

Website for retail of Electronic Components

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Abstract - This database will be made for a shopping website which deals in weighing scales and its spare components. The website has a catalogue page to display the available products for retail which by now were handled via virtual database with pen & paper. Now, looking forward to the computerised database which will keep track of the customers who are interested in purchasing any kind of products from the catalogue or they can even contact us for queries using the email provided. This website will ask for a login for validating any purchase from the website. The login credentials will be stored in the database as a record for transactions to be made by the customer.

Key Words: Database, e-commerce, electronic components, firebase, bootstrap, atom, website.

1. INTRODUCTION

This project is supposed to be providing a full sized back end experience for a retail website. The login page will only let the user enter a valid user ID and password which should complete the criteria required. This project is based on giving a small scale business a greater reach in the modern market by providing an online platform to shop from. This website will help customers to shop the same products available in the store. The website experience will be the same as shopping physically, allowing customers to buy the desired product regardless of the quantity.

The customers will have the facility of paying on delivery of the product or known as Cash on Delivery. The website includes a Home Page which will introduce new users to the website and will also give a brief information about what the website is actually about. Following the Home page users can navigate to the Catalogue page using the navigation bar. The Catalogue page lists all the available products. Each product has a photo and description of its purpose.

Users can easily click on the add to cart button given below the picture of each product and hence the product will be added to the cart. The cart will display the added products. Also providing the facility of increasing the number of items of the selected product. The '+' button serves the same purpose. The '-' button also helps to decrease the amount of items. Users are also provided with the Clear cart button which will clear or remove all the items from the cart immediately. Further on the navigation bar the Learn page gives detailed information about the business and the owner. Lastly the About page will show the information about the creator of the website and also the contact information.

2. LITERATURE SURVEY

The most favourable way of making your life work a beloved brand is to make it available on the Internet. By offering great products 24 hours a day along with online customer service, blogs and social media, no longer is your business one singular store, with an online presence your business can be the home of your products and the general home of your business, allowing you to fully expand your product ranges without having to worry about moving locations or worrying about not being able to expand your business.

An online store is available all day, every day meaning your customers can visit your store at all times, no matter what their schedule might be. These days people don't always have the time to physically go shopping, instead more and more people are choosing to shop online to find the items they want or need and if your business can offer this for your customers there's no you shouldn't appeal to a wider range of customers all looking for a convenient and flexible experience.

Your website is one of the best marketing tools your business has, not only can the use of SEO when building your site lead to more chances of your business getting found in search engines, but a huge number of marketing techniques can also work alongside your website, including pay per click advertising, your social media marketing and your email marketing, all of which can include links back to your website.

In this website we used a Google based platform for the need of a database which will enable us to keep track of the user information. This service provided by Google is known as Firebase which provides new developers and creators an advantage over the native MySQL database. Firebase is completely free and it is operated via the browser and is linked to your Google account.

Other majorly used software in the development process was Atom Text Editor. This is a free to use cross platform software used as a text editor for multiple coding languages. Atom includes support for languages like HTML, CSS, JavaScript, Java, Python, etc. Atom is just a text editor which is only used for writing / modifying the code and not an IDE. Our project was mostly written in the text editor and not in any IDE. Atom provides auto complete for the syntax which saves a lot of time and not needing to remember the syntax.

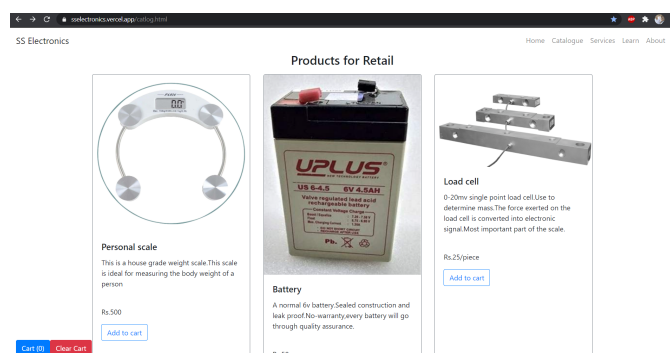
3. EXPERIMENTAL SETUP

This project comprises languages like HTML, CSS, JavaScript. For the frontend we used a CSS framework known as Bootstrap. Further information about the development process is as follows :

