CMS - Eth Juventus Ecommerce

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Introduction

The aim of this document is to describe and document the target application by providing information about functionalities, layout, user activities and non-functional requirements.

The final product is a fully functional Ecommerce with the capability of accepting payments via Ether, which is a cryptocurrency widely used worldwide and in the web.

Except the above mentioned points, all the other functionalities are similar to any other ecommerce application.
The used technologies to develop the ecommerce will be:

- Node JS
- React
- MySQL
- CSS
- Solidity (smart contract deployment)

Functionalities

Roles

The application will accept tree different type of roles:

- Visitor: allows to visit the page, add products to the cart without being able to complete the payment process
- User: same possibilities as Visitor but with the possibility to complete the purchase
- Admin: allows to access hidden functionalities such as adding/updating products, displaying orders, user information and sales data

User authentication with access & refresh token

User will be able to register and login, after a successful login the backend will store and provide access token and refresh token with different expiration dates, this functionality will allow the user to stay logged in for more time without having to enter the credentials as many times as he logs in.

Admin panel

Admin panel allows the user to manage the products, their availability and their different attributes such as color and size.

In addition to the product management, the admin panel gives the possibility to view all the orders and payments made.

Bank transfer payments

The platfor will accept payments via bank transfer with the help of third parties services in order to avoid storing credit card details in the database.

Ether payments

In addition to bank transfer payment, the user will have the possibility to pay using ethers via the Metamask wallet which is an Chrome extension that allows to accept transaction and manage the wallet containing ethers.

The payment will be possible thanks to a smart contract written in solidity, stored and executed on the blockchain.

Cart products management

The user/visitor will have the ability to add products into the cart.

Sales report

The application will help the administrator managing and reporting the sales data by retrieving all the payments received.

Account management

Users will be able to edit personal information in the account section

Fixed page elements

The navigation panel, footer, and shopping cart will all be permanent page elements.

Links inside the portal

In order to prevent problems with the user's present location when they are navigating the shop, the linking functionality will be handled by the React component known as Link.

Navigation

Navigation will be possible thanks to the navigation panel which will hide some links based on the current user’s roles.

Search and Filter

The filter will allow the user to search for products and categories by looking in all the available fields.

File zone

Product images will be saved on Amazon S3 while static images such as background and logo will be saved in the root directory.

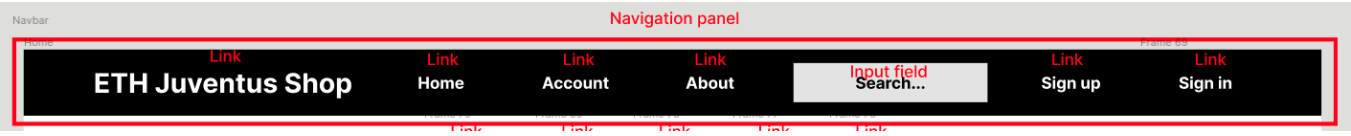
Start page

As in an ecommerce the main objective is to sell product, the catalago will be able the start page of the shop.

GUI Layout

Common components

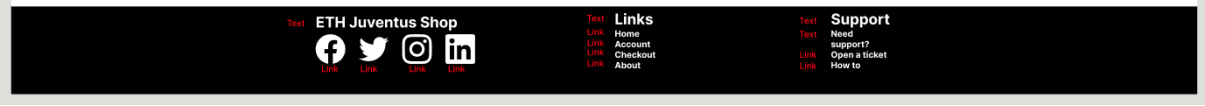
Navigation panel



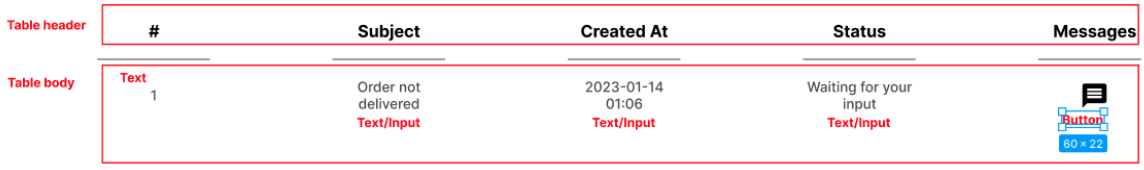
Links such as Account, Sign up, Sign in,Log out, Admin will be visible based on the current user role:

- User: Account, Log out
- Visitor: Sign in, Sign up
- Admin: Account, Admin, Log out

