

# Smart Operating System (SOS)

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**Abstract**— In today’s urban lifestyle, where in there is prominence of nuclear families with both partners working, managing daily household chores is a humongous task-both in terms of effort and time. So in this paper, we have proposed a system that will have enormous effect on the consumer’s daily routine. System will be providing a web application interface where they can order their daily essentials from SOS. In this web application there will be certain stores whose products will be displayed. User can easily choose the item of his need and click on buy. Those commodities will be delivered to the locker by SOS boys. Besides, the locker system will be based on two categories, one will be system location wise, and in which people requiring our services will have certain centers areawise and the other type will be society based wherein the lockers will be built in in the complex by the builder, so people buying homes in those complexes will have their own lockers in their own building. Moreover, the lockers which are location based will have soft key. Thus the system will provide hassle free shopping at the ease of user.

**Key words:** SOS, Smart Ordering System, Web Based Application, Locker System

## I. INTRODUCTION

There is a growing need to simplify the way we fulfil our daily needs of shopping from multiple vendors – accepting couriers, online deliveries, consumable bills, etc. The major issue is non- availability of residents during working hours. This project aims to develop a system, SOS (Smart Ordering System) as an aid to reduce stress, time and effort. SoS is a web-based e-commerce application designed to make the everyday household chores be taken care with ease and comfort for the user. SOS aims to design a web based application addressing the common household chores such as accepting orders of online shopped items from multiple vendors or accepting couriers and consumable bills while the family is away, without stressing the user of being at home at the time of delivery and lets the user collect his all day long deliveries at his own convenience.

## II. LITERATURE SURVEY

While planning about this project, we came across few published research papers related to our topic.

According to the paper published by Ze-hong<sup>1</sup>, Zhao Guang-yuan<sup>2</sup> [2], the Multi-functional Parcel Delivery Locker (MFPDL) uses the concept GSM/GPRS modules to send messages and passwords through SMS to the customers so that they can be authorized to get their parcels stored in the lockers. This system consist of two entity that is the depositor and user .The depositor stores its details and phone number into the intelligent mail delivery and extraction system. The system sends SMS verification code to users. User then enters the password and the system authenticates it and gives

authorization to the user. Once the transactions are done, the system takes feedback mails from user and delivers to the depositor.

As per the published paper “Analysis of parcel locker” [1] This paper focuses on the analysis of usability and efficiency of different business to costumer ecommerce methods based on the example of Polish InPost Company system. It introduces the results of pilot survey realized in Szczecin (Poland), as well as the general expectations regarding the efficient utilization of this kind of solutions. The key solutions are:

- Reception boxes, permanently fixed to a wall outside the customer’s home.

## III. PROPOSED SYSTEM

The proposed system aims to provide following services to the user:

- Collecting/Accepting orders of online shopped items from multi vendors.
- Accepting couriers, billsetc of the user.
- Deposit of the saiditems in the locker.
- Locker OTP and credentials generated and sent to the user on receiving the goods
- Manage delivery of goods at appropriate time or pickup by the user himself.

The system is a combination of the following-

- Database Mangement- MangoDb
- Manmade Mangement-Using third party for pickup and delivery.
- Mobile Computing-Development of an Mobile app.

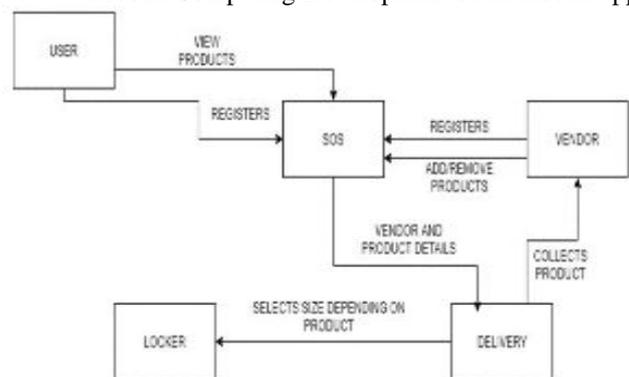


Figure 2.1:Proposed System

## IV. METHODOLOGY

The Smart Ordering System shall be built upon on pool of hardware devices and interconnection between hardware and website. The processor must be capable of handling real-time functionality activated by the defined users and communication medium. In addition, the system must be safety-critical. All failures reported by the communication medium must be handled instantaneously to allow for user and system safety.

