

VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act 1956)

**HUMAN COMPUTER INTERACTION
J-COMPONENT
FINAL REPORT
SLOT-A2+TA2**

**TOPIC:
MEN'S FASHION ONLINE STORE**

SWATTIK MAITI
18BCE0995



CONTENTS:

1. Abstract

2. Introduction

3. Requirement Analysis :

- Stakeholder profiles
- Survey Questionnaire and Responses
- System Requirement Specification

4. Data Flow

- HTA
- Storyboard

5. Design Screenshots

6. Evaluation of website design using the Schneiderman's 8 golden rules

7. Testing

- Guidelines
- Test Report
- 5 seconds test

8. Conclusion

1. ABSTRACT

With the new trend of online shopping, e-commerce websites are probably the most common websites we see and use in our everyday lives. Yet we notice that many of these websites are not the most user friendly. Some are too complex to figure out for a new user, some are too slow and very error prone, while others just look too unpleasant to use.

This leads us to the concept of this course ‘Human computer interaction’, i.e. designing such websites/webapps and user interfaces that can any average human can interact with.

In this project I designed a website frontend for an online fashion store for men. This document contains a thorough phase wise report of the development process right from the requirement gathering to the testing and deployment phase.

2. INTRODUCTION

User Interaction and User experience is one of the most trendy topics in the design market currently. No matter how good an Application/website is and what kinda of functionality it provides, if the design is not user friendly, then the website is not considered viable.

This website has been developed using a very new technology namely React js. The whole website has been written almost completely in javascript. React provides a very smooth user experience, and avoids the hefty overhead of having to refresh the page for every little dynamic change that is made on the website.

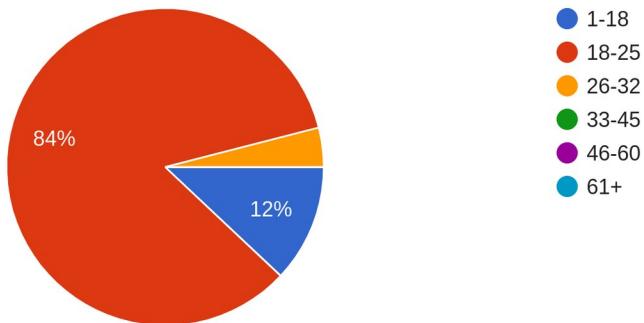
To be more specific, this website is coded in a hybrid fashion using both react styled components and react css modules, which are generally not used together.

3. REQUIREMENT ANALYSIS STAKEHOLDER PROFILES:

From the Questionnaire related to users, we got the following results which are displayed in pie charts:

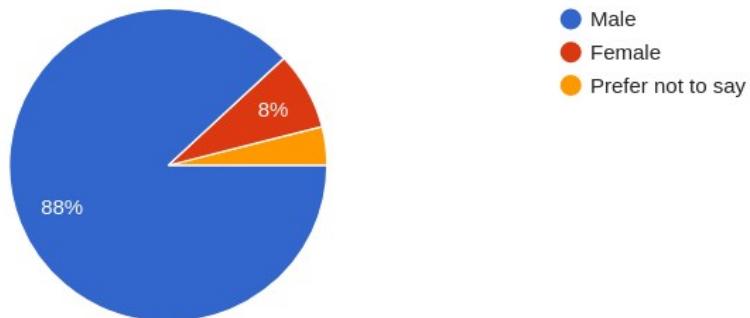
Which age group do you belong to?

25 responses



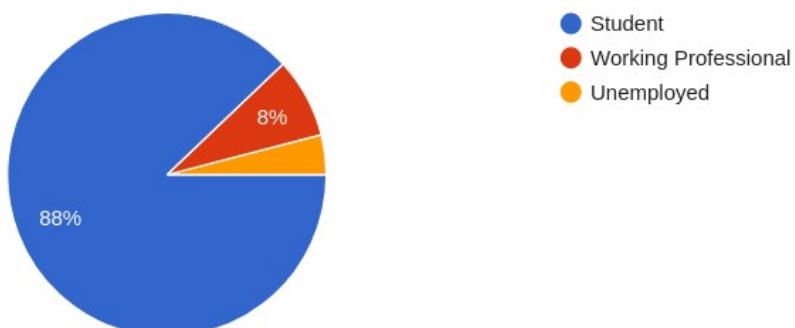
Enter your Gender

25 responses



Current occupational status

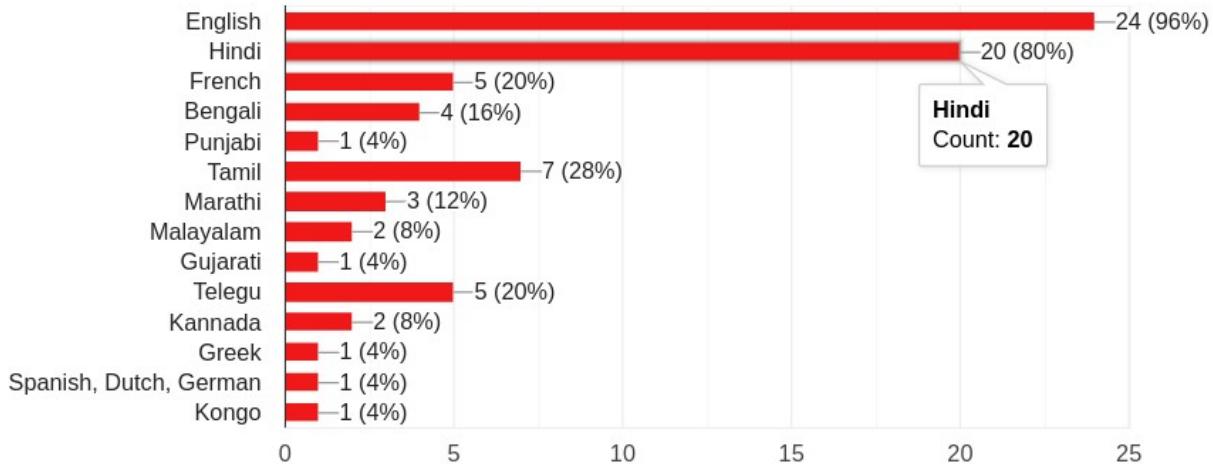
25 responses



Preferred Language(s)



25 responses



From the above questions, we draw the following Stakeholder profiles:

Primary Stakeholders:

The major users of the website will be between the age group of 18-25, as seen from the first pie chart.

It is also evident that most of these individuals are male as it is obvious, since the store is solely focused on male fashion.

It is also evident from the 3rd pie chart that most these individuals are students.

4th pie chart tells us that most of the users are English and Hindi speaking.

Thus finally, we conclude, primary stakeholders to be:

Young adults, between the age of 18-25, English & Hindi speaking students.

Other Stakeholders:

From the data collected, we find a huge section of the responses to be distributed, hence we have to consider the following groups as stakeholders too:

Working class Individuals

French, Bengali, Tamil and Telegu speaking Individuals

Females too who might come for the electronics or for buying gifts.

Facilitators:

Staff who will be working for the website

Admin who will monitor and manage the website

Delivery personal who will use the website to deliver the products.

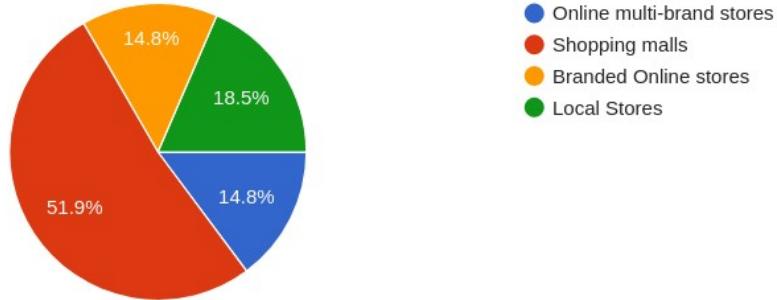
PREPARED LIST OF QUESTIONS WITH SURVEY RESULTS:

link: https://docs.google.com/forms/d/e/1FAIpQLSchGsah4edhBX9cMV9UyOCfXDyDr-615L63UKQLJrJ8B0CDxA/viewform?usp=sf_link

SYSTEM REQUIREMENT GATHERING:

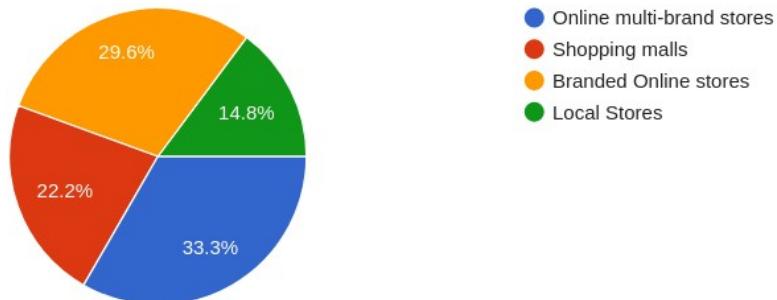
What is your most preferred way to shop garments ?

27 responses



What is your most preferred destination for purchasing electronic gadgets and accessories?

27 responses



How would you feel about an online shopping store dedicated solely towards Mens' Fashion?

16 responses

Great

Vulnerable

sounds good

No it's not like that the online shopping stores now have options for both male and female.

Good

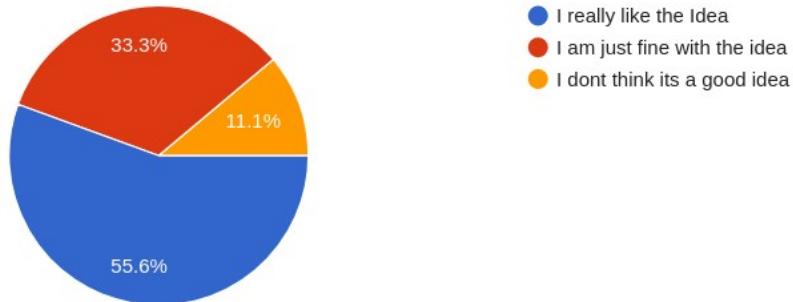
Sounds cool

Great idea, much needed

There are some few dedicated apps and sites that provide good options

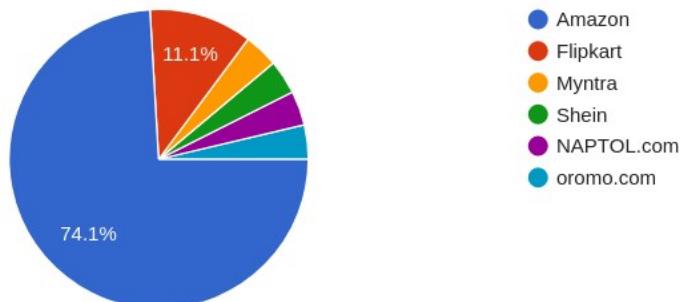
Do you like the concept of a store which sells garments, accessories and electronics all in one website?