Footer



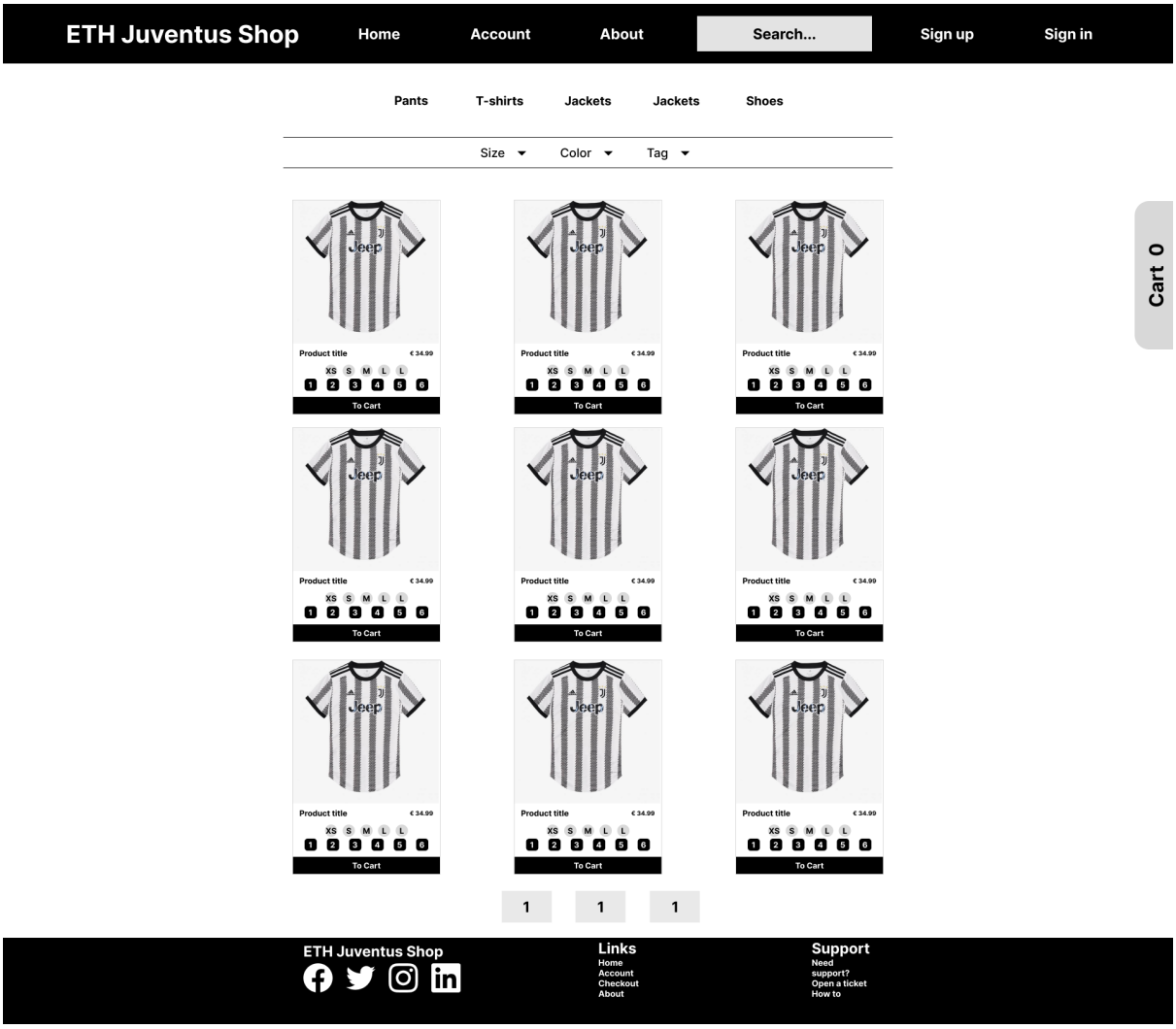
Table



User/Admin navigation panel:

Pages

Home


ETH Juventus Shop
Home
Account
About
Search...
Sign up
Sign in
Pants
T-shirts
Jackets
Jackets
Shoes
Size
Color
Tag
Cart 0
Product title
€ 34.99
XS S M L L
1 2 3 4 5 6
To Cart
1
1
1
ETH Juventus Shop
Links
Home
Account
Checkout
About
Support
Need
support?
Open a ticket
How to

Home & Cart

Navigation panel

Link ETH Juventus Shop | Link Home | Link Account | Link About | Input field Search... | Link Sign up | Link Sign in

