SavvyMart

A Voice Assistant Smart Shopping Market

A Project Report

Submitted in partial fulfillment of the Requirements for the award of the degree

of

BACHELOR OF TECHNOLOGY

in

Computer Science and Engineering

Submitted by

Arzoo Meraj Khan **1605410040**

Shubh Gupta **1605410146**

Under the guidance of

PROF. SHADAB SIDDIQUI

At

BABU BANARASI DAS NATIONAL INSTITUTE OF TECHNOLOGY & MANAGEMENT

(Recognized by AICTE, Govt. of India & Affiliated to Dr. A.P.J. Abdul Kalam Technical University, Lucknow)

AKTU College Code - 054

MAY, 2020

CERTIFICATE

This is to certify that the Project entitled " ***SavvyMart : A Voice Assistant Smart Shopping Market*** *" is a bona fide record of the Project work done by* ***Arzoo Meraj Khan*** *(1605410040) and* ***Shubh Gupta*** *(1605410146) under my supervision and guidance, in partial fulfillment of the requirements for the Outcome Based Education Paradigm in* ***Computer Science and Engineering*** *from BBDNITM, Lucknow for the academic year 2019-20.*

Dr. Diwakar Yagyasen

Head of Department

Computer Science and Engineering

Prof. Shadab Siddiqui

Project Guide, Assistant Professor

Computer Science and Engineering

Place : *Lucknow*
Date : *27th May, 2020*

DECLARATION

We hereby declare that the project / dissertation entitled, " ***SavvyMart : A Voice Assistant Smart Shopping Market*** " was carried out and written by us under the guidance of ***Prof. Shadab Siddiqui***, *Department of Computer Science and Engineering. B.B.D.N.I.T.M., Lucknow*. This work has not previously formed the basis for the award of any degree or diploma or certificate nor has been submitted elsewhere for the award of any degree or diploma.

Place : *Lucknow* ***Arzoo Meraj Khan*** *(1605410040)*

Date : *27th May, 2020* ***Shubh Gupta*** *(1605410146)*

ACKNOWLEDGMENTS

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We also do not like to miss the opportunity to acknowledge the contribution of all faculty members of the department for their kind assistance and cooperation during the development of our project. Last but not the least, we acknowledge our family and friends for their contribution in the completion of the project.

Arzoo Meraj Khan *(1605410040)*

Shubh Gupta *(1605410146)*

ABSTRACT

SavvyMart is a voice assistant e-commerce website which primarily focuses on meeting the customers' expectations. As today, customers not only want just a typical shopping website but a lot more than it. Keeping the same in our mind we have worked on this project and gave an amazing transition to the traditional online markets. The whole website of SavvyMart is animated which means whenever a user will click on something he/she will see a lovely animation which makes it interesting to use. Apart from animated user interface, we have also implemented a voice assistant named SAM with the help of which customers can listen to the description of the products instead of just reading it. We have also given importance to language barriers which means SAM can speak both in HINDI and ENGLISH providing a smooth and reliable customer experience. SavvyMart is a multi-vendor online market which means one can not only buy but also can sell their products using this platform.

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Online shopping is a process of selling and buying goods over the internet. There are a huge number of online markets which sell their products using the internet but what makes them different from one another is how they sell their products or what are the methods and techniques they use while recommending products to the users who visit their websites. Before starting this project we collected data and did a deep analysis on what customers actually want and what are the parameters on which they decide which website is best for online shopping. On the basis of these parameters we had made our online market fully animated which will give customers a good experience on buying and selling products from our website and also they can experience a unique feature of SAM through which a user can listen to the description of the products instead of reading them. Through our research we also came to know not every person who buys online has good English because of which we implemented SAM in both English and Hindi so that language barriers don't ruin customers' experiences of online shopping.

2. LOGO

3. OBJECTIVES

- Reach out to a large audience.
- The online shop remains open and operational 24x7.
- No need to maintain the whole stock of product.
- Brands can be built more quickly.
- It can be diversified easily.
- Shipping can also be outsourced.
- Users can give Ratings and Reviews for various products.
- Users can also filter products on the basis of color and size.
- Users can have a friendly and easy environment for shopping.
- They can use Cash on Delivery for payments.
- Search option can also be used to search the required product effectively.
- Users can also track their products end-to-end from purchasing to delivering.
- It can be used for both buying and selling the products as it is a multi-vendor market.
- Users can use Voice Assistant which helps them to get details about various products.
- Users can compare the quality and price of the same product from different brands which will help them in choosing the best option.

4. PROBLEM DEFINITION

In this section we will see some surveys which will tell us what is the need of taking and implementing this project. We have collected data from a sample of population from our college on various aspects of online shopping. We have made different questions based on our analysis and then circulated them using google forms in different whatsapp groups of our college. After getting the numbers, we analysed them using different visualizations and came to certain points which we had implemented in SavvyMart.

A) Do you like online shopping ?

Answers	**No. of People**	**Percent**
YES	183	91.5%
NO	17	8.5%

Table 4.1.a : Online Shopping Analysis

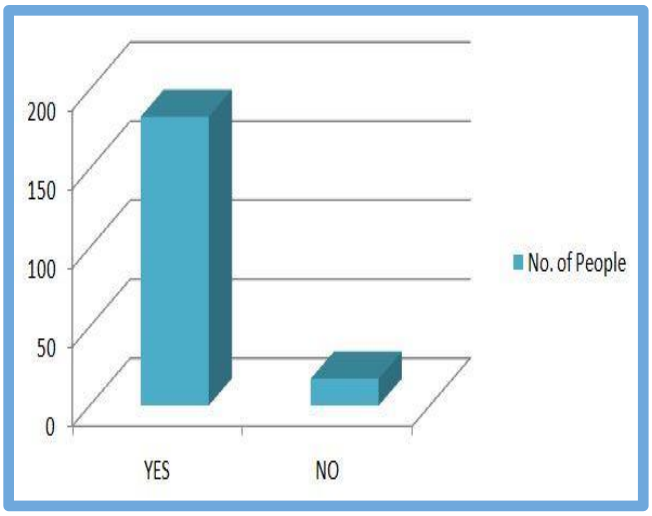


Figure 4.1.b : Online Shopping Analysis

B) Do you like traditional shopping websites or fully animated websites ?

Answers	No. of People	Percent
Traditional GUI	24	12%
Animated GUI	176	88%

Table 4.2.a : Graphical User Interface Comparison

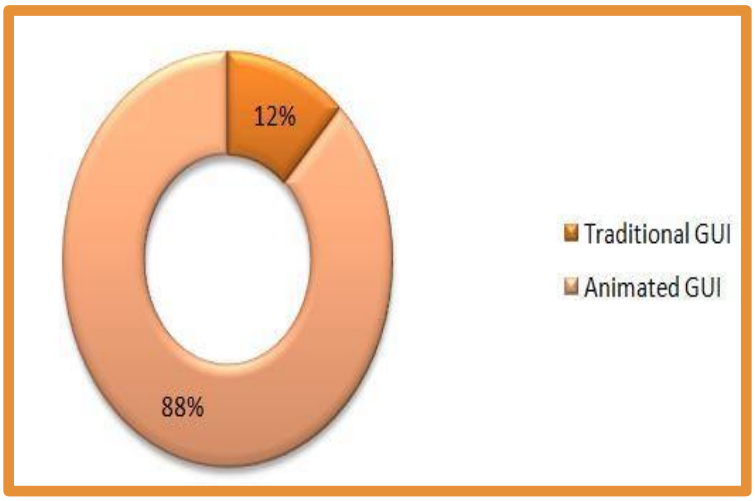


Figure 4.2.b : Graphical User Interface Comparison

C) Will you sell your products on a multi-vendor shopping website ?

Answers	No. of People	Percent
YES	133	66.5%
NO	67	33.5%

Table 4.3.a : Online Selling Analysis

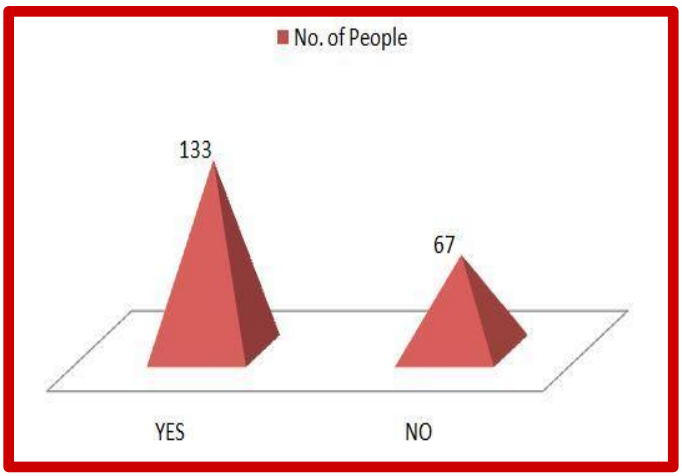


Figure 4.3.b : Online Selling Analysis

D) Which type of payment option would you prefer ?

