

# Implementation of Online Shopping and Auction System (SPAROO).

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**Abstract** - The internet has created globalization and at the same time, the advancement of technology has led people to look for easy solutions to problems. In present life, traditional shopping and auction take more time. An app has been designed as a simple overcome to this problem. This will also allow people to shop online and buy and sell rare items by participating in auctions. We know it's hard to find different products in supermarkets and it's hard to wait long in the billing line. This android app is able to deal with problems in smart shopping carts and an online auction system is a prominent solution to meet the expectations of online buyers and sellers where products are often available at reasonable prices by both sellers and buyers. The online bidding system is implemented through live auctions where multiple bidders can bid at a time.

**Key Words:** Live Auction, Online Shopping, Auction, Data Management, Android Apps.

## 1. INTRODUCTION

The present age is the age of Technology. At present everyone is becoming dependent on technology. The work that used to take a few days to do in the past is now being done in a few minutes through technology. Technology has become a part of our daily life. Due to technological advancement, people tend to shop for almost all things online. The traditional way of buying products is slowly losing its popularity. So we are introducing 'SPAROO' App which is both on the website and an android application. This is exactly analogous to a marketplace on the internet. It consists primarily of the distributing, buying, selling, marketing, bidding, and servicing of products or services over electronic systems such as the internet and other computer networks. There are two parts to this project. One for users and the other for admin. Admin adds different categories of products and users can buy their choice-able products.

The great reliance on the Internet in all aspects of life, besides the steady increase in its use on personal computers or smartphones, has made it one of the indispensable basics of life in modern life. This issue is translated into reality by

dealing with many computer applications that simulate reality and replace manual use [1].

During the last decade, there is a fast increase in the commercial use of RFID everywhere. Develop and raise innovative services for clients in order to improve the purchasing experience. Manufacturers are gradually incorporating RFID tech into supermarket items [2-6]. The RFID-based solution is self-contained and contactless [6]. With the advancement, of technology mobile phones are no longer merely for making phone calls or sending text messages. Mobile phones are increasingly used for browsing, checking emails, snap, style & personality, amusement, note & appointments, calendar & organizations, maps, navigating, travel, online banking and finance, emergency, media, sport, sports concerts, and education & investigation. This was made feasible by advancements in Android, which led to a slew of discoveries inside the mobile sector, giving rise to the modern phones we use today [8].

It is a platform that provides real-time software testing. Other than that, USB testing can be used to test the program on phones [9-16]. Routing and a Payment System are the two aspects of this app. The administration of the cart is the first emphasis of navigation. Buyers who are unable to locate their purchases in a vast, busy retail market may find this handy. The billing system is primarily concerned with updating the list of things bought and the overall sum due.

The rapid technological development in the twenty-first century has led to the presence of people looking for a more effective and convenient way to do business in terms of cost and time. So there has been an increasing demand for E-Commerce, E-Marketing, and E-Auction [17]. Information and Communication Technology (ICT) has made it possible to create tools for information arranging, transferring, storing, and working according to these tools digitally in the modern way [18]. Online auctions are web systems designed to buy and sell items online by bidding on the item and increasing the bid over time [19]. The bidder with the highest bid for the item will win [20]. The electronic auction is considered the cornerstone of e-commerce [21]. The electronic auction has become the popular and preferred

method by users when dealing with merchandise [22]. It reduces financial expenses and users of these auctions promote them because it makes it easier for them to buy and sell products and set the bidding process without going anywhere[17][23].

**2. MOTIVATION**

Most of the people in Bangladesh depend on online shopping. There are many online e-commerce sites in Bangladesh. Our platform is one of the e-commerce sites. But our platform is different from other e-commerce sites. We have used an auction system in our project. which is a system of buying and selling goods or services by offering them for bidding allowing people to bid and sell to the highest bidder. The bidders compete against each other. Once an item is settled for sale, the bidder will start at a comparatively low price to attract a large number of bidders. The price rises each time anybody makes a new, higher bid until finally, no other bidders are willing to offer more than the most recent bid, and the highest bidder takes the item.

