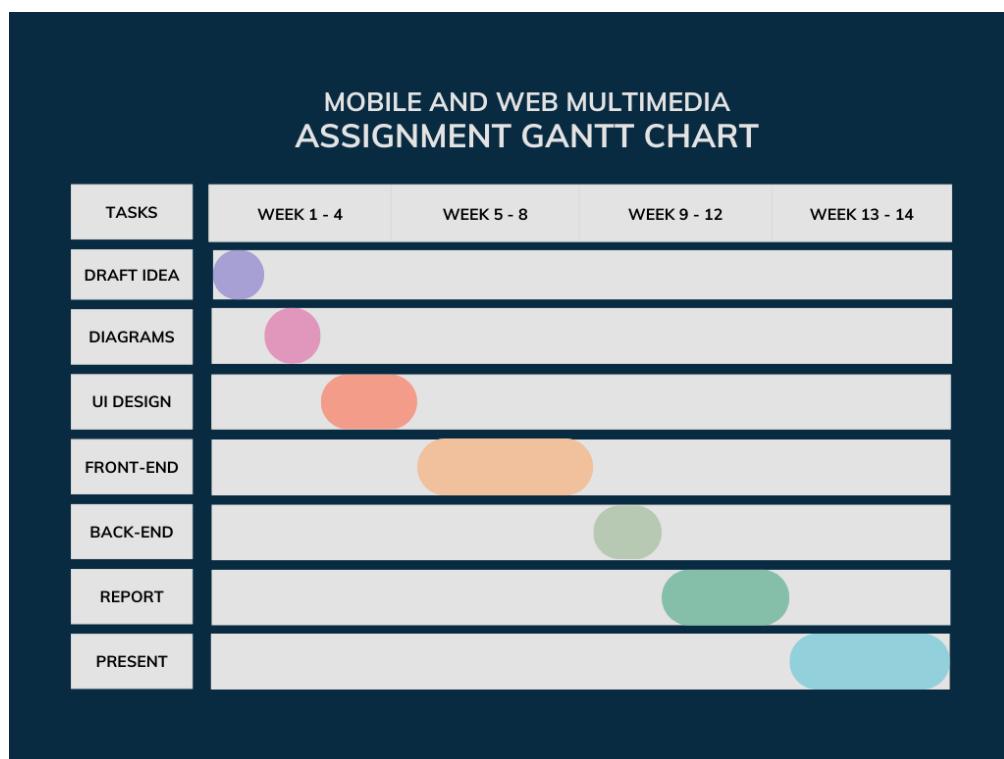
Furthermore, showcasing Chateau du Nox's brand, background, partners and uniquely aged wines to the global market creates an increased flow of potential customers because of the enhanced brand visibility and awareness. Additionally, the administration can gather sales report and generate data to analyse the current trends and preferences of the targeted audiences.

### 1.3 Scopes

The scope of the website covers various aspects of a traditional online e-commerce platform to ensure its learnability, adaptability, and effectiveness in promoting and selling wine products.

- Home Page: Welcome message, featured products, shortcut slideshow.
- Wine Catalogue: Name and price of the wine, tab selection based on wine types.
- Wine Detail Page: Detailed description of the wine, pricing, stock, customer reviews.
- Account Page: Login, register, reset password.
- Profile Page: Customization, wishlist, cart, order tracking and history, past reviews.
- About us Page: Information about Chateau du Nox's story and background.
- Contact us Page: Contact details for booking, subscribe to newsletter via email address.
- Partners Page: Display partner history and collaborations together.
- Responsive Design: Enable customer to view on various mobile and desktop browsers.
- Admin Page: Manage wine details, users, reviews, orders.

## 1.4 Project Schedule



*Figure 2: Gantt Chart*

## 1.5 Major Functions Summary

Guests are only limited to exploring and browsing the home page, wine catalogue, about us, partners, and contact us page. They are restricted to purchase wines and view their profile unless they registered an account under Chateau du Nox website.

Users are allowed to perform all functions like viewing their profile, add wines to either wishlist or cart or both, checkout their cart, track their order, view their past orders and reviews of their purchased wines.

Admins are allowed to perform all functionalities of the guests and users combined with additional functions like managing the data of the wine catalogue, wine details, user roles, order status, and customer reviews.

## 1.6 Assumptions

There are some assumptions made to ensure that the website business process flow is smooth and clear as it is only a demonstration on responsive website:

- There will be a default admin created to manage all users and admins.
- The data and information provided on the website are not accurate or up to date.
- Security measures are excluded since it is a university assignment to learn about C# database.
- Images used on the website are from external resources and are not the property of all members.
- The logo of Chateau du Nox used on the website are the property of all members. All rights reserved.
- There will be no payment transactions.
- The delivery service is a supportive element to demonstrate order status and updates.
- The user interface design is a supportive element to present the layout of the website.

## 2.0 Requirement Specification

### 2.1 Targeted Audience

People who are wine enthusiasts, oenophile, passionate about wine and their varietal, enjoy tasting different types of wines, mixed wines of which two or more grape varietals aged together. They are also fond of learning the history of each vineyard and how their winemaking processes are carried out. In addition, wine collectors are included as our targeted audience since they like to collect wine as a past time hobby or investment for the future and interested in getting their hands on limited-edition bottles where its design are different from original bottles. Lastly, people who loves to discover unique food and wine pairing, its flavour relationships, and seek guidance for more complex and complimentary cuisines make up the third targeted audience.

### 2.2 Technical Requirements

Platform Used	Programming Language / Diagrams
Visual Studio 2019	ASP.NET web form in HTML, CSS, JavaScript
Lucidchart	Use case diagram, navigational structure, entity relational diagram
Figma	Wireframes
Canva	Gantt chart

### 2.3 Use Case Diagram (Guest, User, Admin)

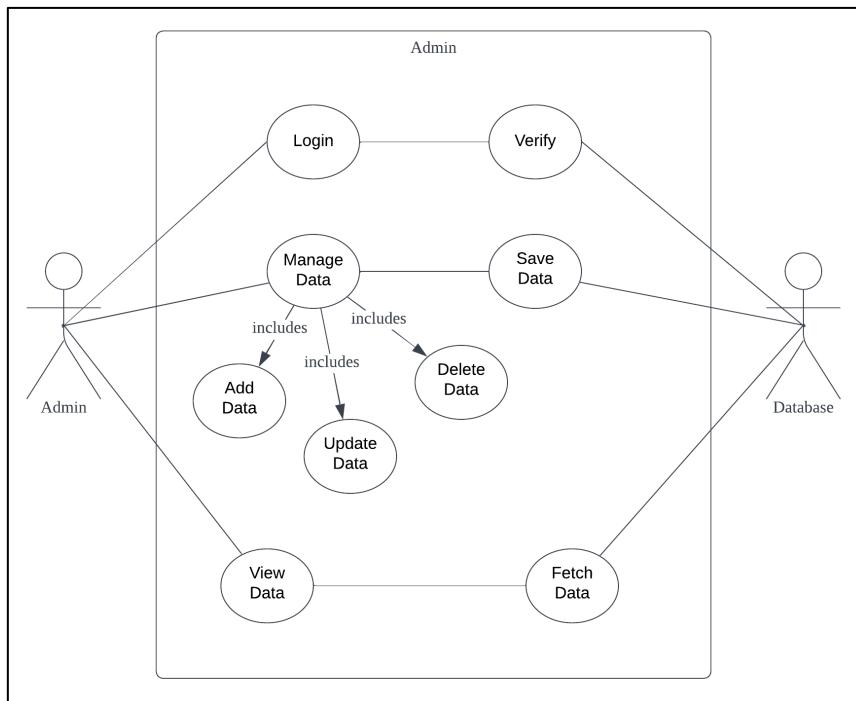
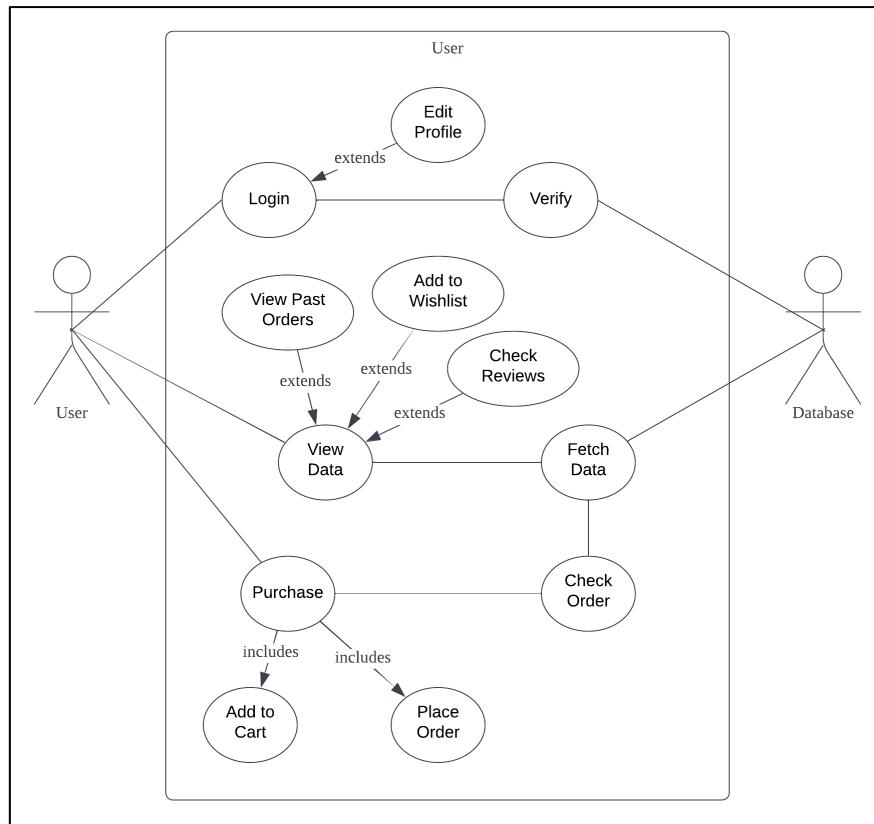


Figure 3: Admin use case

According to the use case diagram above, admin can login to the system using their username and password given that if their role assigned are admin. If the role is not admin, the system will redirect them to the login page to re-enter their username and password. Admin can perform CRUD operations to the website like adding new wines, change user role, checking orders and reviews etc. They can also view all website pages to ensure that the original content and newly added information are accurate to date.

*Figure 4: User use case*

According to the figure above, user can login to their profile and edit their details after the system has verified their username and password. User can view all website pages and add their favourite wines to their wishlist or cart. They can also view their past orders and reviews about the wines they purchased. When user make a purchase via an assumption payment success, they can check and track their order status. If the order has completed, user can write a review for their order of each wine.

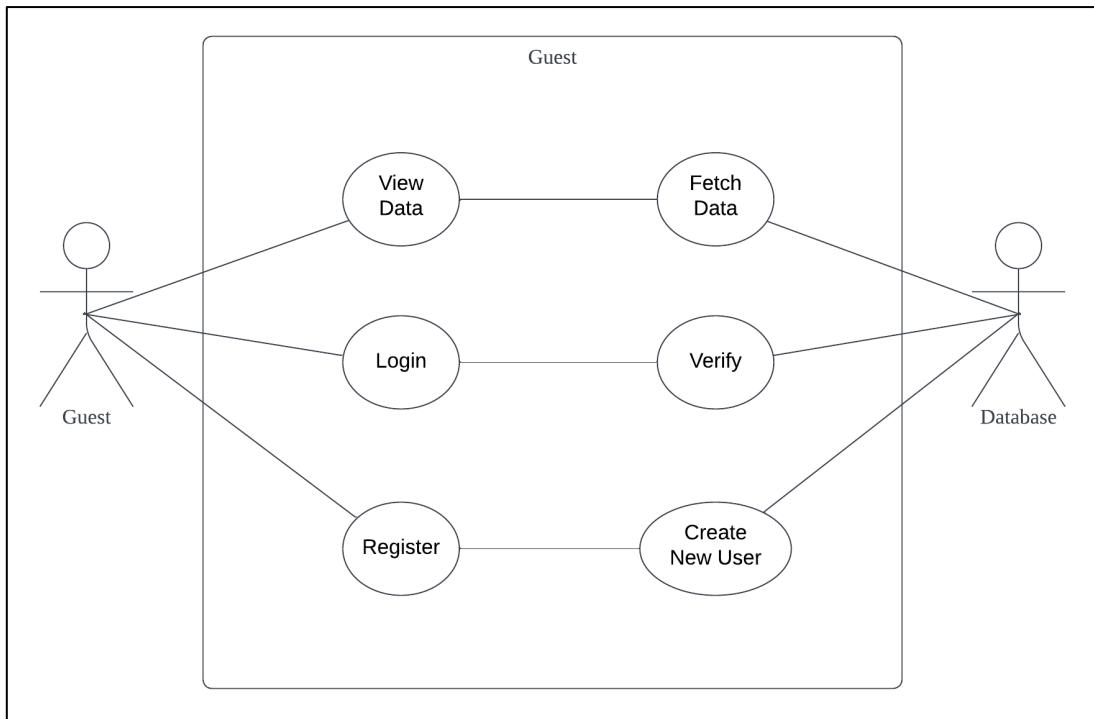


Figure 5: Guest use case

Based on the use case diagram above, guest can only perform limited navigation within the website like viewing the wine catalogue and wine details. However, they can register or login as a user to have access to more functionalities. When a guest login to an account, the system will redirect to either user page or admin page based on the role of the account. Guest can register as a new user and the system will save the username, email address, and password so that the account can be identified when the guest login next time.