Link Pants | Link T-shirts | Link Jackets | Link Jackets | Link Shoes

Dropdown Size | Dropdown Color | Dropdown Tag

Image

Text Product title € 34.99

Button XS S M L L

Button 1 2 3 4 5 6

Button To Cart

Cart

	#	Product	Qty	Size	Price	Total
Text	1	Product	1	S	19.99	19.99
Text	2	Product	2	M	29.99	59.98
Text	3	Product	3	S	15.99	47.97
Text	4	Product	4	XL	18.99	75.96

Text Total € 203.90 Button Checkout

Link 1 | Link 1 | Link 1

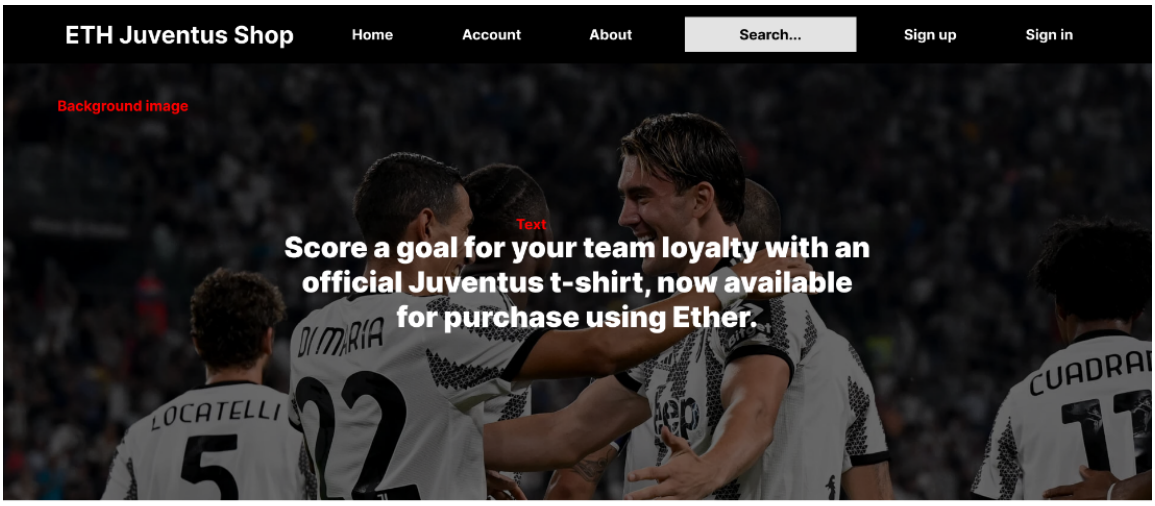
Text ETH Juventus Shop

Link Link Link Link

Text Links
Link Home
Link Account
Link Checkout
Link About

Text Support
Text Need support?
Link Open a ticket
Link How to

About



Text

About Us

Text

Welcome to our online store, dedicated to providing fans of the legendary **Juventus Football Club** with official merchandise. We are passionate supporters of the team ourselves, and we understand the importance of showing your love for the Bianconeri through high-quality, authentic apparel.

We are proud to be one of the few e-commerce shops that accepts **Ether** as a payment method, making it easy for our customers to get their hands on the latest Juventus gear. We offer a wide range of products, all featuring the iconic black and white stripes and the Juventus crest.

Whether you're looking for a gift for a fellow fan or want to treat yourself, we have something for everyone. Thank you for choosing our store and **Forza Juve**!

Text

What is Ether?

Image

Text

Ether (ETH) is a **cryptocurrency** that is used to pay for transactions on the **Ethereum network**. To use it to pay for goods or services, you will need to have a digital wallet that supports Ether. Some popular options include **MyEtherWallet**, **MetaMask**, and **Ledger Live**.

How to

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Text

How to pay with Ether

Text

Install Metamask extension

List

Go to the MetaMask website (https://metamask.io/) and click on "Get MetaMask for" and select your browser.

Click on "Add to Browser" and confirm the installation.

A MetaMask icon will appear in the top right corner of your browser. Click on it to open the MetaMask interface.

Click on "Create a Wallet" to set up a new account.

Read and accept the terms of use, and then create a strong password to protect your account.

Click on "Next" to generate a seed phrase (a series of words that you will use to restore your account if you ever need to). Write down the seed phrase and store it in a safe place.

Confirm your seed phrase by clicking on the words in the correct order.