As technology evolves, so does the human race. The acceptance of android applications in our daily lives has saved us a lot of time and effort. When we take a survey, people doing outdoor shopping are declining at a rapid pace as compared to online shopping mainly because of the painless and time-saving advantage of the latter. Although there has been the adoption of technologies to change this scenario, smart applications to turn the supermarket experience into an effortless process are still a dream in the industry. This motivated us to discover an innovative smart app that reduces the energy invested in pushing heavy supermarket carts and aids the user to find the products easily. This will motivate more people to come back to the supermarket experience that is rapidly declining. Another major drawback of the existing shopping systems is the use of barcode scanning where communication is based on line-of-sight propaganda. With our efficient billing system using RFID, customers don't have to stand in billing queues for long hours. We have come up with a solution where the total amount to be paid by the customers is displayed in the app.

**3. LITERATURE REVIEW**

The research evaluation is an essential step in the system architecture life cycle since it is during this stage that we acquire and obtain the necessary knowledge to manage or start a program. A literature review is a survey of publications relevant to a given topic or issue. It gives an overview of what it's just about to discuss, whoever the main author is, what the various observations and hypotheses are, what the next steps are and hypothesis, and what procedure and methodologies are suitable [24-34].

Before beginning the project, a literature assessment is conducted, and the many methodologies that have been employed in the past are used to comprehend the situation. A

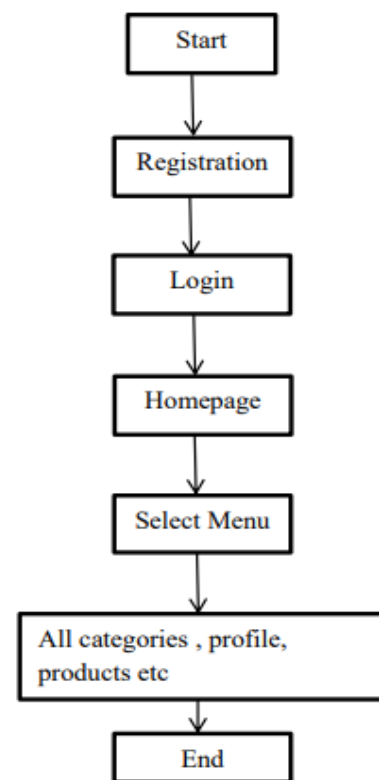
thorough examination of the existing systems was carried out. This research will aid in determining the advantages and disadvantages of current systems.

We conducted a literature review on some of the articles relating to our elements and some techniques or methods [35-44] because this research is itself an RFID-based online shopping and auction system solution.

**4. PROPOSED SYSTEM**

In the proposed work, the user can buy products directly from the online shop with the help of this app and participate in the bid for certain products. For this purpose, the user must first register and fill in the required credentials like username, mobile number, e-mail id, etc. Once the details are filled they can access the app where all the products will be displayed on the mobile screen. If a buyer wants to participate in the bid, then he has to apply for virtual coins to the shop admin. After verifying everything, a certain amount of virtual coins will be added to the user's account. A buyer cannot bid for more than the amount of Virtual Coins in his account.

Coins equal to the bid will be deducted from the account of the winner of the bid and the product will be sent to the buyer's address. A buyer who no longer wants to participate in the bid can cash out his virtual coins. No charge will be made for this.



**Fig 4.1:** Flow chart for user

At first user have to complete registration. Then after valid login he can see the homepage. From homepage he can access those features all categories, profile, products, participating auction and purchase virtual coin etc.

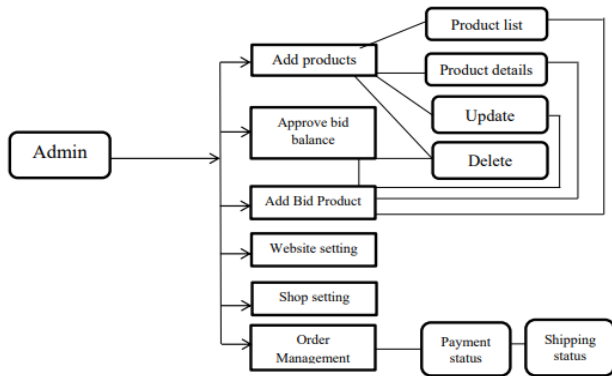


Figure 4.2: Data Flow Diagram for Admin

Admin can add products, product list and product details update and delete the product. Admin can set the website and shop. Admin can approve payment system which is pay by user, He also delete the user account.

