

Smart Kirana Store

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Abstract— Purchasing goods from the comfort of your own living room certainly is more convenient than actually driving to a store, while offering a virtually unlimited array of choices and the ability to compare prices. While online payment and security technology have come a long way, you still may experience problems with online shopping from time to time. This paper covers some of the more common issues, such as getting the wrong item or falling prey to online scams, and ways to minimize these potential pitfalls [1]. Many of the problems seem to arise because the retail and divisions of major stores are run by entirely different groups, or at least they were until recently and these groups sometimes seem more like competitors rather than players working on the same team. The consumer sees the same store brand name, and understandably assumes the entities online are identical, but they're not and the results are heaps of confusion and frustration.

Key words: Online Shopping, Payment Interface, Retail Store, Technology

I. INTRODUCTION

A Smart Kirana Store permits the customer to submit online orders item and or services from a store that serves both walk-in and online customers. The online store system presents an online display of all the items they want to sell. This web based application and an android application help the customer to choose their daily needs and add products to their shopping cart. Customer provides their complete detail of address and contact numbers.

In the past, small family owned grocery stores formed the basis of the supermarket industry. One family member minded the cash register, another stocked the shelves, and another unloaded the delivery truck. However, today many of the small independent grocery stores in rural communities have either experienced financial difficulties or have been forced to close. Several factors contributed to the closures. First, many owner/operators of local stores have retired without a family member or another individual in place to continue the store's operations. Second, communities experiencing a decline in population lost grocery sales and the business was no longer viable. Third, residents in rural communities often commute to larger communities for employment and shop before returning home. Independents find it impossible to compete in price with large chains that have economies of scale. Fourth, independent grocers have also experienced competition from convenience/gasoline stores. The information contained in this paper can be beneficial to those individuals currently in the grocery business, those who are considering starting or investing in a grocery, or a community wishing to attract or retain a grocery store.



Fig. 1: System Architecture for Shopping Application

This web based application saves lot of time of customers.

It has mainly 2 portals to login in the system:

- Admin Portal
- User Portal

The system architecture is explained in the Fig. 1. As the name suggested system architecture, it mainly explains the execution of the overall system. It has many parts and all should work in the proper manner. Firstly, the user or client has to visit the website and the further process should execute it in sequence manner. The various parts of system architecture are as follows: [1] [2]

- 1) Product Browse: The user has to search for the required product by selecting the category and after selecting the particular category or product it will display all the details

- 2) Choose Product: This will give all the details about the product such as product name, product price, year of manufacturing, no. of quantities required by the user etc.
- 3) Shopping Cart: It will give the details about the cart the user has added products in it with total amount the user has to pay for shopping.
- 4) Provide Details: In this section, the user has to give personal details such as name, mobile no., email id, and the payment option the user wants to pay for the shopping.
- 5) Post your Order: It will give the final amount including the price for the products the user has purchase and vat applicable as per the govt. Norms.
- 6) Shipping Order: After the payment process is done, the user final products are ready for shipping to the prescribed address given by the user at the time of purchasing. [5]

A. Existing System

- The existing system is a web based application which is completely related to internet browsing.
- This system allows multi-divisional, multi-departmental system handling that includes various activities. In this system, it gives the reports of the customer's account and their details.
- It is completely automated system in handling the customer database.
- This system provides customers to easily navigate through the database.
- This system provides easy access to the particular customer's record.
- The content for the user is made much easier than in the existing system.
- Some defects in the existing system are lack of communication between the sellers and buyers.
- Fail in tracking of products.
- The system is not totally computerized especially in supermarkets and merchandize retail shops.
- System takes lots of time in performing different activities and there is no data handling.

II. PROPOSED SYSTEM

These chapters mainly describe the details about the proposed system and working of the system with respect to the existing system.