Your MetaMask account is now set up and ready to use. You can use it to interact with dApps, manage your cryptocurrency assets, and make transactions on the Ethereum network.
It is important to keep your seed phrase safe and secure, as losing it will mean losing access to your account and any assets it contains.

Text

Buy ethers

List

Sign up for an account on a cryptocurrency exchange that supports Ether, such as Coinbase, Binance, Kraken, etc.

Verify your identity by providing the required personal information and documentation.

Link your bank account, debit card or credit card to the exchange account.

Navigate to the Ether trading pair and place a buy order. You can either buy at market price or set a limit order at a specific price.

Confirm the details of the transaction and complete the purchase.

The Ether will then be deposited into your exchange account.

From there, you can withdraw the Ether to your digital wallet by providing the wallet's public address and the amount of Ether you wish to transfer.

Text

Purchase products & Accept Transaction

List

Add the desired items to the cart and fill out the needed shipping address information.

If your wallet is not connected, the 'Connect your wallet' button displays; clicking it connects your wallet to the site.

When the button 'Pay with ETH' is available, clicking it will open a popup window from Metamask with all the transaction details, including the amount to pay and gas fees.

After verifying the data, the 'Confirm' button must be clicked to finalize the transaction.

The status of your payment will be communicated as soon as it is processed.

Checkout

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Text
Check your products

Text	#	Product	Size	Quantity	Unit/Price	Total Line	
Text	1	Product 1	S	Input 2	€ 9.99	€ 19.98	Button
Text	2	Product 2	M	Input 3	€ 29.99	€ 89.97	Button
Text	3	Product 3	L	Input 1	€ 19.99	€ 19.99	Button

Text
Total: 119.00 €

Button **Continue**

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Product

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Text
Product 1 - Details

Image

Text
Product 1

Text
€ 24.99

Text
Improved own provided blessing may peculiar domestic. Sight house has sex never. No visited raising gravity outward subject my cottage mr be. Hold do at tore in park feet near my case. Invitation at understood occasional sentiments insipidity inhabiting in. Off melancholy alteration principles old. Is do speedily kindness properly oh. Respect article painted cottage he is offices parlors.

Button XS S M L L

Button 1 2 3 4 5 6

Button To Cart

Cart 0

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Shipping address

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Text
Shipping address

Text	#	Country	City	Street	Street No.	Post Code	
Text	1	Input Italy	Input Viterbo	Input Via S. Agostin	Input 42	Input 01-100	Checkbox ☑
		Input	Input	Input	Input	Input	Button

Text
How would you like to pay?

Button: Credit Card

Button: Metamask (EHT)

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

User - Orders

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Active link: Orders | Link: Personal data | Link: Address | Link: Tickets

Text	#	Order ID	Total Amount	Status	Details
Text	1	#00001	€ 129.94	Delivered	Button
Text	2	#00002	€ 29.94	Delivered	Button
Text	3	#00003	€ 69.98	In progess	Button

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

User - Personal information

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Link Orders | Active link Personal data | Link Address | Link Tickets

Here you can update your personal data

Text	Name	Input	Alessio
Text	Surname	Input	Giovannini
Text	BirthDate	Input	1998-03-17
Text	Email	Input	alessio@gmail.com
Text	Phone No.	Input	+39333333321
		Button	Save

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need support?
Open a ticket

User - Shipping addresses

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Link Orders | Link Personal data | Active link Address | Link Tickets

Text
Here you can update your shipping address

Text	#	Country	City	Street	Street No.	Post Code
Text	1	Input Italy	Input Viterbo	Input Via S. Agostino	Input 42	Input 01-100
		Input	Input	Input	Input	Input

Button

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need support?
Open a ticket

User - Ticket

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Link Orders | Link Personal data | Link Address | Active Link Tickets

Text
Here you can see the status of your tickets

Text	#	Subject	Created At	Status	Messages
Text	1	Order not delivered	2023-01-14 01:06	Waiting for your input	42

Button

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

User- Ticket details

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Text
Ticket No. #000001

Text **Alessio Giovannini** on 2022.01.14 01:59:12

Text Dears, my order no #00001 is marked as delivered but I didn't receive the products.

Input
Type your message here...