## 3.0 Design

### 3.1 Entity Relational Diagram

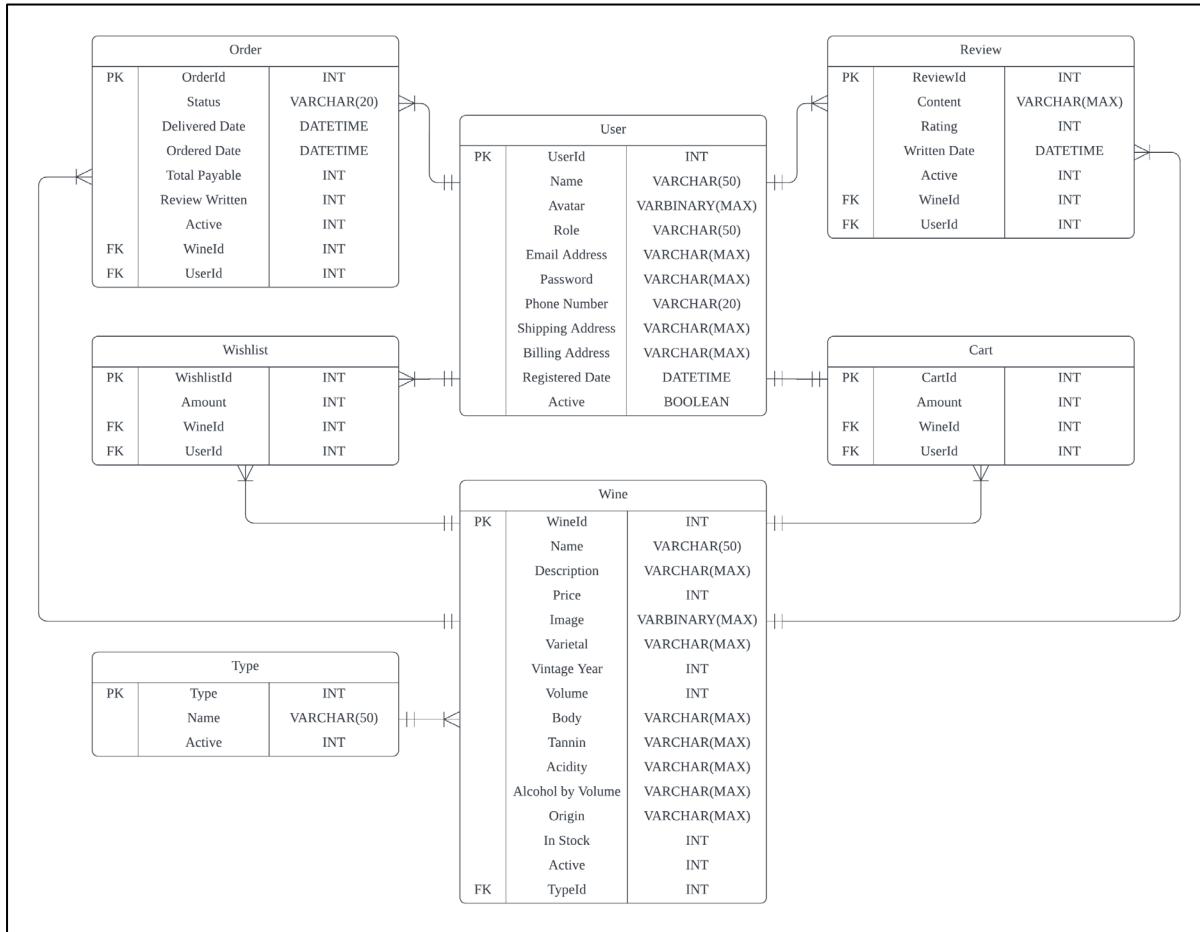
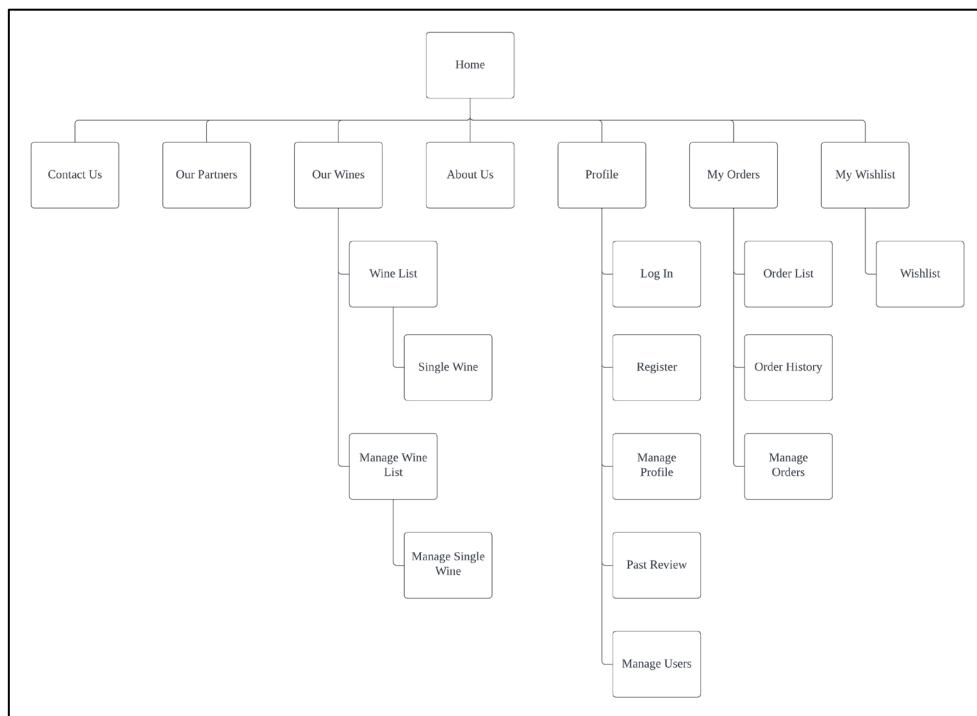


Figure 6: Entity relational diagram for Chateau du Nox

The entity relational diagram above shows that there are 7 different entities namely user, wine, order, wishlist, review, cart, and type. When user is created, relevant information is by default empty except for username and email address since they gave it during the registration. Each user will connect to an order entity, wishlist entity, review entity, and cart entity. On the other hand, when admin add a wine, all the fields are required to have an input and each wine will be categorized using a type entity. User entity, wine entity, order entity, review entity and type entity can be switched to inactive status, mimicking deletion whereas type wishlist entity and cart entity will directly be deleted from the database.

One user can have multiple orders, reviews, and wishlist but only allowed to have one cart. Meanwhile, one type can have multiple wines assigned to it while one wine can belong to multiple orders, reviews, wishlist, and cart.

### 3.2 Navigational Structure



*Figure 7: Navigational structure of Chateau du Nox website*

The diagram shows that the starting point of Chateau du Nox website is the home page. From the home page, users can navigate to “Contact Us”, “Our Partners”, “Our Wines”, “About Us”, “Profile”, “My Orders”, and “My Wishlist” using the navigation bar provided at the top of the website. To access the “Profile”, “My Orders”, and “My Wishlist” pages, users will need to login to the website as a registered user while the other pages are open to public viewing.

Under “Our Wines”, there will be a sub-page for “Wine List” or “Wine Catalogue” and another sub-inner-page to display the wine details. If the role of the user is an admin, they will have access to edit the “Wine List” or “Wine Catalogue” and details of each wine. In the “Profile” page, if users are not logged in, they will be redirected to “Login” page. In the “Login” page, they can either register as a new user or reset their password. After they logged in, they can manage their profile like setting billing address, shipping address, phone number etc. and view their past reviews. If the role of the user is an admin, they are allowed to manage the role of the account and choose to active or deactivate their account. Registered users can view and track their orders and wine in their wishlist. When users received their order, they can mark the order as “Completed” and give a rating to the wine. As for admin, they can manage the order status to determine whether the assumed payments are received, or the order has delivered successfully. Besides that, they can also check whether the reviews written are true or biased and choose to active or deactivate it.

### 3.3 Wireframe

#### 3.3.1 Desktop Design

Using CSS media queries, the design for desktop view of the Chateau du Nox website have three different breakpoints, 1024px, 1280px, 1440px and higher, respectively. Most components have a fixed maximum width or height to control the images or containers to be suitable for displaying and viewing. Both flex column and row containers are used to display multiple repeating components like in the wine catalogue and admin data management. Special attributes like :hover, ::after, ::before, :first-child, and :last-child are used to target specific dividers for different styling. Below are the wireframes designed for desktop view:

### About Us



Figure 8: Desktop wireframe for About Us page

## Contact Us



- [About Us](#)
- [Wines](#)
- [Partners](#)
- [Contact Us](#)



**Enquiry in Service**

Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

**Contact Us**

-  [service@chateauduno.com](mailto:service@chateauduno.com)
-  [1 \(800\) 279 0114](tel:1(800)2790114)
-  Chateau Du Nox
-  [chateau\\_du\\_nox](http://chateau_du_nox)

**Visit Us**



4102 St Cahill Quint,  
Napa Valley, CA 93212

Please call to make a  
reservation prior  
visitation



**Newsletter**

Sign up for our newsletter for more information  
of our events and test drinks

Form Input

Action Button



**Visit Us**

4102 St Cahill Quint,  
Napa Valley, CA 93212

**Contact Us**

[service@chateauduno.com](mailto:service@chateauduno.com)  
[1 \(800\) 279 0114](tel:1(800)2790114)

**Discover**

- [About Us](#)
- [Our Partners](#)
- [Our Wines](#)



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Figure 9: Desktop wireframe for Contact Us page

**Forgot Password**

Logo

Welcome to  
Chateau Du Nox

Among the Top 10 Winery in Napa Valley

Forgot Password

Email Address  
Form Input

New Password  
Form Input

Confirm New Password  
Form Input

Action Button

**Left Banner Image**

Figure 10: Desktop wireframe for Forgot Password page

## Home

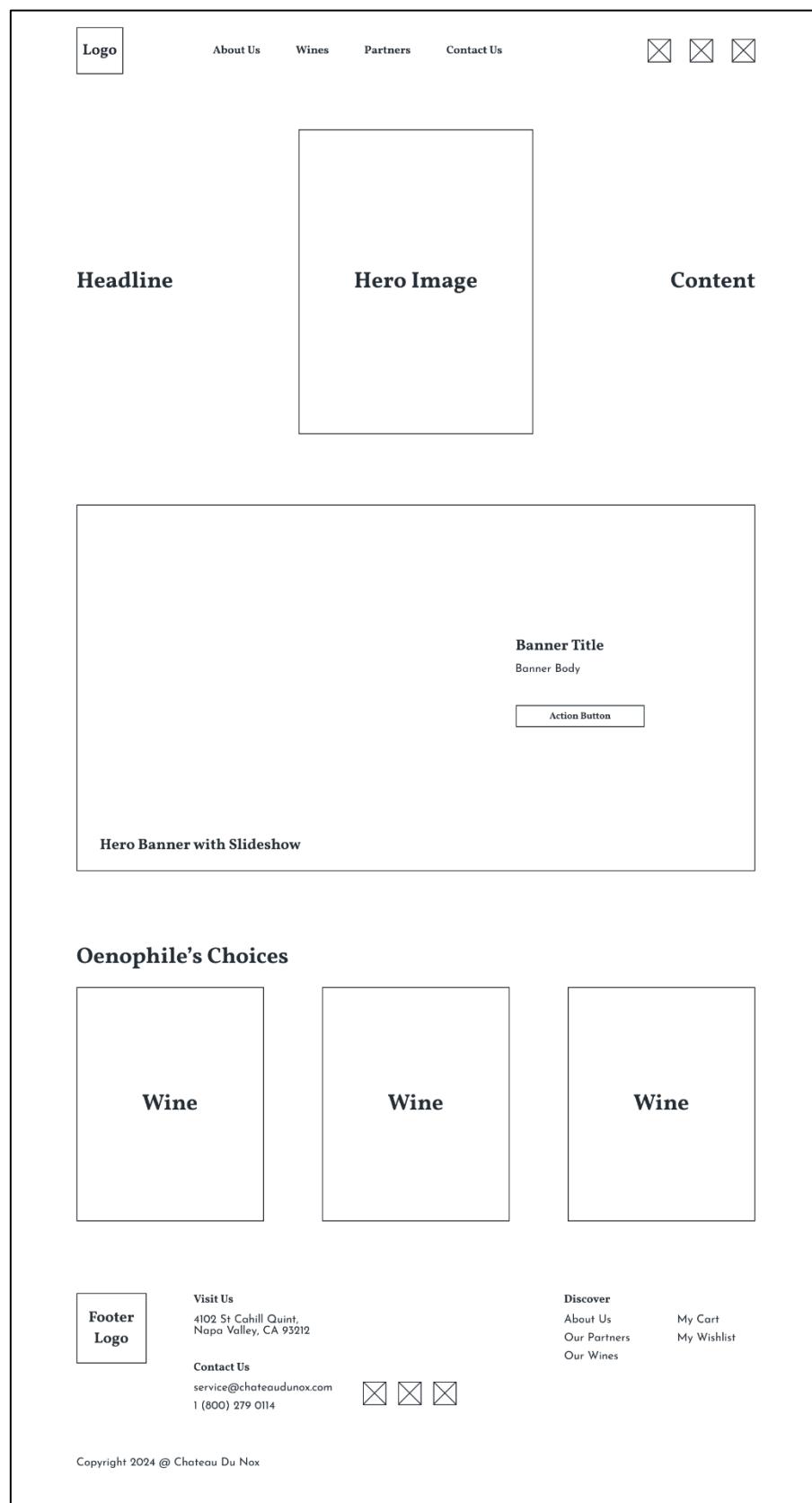


Figure 11: Desktop wireframe for Home page

## Login

The wireframe consists of two side-by-side columns. The left column contains a placeholder for a logo, the text "Welcome to Chateau Du Nox", and the text "Among the Top 10 Winery in Napa Valley". The right column contains the title "Login", fields for "Username" and "Password" (each with a "Form Input" placeholder), a "Forget Password?" link, an "Action Button" placeholder, and links for "Don't have an account? Register here." and "Continue as Guest".

<p>Logo</p> <p>Welcome to Chateau Du Nox</p> <p>Among the Top 10 Winery in Napa Valley</p> <p><b>Left Banner Image</b></p>	<h2>Login</h2> <p>Username</p> <p>Form Input</p> <p>Password</p> <p>Form Input</p> <p><a href="#">Forgot Password?</a></p> <p>Action Button</p> <p><a href="#">Don't have an account? Register here.</a></p> <p><a href="#">Continue as Guest</a></p>
--	---

Figure 12: Desktop wireframe for Login page

## Manage Order

The wireframe illustrates a desktop view of the 'Manage Order' page. At the top left is a placeholder for the 'Logo'. To its right are navigation links: 'About Us', 'Wines', 'Partners', and 'Contact Us'. On the far right are three empty square placeholders for social media icons. Below this header is a main content area titled 'Manage Order'. This area contains a grid of three columns, each representing an order status. Each column has four input fields: 'Username', 'Email Address', 'Order Date', and 'Delivered Date'. Underneath these fields, the column headers 'Order Status' are repeated. Below each header are two more data entries: 'Total Payable' and 'Review Written'. At the bottom of each column is a rectangular button labeled 'Confirm Payment', 'Confirm Delivery', or 'Confirm Packaging' respectively. The entire content area is centered under the main title 'Manage Order'. At the very bottom of the page is a footer section containing a placeholder for the 'Footer Logo' on the left, followed by 'Visit Us' information (address: 4102 St Cahill Quint, Napa Valley, CA 93212), 'Contact Us' information (email: service@chateaudunox.com, phone: 1 (800) 279 0114), and a row of three empty square placeholders for social media icons. To the right of the contact information is a 'Discover' menu with links to 'About Us', 'Our Partners', 'Our Wines', 'My Cart', 'My Wishlist', and 'My Wishlist' again.