- Smart Kirana Store is an online application, which provides the online shopping facility available for everyone.
- Security issue pays major importance today; so extra efforts and attention is made towards security is also done in shopping application.
- Shop online application concentrates more on user friendly interface and promotes user to purchase faster and easier.
- The objective of the system is that, it will send a message about the deals transactions and notification to the mobile phone of the customers.
- Payment also can be done through mobile using UPI (Unified Payment Interface such as UPI Bank app, Bhim app etc) payment method.
- This removes load on database and burden on the customer. [3]

A. Features and Benefits

The Smart Kirana offers different functionality to the customers regarding the online shopping, and they are as follows:

- To create web based application and mobile based application for shopping.
- To provide better search facility for customer.
- To generate different types of information.
- Providing Enhanced security mechanism.

B. Problems in Existing System

Nowadays, there is very rush in Grocery stores due to which the customer has to wait for longer time. [4]

- The technology is so fast that anyone can do anything by just sitting in the room. The internet is the way that helps a person in all aspects. If anyone wishes to buy and view things, he or she can buy online with help of internet.
- Today there are very least organizations which are manual. Everything is going to be computerized and online. This system is trying to help people to make their life easier by providing online grocery items.

III. DIFFERENT MODULES OF PROPOSED SYSTEM (WEB BASED)

A. Module 1: Introductory Page

Perhaps you dislike grocery shopping, or you're unable to frequently leave your home due to an injury or a new baby joining the home. Or maybe you have a schedule that is so busy you have trouble making it to the supermarket. If this is the case, you may want to start using an online grocery service such as Smart Kirana Store. No matter your situation, Smart Kirana Store has all the grocery items at one click. Learn about the benefits of Smart Kirana Store, as well as the downsides, and determine whether using the service is right for you.

Smart Kirana offers you many categories for shopping according to your convenience. It has all the details about the product you want to buy, all purchasing details and the least prices for the products.

The contact details are available for having the details of the items and ordering them.

With more than 1000 items in stock, Smart Kirana Store offers as much variety as your local grocery chain store. In addition, they offer a variety of products for many lifestyles.

As shown in the Fig. 2 the user has clearly shown the index page with the following details such as home button, best deals, customer login and services which is provided to the customer for shopping and all and it also shows the category in the left side of the introductory page or home page.

You are not tied to a membership fee or any other subscription. You can simply stop for shopping at Smart Kirana Store.

This page gives the details about the online system and introduction to the Smart Kirana Store and its features and benefits as compare to the existing system.

B. Module 2: How to Add Product Information

If you would like to shop something, simply type or paste your grocery list into the Add Cart Box. Next, pick your grocery items from the selections available. For instance example, if you have Soyabean Oil on your grocery list, you can choose between brands such as Fortune, Nature Fresh, Sweekar, and Nutrela, in addition to choosing between Mustard Oil, Coconut Oil and Sunflower Oil.

The value of the product is displayed on the Add Product page. The Discounted Price and the Actual Price is displayed on the Product Page accompanied with the image and the Product Description. It also includes the availability of the stock.

If you would like a more leisurely shopping experience, choose “Browse option”. On the sidebar, you will find categories for groceries such as “Cereals” “Drinks” and “Sauces” among others. When you click on a subcategory, Smart Kirana Store will show the items in that category that are on sale and you can click on other subcategory links to see all items available. As shown in Fig. 3 the admin has to insert the details of the new product by entering the following details such as; name of the product, image which has to be shown in home screen, price, discount price if applicable, product brand name, stock details, its description regarding the product and finally the category to which the product belong.