Button Send

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

User - Order confirmation

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Text
Order Confirmation

Text
Products

Text	#	Product	Size	Quantity	Unit/Price	Total
Text	1	Product 1	S	2	€ 9.99	€ 19.98
Text	2	Product 2	M	3	€ 29.99	€ 89.97
Text	3	Product 3	L	1	€ 19.99	€ 19.99

Text
Ship to

Text	#	Country	City	Street	Street No.	Post Code
Text	1	Italy	Viterbo	Via S. Agostino	42	01-100

Text
Total: € 129.94

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Admin - Orders

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Orders | Users | Payments | Tickets | Products | Stock | Size

#	Order ID	Total Amount	Status	Details	Complete
1	#00001	€ 129.94	Delivered		
2	#00002	€ 29.94	Delivered		
3	#00003	€ 69.98	In progess		

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Admin - Payments

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Orders | Users | Payments | Tickets | Products | Stock | Size

	#	Payment Method	Amount	Order ID	Detail
Text	1	Credit Card	129.94	@000001	Button
Text	1	Credit Card	129.94	@000001	Button
Text	1	Credit Card	129.94	@000001	Button
Text	1	Credit Card	129.94	@000001	Button
Text	1	Credit Card	129.94	@000001	Button
Text	1	Credit Card	129.94	@000001	Button
Text	1	Credit Card	129.94	@000001	Button
Text	1	Credit Card	129.94	@000001	Button

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Admin - Products

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Orders | Users | Payments | Tickets | Products | Stock | Size

	#		Picture	Name	Description	Price	Color	Tag	Upload
Text	1	Image		Product 1	Description	29.99	Black/White	Dropdown: Serie A	File upload
	1			Product 1	Description	29.99	Black/White	Serie A	
	1			Product 1	Description	29.99	Black/White	Serie A	

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Admin - Stock

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Orders | Users | Payments | Tickets | Products | Stock | Size

	#		Product		Size		Quantity
Text	1	Dropdown	Product 1	Dropdown	M	Input	100
	2		Product 1		S		100
	3		Product 1		L		100
	4		Product 1		XL		100
	5		Product 1		XS		100
	6		Product 2		M		100
	7		Product 3		M		100

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Admin - Size

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Orders | Users | Payments | Tickets | Products | Stock | Size

	#		Size
Text	1	Input	XS
	2		S
	3		M
	4		L
	5		XL

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Admin - User

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Orders | Users | Payments | Tickets | Products | Stock | Size

	#	Name	Surname	Email	Phone No.
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999
Text	1	Alessio	Giovannin	alessio@gmai.com	3454444999

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Admin - Tickets

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Orders | Users | Payments | Tickets | Products | Stock | Size