Answers	No. of People	Percent
Net Banking	72	36%
Credit Card	14	7%
Debit Card	27	13.5
COD	87	43.5

Table 4.4.a : Payment Methods Comparison

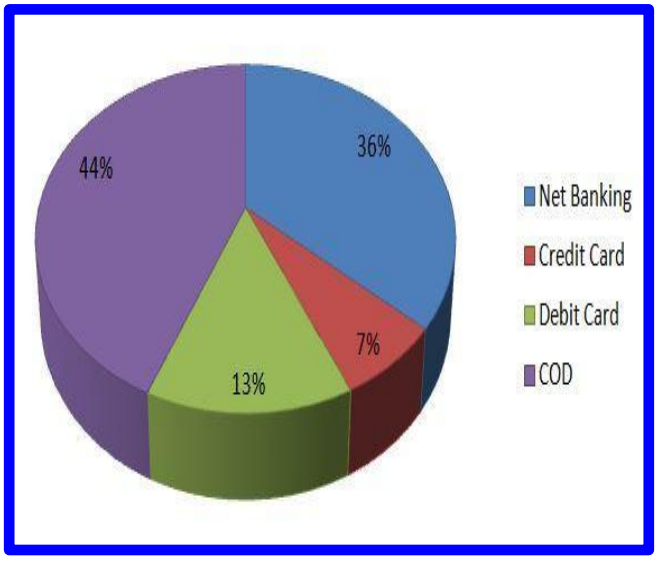


Figure 4.4.b : Payment Methods Comparison

E) Would you like to have a voice assistant in your shopping market ?

Answers	No. of People	Percent
YES	191	95.5%
NO	9	4

Table 4.5.a : Voice Assistant Analysis

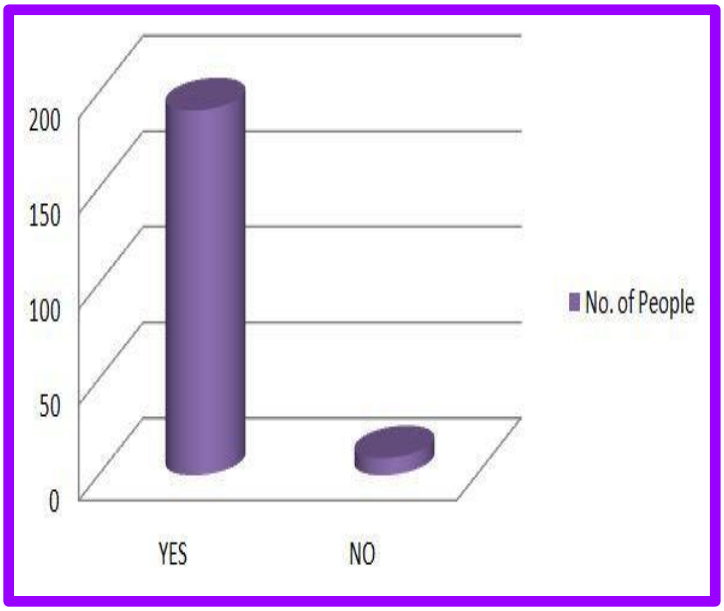


Figure 4.5.b : Voice Assistant Analysis

5. REQUIREMENT ANALYSIS

A requirements specification for a software system is a complete description of the behavior of a system to be developed and it includes a set of use cases that describe all the interactions the users will have with the software. In addition to use cases, the SRS also contains non-functional requirements.

Non-functional requirements are requirements which impose constraints on the design or implementation (such as performance engineering requirements, quality standards, or design constraints).Requirements are a sub-field of software engineering that deals with the elicitation, analysis, specification, and validation of requirements for software.

The software requirement specification document enlists all necessary requirements for project development. To derive the requirements we need to have a clear and thorough understanding of the products to be developed. This is prepared after detailed communications with the project team and the customer.

5.1 HARDWARE REQUIREMENTS

- Minimum 350MB Hard Disk space for installation.
- 4GB HD space required for a typical live system with 1000-2000 events.
- Recommended 1GB RAM for a Central Server with 3 Nodes.
- Recommended minimum CPU - Pentium 4, 3.2GHz.
- Network card

5.2 SOFTWARE REQUIREMENTS

- Client on Internet: Web Browser, Operating System (any).
- Client on Intranet: Client Software, Web Browser, Operating System (any).
- Bitnami WordPress Stack

6. SYSTEM DESIGN APPROACH

6.1 TOP – DOWN DESIGNING

The top - down designing approach started with major components of the system. It is a stepwise refinement which starts from an abstract design, in each step the design is refined two or more concrete levels until we reach a level where no – more refinement is possible or not needed.

6.2 BOTTOM – UP DESIGNING

In bottom – up designing the most basic and primitive components are designed first, and we proceed to higher level components. We work with layers of abstractions and abstractions are implemented until the stage is reached where the operations supported by the layer is complete.

6.3 APPROACH WE ARE FOLLOWING

In this project we are following **Mixed Approach** i.e. a combination of top – down and bottom – up. We are developing some of the components using top – down designing approach (e.g. the Web Pages) and the some components in bottom – up designing approach (e.g. the middle tier classes).

7. MODULES DESCRIPTION

All the modules of the project are categorized into following three zones :-

- General Zone
- User Zone
- Seller Zone

7.1 FOR GENERAL USERS

- ❖ HOME
- ❖ ABOUT US
- ❖ BLOG
- ❖ CONTACT US
- ❖ REGISTER

7.2 FOR CUSTOMERS

- ❖ MY ACCOUNT
- ❖ SHOP PAGE
- ❖ QUICK VIEW
- ❖ PRODUCT DESCRIPTION
- ❖ RATINGS
- ❖ REVIEWS
- ❖ WISHLIST
- ❖ FILTERING
- ❖ SEARCH

- ADD TO CART
- ONLINE PAYMENT
- SHIPPING
- TRACK MY ORDER
- VOICE ASSISTANT

7.3 FOR VENDORS

- ADD NEW PRODUCTS
- PAGEVIEW
- COMPLETED ORDERS
- PENDING ORDERS
- REFUNDED ORDERS
- CANCELLED ORDERS
- NUMBER OF SALES
- TOTAL EARNING

8. TOOLS & TECHNOLOGIES

8.1 HYPERTEXT MARKUP LANGUAGE (HTML)

HTML is used for creating the basic layout of the web page. In this project, we have used HTML5 for creating the basic structure of the SavvyMart.

8.2 CASCADING STYLE SHEETS (CSS)

CSS is an add-on to the HTML. Where HTML is used for creating the layout of the web page, CSS is used for designing the web page. In this project, we have used CSS3 extensively for giving SavvyMart a modern look and for creating fully animated user interface.

8.3 JAVASCRIPT (JS)

JS is the main tool of any shopping website without which adding products in the cart is not possible. In this project we have used JS for adding products in the wishlist and shopping cart.

8.4 BOOTSTRAP

We have used BOOTSTRAP in our project for making the website responsive so that it can work on multiple screens of different sizes. SavvyMart can properly work in Laptops, Mobiles and Tablets screens.

8.5 WORDPRESS

Wordpress is the state of the art framework which is used mostly for blogging websites but we have used wordpress for our shopping website. Wordpress is very rich in plugins and we have used advanced plugins of wordpress for making SavvyMart user friendly.

8.6 MySQL

Wordpress uses MySQL as a database for storing data. In this project we have stored data of customers who buy products from us and also sellers who sell products through us using MySQL.

8.7 ARTIFICIAL INTELLIGENCE

To make SavvyMart more user friendly we have introduced SAM using the concept of ARTIFICIAL INTELLIGENCE. SAM is a voice assistant system which helps customers by telling them the description and details of each and every product sold on SavvyMart. One of the best features of SavvyMart is obviously SAM and one of the best features of SAM is that it can speak both in HINDI and ENGLISH breaking the language barrier.

9. ALGORITHMS & CODE SNIPPETS

9.1 FEATURED PRODUCTS

This algorithm showcases the featured products marked by the sellers on the home page.

[products limit="8" columns="4" visibility="featured"]

9.2 LATEST PRODUCTS

This algorithm showcases the newly arrived products on the home page.

[products limit="8" columns="4" orderby="id" order="DESC" visibility="visible"]

9.3 TOP SELLING PRODUCTS

This algorithm tells the customers about best selling products on the home page.

[products limit="8" columns="4" best_selling="true"]

9.4 VOICE ASSISTANT (SAM)

A) *In English* : We have implemented a voice assistant system which is known as SAM to make SavvyMart more user friendly. To implement SAM in english language we have used the *UK English Female* voice.

[responsivevoice voice=" UK English Female" buttontext="Hi, I am SAM !!"] [responsivevoice]

B) *In Hindi* : To remove the language barrier we have implemented SAM in Hindi also to provide reliable customer experience. For implementing SAM in hindi language we have used the *Hindi Female* voice.