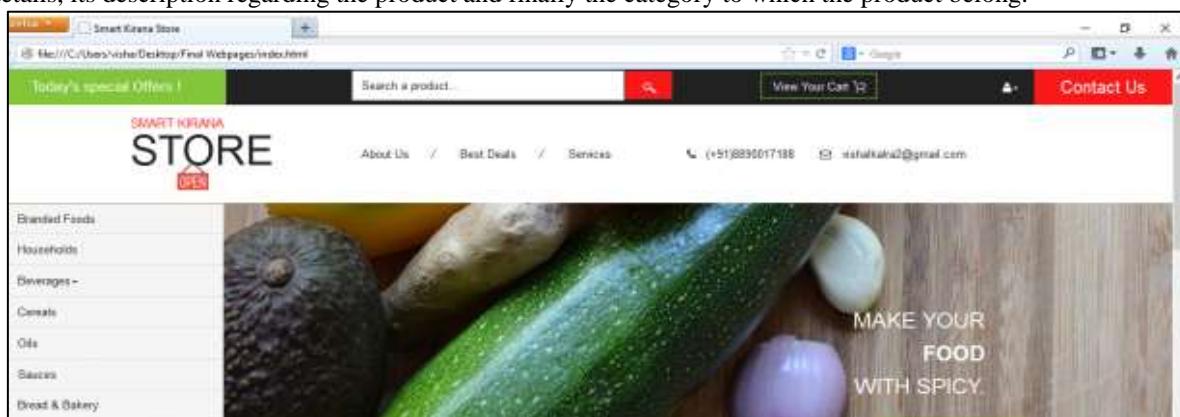


Fig. 2: Introductory Page

Enter name of product	Enter image file name of product
Enter discounted price of product	Enter actual price of product
Enter brand of product	Enter description of product
Category	<input type="button" value="Bread & Bakery"/> <input type="button" value="Branded Foods"/> <input type="button" value="Cereals"/> <input type="button" value="Drinks"/> <input type="button" value="Households"/> <input type="button" value="Oils"/> <input type="button" value="Sauces"/>
<input type="button" value="Add Product"/> <input type="button" value="Cancel"/>	

Fig. 3: Product Information (Interpolation Module)

C. Module 3: Existing Products Information

In this we can see that all the products of a particular category are shown in Fig. 4 along with all theirs details for example for any product it will display the name of the product, actual price of the product, discount price available if any to the following product, its brand name which belong to the product and finally the stock available in the system with a very simple user interface.

D. Module 4: View and Survey Cart

When the user has done the choosing items, simply click “View Shopping Cart”. It will see the entire order and have the opportunity to change the quantity of each item, or to eliminate particular items which is as shown in Fig. 5. In addition, to that it will also show the total bill including the groceries, fuel surcharge, and tax in addition with the total amount or total discount the user or client will get or saved by doing shopping on the Smart Kirana Store.

Name of product	Actual Price	Discounted Price	Stock	Stock Available
Mirinda	45	30	100	100
Fanta	45	30	100	100
Coke	45	30	100	100

Fig. 4: Existing Products Information (Category Wise)

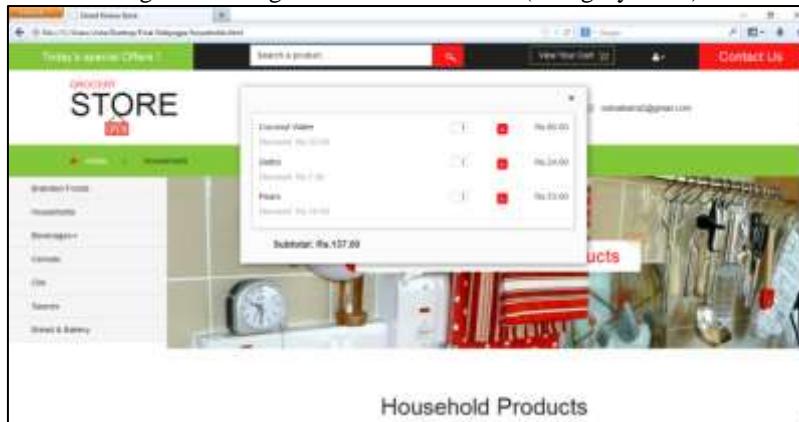


Fig. 5: Shopping Cart Status

E. Module 5: Pigeonhole/Category List

User can also explore the products by their categories. The snapshot in Fig. 6 gives the details about the products search by the user as per its needs such as, it showing products that belong to beverages and oil category. Here user can shop all these products and easily add them to the cart for the shopping. The various pigeonhole lists consist of beverages, household, sauces, oils, branded products and foods, cereals, bread and bakery etc.

F. Module 6: View Products

Admin can view any products he or she wants to explore. In view or survey products, all the products will be displayed and in other products will be shown by theirs categories. In Fig. 7 it will display all the information regarding the products. The admin can see the details on the view products page in categories such as view all products, view cereals products, view oil products, view drinks products, view household products, and view sauces products.