#	Subject	Created At	Status	Messages
1	Order not delivered	2023-01-14 01:06	Waiting for your input	Button

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Sign in

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Login

Your email address Input

********** Input

Button Login

Need an account? Sign up Link

ETH Juventus Shop

Links
Home
Account
Checkout
About

Support
Need
support?
Open a ticket

Sign up

ETH Juventus Shop | Home | Account | About | Search... | Sign up | Sign in

Sign up

Your name Input

Your surname Input

Your email address Input

Your phone number Input

********** Input

********** Input

Sign up Button

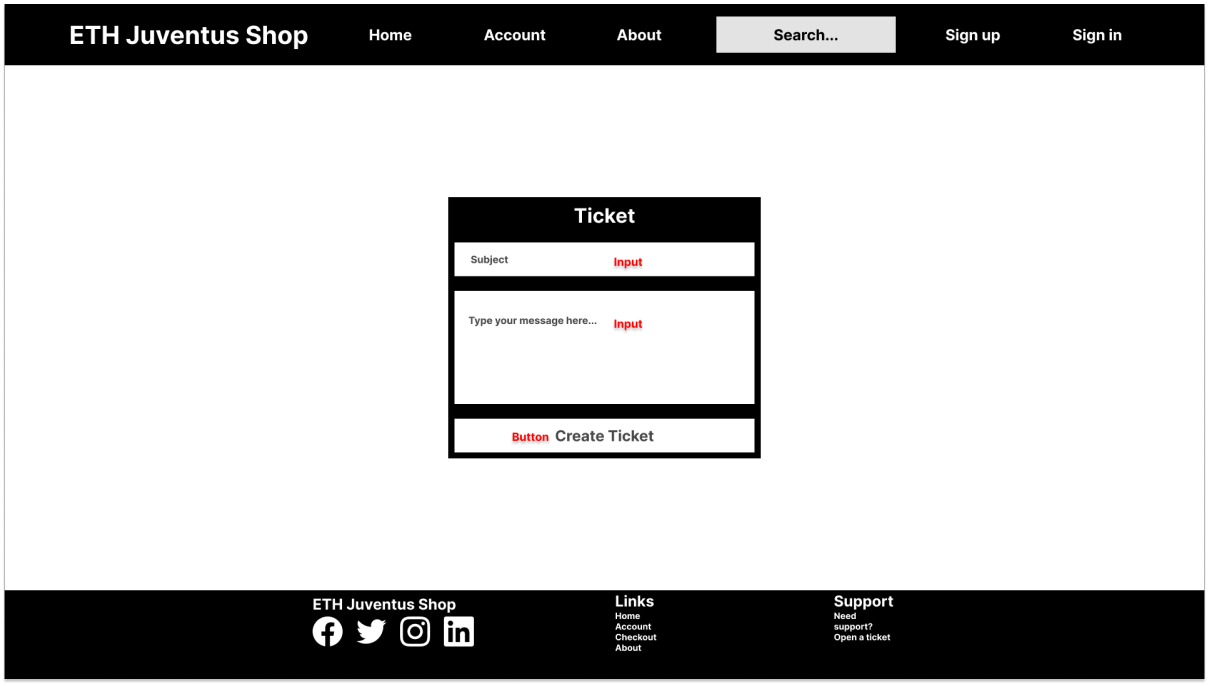
Already have an account? Sign in Link

ETH Juventus Shop

Links
Home
Account
Checkout
About

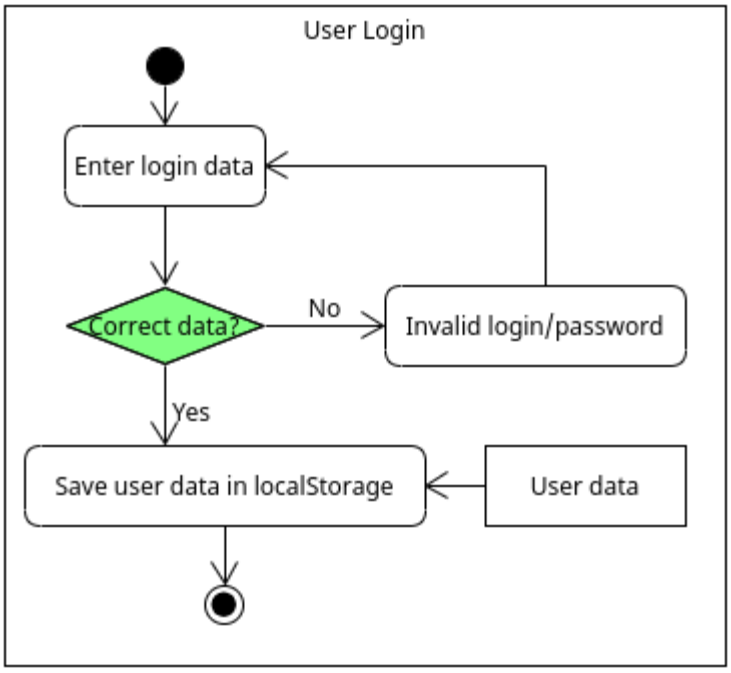
Support
Need
support?
Open a ticket

Ticket Creation

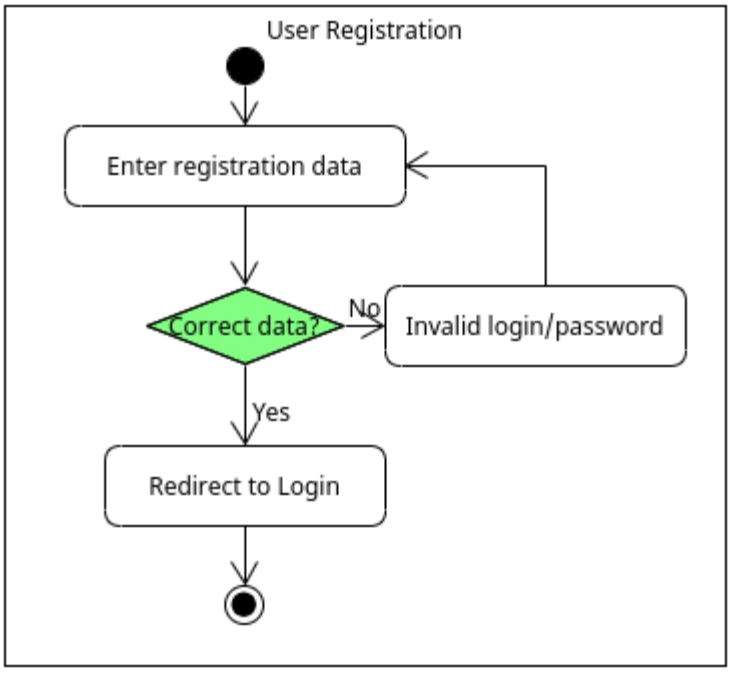


Activity Diagrams

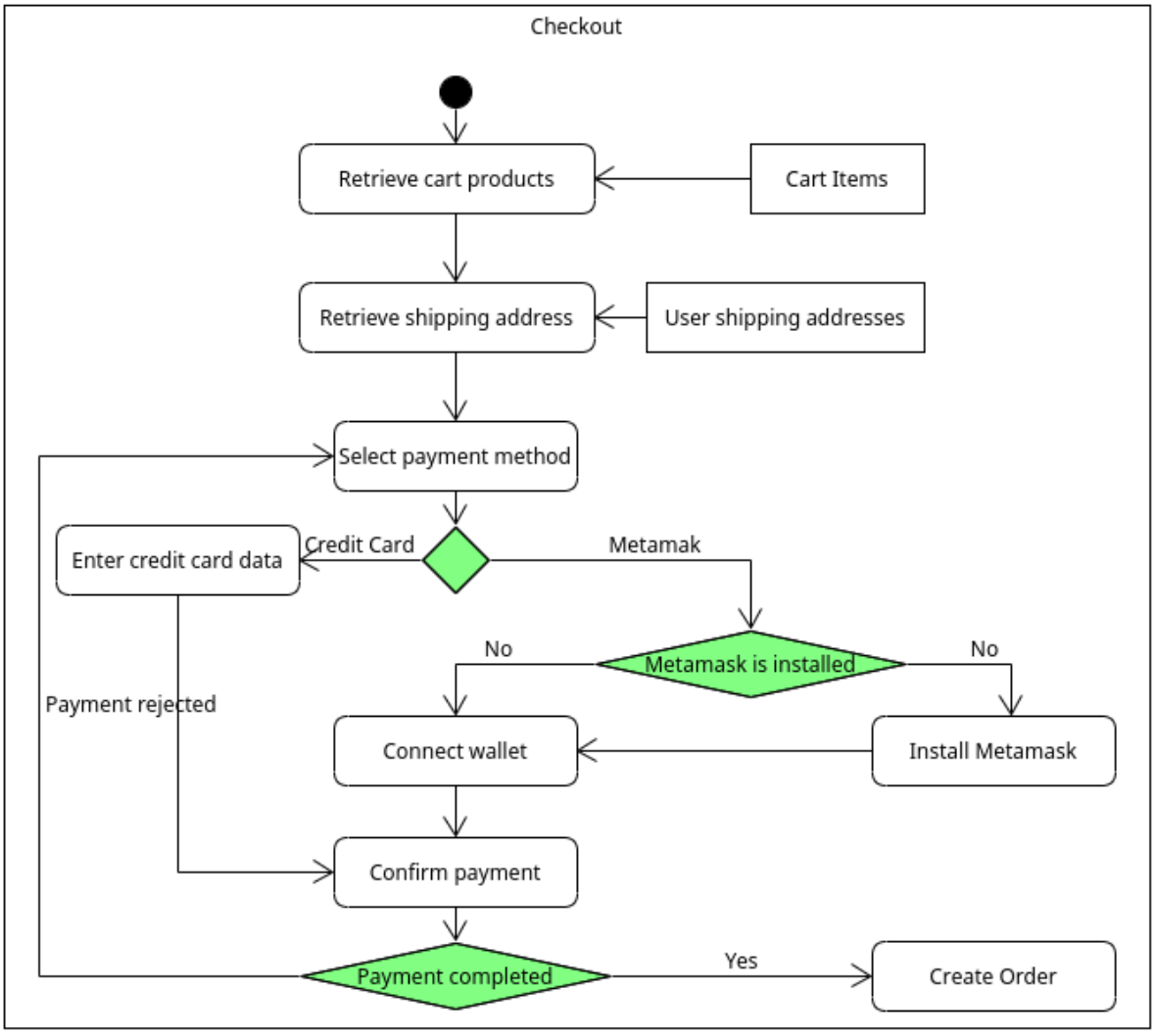
Login



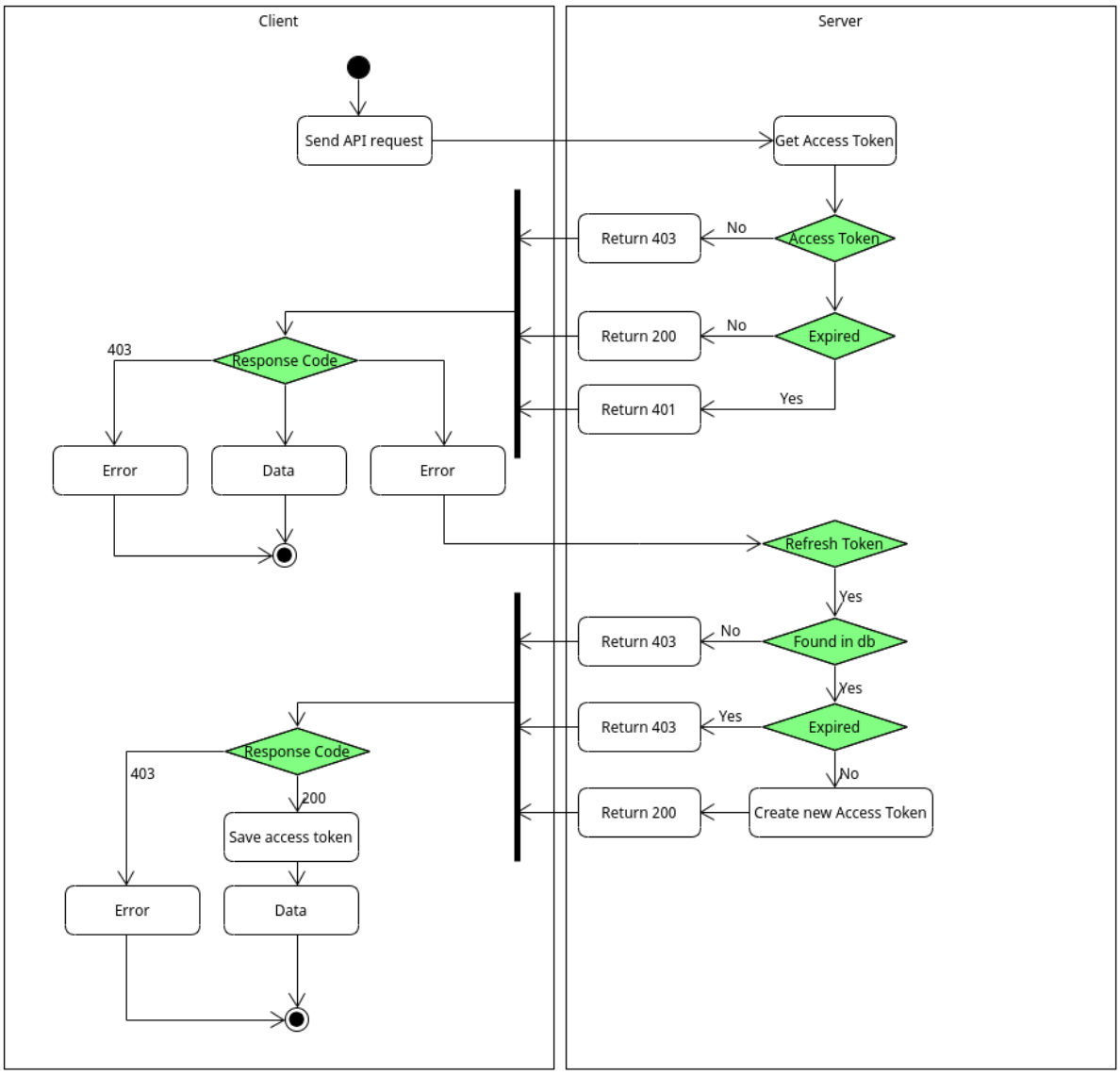
Registration



Checkout


Checkout
Retrieve cart products
Cart Items
Retrieve shipping address
User shipping addresses
Select payment method
Enter credit card data
Credit Card
Metamak
No
Metamask is installed
No
Payment rejected
Connect wallet
Install Metamask
Confirm payment
Payment completed
Yes
Create Order

Refresh Token



Non-functional Requirements

- The website must be visually appealing and easy to navigate.
- The website must be accessible on various devices, including desktop computers, tablets, and smartphones.
- The website must be able to process payments via credit card and ethers.
- The website must be able to integrate with inventory table to check whatever the ordered products are available
- The website must provide customers the ability to view their order history
- The website must provide customers with a ticketing system for queries