[responsivevoice voice="Hindi Female" buttontext="Hi, I am SAM !!"] [responsivevoice]

10. ENTITY-RELATIONSHIP DIAGRAM (ER)

10.1 INTRODUCTION

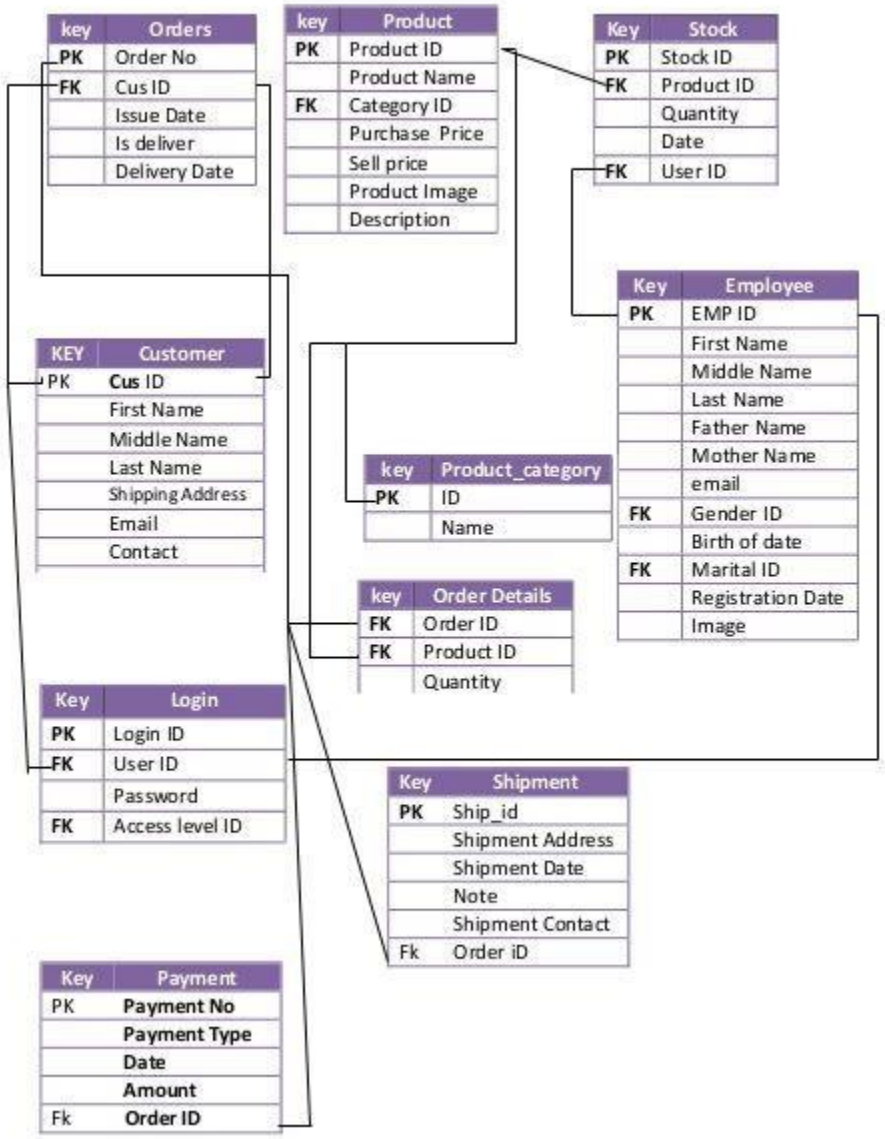
In software engineering, an entity-relationship model (ERM) is an abstract and conceptual representation of data. Entity-relationship modeling is a database modeling method, used to produce a type of conceptual schema or semantic data model of a system, often a relational database, and its requirements in a top-down fashion. Diagrams created by this process are called entity-relationship diagrams, ER diagrams, or ERDs. ER Diagrams depict relationships between data objects. The attribute of each data object noted in the entity-relationship diagram can be described using a data object description. Entity relationship diagram is a very basic, conceptual model of data and it is fundamental to the physical database design. This analysis is then used to organize data as relations, normalizing relations, and obtaining a Relational database.

The entity-relationship model for data uses three features to describe data.

These are:

- Entities which specify distinct real-world items in an application.
- Relationships which connect entities and represent meaningful dependencies between them.
- Attributes which specify properties of entities & relationships**.**

10.2 E-R DIAGRAM



11. DATA FLOW DIAGRAM (DFD)

11.1 Introduction

DFD is an acronym for the word Data Flow Diagram. DFD is a pictorial representation of the system. DFD is a graphical representation of the flow of data through the information system. DFD are also used for the visualization of data processing (structured design). A DFD provides no information about the timings of the process, or about whether the process will operate in parallel or sequence. DFD is an important technique for modeling a system's high-level detail by showing how input data is transformed to output results through sequence of functional transformations. DFD reveals relationships among the various components in a program or system. The strength of DFD lies in the fact that using few symbols we are able to express program design in an easier manner.

A DFD can be used to represent the following:-

- External Entity sending and receiving data.
- Process that changes the data.
- Flow of data within the system.
- Data Storage locations.

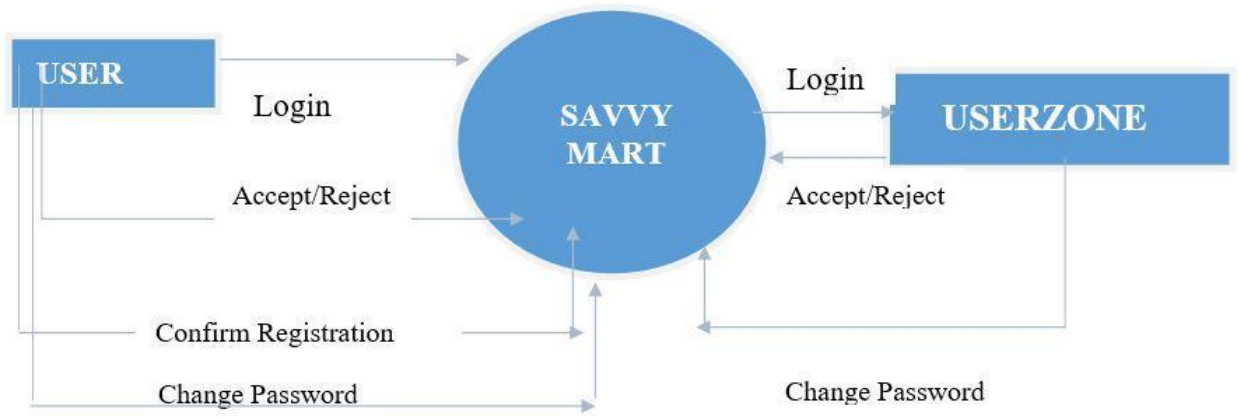
11.2 Uses of DFD

The main uses of data flow diagrams are as follows:-

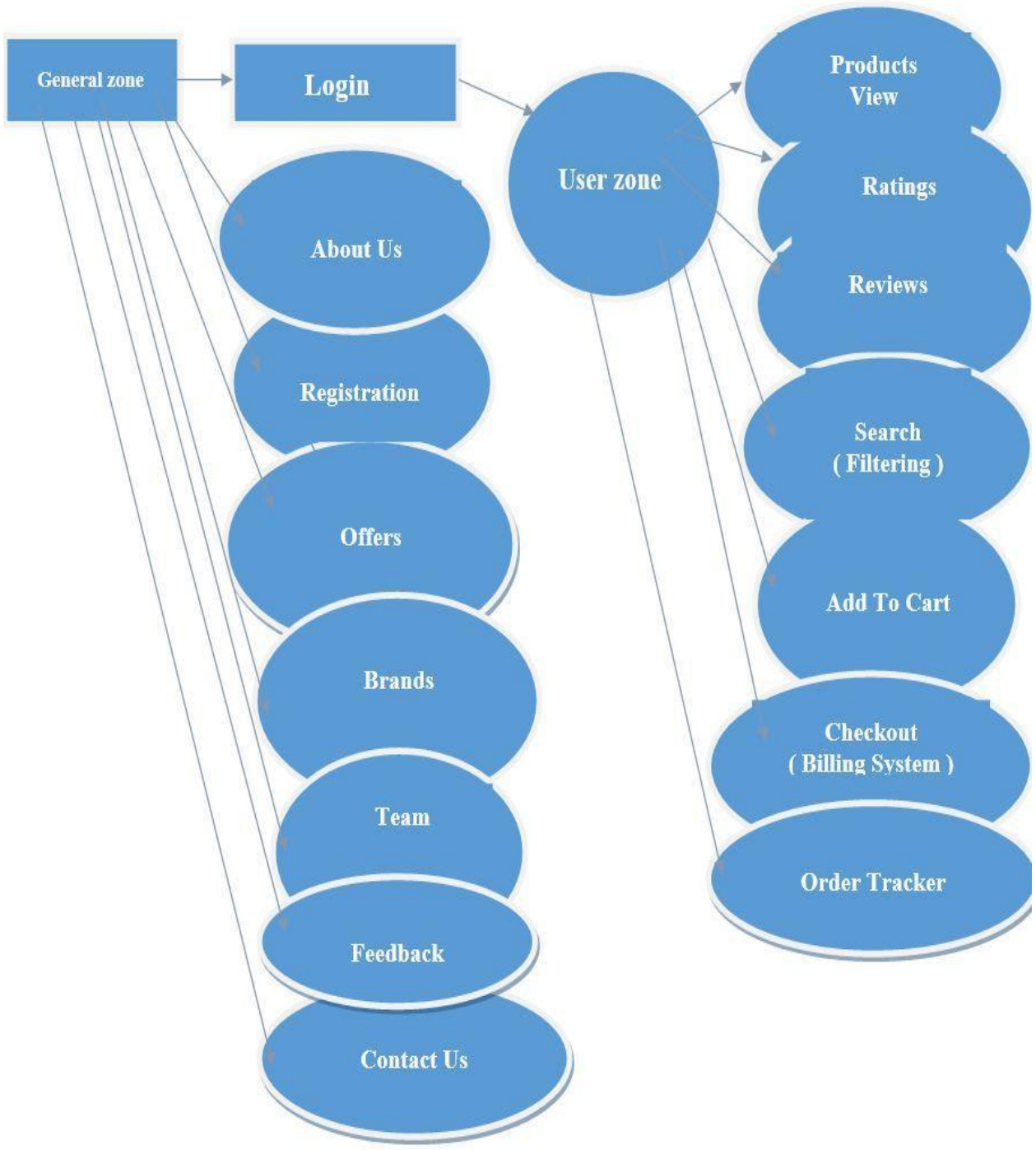
DFD is a method of choice for representation of showing of information through a system because of the following reasons:-

- DFDs are easier to understand by technical and non-technical audiences.
- DFDs can provide high level system overview, complete with boundaries and connections to other systems.
- DFDs can provide a detailed representation of system components.