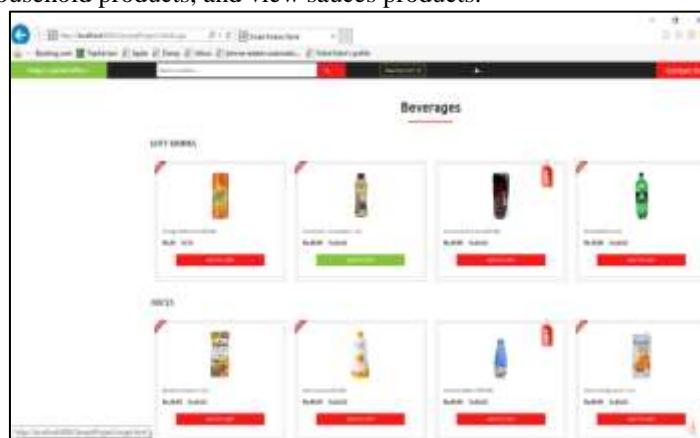


Fig. 6: Pigeonhole List

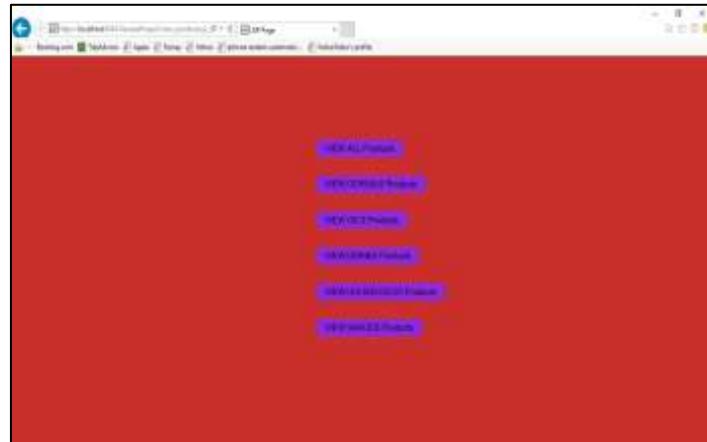


Fig. 7: Category wise Products (Display Module)

IV. MODULES OF MOBILE BASED APPLICATION (SMART KIRANA STORE APP)

The android application helps the customer to choose their daily needs and add products to their shopping cart. Customer provides their complete detail of address and contact. This mobile application saves lot of time of the customers.

A. Module 1: Login Page

This login page is used by the customer to login in to the app and used its features based on the selection as per the user needs. The Fig. 8, showing the Login Page, when the user install and open the mobile app, the app showing the name at the top as "Smart Kirana Store" along with the two information details has to fill by the details as follows:

- Email Id of the Existing User
- Password of the User

For Login into the app, the user must provide the Email Id and Password, and both the fields are mandatory to fill, without this information the user are not able to login into the system. If the user is the guest and using the app first time then there is a field that will ask the user to create the new account as "Not Account Yet, Create One". By clicking on that the user has migrate to the Sign Up page.

B. Module 2: Sign-Up Page

The Sign up page helps the new customers to create the new account and purchase products online. The Fig. 9 shows the Sign Up page and it has the following fields:

- Name of the User
- Email Id of User for Login
- Password for Login
- State
- City

For Sign Up purpose the user has to fill all the details and click on the create button, which will create the account for the user. After that the user can login by clicking on the "Already a Member" link to Login to the system.



Fig. 8: Login Page (Before Login and Filled Login Information) Fig. 9: Sign Up Page (Before Sign Up and Filled Sign Up Information)

C. Module 3: Admin Dashboard

The admin dashboard in Fig. 10 will help the admin to insert the various details into the database system, the various functions that admin can perform are as follows:

- Add Products: The admin can add product detail such as product image, product Id, name of the product, its branding, price, stock details, its weight and finally after inserting all the details for the product, the admin can click on the “ADD BUTTON” to save the details of the product into the system database.
- View Products: This feature allows the admin to view all the products that are available for the shopping to the registered user. The various products are that are categorized in the view products class are, Household, Beverages, Oils, Cereals, Sauces, Bread and Bakery etc.
- View Users: It can be used by the admin to view all the registered user, and can also used to send some discount deals to the registered user via email Id, when any such type of scheme are available for the existing users.