Visit Us  
4102 St Cahill Quint,  
Napa Valley, CA 93212

Contact Us  
service@chateaudunox.com  
1 (800) 279 0114

Discover  
About Us      My Cart  
Our Partners      My Wishlist  
Our Wines

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Figure 13: Desktop wireframe for Manage Order page

## Manage Reviews

The wireframe illustrates a desktop view of the 'Manage Review' page. At the top, there is a navigation bar with a 'Logo' icon, 'About Us', 'Wines', 'Partners', 'Contact Us', and three social media icons. Below the navigation, the main title 'Manage Review' is centered. The page features a grid of three review cards, each containing a small image placeholder, 'Username', 'Rating', 'Content', and 'Written Date'. Underneath each card is a bolded 'Order - Wine' label and a 'Delete Review' button. A central callout box contains the text 'Review Table Columns with Action Buttons' and 'Popup to Confirm Review Deletion'. At the bottom, a footer section includes a 'Footer Logo' icon, 'Visit Us' information (4102 St Cahill Quint, Napa Valley, CA 93212), 'Contact Us' information (service@chateaudunox.com, 1 (800) 279 0114), and a 'Discover' menu with links to 'About Us', 'Our Partners', 'Our Wines', 'My Cart', and 'My Wishlist'. There are also three social media icons at the bottom right.

Visit Us  
4102 St Cahill Quint,  
Napa Valley, CA 93212

Contact Us  
service@chateaudunox.com  
1 (800) 279 0114

Discover

About Us      My Cart  
Our Partners      My Wishlist  
Our Wines

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Figure 14: Desktop wireframe for Manage Review page

## Manage User

The wireframe illustrates a desktop view of the 'Manage User' page. At the top left is a 'Logo' placeholder. To its right are navigation links: 'About Us', 'Wines', 'Partners', and 'Contact Us'. On the far right are three social media icons represented by squares with diagonal lines. Below this header, the main content area is titled 'Manage User'. It displays three separate user profiles, each consisting of a small square placeholder, a 'Username' field, and two smaller fields for 'Email Address' and 'Registered Date'. Underneath each profile are two buttons: 'Change Role' and 'View Profile'. The entire content area is enclosed in a large rectangular frame.

**Manage User**

**User Table Columns with Action Buttons**  
**Popup to Confirm Role Changes**

**Footer Logo**

**Visit Us**  
4102 St Cahill Quint,  
Napa Valley, CA 93212

**Contact Us**  
service@chateaudunox.com  
1 (800) 279 0114

**Discover**  
About Us      My Cart  
Our Partners    My Wishlist  
Our Wines

Copyright 2024 @ Chateau Du Nox

Figure 15: Desktop wireframe for Manage User page

## Manage Wines

The wireframe illustrates a desktop layout for a wine management application. At the top, a header bar contains a logo placeholder, navigation links for About Us, Wines, Partners, and Contact Us, and three social media icons. Below the header is a section titled "Manage Wine" which displays a grid of three wine entries, each with a placeholder image, the word "Wine", and an "Edit Details" button. The main content area below this is labeled "Wines Table Columns with Action Buttons" and "Popup to Edit Details". The footer section at the bottom includes a "Footer Logo" placeholder, contact information for "Visit Us" (4102 St Cahill Quint, Napa Valley, CA 93212) and "Contact Us" (service@chateaudunox.com, 1 (800) 279 0114), and a "Discover" menu with links to About Us, Our Partners, Our Wines, My Cart, and My Wishlist. Social media icons are also present in the footer.

Logo

About Us   Wines   Partners   Contact Us

Wine   Wine   Wine

Edit Details   Edit Details   Edit Details

Wines Table Columns with Action Buttons

Popup to Edit Details

Visit Us  
4102 St Cahill Quint,  
Napa Valley, CA 93212

Contact Us  
service@chateaudunox.com  
1 (800) 279 0114

Discover

About Us   Our Partners   Our Wines

My Cart   My Wishlist

Copyright 2024 @ Chateau Du Nox

Figure 16: Desktop wireframe for Manage Wine page

## Partners

The wireframe illustrates the layout of the Partners page:

- Header:** Contains a "Logo" placeholder, navigation links for "About Us", "Wines", "Partners", and "Contact Us", and three social media icons.
- Main Content Area:** A section titled "Our Partners" with a descriptive paragraph. Below it is a row of five "Partner Logo" placeholders.
- Banner Section:** A large rectangular area labeled "Partner Banner". To its right is a "Since Year" placeholder with a descriptive paragraph.
- Footer:** Includes a "Footer Logo" placeholder, "Visit Us" information (4102 St Cahill Quint, Napa Valley, CA 93212), "Contact Us" information (service@chateaudunox.com, 1 (800) 279 0114), and a "Discover" menu with links to "About Us", "Our Partners", "Our Wines", "My Cart", and "My Wishlist". It also features three social media icons.
- Page Bottom:** Displays the copyright notice "Copyright 2024 @ Chateau Du Nox".

Figure 17: Desktop wireframe for Partners page

## Profile

The wireframe illustrates the layout of a desktop Profile page. At the top left is a placeholder for the User Logo. To its right are navigation links: About Us, Wines, Partners, and Contact Us. Further to the right are three empty square icons. Below this header, there are two large rectangular containers. The left container contains a placeholder for the Profile Avatar, the text "Joined since 13 March 2024", and the name "John Doe". The right container is labeled "Random Placeholder Cover Photo". In the middle section, there are four form input fields arranged in a grid: "Email Address" (labeled "Form Input"), "Shipping Address" (labeled "Form Input"), "Role" (labeled "Label"), "Phone Number" (labeled "Form Input"), "Billing Address" (labeled "Form Input"), and an "Action Button" (labeled "Action Button"). Below this, there are two more large rectangular containers. The left one is labeled "On Wishlist" and the right one is labeled "On Cart". The "On Cart" container has an "Action Button" at the bottom right. In the bottom section, there are two large rectangular containers: "Past Reviews" on the left and "Order History" on the right. At the very bottom, there is a footer section containing a "Footer Logo" (placeholder), contact information ("Visit Us" address: 4102 St Cahill Quint, Napa Valley, CA 93212), a "Discover" menu (About Us, Our Partners, Our Wines, My Cart, My Wishlist), a "Contact Us" section (email: service@chateauduno.com, phone: 1 (800) 279 0114), and three empty square icons.

Logo

About Us    Wines    Partners    Contact Us

Random Placeholder Cover Photo

Profile Avatar

Joined since 13 March 2024

John Doe

Email Address    Shipping Address    Role

Form Input    Form Input    Label

Phone Number    Billing Address    Action Button

Form Input    Form Input

On Wishlist    On Cart

Action Button

Past Reviews    Order History

Footer Logo

Visit Us  
4102 St Cahill Quint,  
Napa Valley, CA 93212

Contact Us  
service@chateauduno.com  
1 (800) 279 0114

Discover  
About Us    Our Partners    Our Wines  
My Cart    My Wishlist

Copyright 2024 @ Chateau Du Nox

Figure 18: Desktop wireframe for Profile page

## Register

The wireframe illustrates a two-column layout for a registration page. The left column contains a placeholder for a 'Left Banner Image' and a 'Welcome to Chateau Du Nox' message, which also serves as a sub-headline. The right column features a large 'Register' heading at the top. Below it, there are four input fields arranged in a 2x2 grid: 'Username' and 'Email Address' in the top row, and 'Password' and 'Confirm Password' in the bottom row. Each input field is labeled 'Form Input'. At the bottom of the right column is a large 'Action Button' labeled 'Action Button'. Below the button, there are two small links: 'Already have an account? Login here.' and 'Continue as Guest'.

Logo	Username Form Input	Email Address Form Input
Welcome to Chateau Du Nox	Password Form Input	Confirm Password Form Input
Among the Top 10 Winery in Napa Valley	Action Button	
Left Banner Image	Already have an account? Login here. Continue as Guest	

Figure 19: Desktop wireframe for Register page

## Review

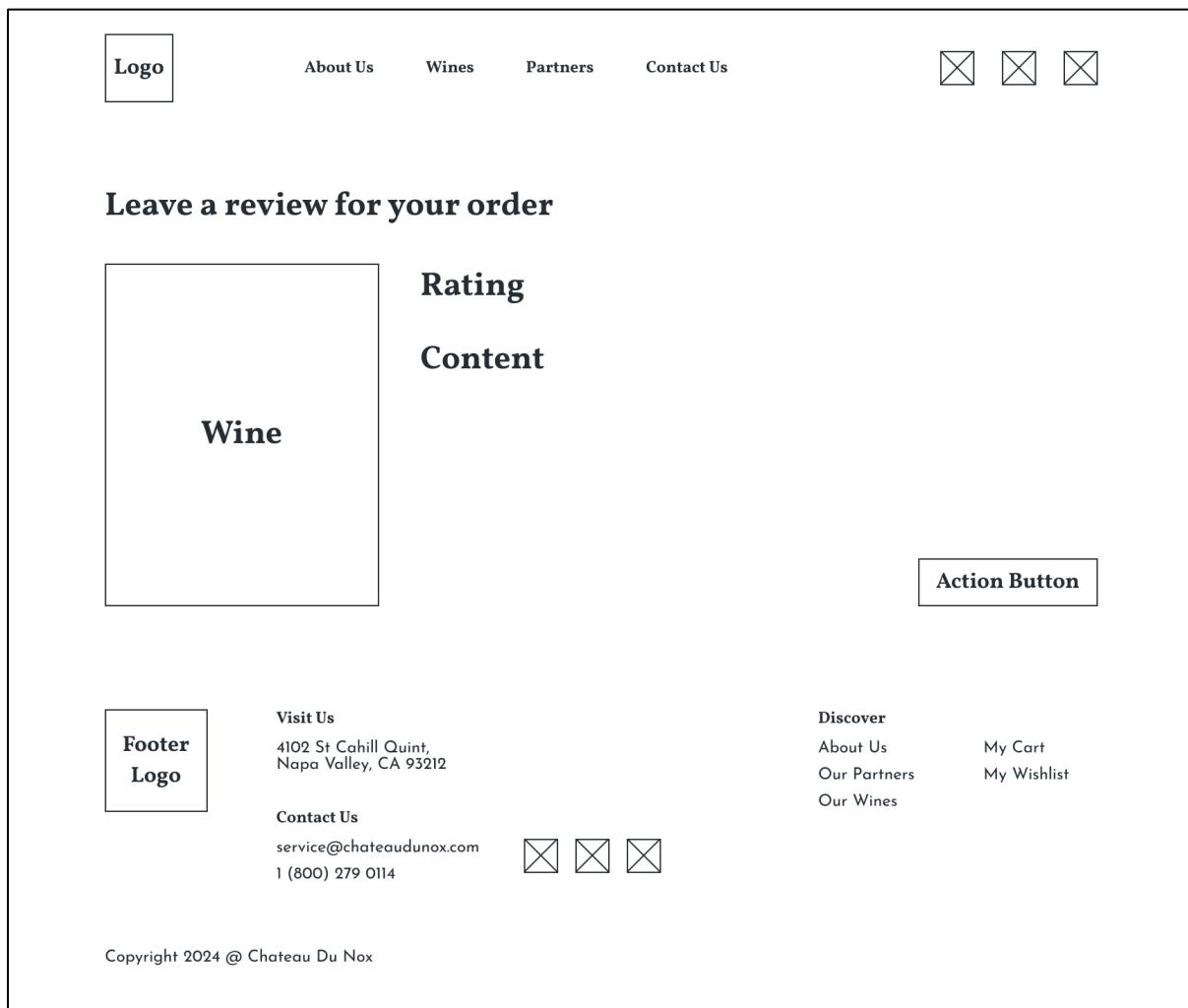


Figure 20: Desktop wireframe for Review page

## Wine Catalogue



Figure 21: Desktop wireframe for Wine Catalogue page

## Wine Details

The wireframe illustrates a desktop view of a wine details page. At the top, there's a navigation bar with a logo icon, links for About Us, Wines, Partners, and Contact Us, and three social media icons. Below the navigation is a back button and a large central image placeholder labeled "Wine". To the right of the image, product details are listed in two columns: Vintage Year, Type, Varietal, Volume, and Origin on the left, and Body, Tannin, Acidity, Alcohol by Volume, and In Stock on the right. Further down, a "Price" section includes an "Action Button" and quantity selection fields. On the left side, there's a "Wine Reviews (23)" section with review cards for "Username" and "Rating", each with a placeholder image, written date, and a detailed description. The footer contains a "Footer Logo" section, contact information (Visit Us, Rating, Contact Us), and a "Discover" section with links to About Us, Our Partners, Our Wines, My Cart, and My Wishlist. Copyright information is at the bottom.

**Header:**

- Logo
- About Us
- Wines
- Partners
- Contact Us
- 

**Back:**

**Main Content Area:**

**Wine:**

**Product Details:**

Vintage Year	Body
Type	Tannin
Varietal	Acidity
Volume	Alcohol by Volume
Origin	In Stock

**Price:**

**Action Button**

**Quantity**

**Wine Reviews (23):**

**Review 1:**

**Username:**

**Rating:**

Written Date: [REDACTED]

Description: [REDACTED]

**Review 2:**

**Username:**

**Rating:**

Written Date: [REDACTED]

Description: [REDACTED]

**Footer:**

**Footer Logo:**

**Contact Us:**

Visit Us: 4102 St Cahill Quint, Napa Valley, CA 93212

service@chateaudunox.com

1 (800) 279 0114

**Discover:**

About Us	My Cart
Our Partners	My Wishlist
Our Wines	

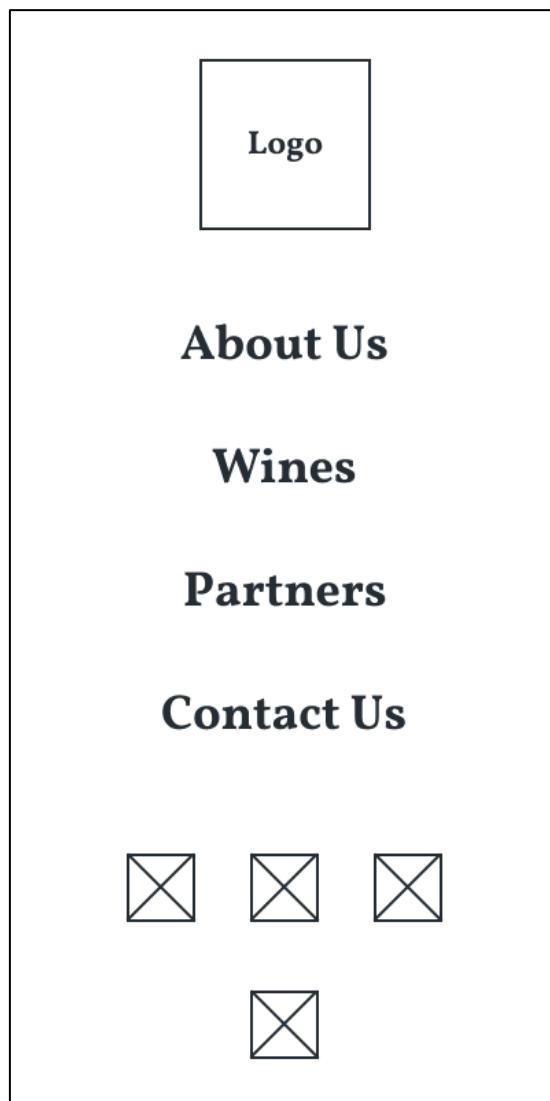
Copyright 2024 @ Chateau Du Nox

Figure 22: Desktop wireframe for Wine Details page

### 3.3.2 Mobile Design

Using CSS media queries, the design for mobile view of the Chateau du Nox website have three different breakpoints, 375px, 425px, and 768px, respectively. Most components have a fixed maximum width or height to control the images or containers to be suitable for displaying and viewing. Only flex column containers are used to display multiple repeating components like in the wine catalogue and admin data management for a better user experience. Special attributes like :hover, ::after, ::before, :first-child, and :last-child are used to target specific dividers for different styling. A collapsible menu is created to avoid compactness of the layout and ease users' navigation between pages. Below are the wireframes designed for mobile view:

#### **Navigational Menu**



*Figure 23: Mobile wireframe for collapsible Navigational Menu*

## About Us

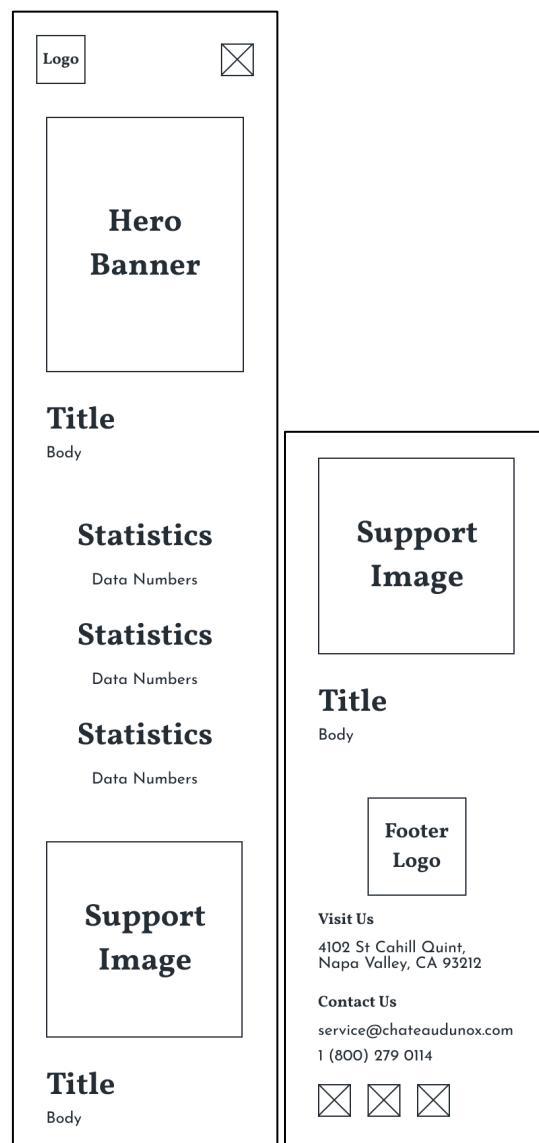


Figure 24 – 25: Mobile wireframe for About Us page

## Contact Us

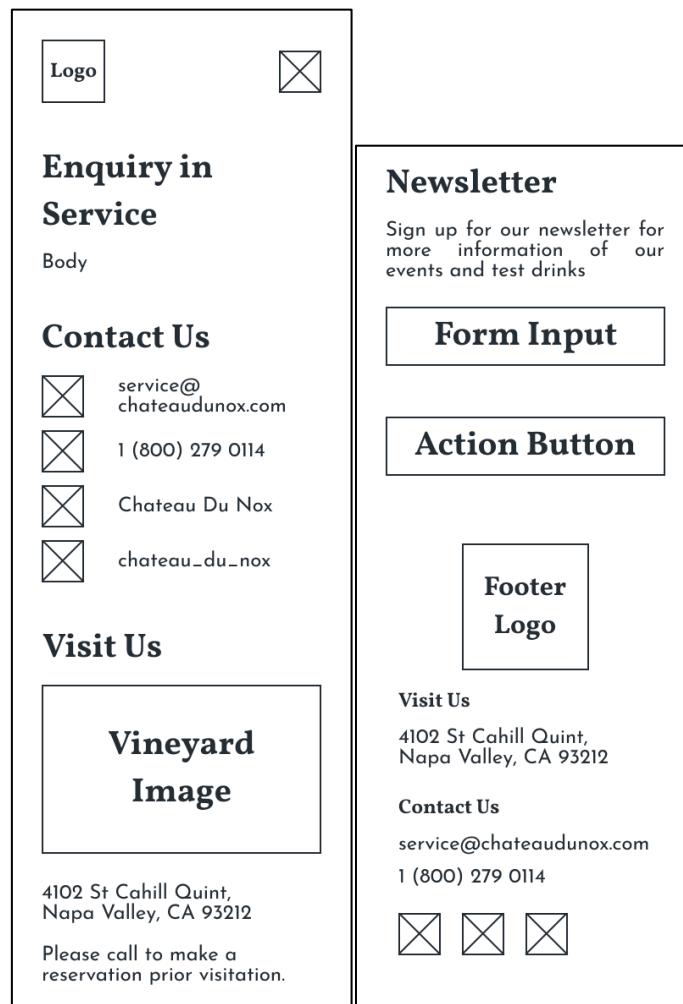


Figure 26 – 27: Mobile wireframe for Contact Us page

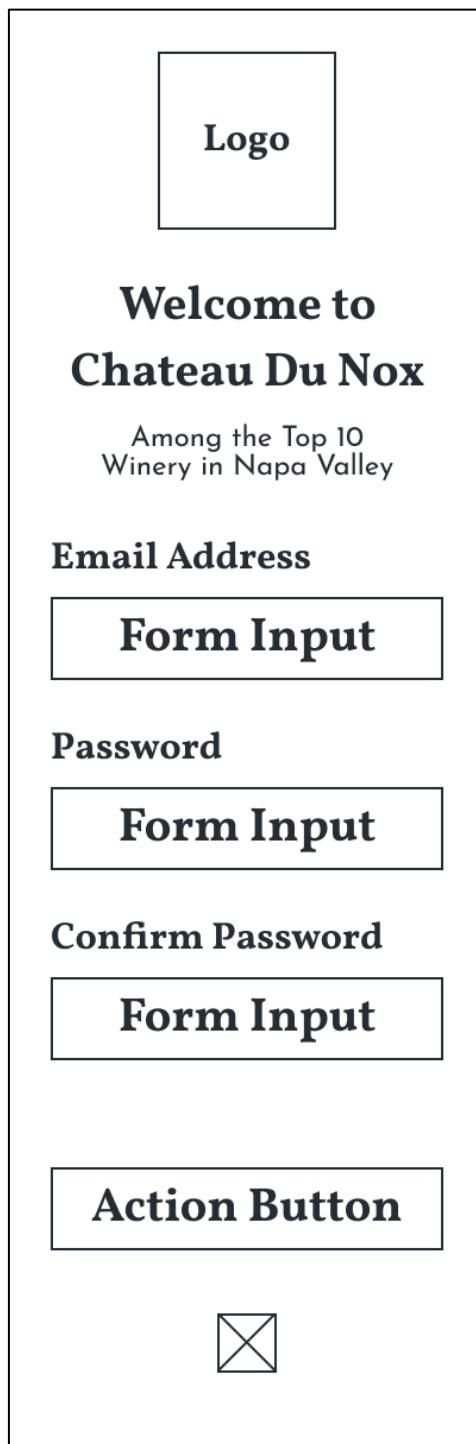
**Forgot Password**

Figure 28: Mobile wireframe for Forgot Password page

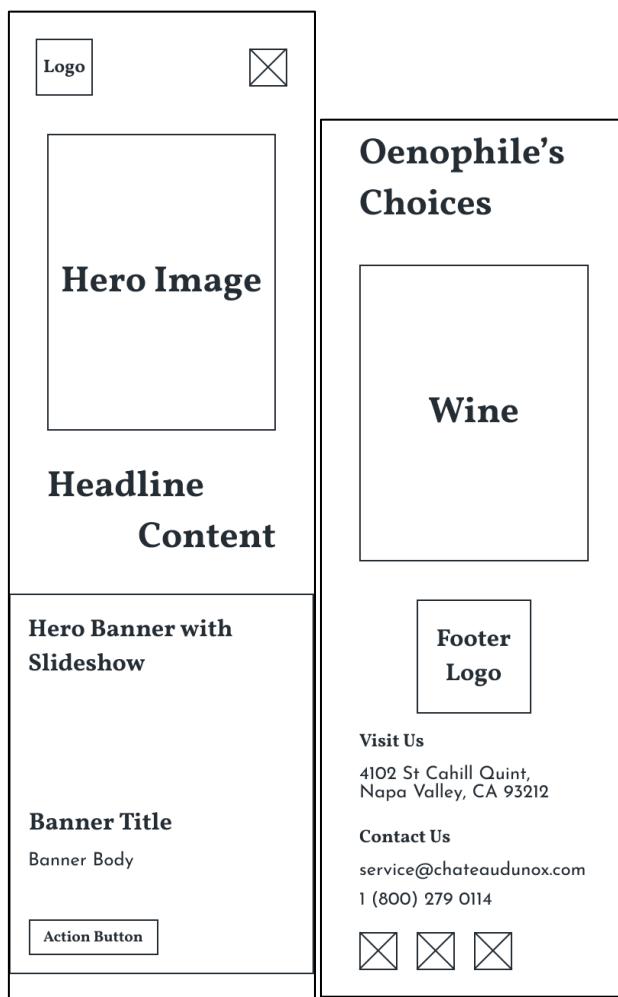
**Home**

Figure 29 – 30: Mobile wireframe for Home page

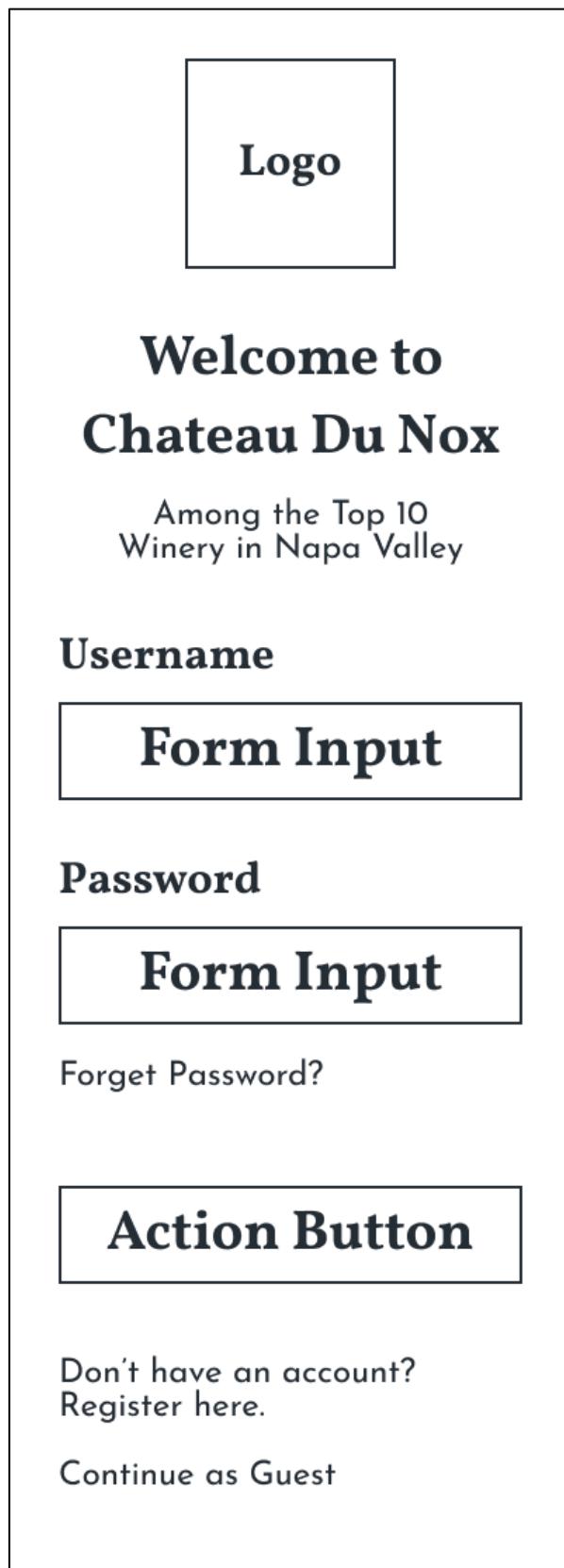
**Login**

Figure 31: Mobile wireframe for Login page

## Manage Order

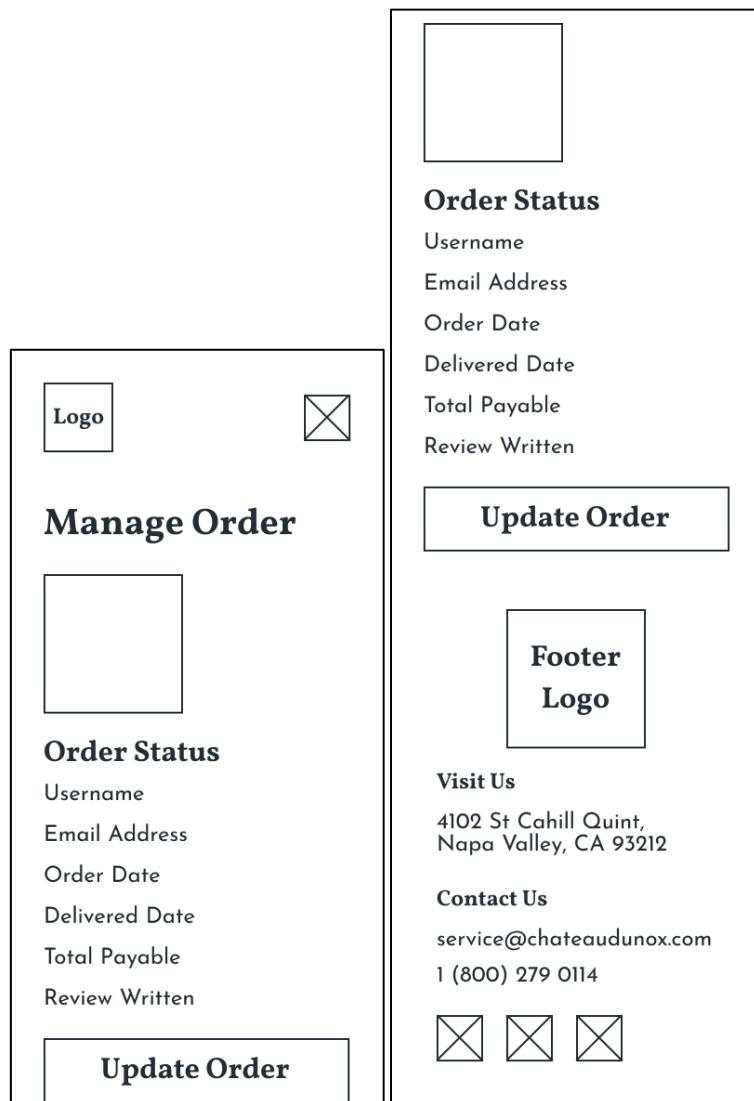


Figure 32 – 33: Mobile wireframe for Manage Order page

## Manage Reviews



Figure 34 – 35: Mobile wireframe for Manage Review page

## Manage User

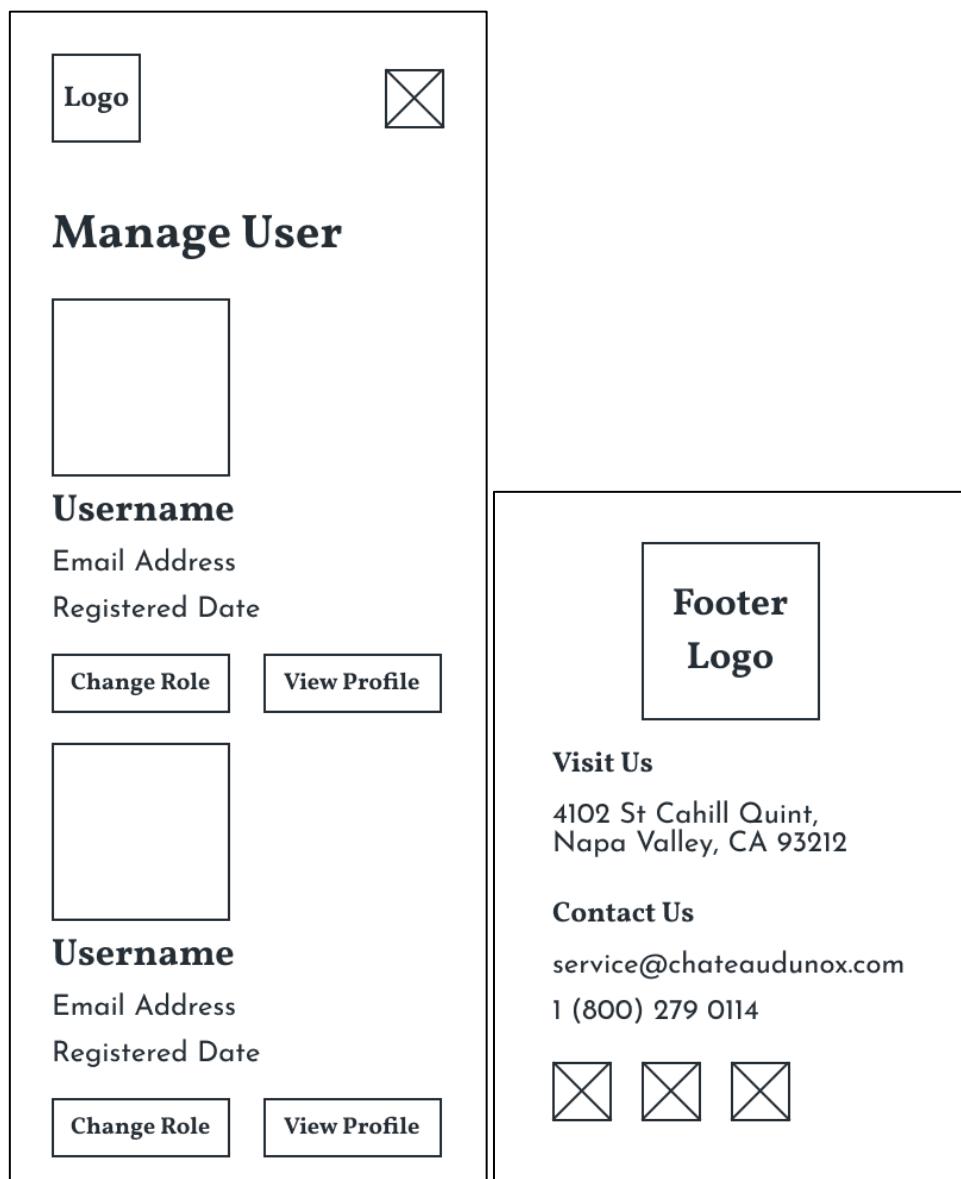


Figure 36 – 37: Mobile wireframe for Manage User page

## Manage Wines



Figure 38 – 39: Mobile wireframe for Manage Wine page

## Partners

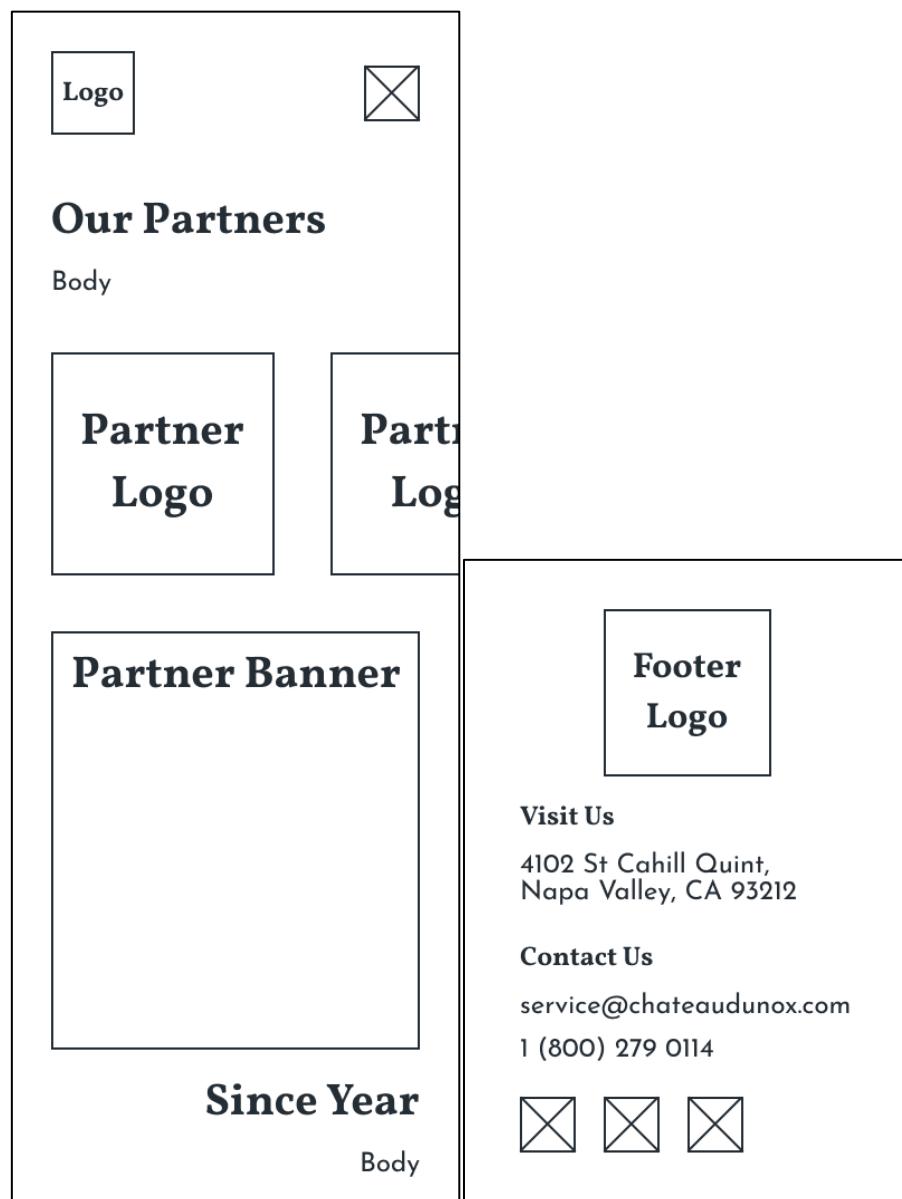