- Bootstrap-** Bootstrap is a free, open source framework for css. This framework was made for responsive websites for development. This framework includes CSS and JS design templates for different elements present on the web-page like navbar, animated buttons, etc. Bootstrap was originally named as Twitter blueprint. Bootstrap was developed by Mark Otto and jacob Thornton located at twitter. Bootstrap was made for the motive to implement uniformity throughout internal tools. Prior to the development of twitter blueprint different libraries were in use which led to inconsistency and the load of maintenance. Brief period into the development of the twitter blueprint, several developers at twitter contributed to the project of making twitter blueprint now known as Bootstrap. This development was carried out in the manner of Hackathon which was conducted weekly. The renaming of the twitter blueprint occurred to be Bootstrap. It was released on august 19, 2011. The former known Bootstrap is maintained by the primary developers Mark otto and jacob Thornton also include a team working behind the primary developers. This group of developers has now formed a community for the better maintenance of the framework. Today the latest version of the bootstrap is v5.0.0.
- Firestore-** This a free platform developed by Google. Firestore was made for new developers who intend to support their web page mobile application with a back end service. This service provided by Google offers the developer to maintain a database without SQL. Firestore was primarily an independent company in 2011. In 2014 Google acquired the company. Now at the current date The company is handled by Google as one the flagship Google services. Firestore still provides the same development . Firestore was primarily named as Envolv which was developed by James Tamplin and Andrew lee in 2011. Prior to becoming a google flagship, Envolv was a start-up. The Firestore provides 18 facilities to the developers. The firestore API enables the user with a Database, Chat bot for websites, storing user data securely. These services are divided into three Titles namely Develop, Quality and Grow.
- HTML-** HTML is a standard language used in making of the core of the web-pages. HTML stands for hyper text markup language. The design of the documents on the web-page is designed in the HTML. HTML runs in every browser. HTML is often paired with a cascading style sheet also known as CSS. The HTML was written in 1990 by a physicist Tim Berners-Lee. Today the latest version of the HTML is v5.2.
- CSS-** CSS is a styling language used with HTML and JavaScript. CSS enables users to add style elements on the web-page example-buttons, navbars, side

menu, etc. CSS helps the developers to add a user-friendly interface to the HTML documents displayed in our browsers. CSS has various frameworks available on current date like Bootstrap. These frameworks offer pre-made codes for the elements on the web page. The CSS was developed in 1996. Today we use v2.1 of the css. Updates of the css come periodically.

- JavaScript-** JavaScript is a language used with HTML and css in the web-pages to add functionality . JS offers the developer to add functions to their websites which basic HTML and CSS are not able to perform. JavaScript is also known as JS. JS has various frameworks like CSS.JS is a high level language. JS is a dynamic and object oriented language. JS was developed by Sun Microsystems in 1995. The latest stable version of the JS was released in June of 2020.



Figure(a) Home Page of the website

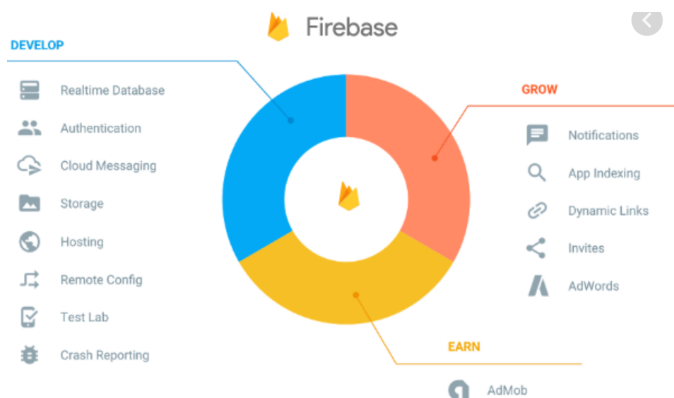
4. PROJECT PROCEDURE AND FLOW

- The project development started with a basic HTML program which was written in Atom text editor. The HTML script consisted of the basic tags, headings, etc.
- The HTML acts as a nervous system for the full website, which means it looks after the basic functioning of the website.
- After the HTML is complete we focus on CSS.
- For CSS we use basic CSS along with Bootstrap which is a free open source framework for CSS.
- Bootstrap offers various pre-made objects which makes the frontend process much faster.
- Bootstrap consists of Buttons, icons, navbars, animation for the front end needs.
- With the help of HTML, CSS and Bootstrap the pages of the website were made.
- To add functionality to the pages we added JavaScript.
- JavaScript is an integral part of building a website because it offers the functionality which cannot be obtained through basic HTML and CSS.
- JavaScript was used in building the cart feature in the website as well.
- Lastly for the back end we opted for Firestore.
- Firestore is a google based platform which gives the functions to the creators or the developers to keep the track of user information.

- Log in/Sign up is handled via Firebase.