27 responses



Which popular online store do you use the most?

27 responses



What is the reason for your answer in the previous question?

18 responses

Simplicity

Naptol is the best bro

Amazon

Because it's a trustworthy website

I have Prime

I just like it more than others

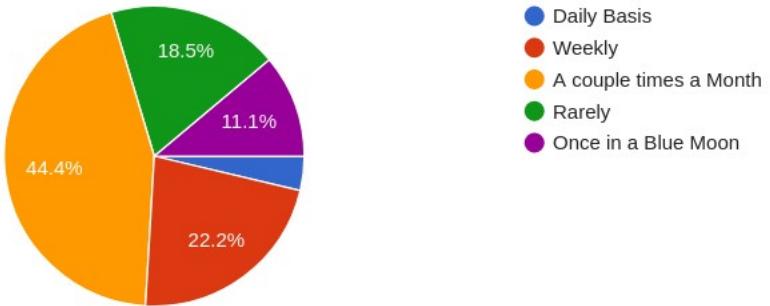
No reason, don't trust the others

Better deals

Products are usually of good quality

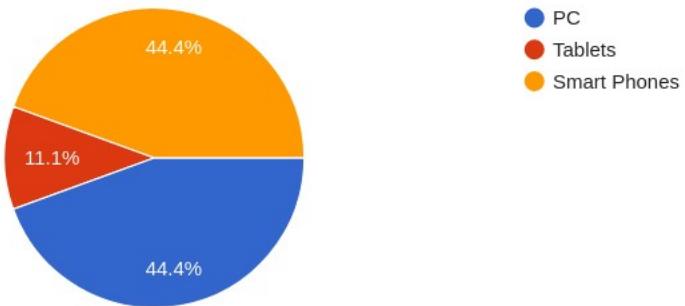
How often do you shop through online stores?

27 responses



What gadget do you use the most for online shopping?

27 responses



DESIGN SPECIFIC REQUIREMENTS GATHERING

What theme(s) do you usually prefer when it comes to websites? *

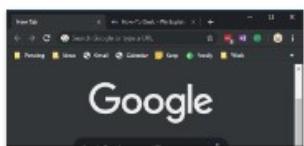
Plain



Colorful



Dark Theme



Scenic and Artistic

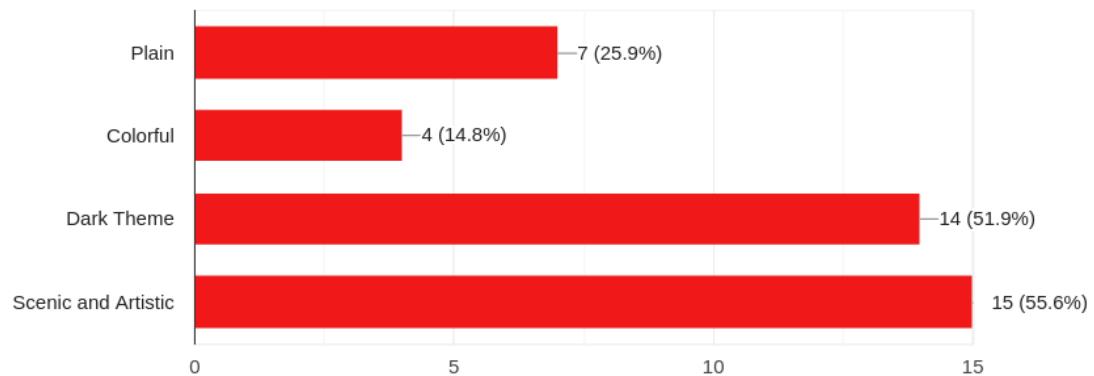


RESPONSE:

Design Specific Requirements

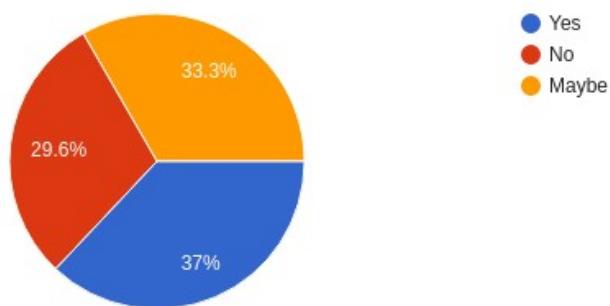
What theme(s) do you usually prefer when it comes to websites?

27 responses



Do you prefer getting product recommendations based on your purchase and search patterns?

27 responses



Do you think adding sounds could make the website better? If so, suggest how.

20 responses

no

No.

Yes

Nope, unnecessary

Sounds to interactive menus

Yes, feels more interactive, sound for confirming that you have successfully bought an item can be assuring

No it's quite good without the sound itself

NO.

Can't say

What payment methods do you prefer the most? *



Net Banking



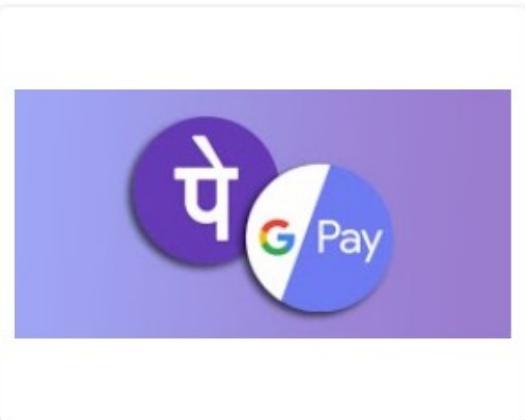
Online wallets



Credit Card & Debit Card



Cash on Delivery



Google Pay/Phone Pay

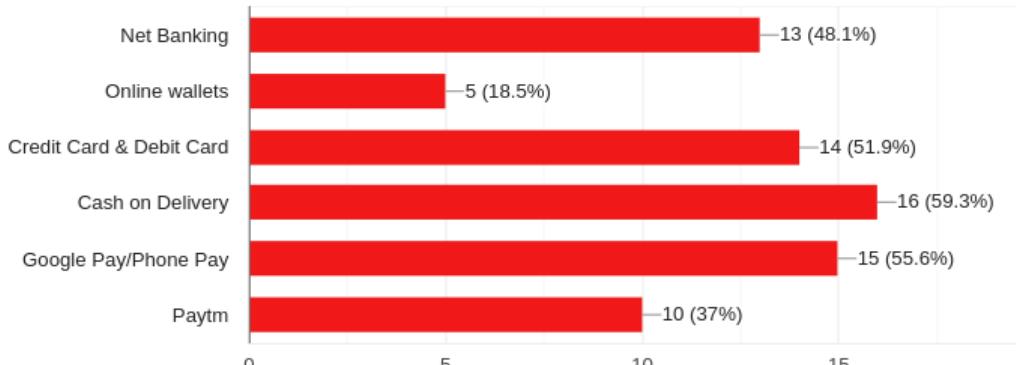


Paytm

RESPONSE:

What payment methods do you prefer the most?

27 responses



What problems did you observe in other similar stores and what changes would you like to see?

Your answer

SYSTEM REQUIREMENTS SPECIFICATION

FUNCTIONAL REQUIREMENTS:

Following are the list of requirements/goals the system shall meet:

ID	SHALL REQUIREMENTS
1	The product shall have a user registration form
2	The product shall have a database to store user information
3	The product shall have a login system to log in the user
4	The product shall have a list that allows user to choose the type of product they wish to buy
5	The product shall have a list of categories of product to find a suitable product for themselves
6	The product shall have a proper description of product name, quantity price and display image for user to analyse the product
7	The product shall have add to cart button
8	The product shall have view cart feature to allow users to see their chosen products with all details
9	The product shall have a check out button to place orders
10	The product shall have a logout button to allow users to logout
11	The product shall have a add product feature for admin
12	The product shall have delete product feature for admin

NON-FUNCTIONAL REQUIREMENTS

RELIABILITY

The system provides storage of all databases on redundant computers with automatic switchover. The reliability of the overall program depends on the reliability of the separate components. The main pillar of reliability of the system is the backup of the database which is continuously maintained and updated to reflect the most recent changes. Thus, the overall stability of the system depends on the stability of container and its underlying operating system.

SECURITY

The system must automatically log out all customers after a period of inactivity. The system should not leave any cookies on the customer's computer containing the user's password. The system's back-end servers shall only be accessible to authenticated administrators. Sensitive data will be encrypted before being sent over insecure connections like the internet.

MAINTAINABILITY

A commercial database is used for maintaining the database and the application server takes care of the site. In case of a failure, a re-initialization of the program will be done. Also, the software design is being done with modularity in mind so that maintainability can be done efficiently.

PORATABILITY

The application is HTML and scripting language based. So the end-user part is fully portable and any system using any web browser should be able to use the features of the system, including any hardware platform that is available or will be available in the future. An end-user uses this system on any OS; either it is Windows or Linux. The system shall run on PC, Laptops, and PDA etc

DESIGN SPECIFIC REQUIREMENTS:

From the survey we find that:

Theme:

Most popular themes are Dark and Artistic. Hence the aim would be to build an interface which can be customized with a dark theme, artistic theme along with the usual plain theme.

Product Recommendation:

This received mixed reviews as a lot of people seem to worry about leakage of privacy. Hence this requirement remains ambiguous and is a subject for future discussion.

Interactive sounds in the Website:

The stakeholders gave negative response to the introduction of sounds in the website. Hence sound will not be introduced in the website.

Products Viewing

To enable users to better judge the products, a 3D viewer on each product should be included.

PROBLEMS WITH EXISTING SYSTEM:

According to the responses received from the survey, we distinguished the major problems to be:

1. Lack of user friendly interface

Most sites come out to be complicated to use for first time users.

Some users complain about the abundance of information in one page and lack of simplicity, which confuses the users.

2. Performance is not up to the mark

Users often complain about the websites lagging, or taking a lot of time to load.