Figure 40 – 41: Mobile wireframe for Partners page

## Profile

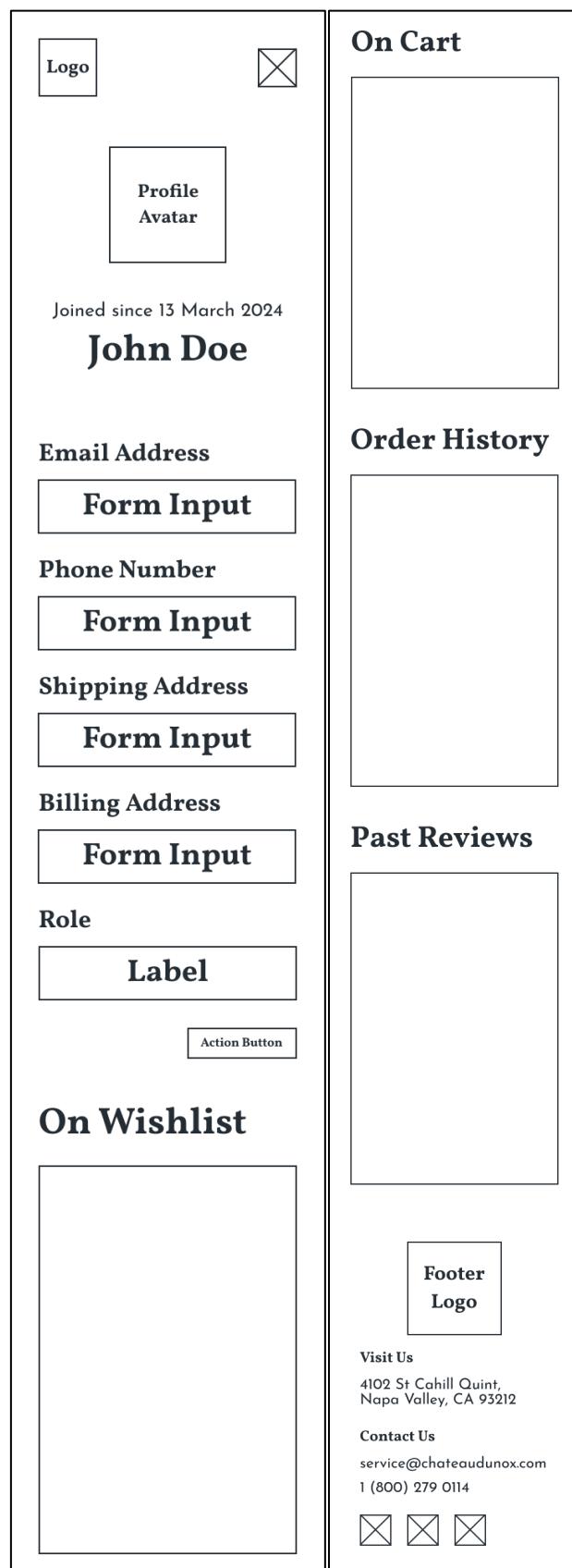


Figure 42 – 43: Mobile wireframe for Profile page

**Register**

The wireframe illustrates a mobile registration interface. At the top is a placeholder for a logo. Below it is a welcome message: "Welcome to Chateau Du Nox" followed by the text "Among the Top 10 Winery in Napa Valley". The form fields are arranged vertically: "Username" with a "Form Input" placeholder, "Email Address" with a "Form Input" placeholder, "Password" with a "Form Input" placeholder, and "Confirm Password" with a "Form Input" placeholder. At the bottom is a large "Action Button" placeholder. Below the button are two links: "Already have an account? Login here." and "Continue as Guest".

Logo

Welcome to  
Chateau Du Nox

Among the Top 10  
Winery in Napa Valley

Username

Form Input

Email Address

Form Input

Password

Form Input

Confirm Password

Form Input

Action Button

Already have an account?  
Login here.