D. Module 4: User Side Activity

The user activity shown in Fig. 11 will help the user to view and buy the different kinds of products and the different categories are as follows:

- Household Items
- Beverages Products
- Oils
- Cereals
- Sauces
- Bread and Bakery

By selecting any of the categories, it will further display the grid view of the product with the details, so that user can view and add directly to the cart and further do the payment by using UPI payment scheme.

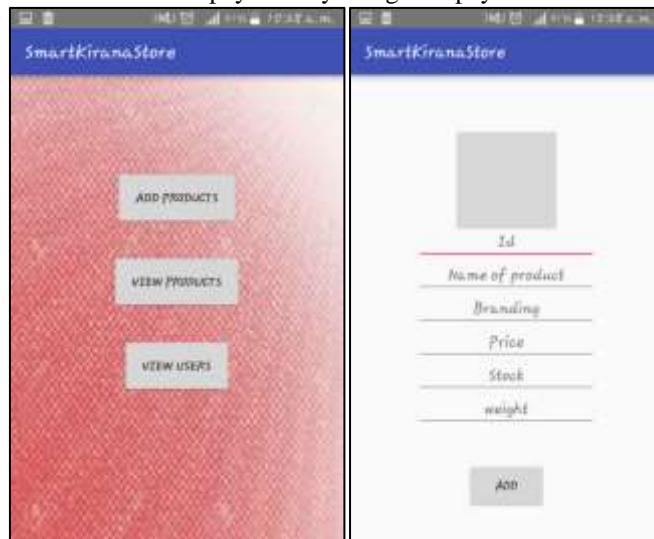


Fig. 10: Admin Panel Dashboard

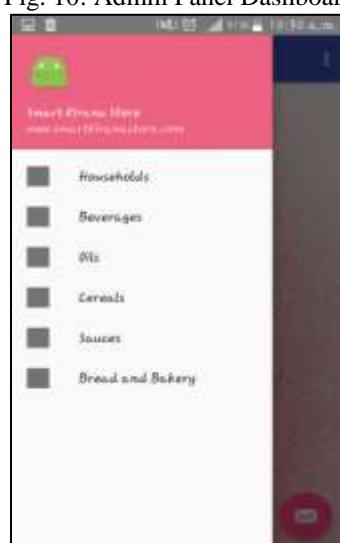


Fig. 11: User Side Activity

V. CONCLUSION

The development of software or website includes so many people like user system developer, user of system and the management, it is important to identify the system requirements by properly collecting required data to interact with supplier and customer of the system. Proper design builds upon this foundation to give a blue print, which is actually implemented by the developers.

On realizing the importance of systematic documentation all the processes are implemented using a software engineering approach. Working in a live environment enables one to appreciate the intricacies involved in the System Development Life Cycle (SDLC).

The administrator of the web site can be given more functionality, like looking at a specific customer's profile, the books that have to be recorded, etc.

Multiple shopping carts can be allowed. We have gained a lot of practical knowledge from this project, which we think, shall make us stand in a good state in the future.

The result and analysis is done on different parameters between the existing system and Smart Kirana Store (SKS App), and with this result, the app is provide much security and features compare to the existing system.

Parameters	Existing System	Our System (SKS App)
Time Complexity	Time consuming	Fast
Discount Offers	No discount to the premiere customer	Discount given to the premiere customer
Security	Security is critical	Provide security
Payment Option	UPI payment is not used	UPI payments are used

Table 1: Result and analysis

VI. FUTURE SCOPE

On realizing the importance of systematic documentation all the processes are implemented using a software engineering approach. Working in a live environment enables one to appreciate the intricacies involved in the System Development Life Cycle (SDLC).

We have gained a lot of practical knowledge from this and the future enhancement includes:

- This application can be easily implemented under various situations and with better flexibility in payment gateway.
- The users who wish to update or enhance can add new features wherever required.
- It can convert the whole website into an app so that users can easily access it anytime.

The SmartKirana Store (Web based and Mobile based app) ERP software solution covers the following features:

- Checkout
- Customer accounts
- Catalog management
- Catalog browsing product browsing
- Order management

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