3. Products not shown from all angles

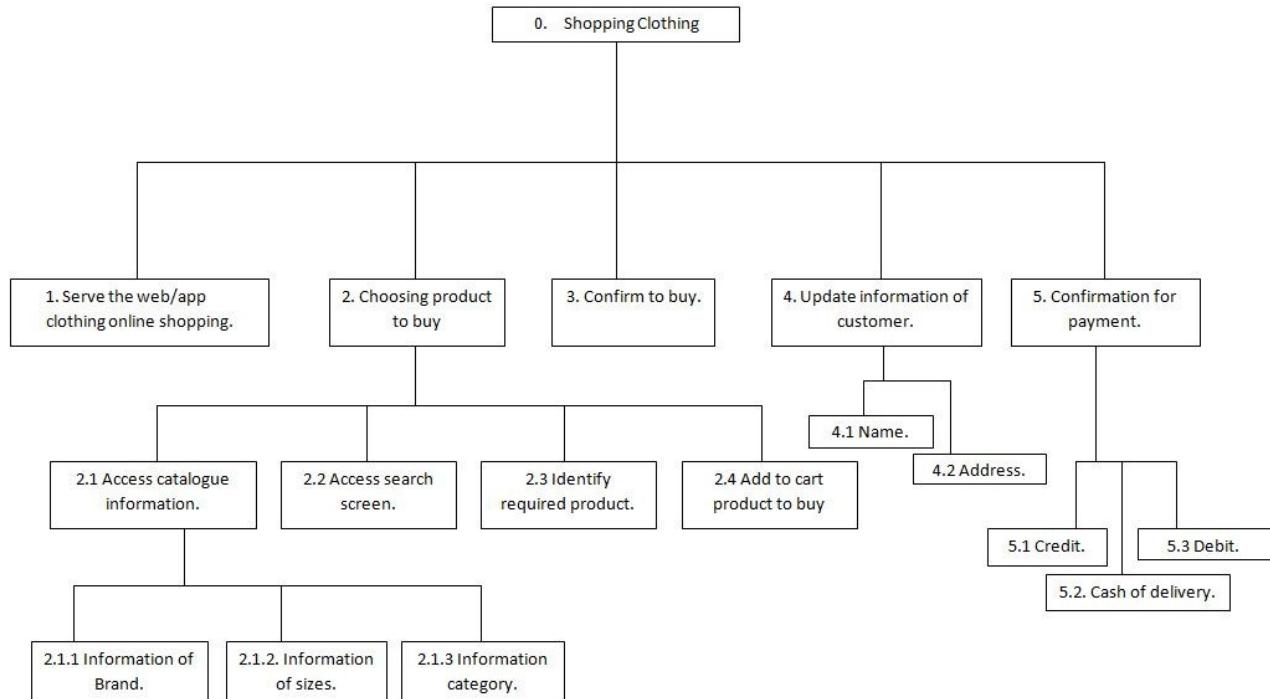
Multiple users have complained that they often misjudge the products as there is no option to see products from a 3 Dimensional view.

4. More billing options

Users want more options for purchasing, not just the common few which are usually there in all websites.

4. DATA FLOW DIAGRAMS

Heuristic Task Analysis

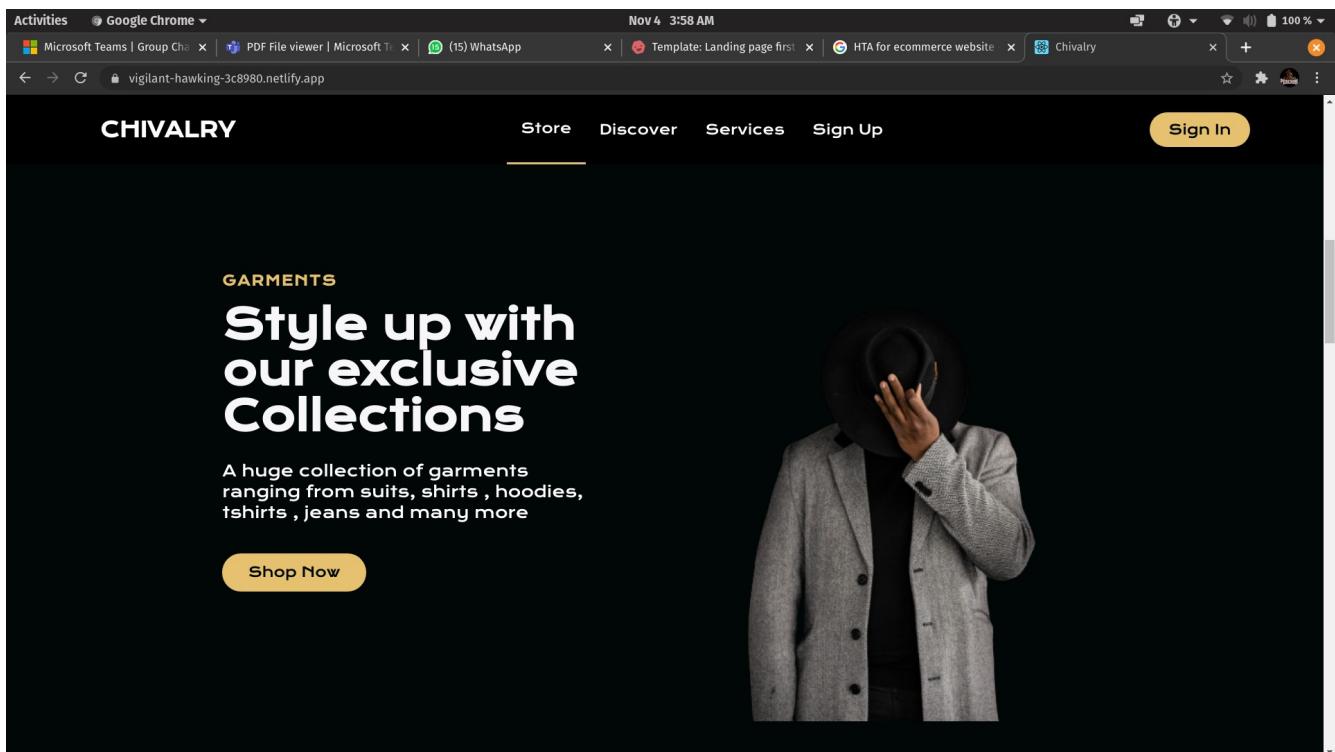


Storyboarding



5. DESIGN SCREENSHOTS

1. Home page



Activities Google Chrome ▾ Nov 4 3:58 AM Microsoft Teams | Group Chat | PDF File viewer | Microsoft To Do | (15) WhatsApp | Template: Landing page first | HTA for ecommerce website | Chivalry

vigilant-hawking-3c8980.netlify.app

CHIVALRY Store Discover Services Sign Up Sign In

Our Services



Home Delivery

We offer free home delivery of our products



Pay your way

Multiple payment methods for you to choose from



Mobile App

Download our mobile app and shop on the go

Activities Google Chrome ▾ Nov 4 3:58 AM Microsoft Teams | Group Chat | PDF File viewer | Microsoft To Do | (15) WhatsApp | Template: Landing page first | HTA for ecommerce website | Chivalry