Continue as Guest

*Figure 44: Mobile wireframe for Register page*

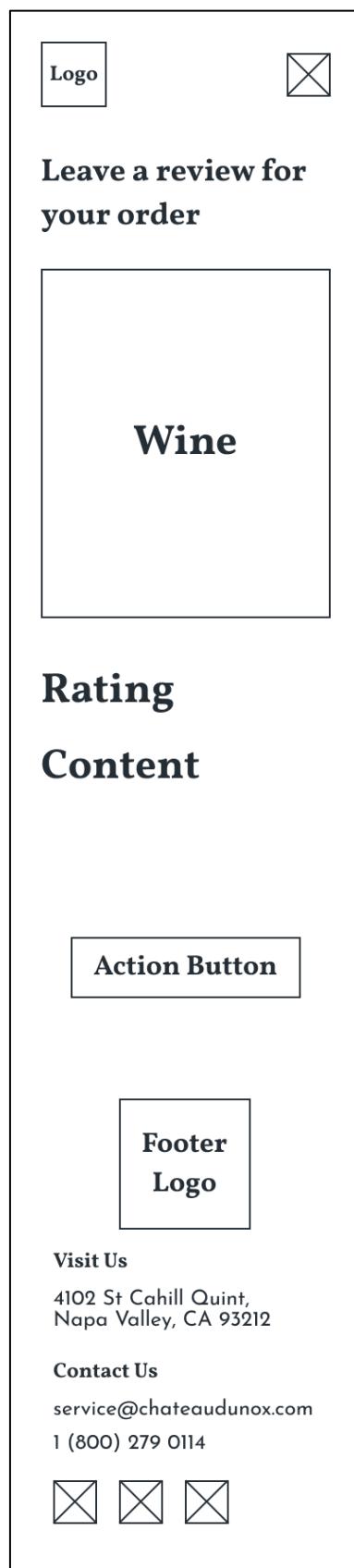
**Review**

Figure 45: Mobile wireframe for Review page

## Wine Catalogue

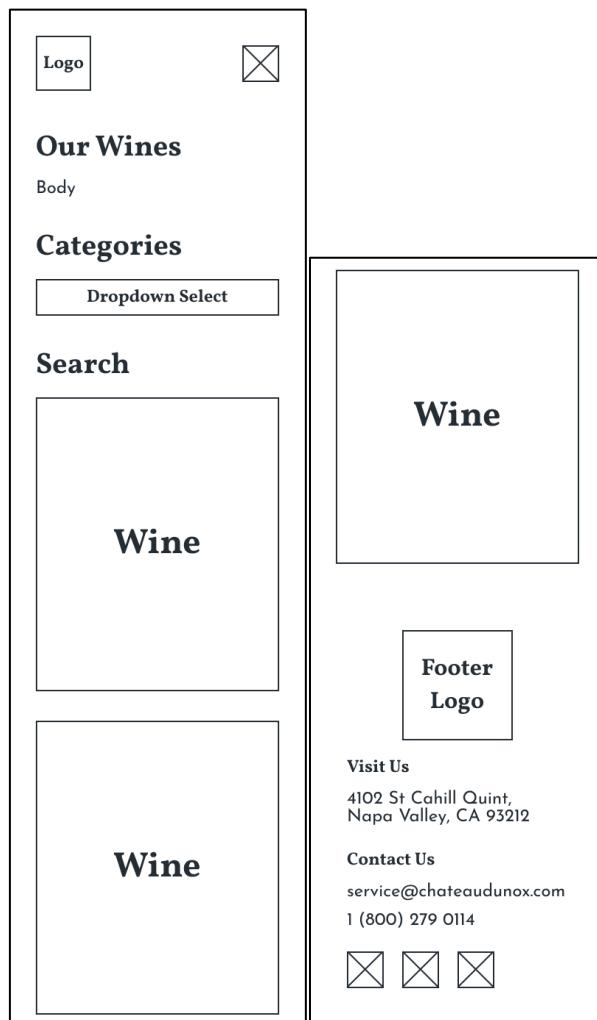


Figure 46 – 47: Mobile wireframe for Wine Catalogue page

## Wine Details

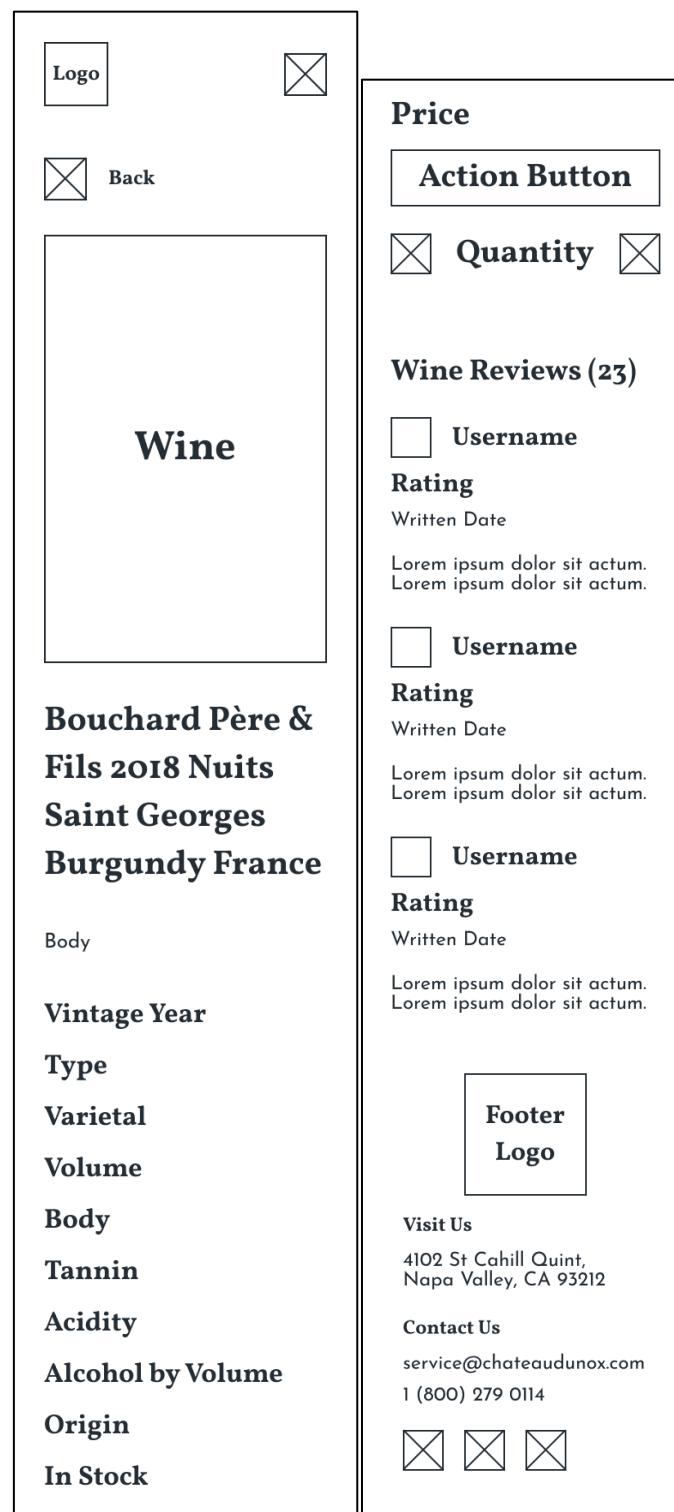


Figure 48 – 49: Mobile wireframe for Wine Details page

## 4.0 Implementation

### 4.1 User Interface Design Factors (5)

Usability is one of many design factors that determines a good platform, website, or application. Users want to do tasks within the system and wish to be easy-to-use, intuitive, and straightforward. According to Fullstory (2024), users doesn't care about the aesthetics or the complex design of the website because what users will want the most is that their tasks can be completed using the website. Even though the design is very well done, it is just only a complementary part to the user interface, thus usability needs to be the main priority for designing a website.

Secondly, as mentioned in the paragraph above, complementing the usability of a website will be its visual design. Visual design like the layout, colour scheme, and typography can enhance user experience, engaging them to explore further about the website. The information displayed should be relevant and focused on the essentials without heavy elaboration yet be able to convey the accurate information to users (Nielsen, 1994). For example, there should be contrast between the foreground and background to allow text readability while the colour scheme should match the main focus of the website like green for botany or nature website, white for enterprise or formal website etc.

Thirdly, the responsiveness of the website, ability to adapt well to different screens and device sizes and orientation, are also crucial in enhancing user experience. Based on Volmatica (2023), having a responsive website allows increased conversions where users are more likely to continue using their browsers on both mobile or desktop to explore the website instead of limited to only mobile applications or desktop website. Besides that, a responsive website will indirectly improve the search engine optimization or SEO performance where it meets the mobile-friendly criteria stated by Google, resulting in a positive influence to the search ranking of the website.

Fourthly, Nielsen (2010) stated that most users hate slow-loading website due to human limitations and human aspirations. When users browsed into a slow-loading website and navigating between pages, they tend to forget what content is in the previous page and easily get frustrated. Users often loves to be in control and doesn't like to wait for a long time. The response time of the website to fetch data from the database and displayed to the browser should be kept between 0.1 second to 10 seconds at maximum even though some users might close the browsers after waiting for 10 long seconds (Nielsen, 2010).

Finally, error prevention should be included as part of website design factors as users are not supposed to deal with invalid data and information of a website (Schmitt, n.d.). Solutions like data validations and verification before displaying or updating the data itself to the database must be added to keep the number of predictable errors at minimal. For instance, the details of each wine should not be empty or null thus validation for empty fields are required while admins are adding new wine details to the database and if there are empty fields, prompt an error message to inform the admin to fill up all relevant fields.

#### 4.2 Real-world Factors and its Implications (5)

While user interface design factor is crucial in developing a website, real-world factors can also impact the overall mood and feel of users. First of all, the demographic profile, like age, gender, language preferences of users who will and may use the website will influence how they interact with the pages. For instance, elderly users tend to opt for larger text size and minimal layout with lesser complementary design styles. In addition, technological proficiency of users will also affect their ability to navigate between multiple pages as complex designs will make users to travel back and forth to find what they needed. Thus, the navigational structure of a website is important to be intuitive to mainly target less tech-savvy users.

Moreover, environmental consideration is another factor in designing website. In today's Internet, users can toggle between light and dark mode to view a website depending on their preferences. For example, if the website will be browsed until daytime like task management, messaging channel etc., light mode is more preferable as most of the time, users are outdoor or under the sun whereas dark mode is more suitable for websites like shopping website, social media, video streaming where users will surf them more frequently while indoor.

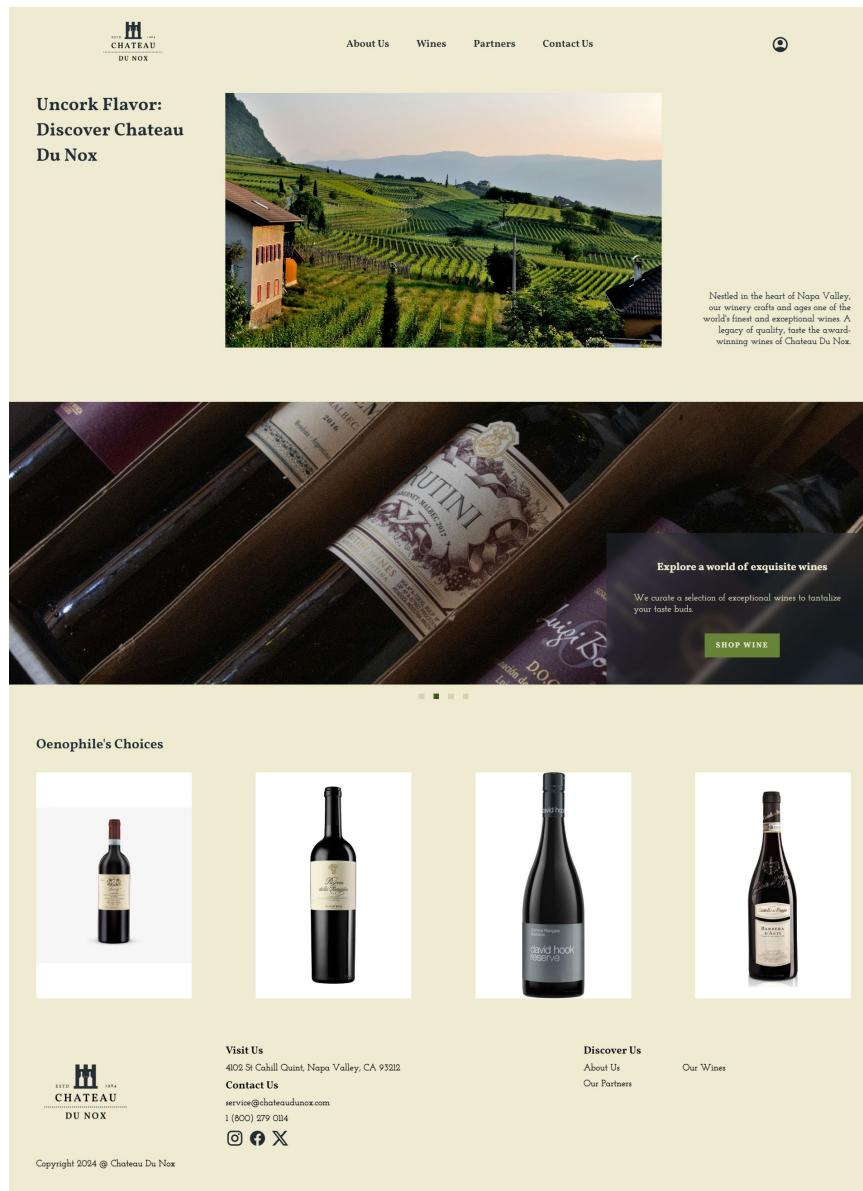
Accessibility is considerable to cater users with visual, auditory, motor, or cognitive disabilities and users from different countries or cultures. For instance, text-to-speech function can be included to aid users suffered from low-vision or colour-blindness and text localization to translate website text to users' preferred languages.

Similar to previous sub-chapter, device and platform are part of real-world factors in web development. Nowadays, there is a variety of mobile devices, laptops, and desktops, and all come with different shapes (flat screen or curve screen) and sizes. Besides that, input methods like touchscreens, keyboards, or gestures are needed to be in account of when design the layout of the website. For instance, touchscreen devices should have lesser information and minimalist layout design as the popup keyboard will be taking up one-third of the screens.

Lastly, the information displayed on the website should be balanced where not too less information causing its users to be lost or not too much information causing its users to be overwhelmed. As users tend to scan through pages, too much text or too many images might discourage them to continue exploring the website.

## 5.0 User Manual

The user manual will be using desktop view for a better clarity and understanding as the layout is much wider and easier to read. For debugging and testing purposes, admin will be using username **Chateau Admin** and password **chateau\_admin**. The guide will start from home page to user profile and finally to admin management pages.



*Figure 50: Home page*

Upon launching the website or running it on local, it will open the home page of Chateau du Nox. At the most upper part of the screen, there will be a shared navigational menu for easy navigation between screens like About Us, Wines, Partners, Contact Us, and Profile. There is a punchline and brief introduction about the vineyard and some slideshows with call-

to-action buttons that will redirect to other pages. There is also a section to display some recommended wine choices and when clicked will navigate to wine catalogue page. At the most bottom part of the screen, there will be a shared footer, displaying the website logo, some information to contact the vineyard, copyrights, and additional navigational links for ease-of-use.

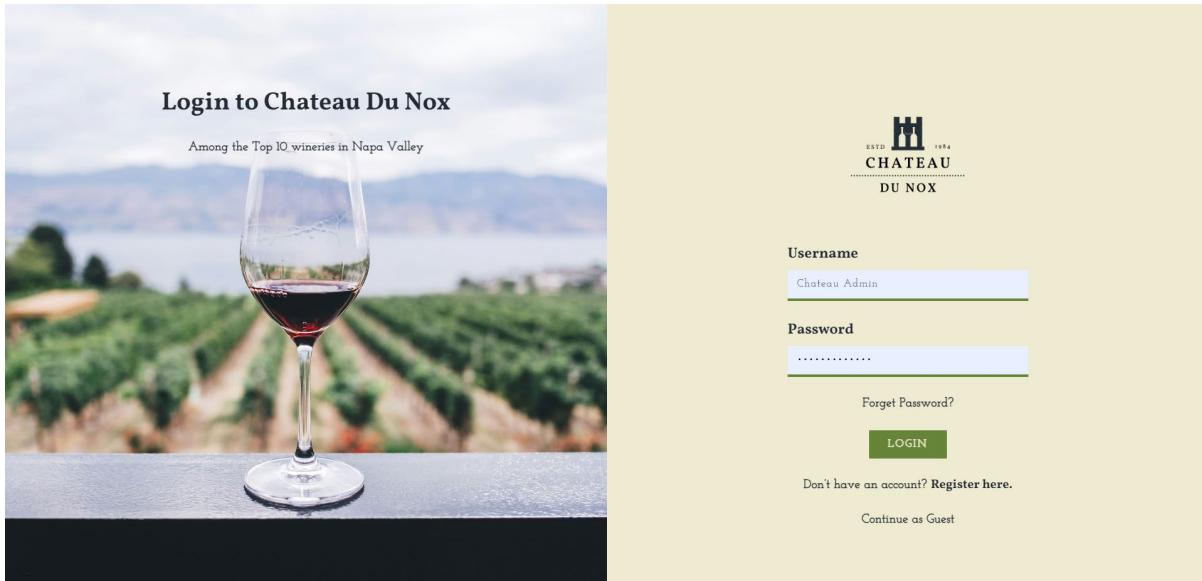


Figure 51: Login page

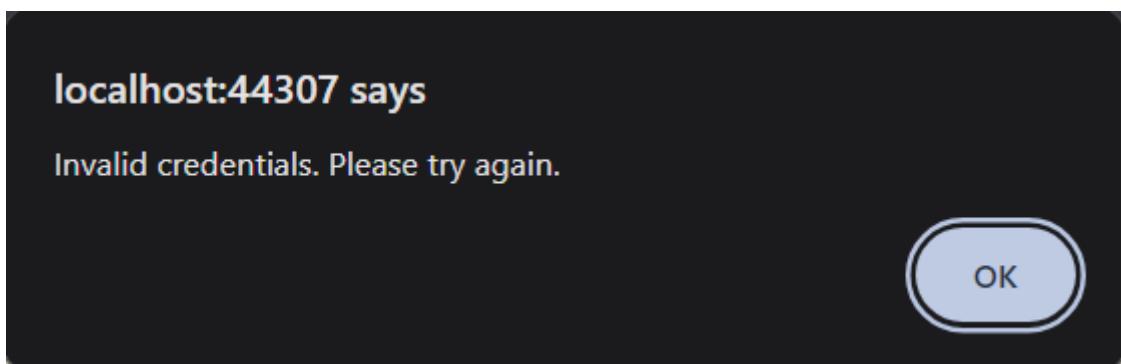


Figure 52: Error message for failed login attempt

If the system checks that the website is under guest mode, it will redirect to the login page where it requires username and password for authentication. If the credentials don't match, it will prompt a message stated "Invalid credentials. Please try again." shown in figure 52.