A. Flow of the website

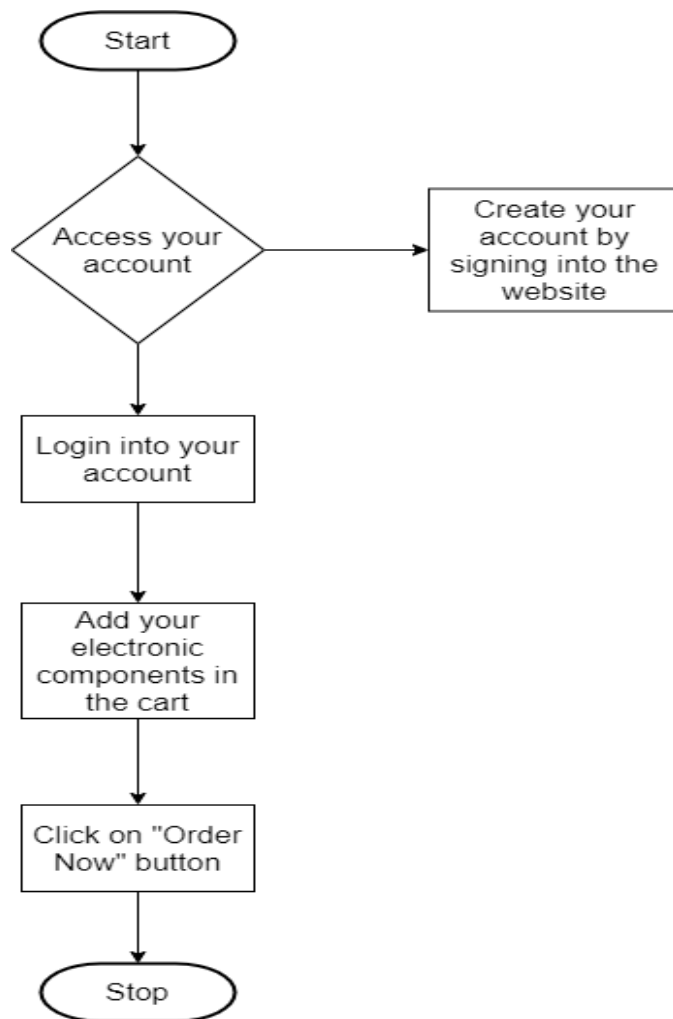
- The website starts with the Home page where users are asked to login or new users are requested to sign up.
- After the Home page comes the Catalogue page which lists all the products available by the owner of the business.
- If the customer wishes to buy any product listed they are provided with an add to cart button.
- The 'Add to cart' button adds the desired product into the cart. The cart then offers to increase in quantity or decrease too.
- The cart also has an order button which orders the product present in the cart after the user has provided the required information for the delivery of the product.
- If the user wishes to know about what services the business provides they can head over to the 'Services' page which provides detailed information about the provided services.
- The user can have a look at the history of the Business on the 'Learn' page.
- Lastly the 'About' page will provide the user with info of the creators of the website as well the email address through which they can send us their queries.



Figure(b) benefits of Firebase

Algorithm :

- Step 1: Start i.e. Open the website
- Step 2: Login into your account.
- Step 3: Take a look at all products available on the website.
- Step 4: Add your items as per your requirements in cart and to purchase click on order now.
- Step 5: Stop.



Figure(c) flowchart of the retail process

5. CONCLUSION

Our website is developed for online shopping of electronic products for a shop. This website can be accessed from any device and any browser. It has a simple UI and easy navigation which can be operated by anyone. We can add products into the cart which we want to order and can make payments using Cash On Delivery. This website fits in well with the present day commerce market as people tend to make their purchase for the desired products digitally. This project has helped us enhance our skills for coding, programming, problem solving, teamwork, etc. Lastly, this projects provides various facilities to the user:

- Better pricing than the market.
- Easier than finding products physically.
- Faster process of making the purchase .
- Door to Door delivery.

6. FUTURE RESEARCH.

Our future plans for the website are firm as the internet is growing day by day. With the ease of our back end tool we can grow our website and increase our reach digitally. In Future we can add more payments like UPI, net banking, Debit/Credit Card, etc. We can add Live order tracking which can show the status of an order and can show the delivery parcel if it is ready and on its way. It is sure that these kinds of websites have a lot of scope in the near future as online

shopping is a thing which cannot be out-dated at least for a decade or more. We can also enhance User Experience of the website by adding search features in future. We can also add support to different international, national and regional languages. We aim to improve certain elements of the website as modifications and updates are required from time to time.

- GUI Modification. (Making the website user friendly)
- Login using Social Media like Google+, Facebook, twitter, etc.
- Payment gateway for ease of transactions. The payment gateway will enable the user to make the transaction without cash.

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