vigilant-hawking-3c8980.netlify.app

CHIVALRY Store Discover Services Sign Up Sign In

SIGN UP

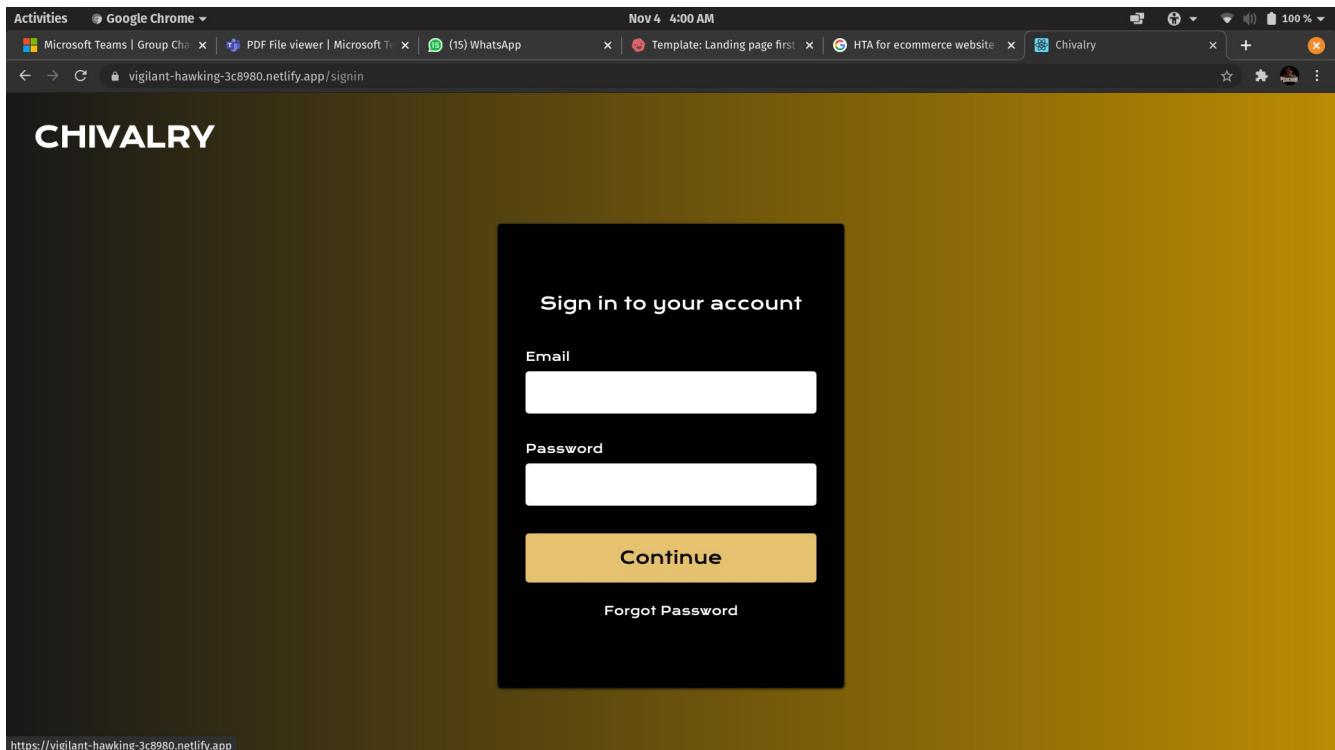
Creating an account is extremely easy

get access to our exclusive app and start shopping on the go

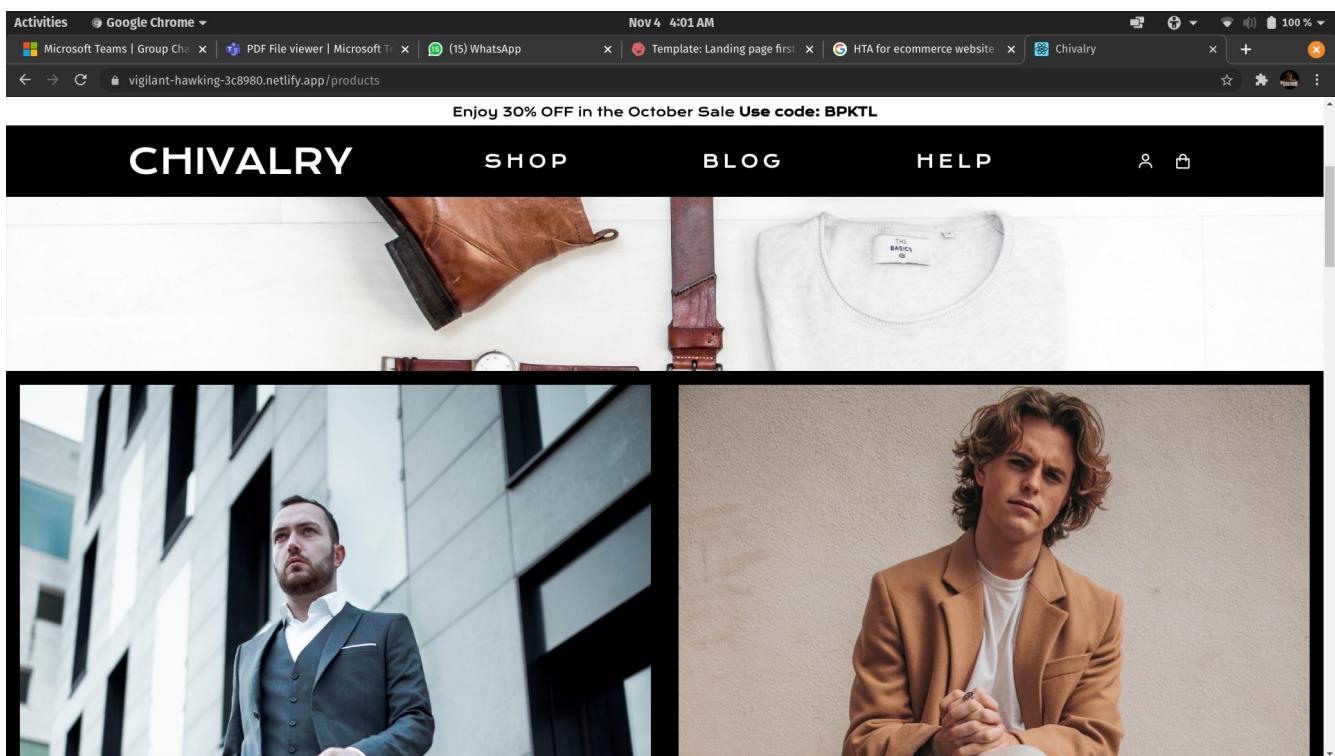
Start Now



2. Signin Page



3. Products Page



Activities Google Chrome ▾ Nov 4 4:01 AM Microsoft Teams | Group Chat | PDF File viewer | Microsoft | (15) WhatsApp | Template: Landing page first | HTA for ecommerce website | Chivalry

vigilant-hawking-3c8980.netlify.app/products

Enjoy 30% OFF in the October Sale Use code: BPKTL

CHIVALRY

SHOP BLOG HELP



highwaisted, you'll turn heads in our sculpting women's jeans with a secondskin fit that hugs your every curve. Explore women's jeans in classic skinny jeans, bestselling Sexy Curve and ontrend flared cuts with a selection of light wash jeans, dark wash jeans and straight jeans. Find everything from distressed details to trendright cropped hem, perfect for warmer weather. Look for modern takes on retro styles like highrise bootcut jeans in an ultraflattering slim fit.

Denim doesn't just stop at jeans. Pair denim jackets for women with cutoff shorts for a laidback look. Dress for a night out in a blue denim jumpsuit or an embellished jean mini skirt. Take your look daytonight in a jean jacket with zipfront designs, button details and faded finishes.

[Shop More Suits](#)

Activities Google Chrome ▾ Nov 4 4:01 AM Microsoft Teams | Group Chat | PDF File viewer | Microsoft | (15) WhatsApp | Template: Landing page first | HTA for ecommerce website | Chivalry

vigilant-hawking-3c8980.netlify.app/products

Enjoy 30% OFF in the October Sale Use code: BPKTL

CHIVALRY

SHOP BLOG HELP



#BeAMan

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Enter Email Address

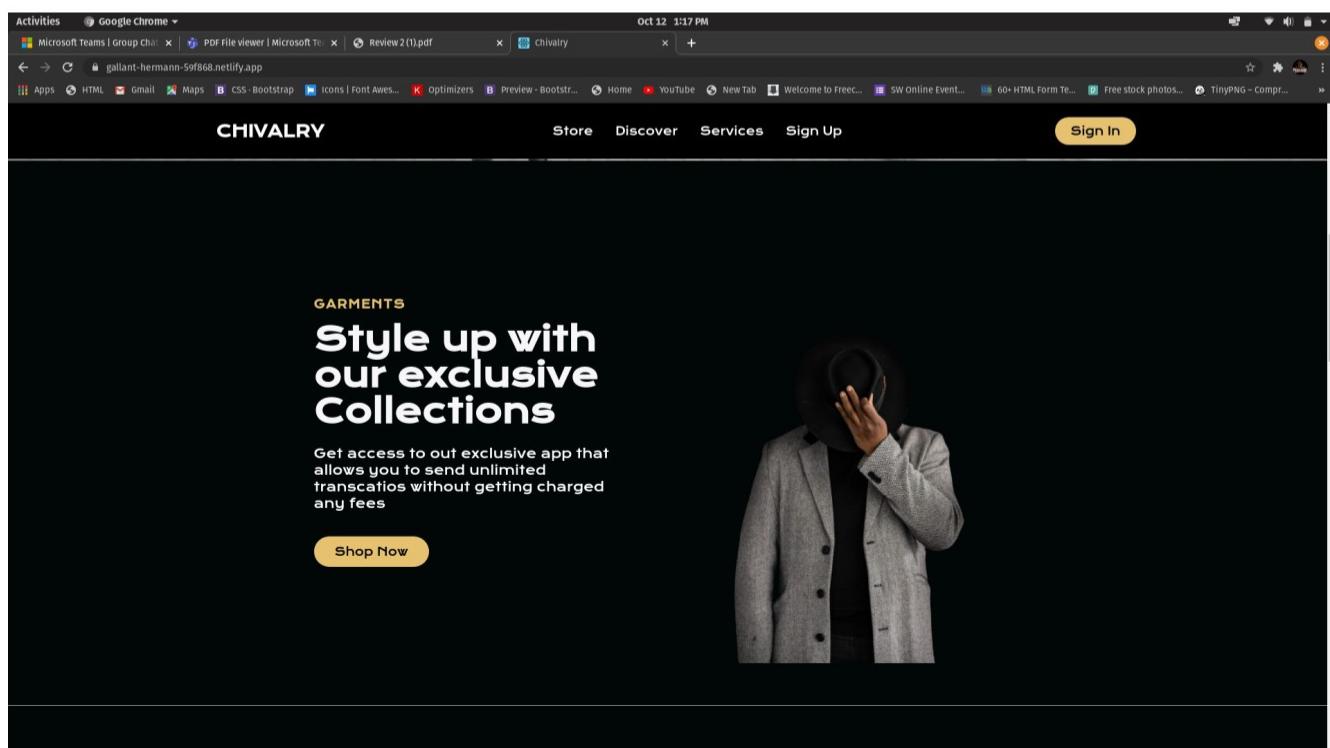
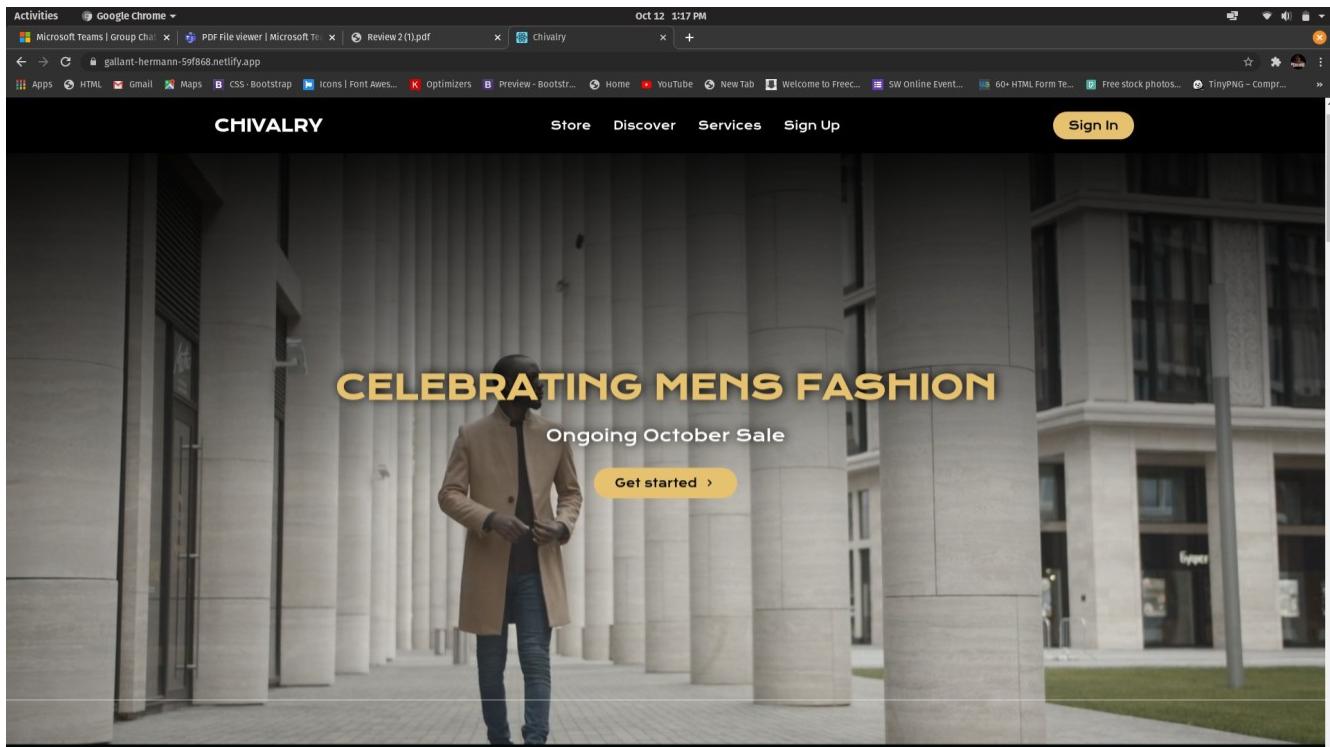
6. Evaluation of website design using the Schneiderman's golden rule :