**A. Architectural Design**

Description: When user opens the website he will be asked to sign up and specify some required details. Once user is logged in in he/she will be displayed all the products provided by vendors. User will place the required product. SOS system will confirm the order from the vendor and ask for the user to pay. After which he that vendor will deliver the order. The delivery person will be required to fill his details, the locker size and the name of the user to whom the order belongs. According to the size, the system all shall give the permission to the delivery man to submit. Then it will the put the OTP in the system and user shall be permitted to collect his order once verified.

**B. Home Page**

Description: This is “Home Page”, here the system will show products available for a potential buyers. The home page will display all the products, their description and price as well. The user will also have privilege to add the the desired item in their cart.

**C. Admin Dashboard**

Description: This is “Admin Dashboard” which consists of all the necessary things an admin should have to manage and control. The Admin can have an outlook to see user’s online, views to the website, their earnings, comments, posts and other analytics.

**D. Register Activity**

Description: If user is not registered to the system then he will register from this activity. Or if he is already registered then user will simply have to login to the system.

**E. Selection Locker Activity**

Description: Once the delivery person is logged in to the system the following information will be shown to him in this “Selecting Locker Activity”.

**V. DIAGRAMS**

**A. USE CASE DIAGRAM**

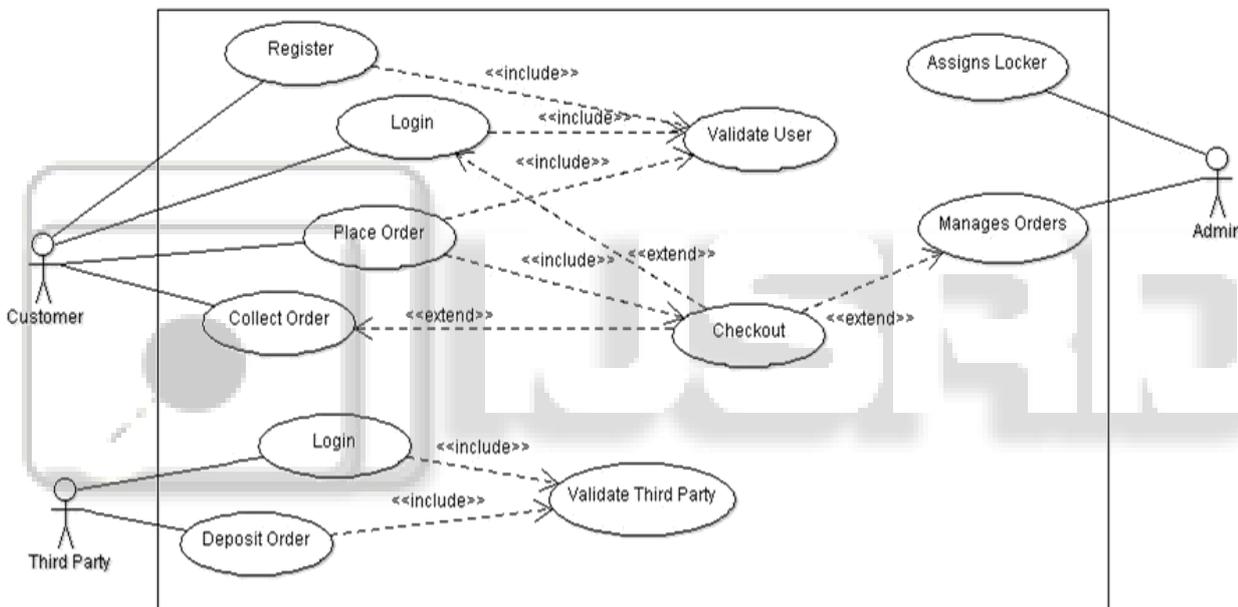


Figure 5.1: Use Case Diagram for Smart Ordering System

Description: Use case diagrams are usually referred to as behavior diagrams used to describe a set of actions that some system or systems should or can perform in collaboration with one or more external users of the system.

Actors: Customer, Admin, Third Party

**B. SEQUENCE DIAGRAM**

Description: Sequence diagram is an interaction diagram that shows how objects operate with one another and in what order. It is a construct of a message sequence chart. A sequence diagram shows object interactions arranged in time sequence.