11.3 Level 0 DFD

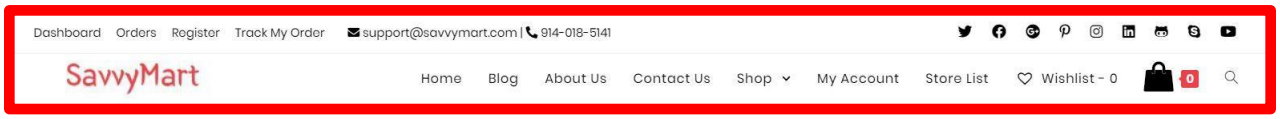


11.4 Level 1 DFD

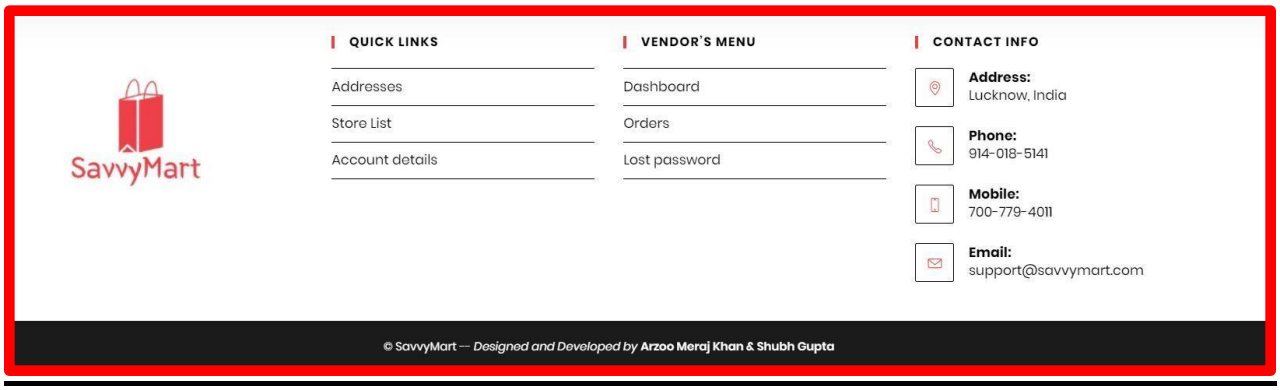


12. SCREENSHOTS

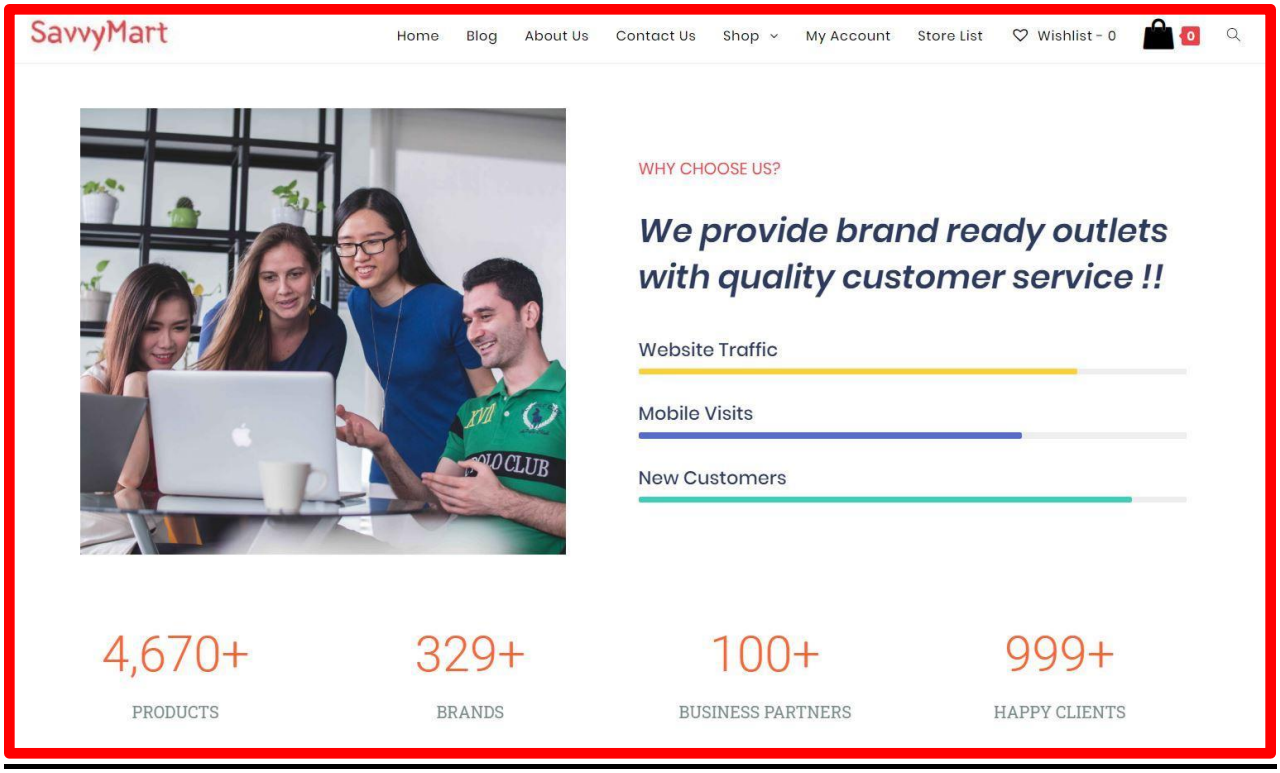
12.1.1 HEADER MENU



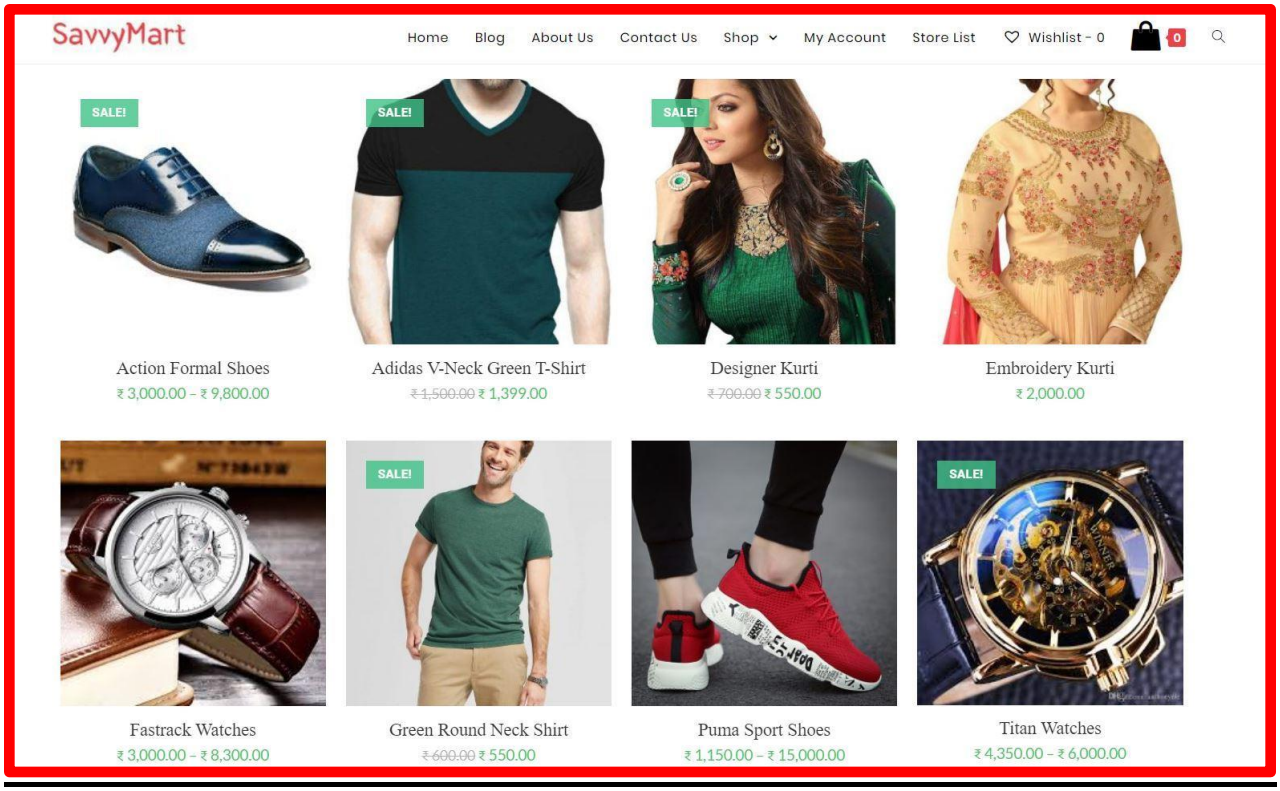
12.1.2 FOOTER MENU



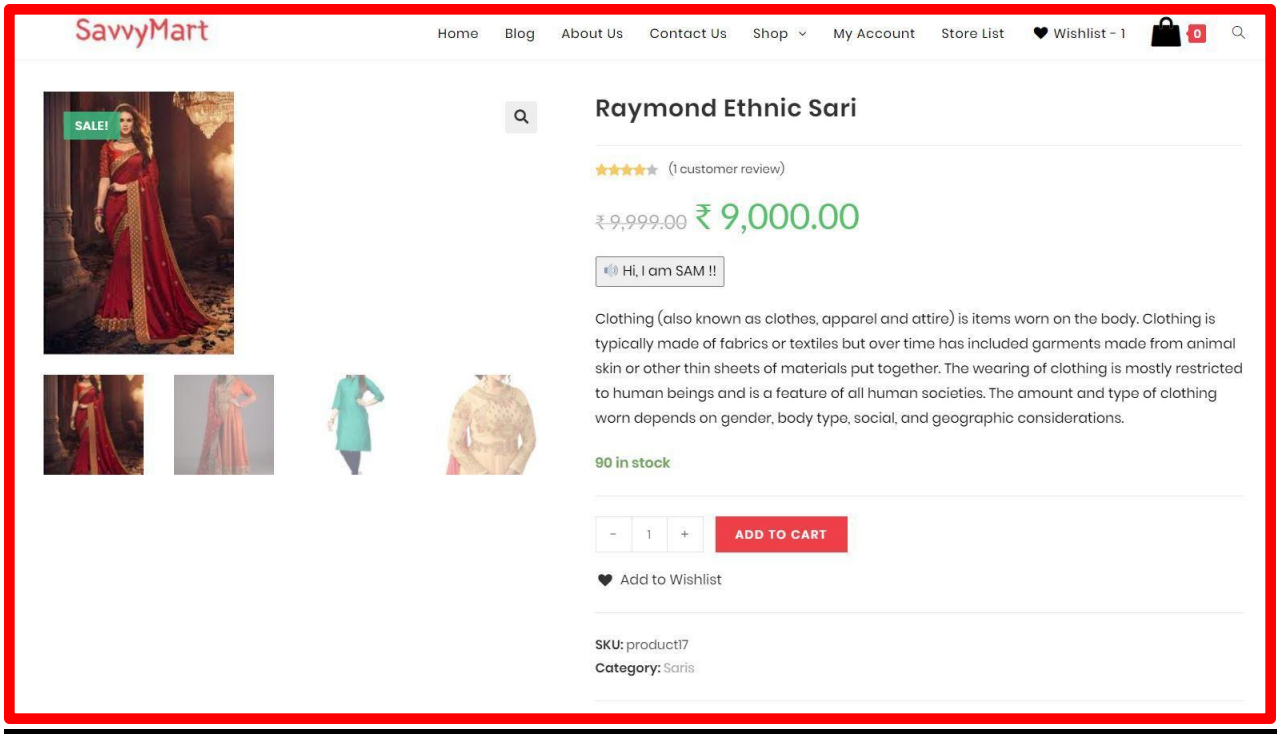
12.2 ABOUT US


SavvyMart
Home
Blog
About Us
Contact Us
Shop
My Account
Store List
Wishlist - 0
WHY CHOOSE US?
We provide brand ready outlets with quality customer service !!
Website Traffic
Mobile Visits
New Customers
4,670+
PRODUCTS
329+
BRANDS
100+
BUSINESS PARTNERS
999+
HAPPY CLIENTS