Principle	Questions to consider
1. Strive for consistency	Is the style of this element maintained across your site/app? – Provide the interface snap shot Is this content placed in the correct location according to the site hierarchy? – Compare with the standard locations
2. Enable frequent users to use shortcuts	Are there shortcuts available for your more experienced users? – List out the short cuts you have made available Who is this product designed for? – Experienced/novice users How can you make it easier for novice users?
3. Offer informative feedback	Does the user know where they are at in the process? – Provide the snap shot Does the user know what they have done after performing this action? How are you communicating this feedback to your user?
4. Design dialogue to yield closure	Does the user have to do any guessing here? Is it clear and obvious enough for your intended audience? – Experiment among the group. How are you communicating the system status with the user?
5. Offer simple error handling	Have you done everything imaginable to prevent this error from happening on your end? If the user does make an error, how easy is it for them to fix it? – Give a simple error handling
6. Permit easy reversal of actions	How many steps does the user have to take to reverse their actions? How can you make your users detect the possibility of reversal?
7. Support internal locus of control	Will the user feel in control at this specific touch point in your app? - Show the snap shot Does the site feel easily navigable?
8. Reduce short-term memory load	Are there enough visual cues here for the user to find the functionality or item? How can you help the user recall?

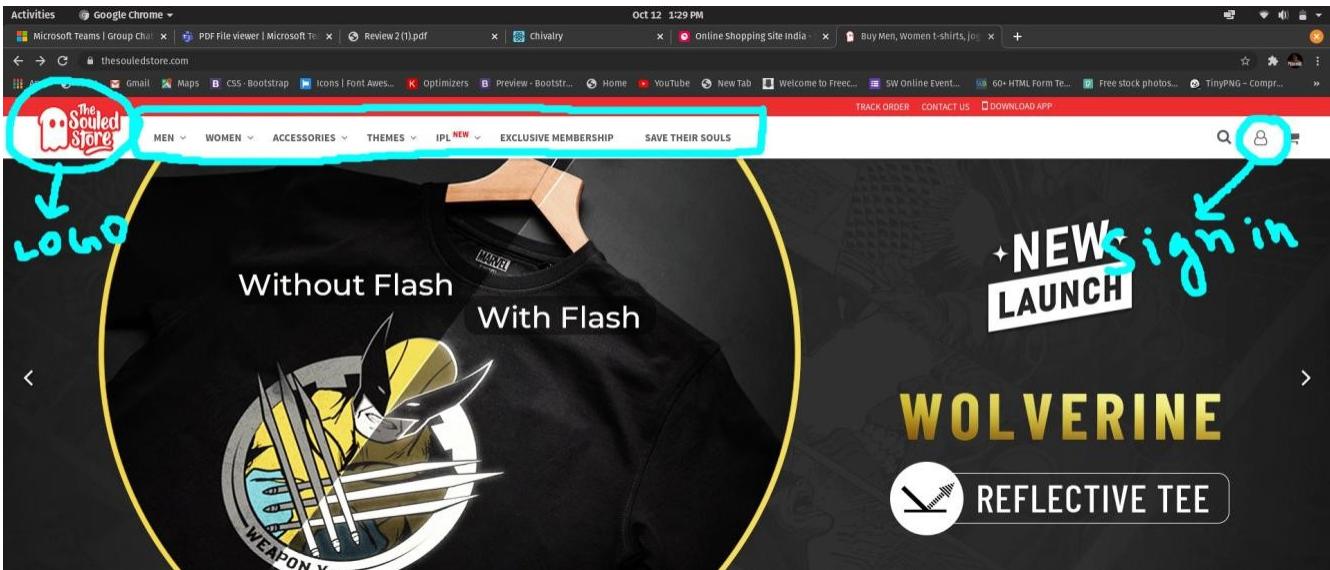
1. Strive for consistency

The design of the site is consistent as can be seen in the snapshot. The same font is used throughout the website. The **button elements have the same design** and is easily distinguishable.

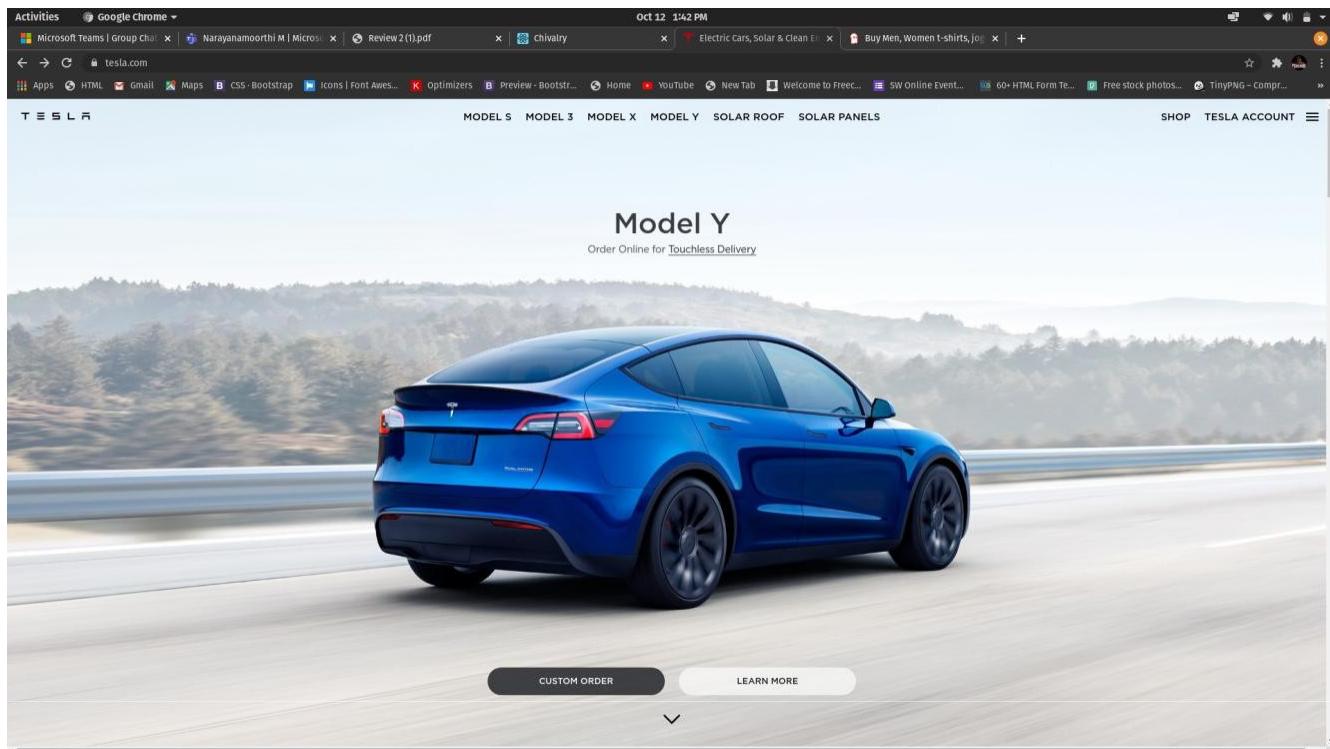
The **colors and gradients used are also consistent** avoiding the use of too many colors to confuse the user.



The content of the site are placed in their rightful positions according to hierarchy. This can be seen from the Navbar which has the **company logo on the left most side and sign in button on the right most side**, both on the top of the page and easily visible to the user as they are used the most. The midsection of the navbar contains the contents of the site.



Souled Store website follows a similarly designed Navbar as can be seen from the snapshot.



Tesla website also follows a very similar hierarchy. The **navbar is very similar** and then **main Hero section with the buttons** guiding to the rest of the site is also included in my website.

2. Enable frequent users to use shortcuts:

Frequent users can click on any of the section links in navbar and the smooth scroll embedded in the site will automatically scroll the page and stop in the specific section.

A search bar will also be there beside the sign in button for frequent users who want to search for a specific product rather than going through the whole site.



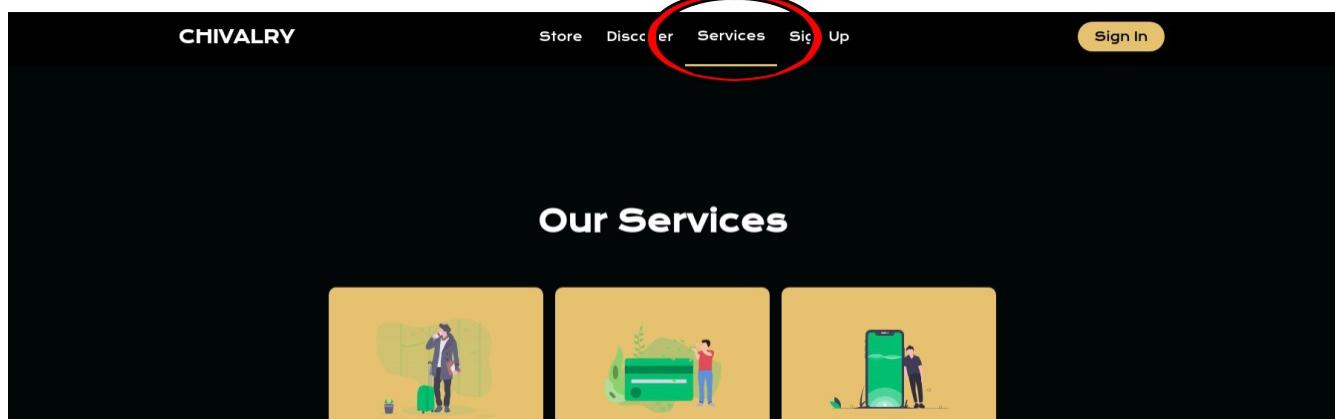
As this is an e-commerce website, the product is designed for both experienced as well as novice users.