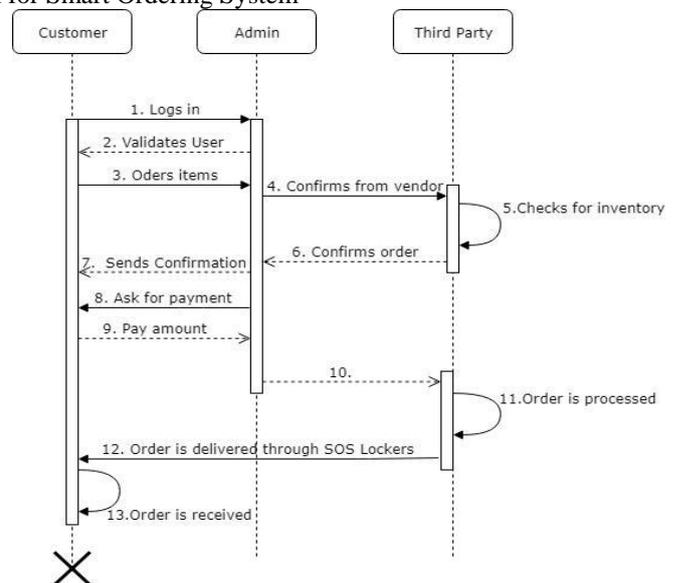


Figure 5.2: Sequence Diagram for Smart Ordering System

C. DATA FLOW DIAGRAM

1) DFD level 0

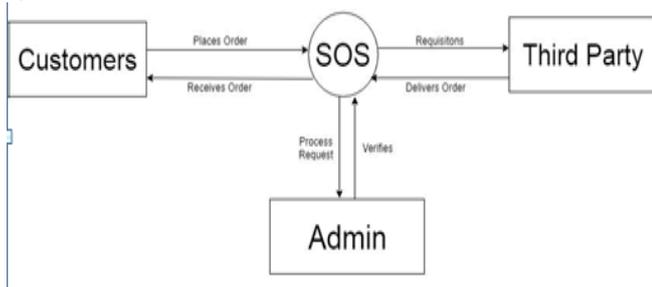


Figure 5.3.1: DFD level 0 for Smart Ordering System

2) DFD level 1

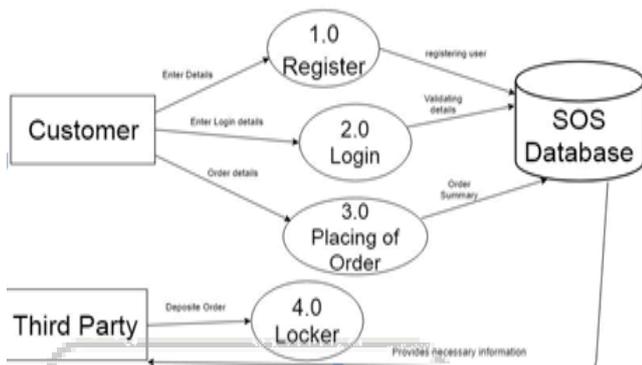


Figure 5.3.2: DFD level 1 for Smart Ordering System.

3) DFD level 2

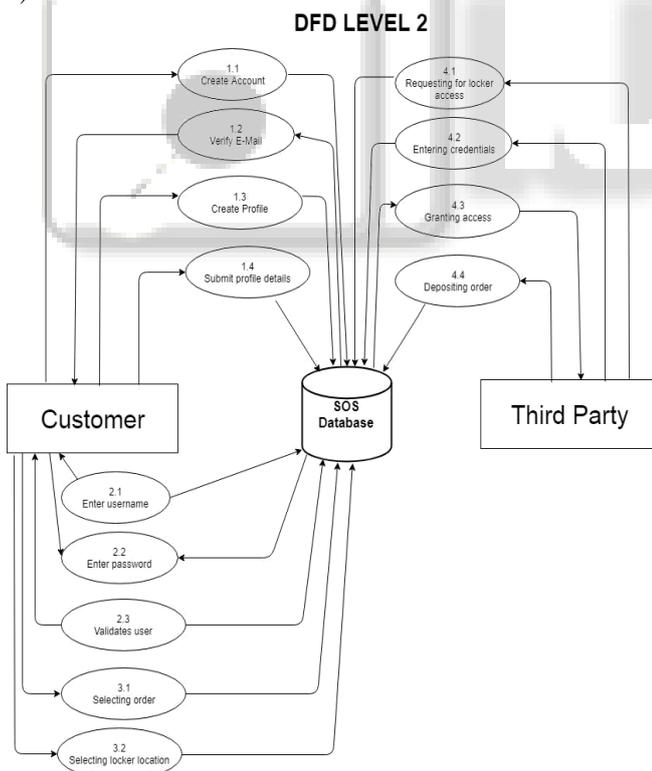


Figure 5.3.3: DFD level 2 for Smart Ordering System

Description: Data flow diagrams provide a graphical representation of how information moves between processes in a system. A Data Flow Diagram shows what kind of information will be input too and output from the system, where the data will come from and go to, and where the data will be stored.