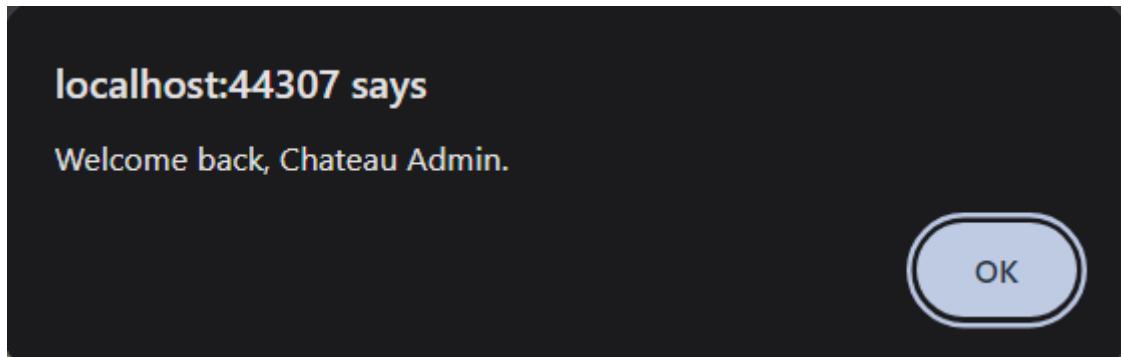


Figure 53: Welcome message for success login

If the credentials match to which in the database, it will display a welcome page with their username shown in figure 53, notifying that login is successful.



Figure 54: Navigational menu after logged in

After successful login, the navigational menu will have two additional icons on the right side, linking to the wishlist and cart section under the profile page.

The screenshot shows the 'About Us' page of the Chateau Du Nox website. At the top, there's a navigation bar with links for 'About Us', 'Wines', 'Partners', and 'Contact Us'. To the right of the navigation are icons for a book, a mail icon, and a user profile. The main content area features a large image of a vineyard with mountains in the background. Overlaid on this image is a dark box containing the heading 'Essence of luxury and tradition' and a paragraph about the winery's commitment to tradition and quality. Below this are four dark boxes with white text: 'Years Pursued in Research & Craft' (12), 'Global Partners Worldwide' (12), 'Awards Achieved in Winemaking' (12), and 'Hectares of Vineyards Nurtured' (12). Further down, there's a section titled 'Who Are We and Our Journey' with a paragraph of text and another image of a vineyard. On the left side, there's a sidebar with the Chateau Du Nox logo, contact information (address: 4102 St Cahill Quint, Napa Valley, CA 93212, email: service@chateaudunox.com, phone: 1 (800) 279 0114), and social media links for Instagram, Facebook, and Twitter. On the right side, there's a section titled 'Discover Us' with links to 'About Us', 'Our Wines', 'Our Partners', and 'My Wishlist'.

*Figure 55: About us page*

The About Us page of Chateau du Nox website have information regarding the vineyard, its sales data, and some world rankings with partners, awards etc. to gain trust to new customers.

The screenshot shows a wine catalogue page with a light beige header featuring the Chateau du Nox logo and navigation links for About Us, Wines, Partners, and Contact Us. Below the header is a section titled "Our Wines" with a descriptive paragraph. A horizontal menu bar includes categories: RED WINES, WHITE WINES, ROSE WINES, SPARKLING WINES, and DESSERT WINES. The main content area displays a grid of wine bottles. The first row contains five bottles: Cono Sur Reserva Especial Cabernet Sauvignon (RM 175), Jacobs Creek Shiraz, Monte Alpia Pinot Grigio, Piatto Chardonnay, and Florigen Malbec. The second row contains five bottles: Bullon Reserva Malbec, Wallace Cabernet Sauvignon, Castello di Pergola Barbera D'Asti, David Hook Reserve Central Range Shiraz, and Poggio delle Faggete Chianti. The third row contains one bottle, Chateau du Nox Chardonnay. At the bottom left is the Chateau du Nox logo and contact information, including address (4102 St. Cahlill Quint, Napa Valley, CA 93212), email (service@chateaudunox.com), phone number (1 (800) 279 0114), and social media links for Instagram, Facebook, and Twitter. The bottom right features a "Discover Us" section with links to About Us, Our Wines, Our Partners, and My Wishlist.

**Our Wines**

Unveiling the exquisite wines of Chateau du Nox. Steeped in tradition and crafted with meticulous care, each bottle promises a captivating journey for your senses. Chateau du Nox's dedication to quality shines through in the depth and complexity of their flavors. Explore their offerings and discover your new favorite wine, perfect for elevating any occasion.

**RED WINES** **WHITE WINES** **ROSE WINES** **SPARKLING WINES** **DESSERT WINES**

Cono Sur Reserva Especial Cabernet Sauvignon  
RM 175  
[DISCOVER](#)

JACOBS CREEK SHIRAZ

MONTE ALPIA PINOT GRIGIO

PIATTO CHARDONNAY

FLORIGEN MALBEC

BULLON RESERVA MALBEC

WALLACE CABERNET SAUVIGNON

CASTELLO DI PERGOLA BARBERA D'ASTI

DAVID HOOK RESERVE CENTRAL RANGE SHIRAZ

Poggio delle Faggete Chianti

Chateau du Nox Chardonnay

**Visit Us**  
4102 St. Cahlill Quint, Napa Valley, CA 93212

**Contact Us**  
service@chateaudunox.com  
1 (800) 279 0114

Copyright 2024 @ Chateau Du Nox

**Discover Us**

[About Us](#) [Our Wines](#)  
[Our Partners](#) [My Wishlist](#)  
[My Cart](#)

*Figure 56: Wine catalogue page*

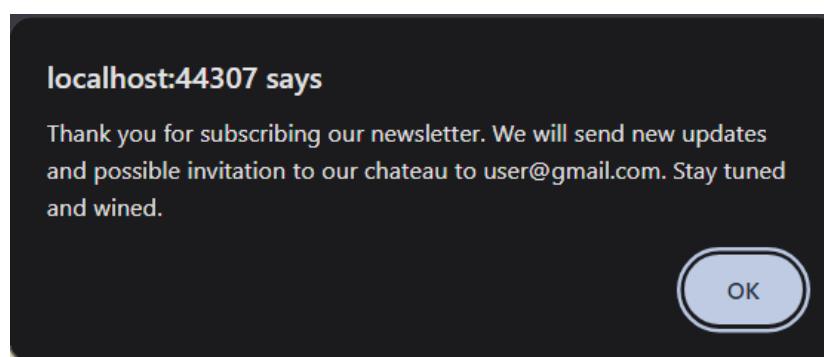
The wine catalogue page has several categories like red wines, white wines, rose wines, sparkling wines, and dessert wines and admin can include more different categories. When

each wine component is being hovered, it will show the wine name and price along with a call-to-action button for more details of the wine to be discovered.

*Figure 57: Partners page*

In the partners page, there are information about the vineyards that Chateau du Nox partnered with over the past year to plant and farm wine grapes, brew and age wines. The logo of the partners is displayed as a horizontal scrolling with a faded selection as shown in figure 57.

The screenshot shows the Chateau du Nox website's contact page. At the top, there is a header with the Chateau logo, navigation links for About Us, Wines, Partners, and Contact Us, and social media icons for LinkedIn, YouTube, and Instagram. Below the header, a section titled "Enquiry in Service" contains a paragraph about the rolling vineyards and historic charm of Chateau du Nox, followed by a "Contact Us" section with email, phone number, and social media links, and a "Visit Us" section with address and visiting instructions. A large image of a hand holding a bunch of dark grapes is centered on the page. At the bottom, there is a footer with the Chateau logo, links for Visit Us, Contact Us, and Discover Us, and a newsletter subscription form with a green "I AM IN!" button.

*Figure 58: Contact us page**Figure 59: Message when subscribing to newsletter*

The contact details and social media account of Chateau du Nox website can be found in the Contact Us page where it consists of the email address, phone number, Instagram, Facebook, and X (Twitter) account name. There is also a section to subscribe to the vineyard's newsletter for more follow-ups and updates about future events or discounts.

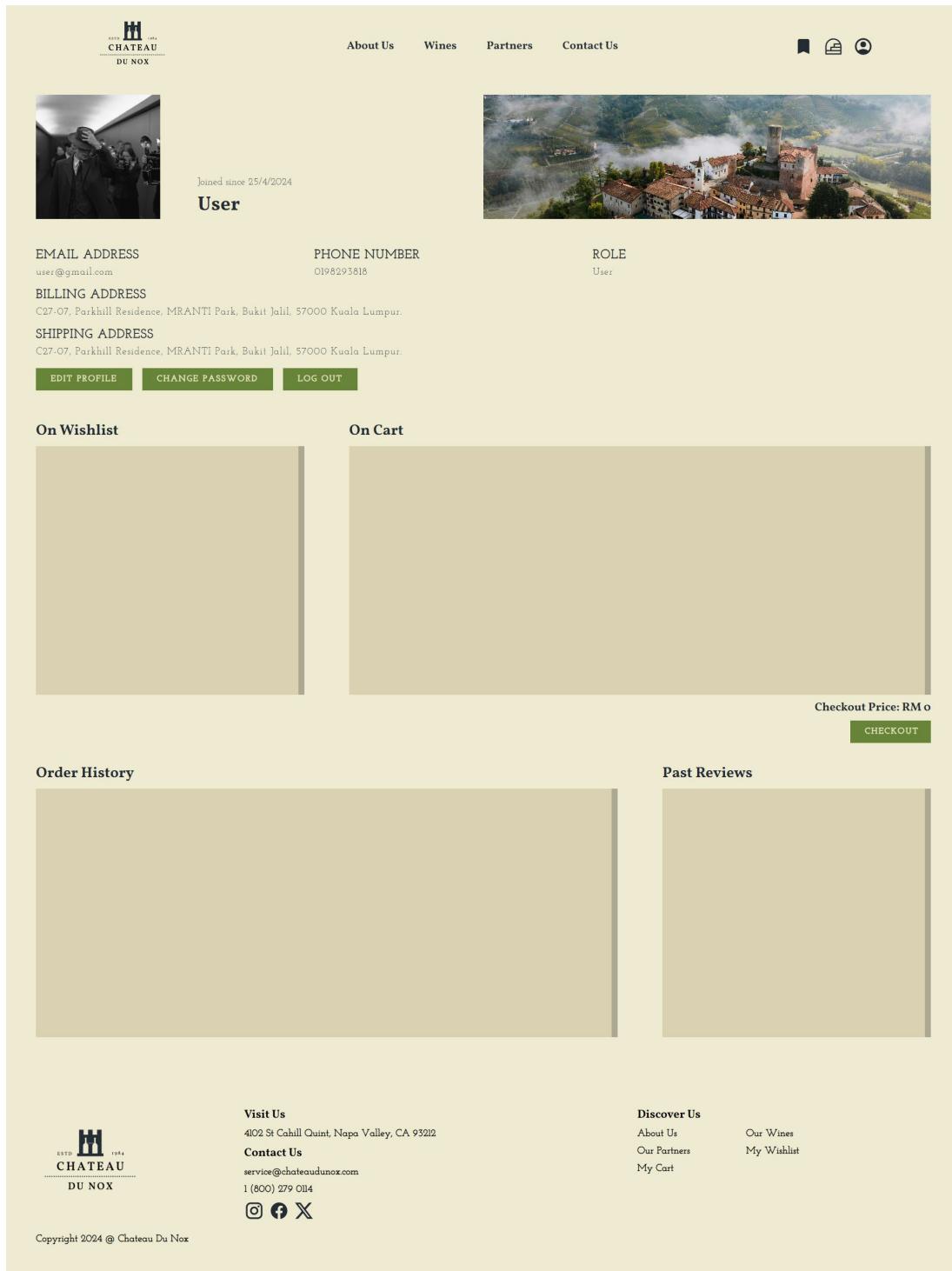


Figure 60: Profile page

Profile page of each user will be private as it will display the username, registered date, profile image, email address, phone number, account role, billing address, and shipping address. Users can edit their profile details, reset their password, and log out of their account and redirect to the login page. There are four sections under the call-to-action buttons, wishlist, cart with a “Checkout” button, order, and reviews, respectively,

## Edit Profile Detail

Name

Avatar  
 NO FILE CHOSEN

Email Address

Phone Number

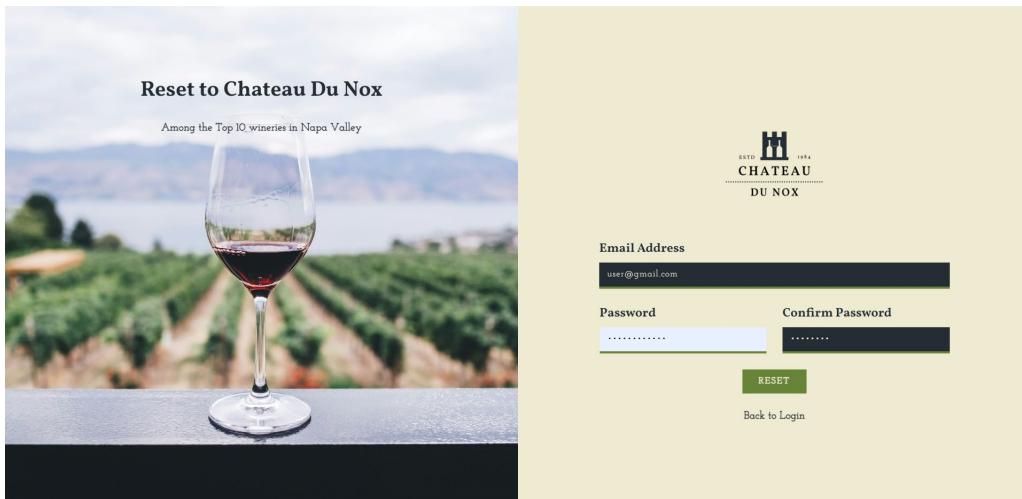
Shipping Address

Billing Address

**SAVE CHANGES**

Figure 61: Modal for edit profile detail

While editing profile detail, the existing information of the profile will be preloaded and users are only required to modify it and save the changes.