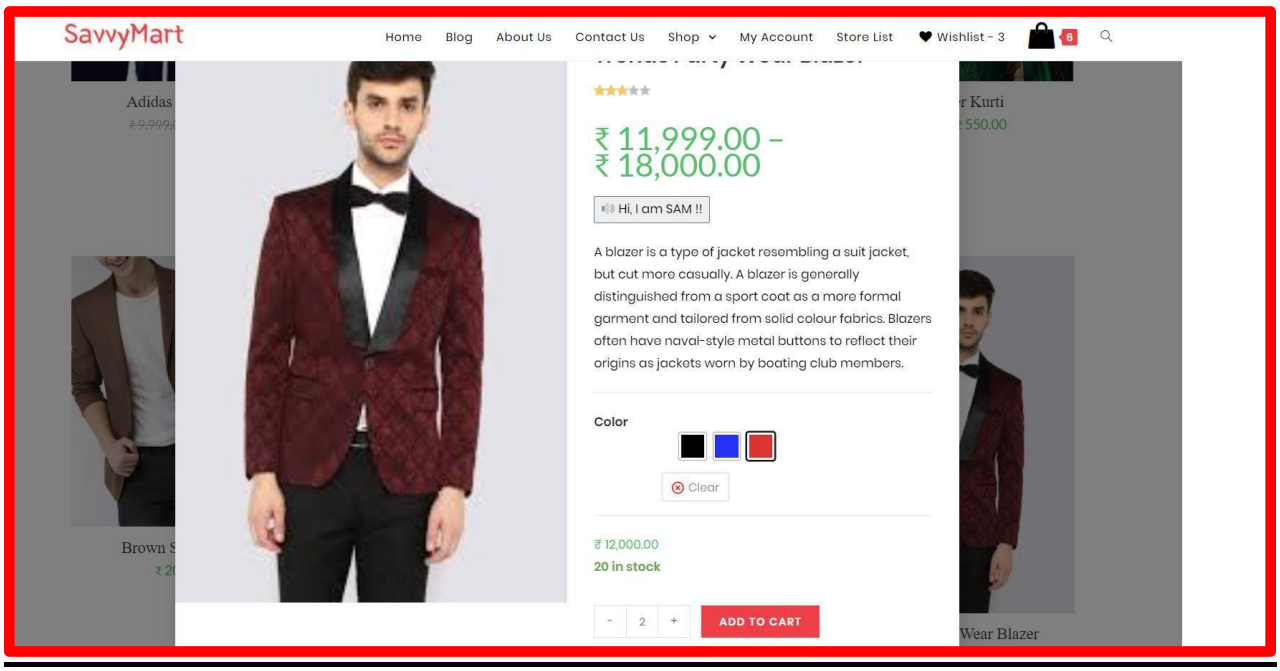
12.3 PRODUCTS



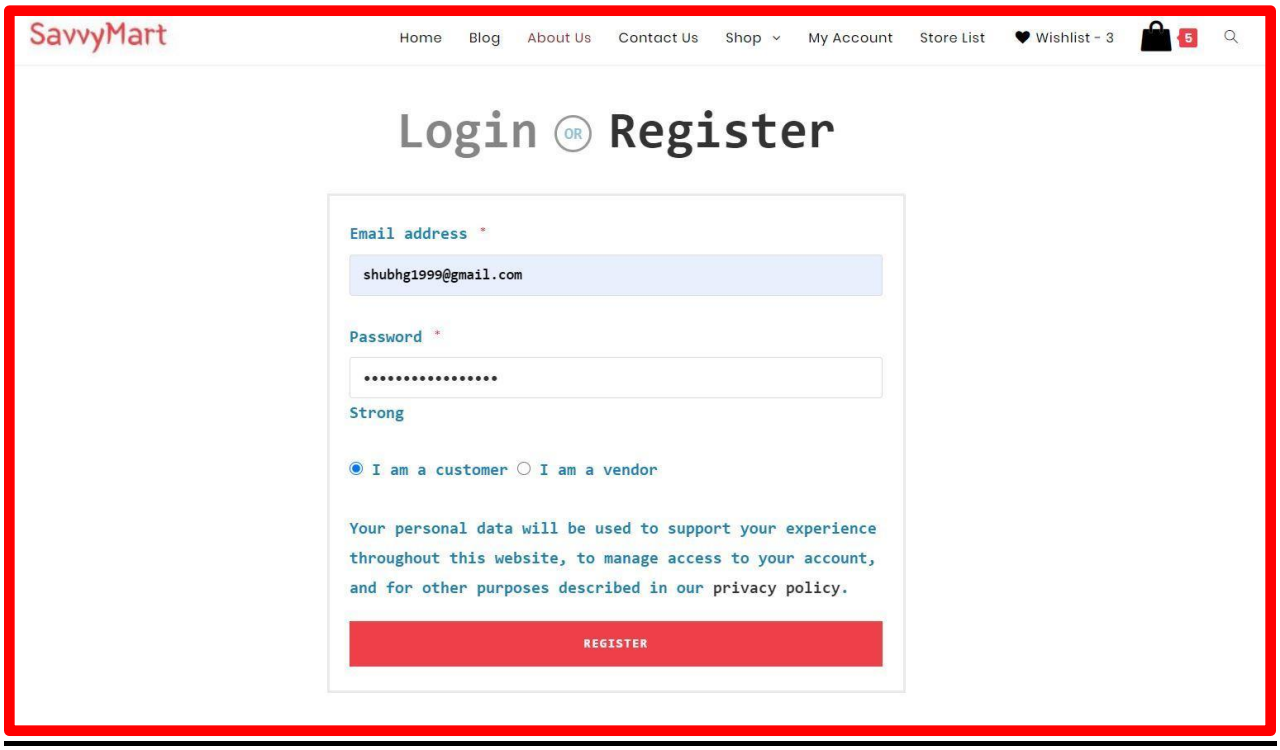
12.4 PRODUCT DESCRIPTION



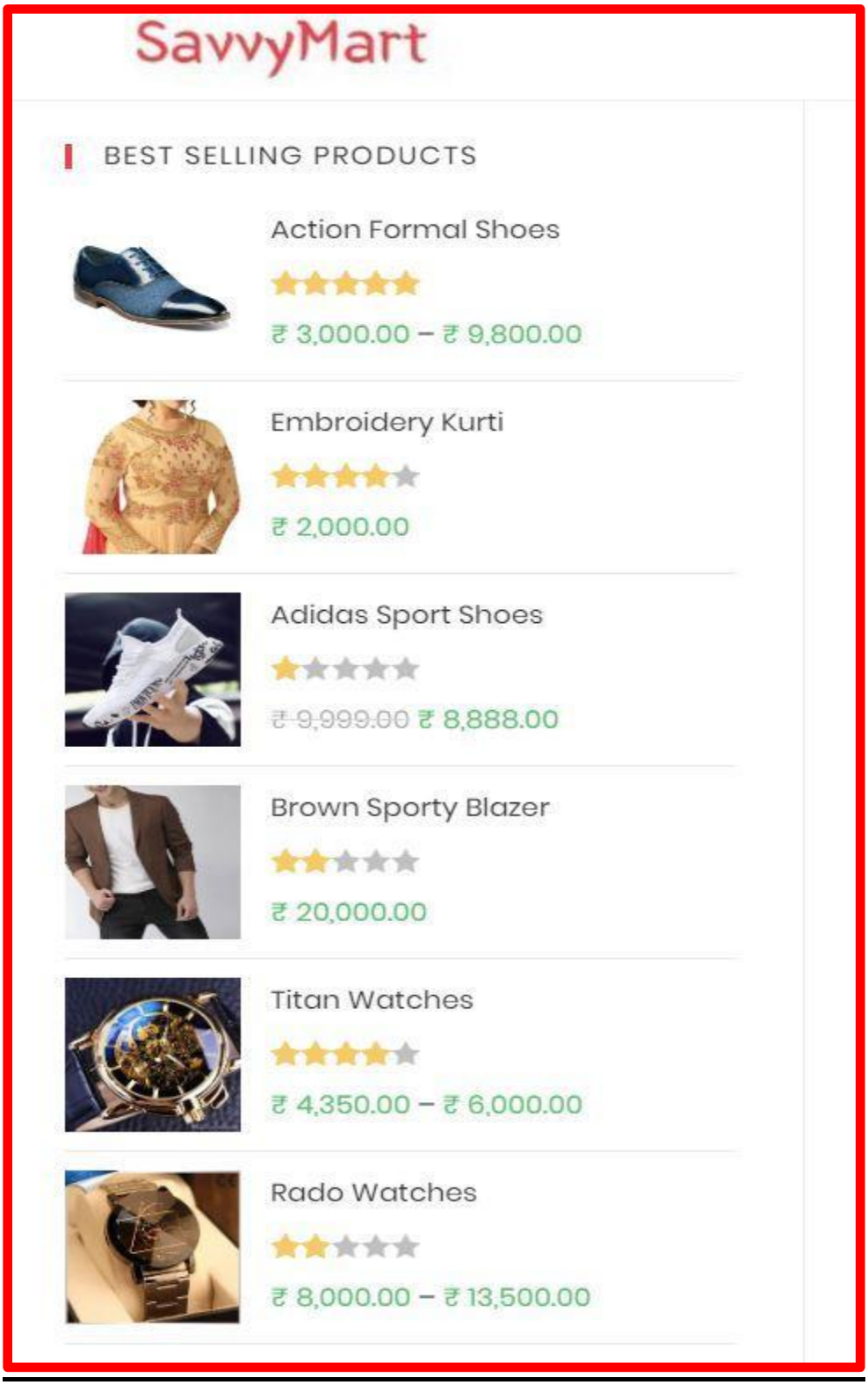
12.5 QUICK VIEW



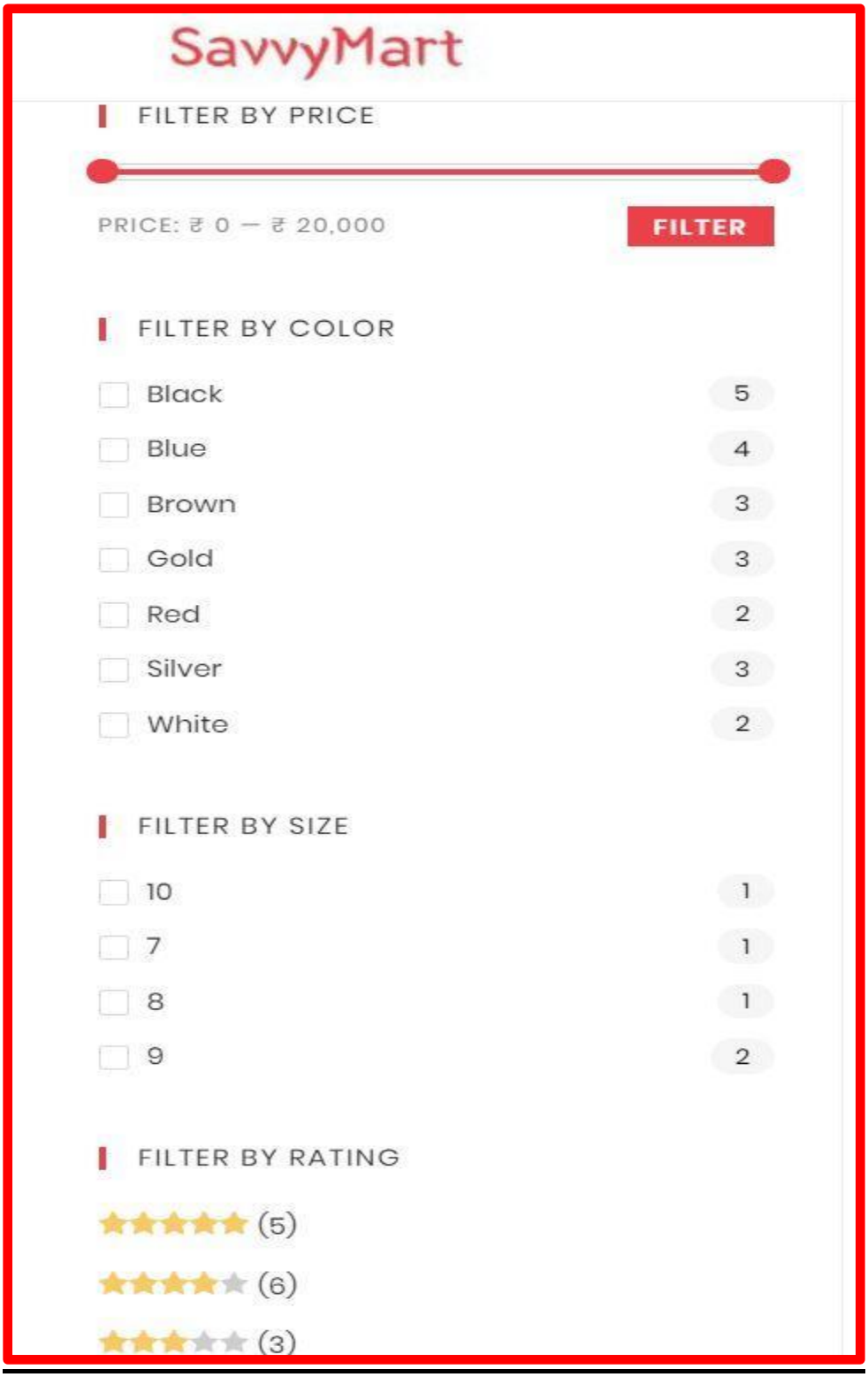
12.6 LOGIN/REGISTER



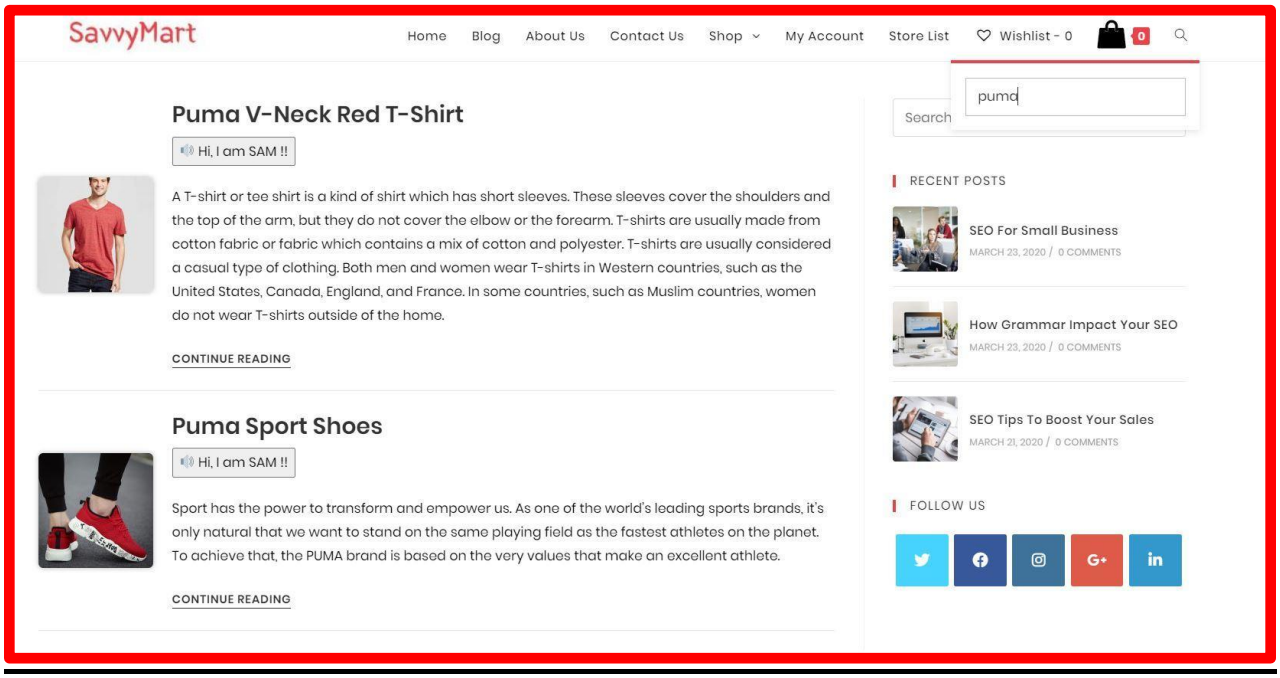
12.7 BEST SELLING PRODUCTS



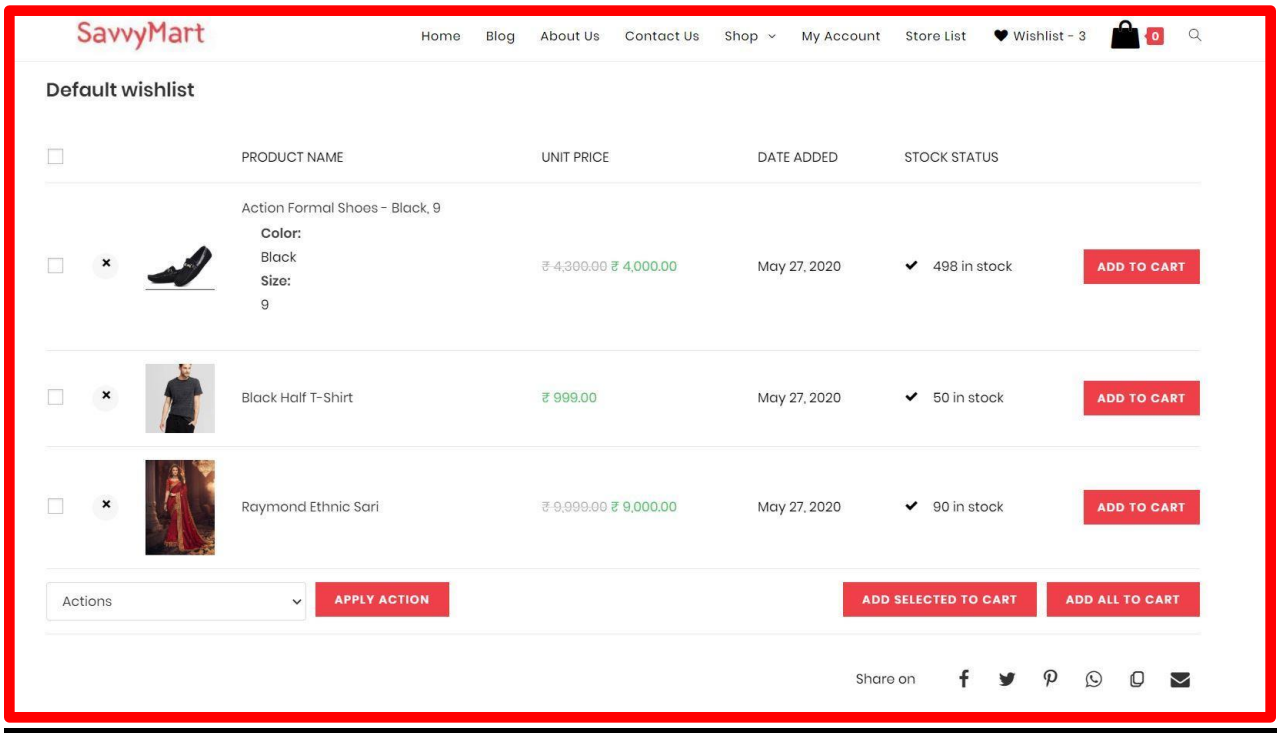
12.8 PRODUCT FILTERING



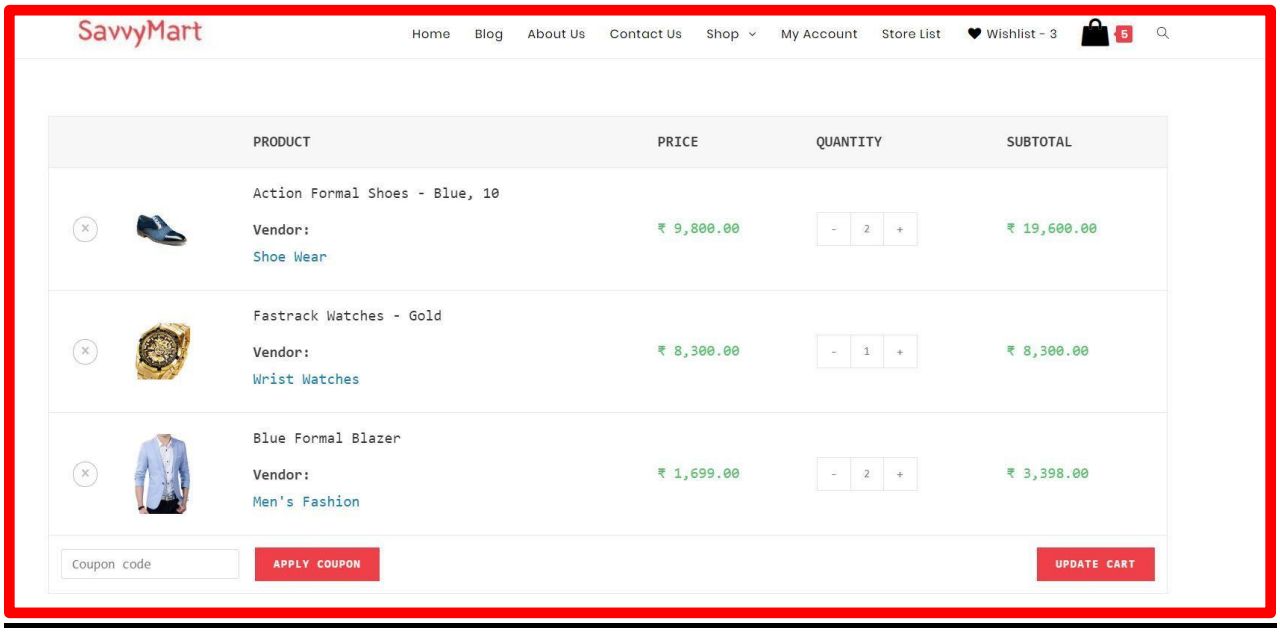