For novice users the site has been made **extremely simple and minimalist**.

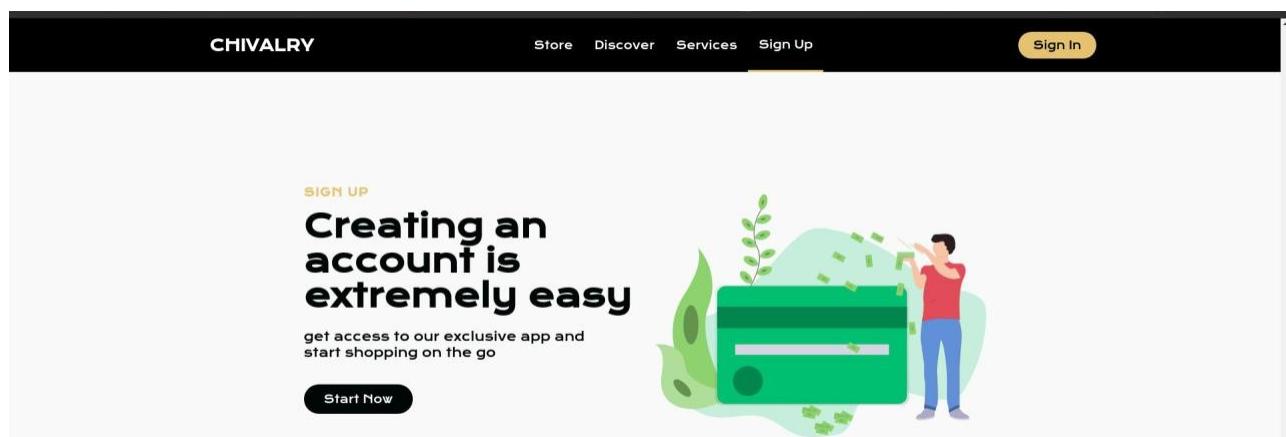
- **Hover Effects** have been placed on every button so that the user knows what he is clicking.



- **A lower border effect** is attached to the links in navbar so that the user knows which section of the site he is currently viewing or wants to view.

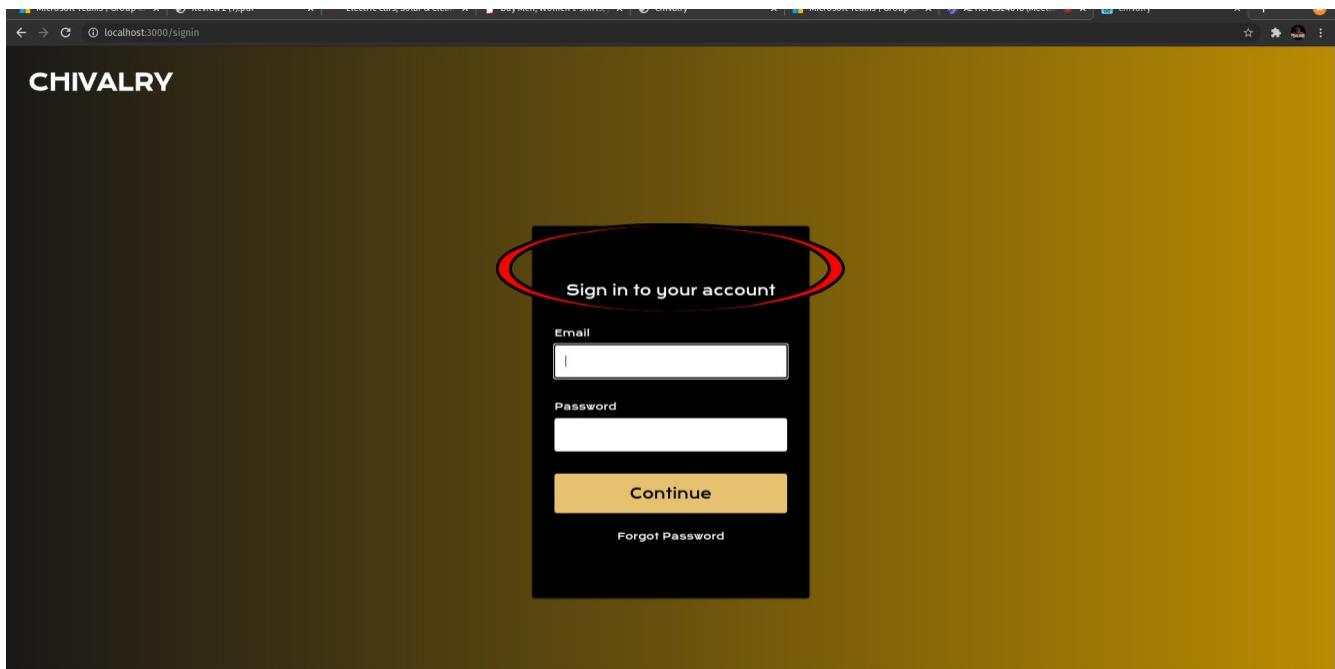


- Section to guide new users on **how to sign up**.



3. Offer informative Feedback

The user knows where they are in the process as each section is well labeled as can be seen from the snapshots.

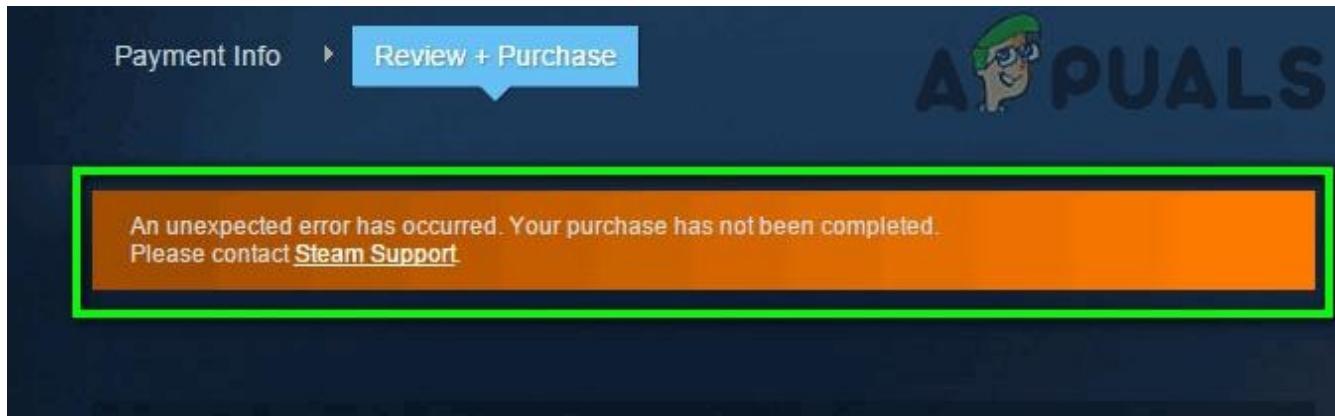


To give user feedback about a successful action, javascript alert message boxes will be used.

4. Design Dialog to yield closure

No, the user doesn't have to guess in any stage of using the website. Every section is well labeled and with user feedback.

To communicate the system status such as the payment status in the process of transaction, I plan to use a mixture of texts and symbols such as:



While a process is going on, we can use the following symbol and animation:

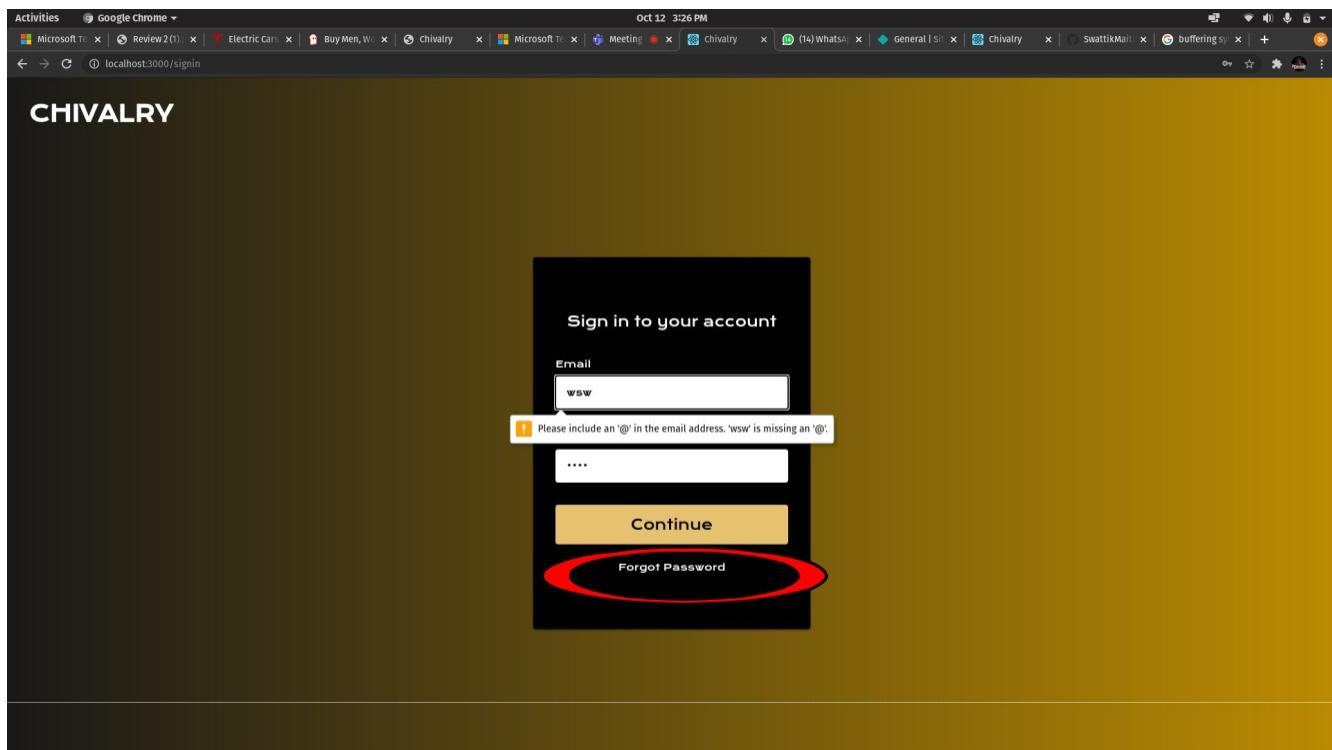


Loading...