*Figure 62: Forgot password page*

If password is forgotten or need to be changed, users are required to authenticate themselves with email address and re-type the new password with confirmation of the new password.

The image shows a detailed product page for 'Gonzalez Byass 'Nectar' Sweet Sherry' on the Chateau Du Nox website. At the top left is a large image of a bottle of the wine. To the right of the image are navigation links: 'About Us', 'Wines', 'Partners', and 'Contact Us'. Above the product title are social media icons for Facebook, Twitter, and Instagram. Below the title is a brief description: 'Gonzalez Byass "Nectar" Sweet Sherry is a luxurious and velvety wine with pronounced notes of dried fruits, caramel, toffee, and nuts. Its sweetness is balanced by a refreshing acidity, making it a versatile choice for pairing with desserts or enjoying on its own.' The product details are organized into columns:

- VINTAGE YEAR**: 1835
- TYPE**: Dessert Wines
- ACIDITY**: A balancing acidity that prevents it from being cloying and adds a refreshing zing to each sip.
- VOLUME (ML)**: 750
- ORIGIN**: Jerez de la Frontera, in the Andalusia region of Spain
- BODY**: Full-bodied texture that coats the palate with its rich and velvety mouthfeel.
- TANNIN**: Low in tannins, focus is on sweetness and flavor rather than tannic structure.
- VARIETAL**: 100% Palomino
- ALCOHOL BY VOLUME (ABV)**: Around 15-20%
- IN STOCK**: 40

Below the product details are price information ('RM 5250') and purchase options ('ADD TO WISHLIST' and 'ADD TO CART'). At the bottom of the page are sections for 'Wine Reviews (0)', 'Visit Us' (with address and contact info), 'Discover Us' (with links to About Us, Our Wines, Our Partners, My Wishlist, and My Cart), and social media links for Instagram, Facebook, and Twitter. The footer includes a copyright notice: 'Copyright 2024 @ Chateau Du Nox'.

*Figure 63: Wine detail page*



*Figure 64: Toggled wine quantity and changed price*

In the wine detail page, information about the wine vintage year, body, type, tannin and more are displayed as specific as possible for users to read before ordering a wine. They can add or reduce the quantity they wished to purchase or mark as wishlist by clicking the “Add” and “Minus” symbol and the call-to-action buttons. The price will increase and be calculated based on the number of wines toggled, shown in figure 64. There is also a section dedicated to the reviews from other customers.



*Figure 65: Wishlist and cart after adding wine*

Users can redirect back to the wine detail page by clicking the wine displayed or opt to remove it from the wishlist. However, in the cart section, user can only choose to remove or checkout their cart.



*Figure 66: Order section with a shipping status*



*Figure 67: Order section with a cancelled status*

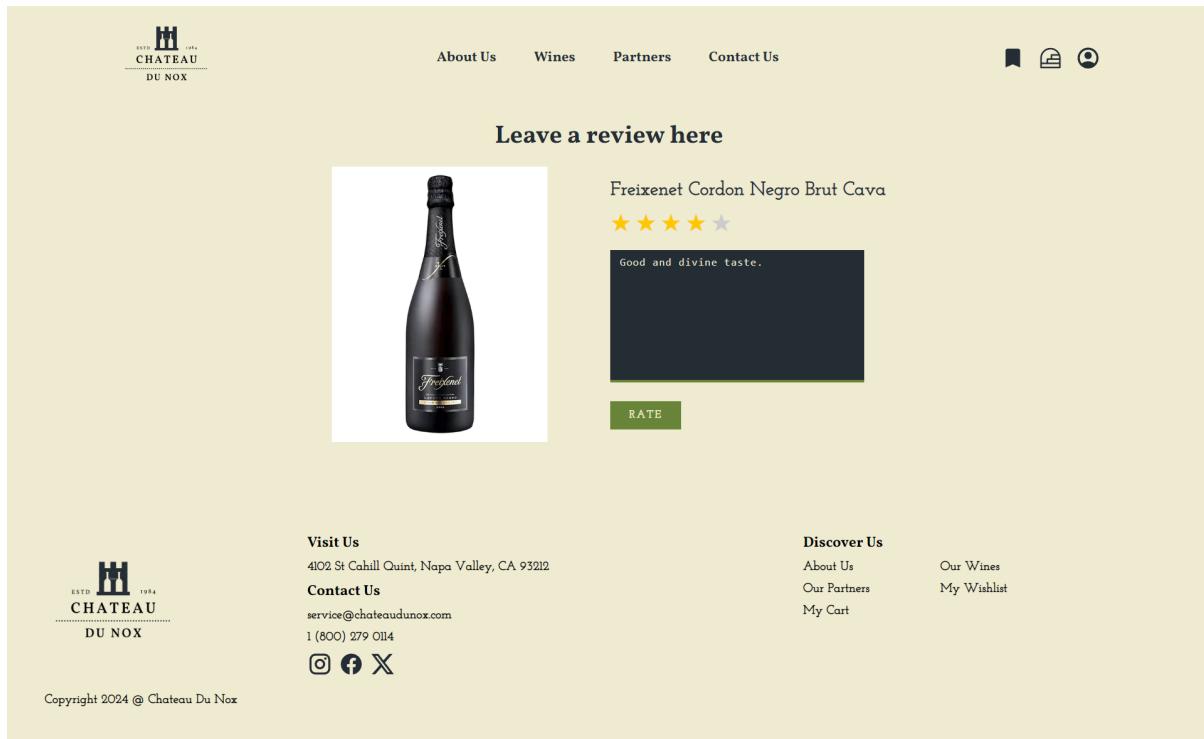


*Figure 68: Order section with a delivered status*



*Figure 69: Order section with a completed status*

After checking out the cart, the order will assume paid and the status will be on shipping. The status requires an admin to update it to “Delivered” or “Completed”. Users can cancel their order before the status changed to “Delivered”. The status will change to “Completed” after users verified their orders are intact and correct, and “Rate” button will be shown.

*Figure 70: Review page**Figure 71: Written review*

After clicking the “Rate” button, users can give a 5-scale star rating and write feedback to be shown under the wine detail page shown in figure 71.

## Past Reviews

**Freixenet Cordon Negro Brut Cava**

Rating: 4

Written Date: 25/4/2024 11:26:07 PM

---

Good and divine taste.

[VIEW](#)

Figure 72: Past review section

Users can view their past reviews about each wine that they purchased and a call-to-action button is provided for them to redirect to the wine detail page.



**Register to Chateau Du Nox**

Among the Top 10 wineries in Napa Valley



CHATEAU  
DU NOX

Username	Email Address
<input type="text" value="Chateau Admin"/>	<input type="text"/>
Password	Confirm Password
<input type="password"/>	<input type="password"/>
<a href="#" style="background-color: #6B8E23; color: white; padding: 5px;">REGISTER</a>	
Already have an account? <a href="#">Login here.</a> <a href="#">Continue as Guest</a>	

Figure 73: Register page

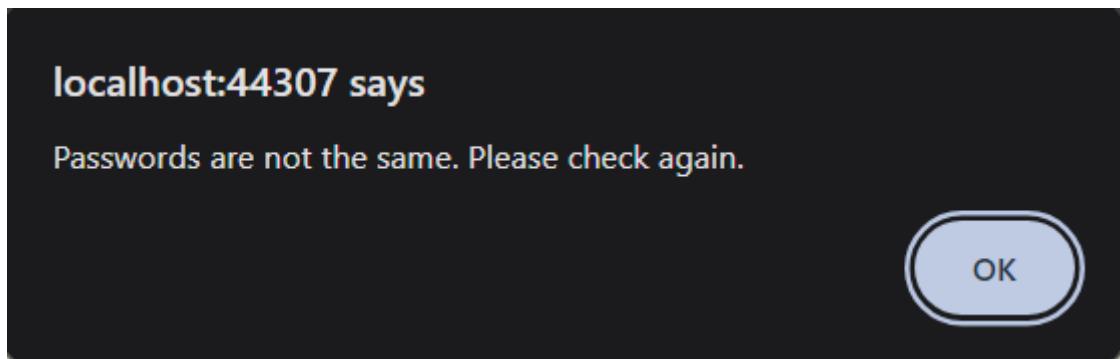


Figure 74: Example of error message for passwords not the same

When a new guest wants to register as Chateau du Nox account user, they are required to input their username, email address and password with a length of 10 characters long. There will be validation to prompt the error message to guests shown in figure 74.



Figure 75: Admin management selection

As for admin, they can manage the data and information of orders, reviews, wine categories, users, and wines. Only account will role of admin will this menu icon appear.

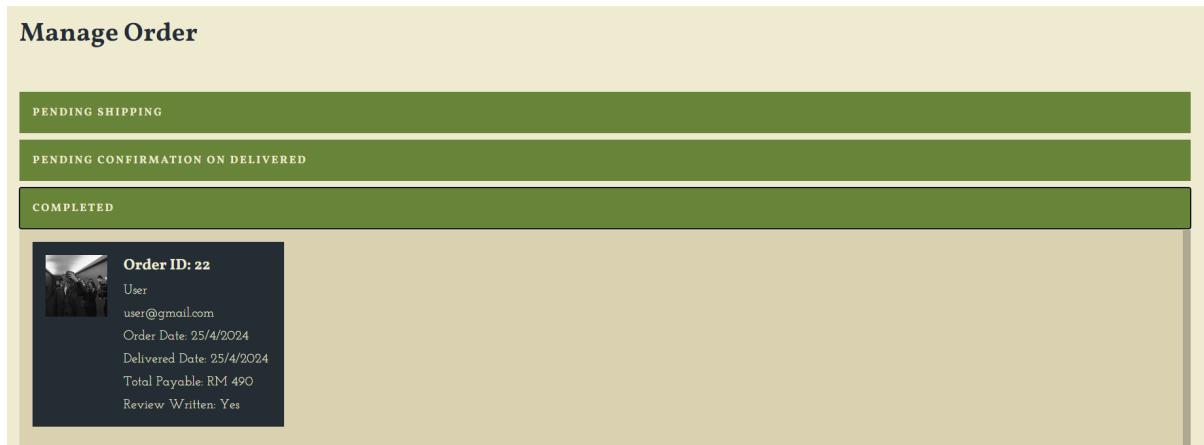


Figure 76: Manage order page

In the manage order page, admin can view all the order in an accordion view based on their status. Admin can only act on order that are in pending shipping and pending confirmation on delivered while the others are read-only.



Figure 77: Manage user page

In the manage user page, admin can view all the review about each wine and their respective information like rating, written date, and content. Admins have the ability to delete the review if they felt that the reviews are an act of trying to sabotage the wine. The review will not be deleted from the database but instead be deactivated and will not be displayed.

The screenshot shows a web application titled "Manage Wine Type". At the top right is a green button labeled "ADD NEW". Below it is a section titled "ACTIVE WINE TYPES" containing five categories: Red Wines (11 wines), White Wines (5 wines), Rose Wines (3 wines), Sparkling Wines (3 wines), and Dessert Wines (3 wines). Each category has two buttons: "EDIT TYPE" and "DELETE TYPE".

Figure 78: Manage wine type page

The screenshot shows a modal dialog titled "Add Wine Type". It has a single input field labeled "Type" and a green "CONFIRM" button at the bottom.

Figure 79: Add wine type modal

In the manage wine type page, admin can add new category (shown in figure 79), edit the name of the existing category, or delete it. Similarly, the category will not be deleted from the database but instead be deactivated and will not be displayed.

The screenshot shows a web application titled "Manage User". At the top left is a section titled "ADMINS". Below it is a section titled "ACTIVE USERS" showing a user profile: "User" (email: user@gmail.com, joined since 25/4/2024). It includes "CHANGE ROLE" and "DELETE USER" buttons.

Figure 80: Manage user page

The screenshot shows a dark error message dialog. It says "localhost:44307 says" followed by "You cannot edit yourself. Please switch to another admin account to do so." At the bottom right is an "OK" button.

Figure 81: Error message while changing own role

In the manage user page, admin can change role of existing user but can't change their own role as they are required to switch to another admin account to do so, shown in figure 81. Similarly, the deleted user will not be deleted from the database but instead be deactivated and will not be able to log in.

The screenshot shows a mobile application interface titled "Manage Wine". At the top right is a green button labeled "ADD NEW". Below it is a section titled "ACTIVE WINES" containing a grid of five wine entries. Each entry includes a small image of the wine bottle, the wine's name, its stock level, and two green buttons labeled "EDIT WINE" and "DELETE WINE".

Wine Name	Stock	Action Buttons
Cono Sur Reserva Especial Cabernet Sauvignon	1500	EDIT WINE, DELETE WINE
Jacob's Creek 'Classic' Merlot	1200	EDIT WINE, DELETE WINE
Montes Alpha Pinot Noir	460	EDIT WINE, DELETE WINE
Syrah Les Vignes D'a Cote', Yves Cuilleron	560	EDIT WINE, DELETE WINE
Finca El Origen		EDIT WINE, DELETE WINE
Avalon Zinfandel		EDIT WINE, DELETE WINE
Moscato d'Asti DOCG Cantine		EDIT WINE, DELETE WINE
Campo Viejo Tempranillo		EDIT WINE, DELETE WINE

Figure 82: Manage wine page

The screenshot shows a modal dialog titled "Add Wine Detail". It contains several input fields: "Name" (a large text input field), "Wine Image" (a file upload field showing "Choose File NO FILE CHOSEN"), "Description" (a large text input field), "Price (RM)" (a large text input field), "Type" (a dropdown menu showing "... Select Type ..."), and "Varietal" (a large text input field). At the bottom is a green "CONFIRM" button.

Figure 83: Add wine detail modal

In the manage wine page, admin can add new wine (shown in figure 83), edit the details of the existing wine, or delete it. Similarly, the wine will not be deleted from the database but instead be deactivated and will not be displayed.

## 6.0 Conclusion

In a nutshell, the project to develop Chateau du Nox website is quite mild as there are a lot of references and examples on the Internet for idea and design inspirations. Even though there are some minor bugs and errors happened throughout the development, but it is still manageable and provide a work-around to solve the problem. Yet, the challenging part is always in the back end while connecting to SQL because the error messages are minimal and hard to locate. As for future improvements, a secure payment gateway and more comprehensive data flow like real-time delivery tracking can be implemented to enhance the overall experience and security of the website to attract and build trust between customers and Chateau du Nox website. Additionally, an error when includes two identical categories or wines can be included to ensure that there is no data duplication.

## 7.0 References

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