12.9 SEARCH FUNCTIONALITY



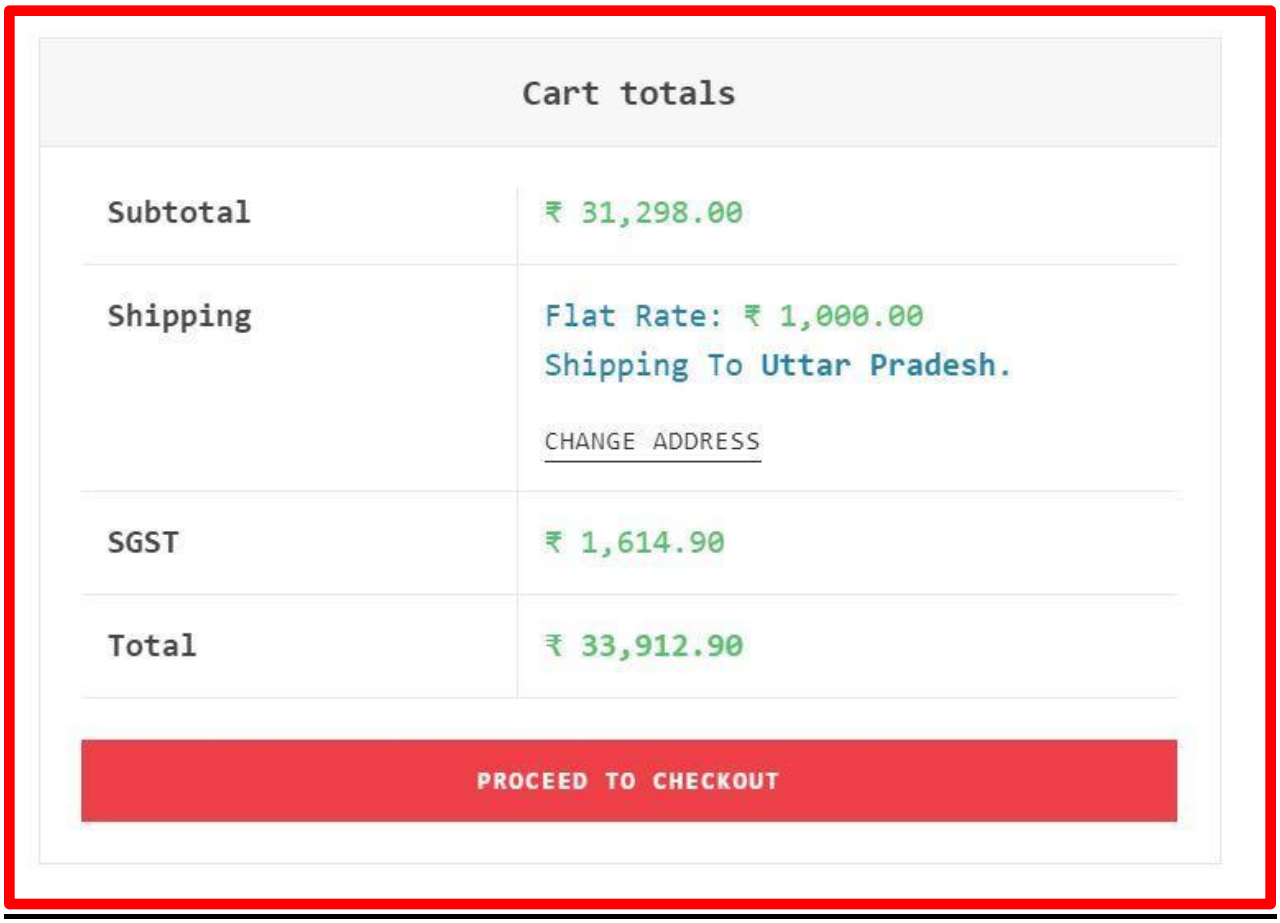
12.10 WISHLIST



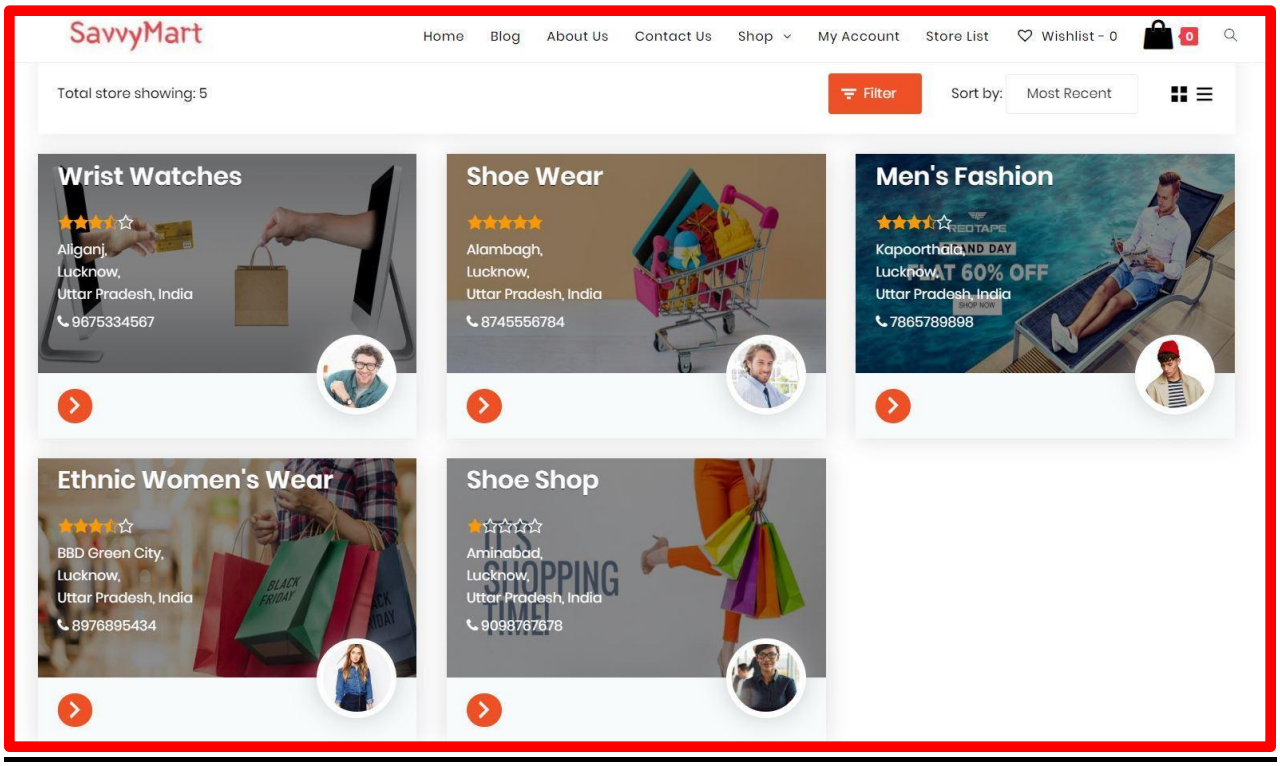
12.11 ADD TO CART



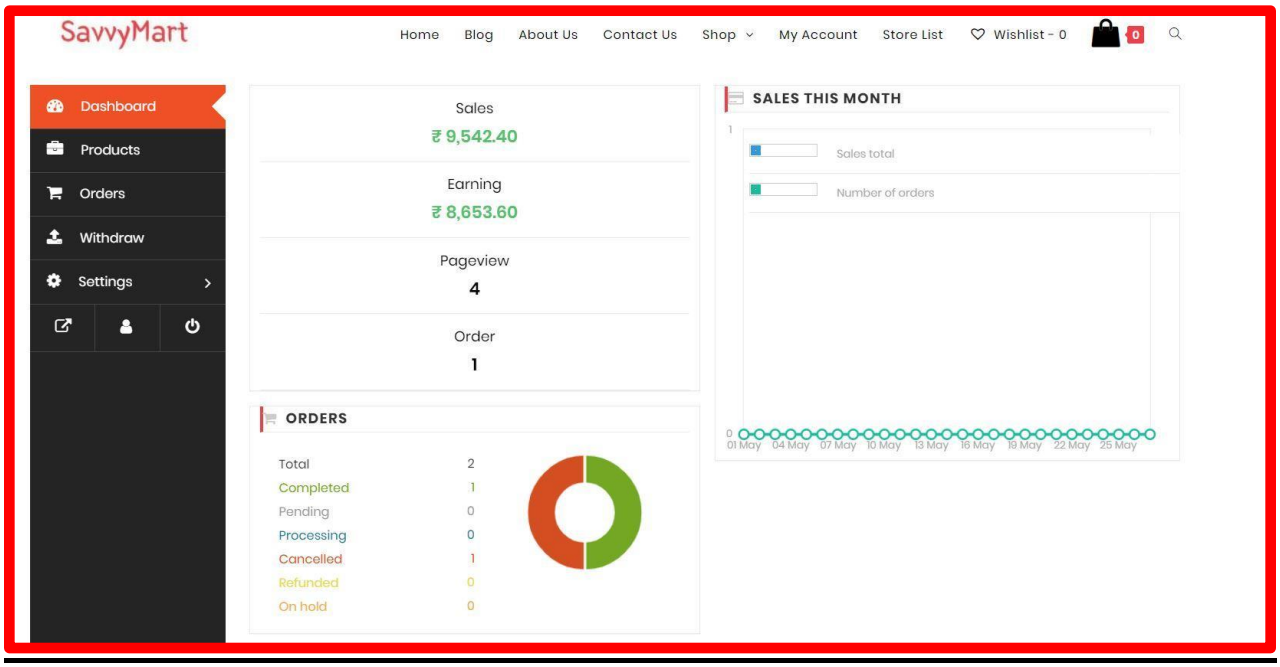
12.12 CART DETAILS



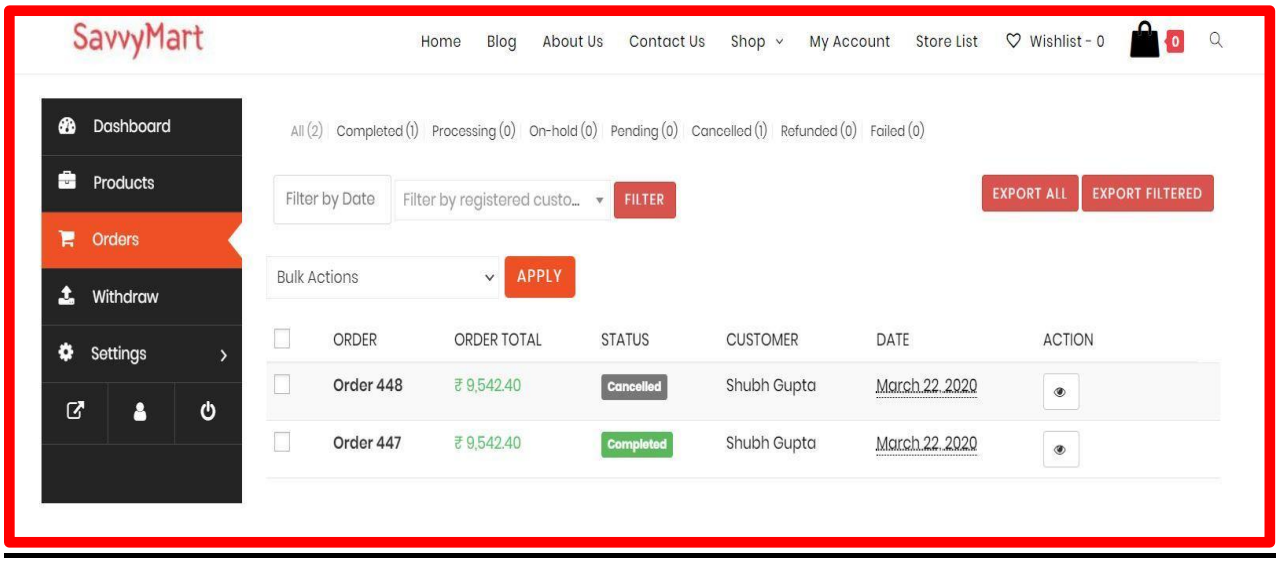
12.13 STORES LIST



12.14 VENDOR DASHBOARD



12.15 ORDERS TRACKER



13. CONCLUSIONS

After researching and implementing this project *SavvyMart* we can conclude that now-a-days mostly people prefer to buy goods online as it saves their time and they can buy or sell their products on just one click. We have also concluded that there are several online markets available on the internet and to increase traffic on your online shop you should implement some advanced modules on your website which will attract customers to buy from your market. Considering these points in SavvyMart the advanced modules which we have implemented to increase traffic are *Animated User Interface* and *Voice Assistant* which is known as *SAM*. We have implemented SAM both in *English* and *Hindi* language and in future we are planning to implement SAM in *SANSKRIT* language too. Through this project work we can surely say that *Voice based E-commerce Websites are* the future of *Online Shopping*.

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