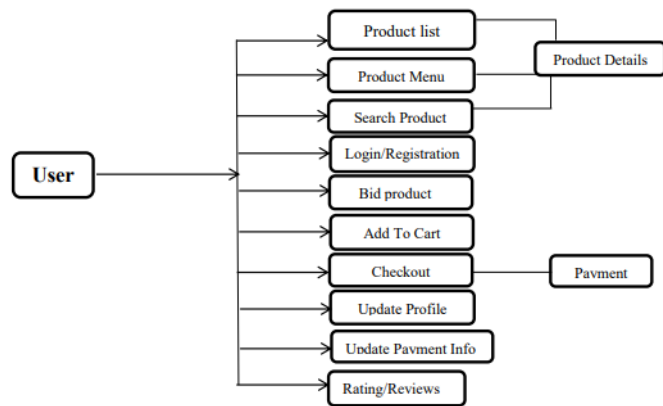


Fig-4.3: Data Flow Diagram for Android Application

After completing registration/login user can see those features product list, product menu and categories. User can also update their profile. They can give the reviews or ratings on the products of their choice.

## 5. TECHNOLOGY AND SOFTWARE USED

The proposed work is divided into two parts one is android based mobile application and the other is web based. The software and technologies used in this project are described below:

### 1.2 Android Apps

To develop android apps we used

- Java

- RxJava
- Android Studio
- XML

### 1.2 Web Site

To Develop Web site we used

- HTML-5
- CSS-3
- Bootstrap
- Java Script
- PHP 7
- MYSQL

## 6. DETAILS OF DESIGN AND WORKING PROCESS

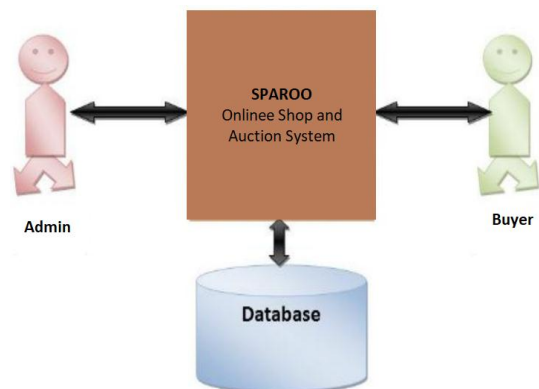


Fig-6.1: Block Diagram.

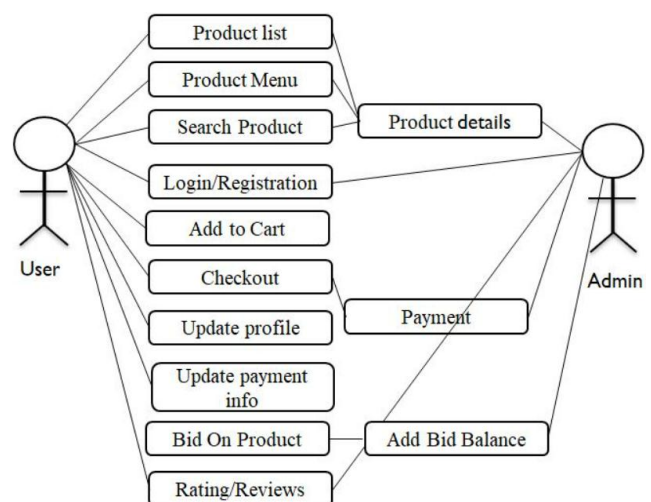


Fig-6.2: Use Case Diagram.

Use case diagram consists of use cases and shows the interaction between them.

The key points are:

- The main purpose is to show the interaction between the use cases and the actor.
- To represent the system requirement from user's perspective.
- The use cases are the functions that are performed in the module.

The different data objects with their relationship are explained below using E-R (Entity-Relation) model. Many data objects are explained in details with their relations with other data objects and attributes.