5. Offer simple error handling

Since the site is very simple and chances of major error from users end is minimal. If there are any click errors and the user is directed to a diff section, then navigation bar enables him to quickly correct his error and directs him to the target section.

In the Sign In page, the **forgot password link** is there which is basic error correcting method.



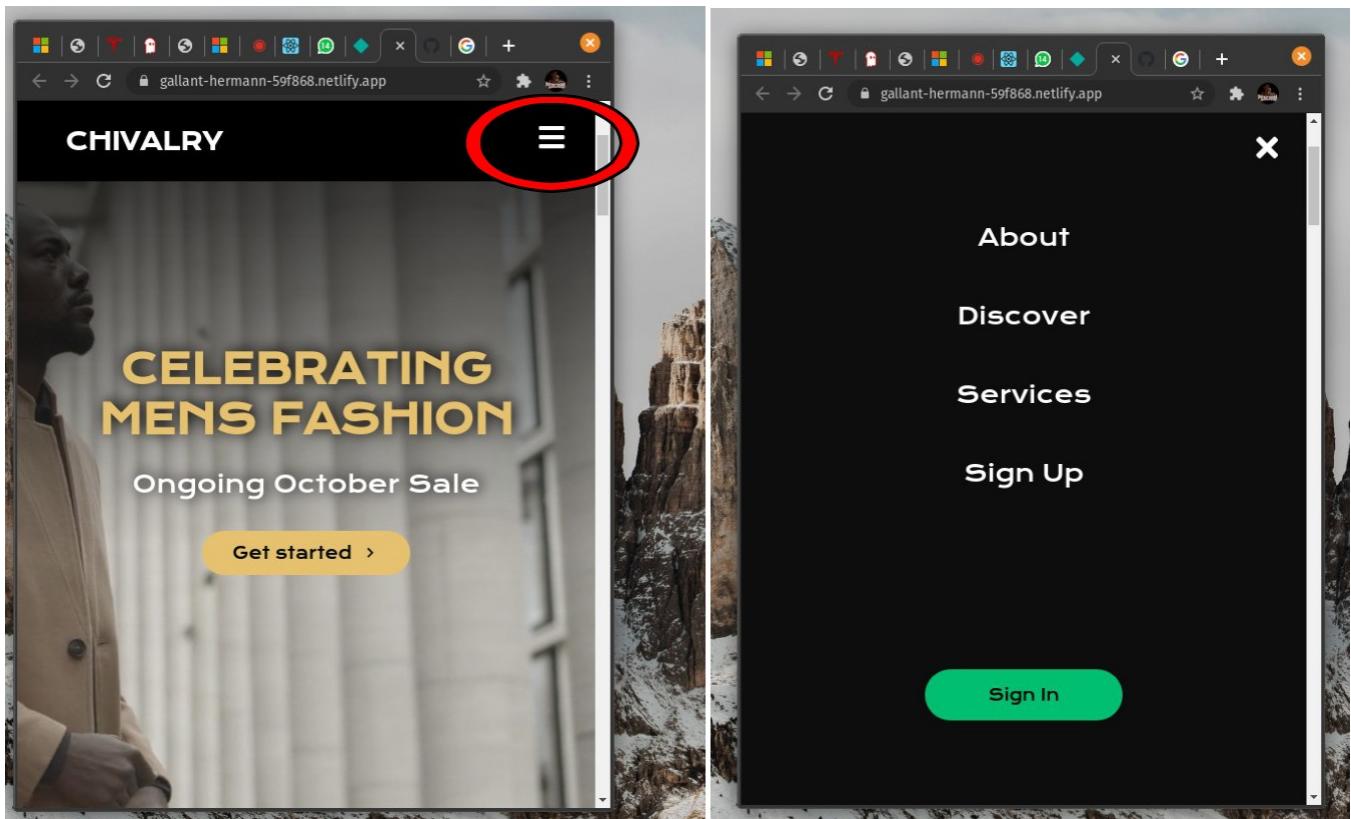
The **text validation** also directs the user on the format of the email, incase he mistypes his email or enters and invalid email. This is shown in the above figure.

6. Permit easy reversal of actions

The user has to take one or maximum 2 steps to reverse an action. Under most cases just a click of a button will take the user to the previous or the interested stage.

7. Support internal locus of control

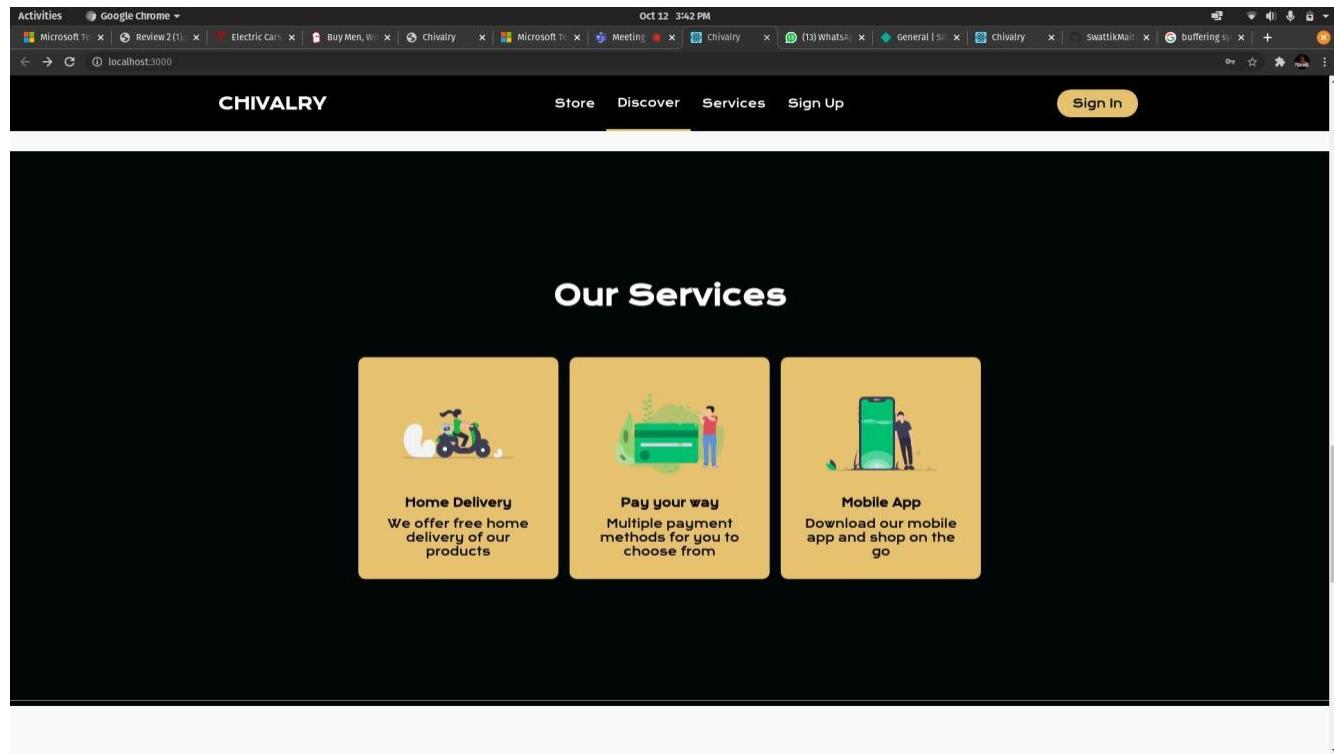
The mobile version of the app is very user friendly. **The navigation bar sinks into a hamburger icon** which is clearly visible and very simple to use. On clicking the icon the navbar drops down. This is shown in the snapshot below.



On clicking on the cross icon the nav bar sinks back. Thus we can conclude the site is easily navigable.

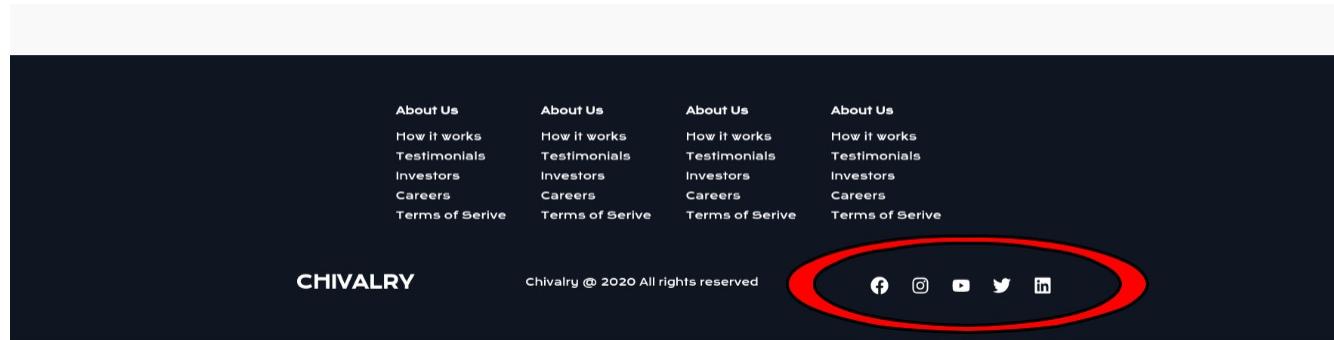
8. Reduce short term memory load

The website is full of icons and symbols. It follows the principle of “**recognition over recall**” at every point. The following snapshot proves this point.



We can see how every service is well represented with an SVG icon, so that the user can quickly understand what he is clicking on.

Another instance of this process of helping the user recognise instead of recall is in the **footer**. All the **social media links are represented by their respective logos**.



In this way the users short term memory load is reduced.

7. TESTING

Guidelines to use the website:

link: <https://vigilant-hawking-3c8980.netlify.app/>

Hello user, welcome to my website. The aim of this website is to optimize your shopping experience with a simple, easy-to-use yet modern and stylish online store. The store prototype contains three pages currently – Home page, Signin Page and Products page.

By testing my user interface, you will directly help me solve all the issues and make this website more user friendly and marketable.

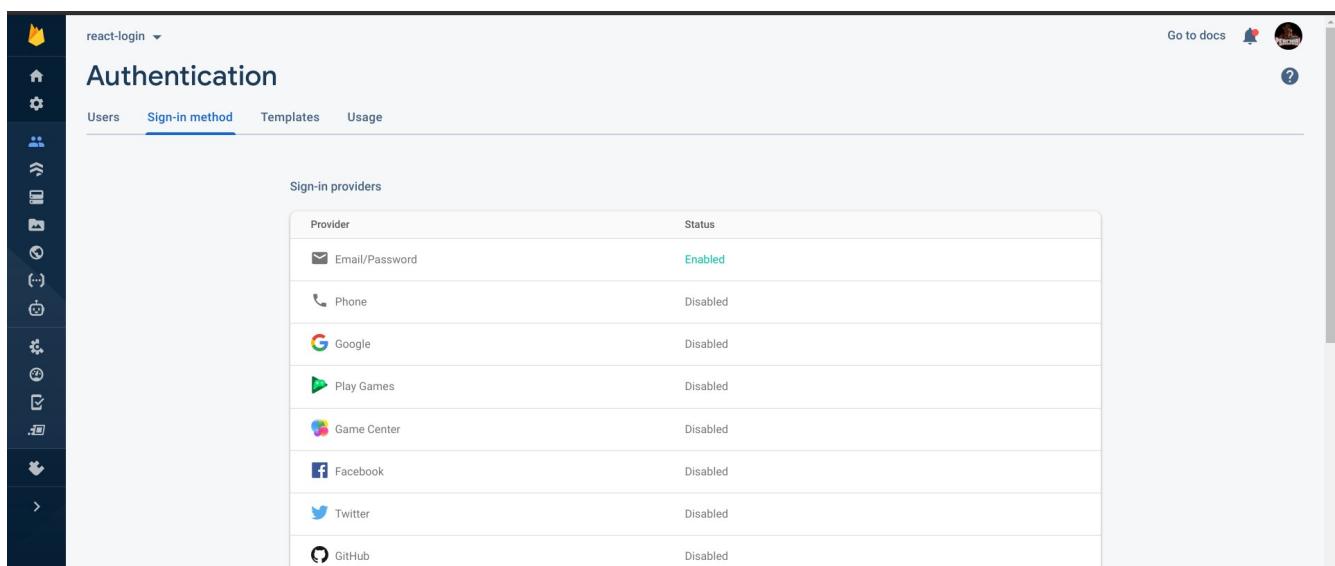
To perform the testing, please following these simple guidelines and later give your feedback:

1. On opening the link, you will land on the Home page.
2. Scroll down and explore the home page.
3. The navigation bar contains all the various sections of the page and on clicking each section will smooth scroll you directly to that section.
4. To come back to landing page again, just click on ‘Chivalry’.
5. Click on the signin page to Sign into your account.
6. In the signin page, enter a valid email address and password and click continue to signin to your account.
7. To return back to home page you can click on ‘Chivalry’ or you can click on the back button of your browser.
8. On scrolling down to service section, you can see the animated cards which shows all the services provided by the online store.
9. On clicking ‘Shop Now’ you are directed to the products page.
10. Here you can see the four sample products on display.
11. On scrolling down, you arrive at the instagram section, where you can see our last 5 posts.
12. On scrolling down even further you arrive at the footer.
11. Clicking on the social media icons will direct you to our social media sites.
12. There is also the newsletter signup option. You can enter your email and easily signup for newsletter services.

Usability Problems faced by the users:

1. When the user is trying to sign in he doesn't have the option to log in through a google account or Facebook id. He has to do it manually, which requires him to manually input his email and password every time.

Solution: This can be easily resolved with the help of **Google Firebase Authentication** from the backend. This allows us to enable the option of logging in through a google or Facebook account.



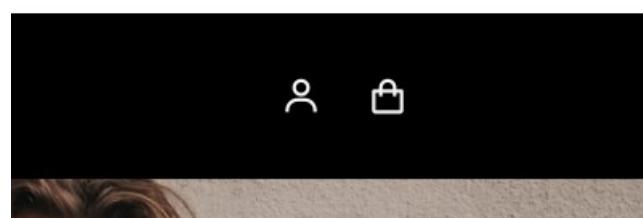
The screenshot shows the Firebase Authentication console for a project named "react-login". The left sidebar contains various icons for different services like users, templates, and usage. The main area is titled "Authentication" and has tabs for "Users", "Sign-in method" (which is selected), "Templates", and "Usage". Under "Sign-in providers", there is a table with columns "Provider" and "Status". The providers listed are: Email/Password (Enabled), Phone (Disabled), Google (Disabled), Play Games (Disabled), Game Center (Disabled), Facebook (Disabled), Twitter (Disabled), and GitHub (Disabled).

Provider	Status
Email/Password	Enabled
Phone	Disabled
Google	Disabled
Play Games	Disabled
Game Center	Disabled
Facebook	Disabled
Twitter	Disabled
Github	Disabled

2. A few users felt the need of a **reset/clear button** in the sign in page, which clears the already entered email and password in the event the user has mistyped his credentials.

Solution: Can be easily resolved by adding the button and designing its functionality with javascript.

3. Complaints were received about the **shopping-bag/cart icon** on the products page. Many users were not able to recognize it which led to confusion.



Solution: The cart icon can be changed to a more orthodox cart icon used by popular e-commerce sites like amazon or flipkart. A text can also be added beside the cart so that people have no doubts at all.



4. A common problem faced by many users is that, the site design works perfectly for normal desktop screens and mobile screens, but often the alignment breaks when moved to a tablet sized or mini desktop screen. This problem also persists upon zooming into the site.

Solution: To solve this, the code needs to reviewed and made **more scalable** for all kinds of screens. The scaling has to be made more precise. It can also be done using CSS '@media' properties.

Test Case Report

Module 1 : Home Page

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Result	Pass / Fail
1.1	Drop Down animated Navigation bar for mobile sized screens	On mobile, click the hamburger icon	Touch Input	The Animated drop down menu slides down and on clicking again slides back up	As expected	Pass
1.2	Go back to landing page	Tap on back icon or click 'Chivalry' on navigation bar	Mouse/ Touch Input	Navigation to landing page	As expected	Pass
1.3	Smooth Scroll to any section by clicking on Navigation Bar	Tap on or click any link on navigation bar	Mouse/ Touch Input	The site smooth scrolls the user automatically to that section of the page	As expected	Pass
1.4	Move to the products page	Tap on/ Click on Shop Now button	Mouse/ Touch Input	Load the products page	As Expected	Pass
1.5	Social Media Icon links	Click/tap on the icons in the footer	Mouse/ Touch Input	Clickable and directs the user to social media pages	As expected	Pass

Module 2 : Sign-in Page

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Result	Pass / Fail
1.1	Enter email and password in text boxes	Click on the particular text box and enter your credentials	Keyboard input/ Touch input	The credentials can be typed and are also visible to the user	As expected	Pass
1.2	Go back to landing page	Tap on back icon or click 'Chivalry' at the top left	Mouse/ Touch Input	Loads back the Home page	As expected	Pass
1.3	Empty input or invalid input validation	Don't enter email and enter password and click continue	Mouse/ Touch Input	The user gets an error message stating missing credentials	No error Message	Fail
1.4	Email validation	Enter an email with incorrect format	Keyboard input/ Touch input	Instructs the user to enter a valid email with the correct format	As Expected	Pass
1.5	Forgot password link	Click/tap on the forgot password	Mouse/ Touch Input	It is clickable	It is not a clickable link	Fail

Module 3: Products/Shopping Page

Test Case ID	Test Scenario	Test Steps	Test Data	Expected Results	Actual Result	Pass / Fail
1.1	Page loads smoothly	Click on shop Now	Mouse/ Touch input	On arriving on the page, all the images are already loaded and the experience is smooth	The images are very slow to load	Fail
1.2	Underline animation on hovering on the Navigation links	Hover your mouse pointer on any of the links on the navigation bar	Mouse Input	The text gets underlined in an animated fashion	As expected	Pass
1.3	Buttons change their colors when hovered upon	Hover your mouse pointer over any of the buttons	Mouse Input	The button changes color from gold to white	As Expected	Pass
1.4	On clicking on buy button, shopping cart gets updated	Click/tap on buy button	Keyboard input/ Touch input	The shopping cart gets an item inside it and it shows in the navigation bar	No action	Fail
1.5	Social Media Icon links	Click/tap on the icons in the footer	Mouse/ Touch Input	Clickable and directs the user to social media pages	They are not clickable links	Fail

5 Second Test:

link: <https://app.usabilityhub.com/do/d74e751da558/a122>

Image Shown:

Image of the landing page:



Questionare:

What is this website for?

Continue

What words or sentences do you recall?

Continue

Did you notice any obvious "call for action" buttons?

- Yes
- No

Continue

How did the color theme of the website feel?

Select at least one option below

- Too vibrant and bright
- Too gloomy
- Perfectly balanced
- Other

Continue

Did you notice the signin Button ?

- Yes
- No
- Maybe

Continue

Results Portal :

What is this website for?

≡ Answers 9 Tags 0 Word cloud

Select all

Search responses

Add/edit tags

- Men's fashion clothing and shopping
- Fashion merchandising and clothing for men
- Mens Fashion
- Men's apparel
- Online shopping
- mens fashion online shopping
- mens fashion store
- Men's fashion store...
- Men's Fashion Store

What words or sentences do you recall?

≡ Answers 9 Tags 0 Word cloud

Select all

Search responses

Add/edit tags

- Celebrating men's fashion
- Chivilry name of the website ig
And store discover etc options
- Chivilry, store
- Chivilry
- Mens Fashion
- Looking
- Chivilry, gallery, mens
- Chivilry
- ongoing October sale
- chivilry, get started, october sale
- chivilry, October sale, get started

➊ 1c. Radio buttons question

Did you notice any obvious "call for action" buttons?

Totals Answers 9



Yes

78% 7

No

22% 2

Other

0% 0

➋ 1d. Check boxes question

How did the color theme of the website feel?

Totals Answers 9



Too vibrant and bright

22% 2

Too gloomy

11% 1

Perfectly balanced

67% 6

Other

0% 0

➌ 1e. Radio buttons question

Did you notice the signin Button ?

Totals Answers 9



Yes

89% 8

No

0% 0

Maybe

11% 1

Other

0% 0

CONCLUSION:

The website has been successfully tested and deployed. From the testing, it proved that maximum users are having no difficulty in using the website. Most users describe the website as simple and modern. The user experience has also been described to be smooth and pleasant.

This website can now be used as a model template for a good e-commerce website.

The components that were designed while making this website have all been uploaded in my github repository for future use. The custom colors and themes can also be used as assets for a future project.

There is unlimited scope of future development on this, for example connecting this to a backend and making it a completely dynamic and working website.