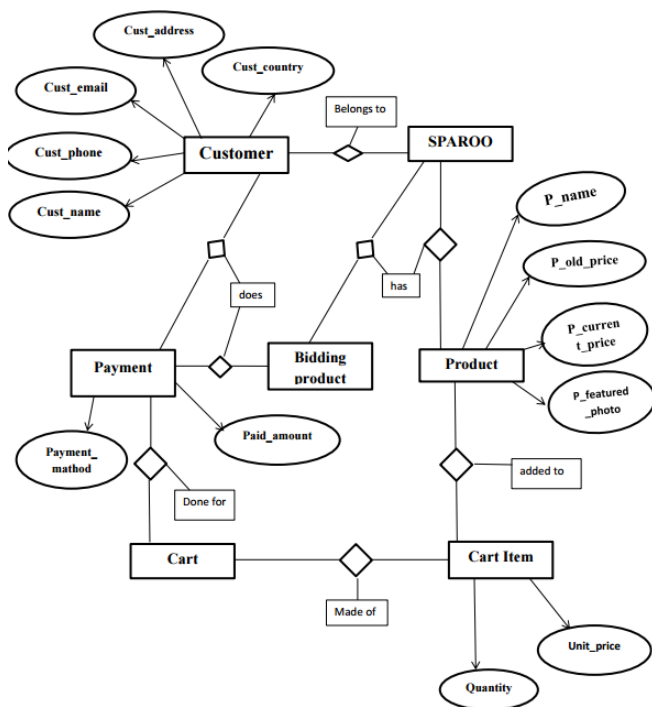


Fig-6.3: E-R Diagram.

### 7. RESULT (implementation and system testing)

From this smart shopping system the customers can easily purchase the product from the store and also participating auction to buy antic items through which the customers will receive quality assured products and the online payment mode enabled through payment gateway also proves to be efficient and time saving process.

This will lead to reduce the gap between the traditional shopping and online shopping where the buyers as well as the seller both are satisfied and benefited. We have implemented this project for a few products in order to demonstrate. This method of shopping can be extended over wide variety of products in any store.



Fig-7.1: Splash Screen



Fig-7.2: Homepage

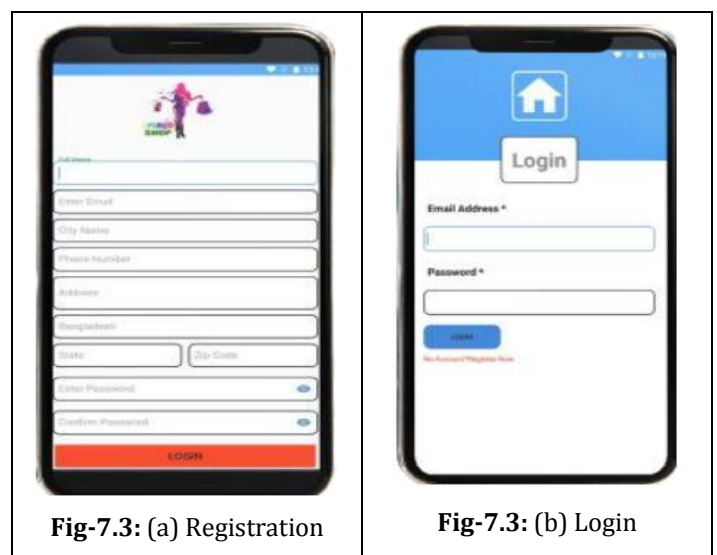


Fig-7.3: (a) Registration

Fig-7.3: (b) Login

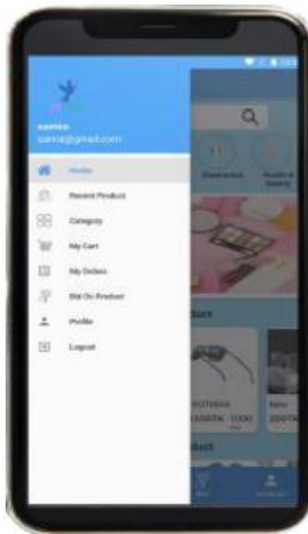


Fig-7.4: Drawer Menu



Fig-7.5: Product category list



Fig-7.6: Bid Product

## 8. CONCLUSIONS

The system has been developed with care. It is user friendly and time-efficient system. The purpose of this project was to develop an android application for purchasing items from online stores in less time and participating in real-time auctions. The project has included the use of smartphones and PC which are an integral part of today's lifestyle, in the most effective manner. The most prominent advantage of this project is that the customer will not have to stand in long queues to get the bill made and make the purchase. The product in purchase will be authenticated by the buyer himself/herself and online shopping frauds will be minimized.

## FUTURE SCOPE

We have some future plans for the app. A customized user interface will be provided to the app with artistic features. In future we will introduce seller panel, from where a seller can sell his products through auction. Server capacity will be increased to accommodate a large number of users at once. We will upload this app to the cloud to increase its performance. The app will provide more details about the products.





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