4) ACTIVITY DIAGRAM

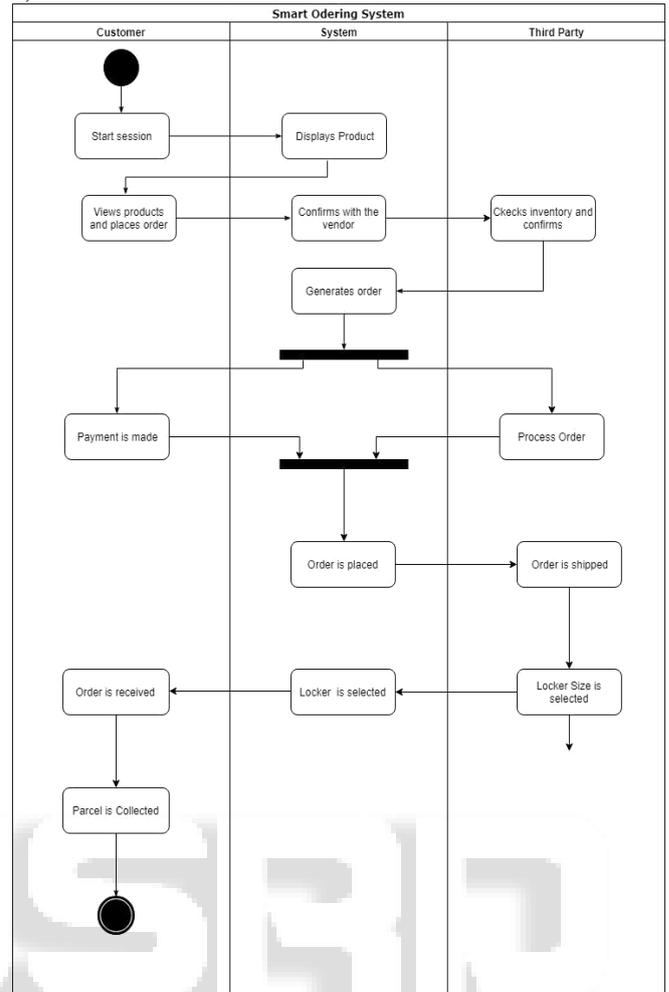


Figure 5.4: Activity Diagram for Smart Ordering System  
Description: An activity diagram visually presents a series of actions or flow of control in a system similar to a flowchart or a data flow diagram. Activity diagrams are often used in business process modeling. Activities modeled can be sequential and concurrent. In both cases an activity diagram will have an initial state and a final state.

5) E-R DIAGRAM

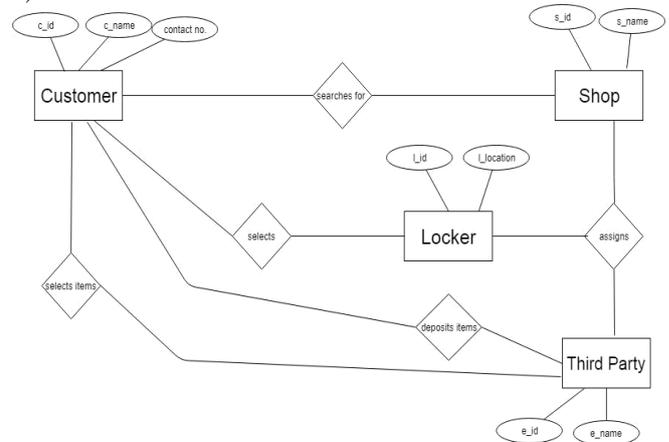


Figure 5.4: E-R Diagram for Smart Ordering System  
Description: An Entity Relationship Diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is a component of data. In other words, ER diagrams illustrate the logical structure of databases.

## VI. CONCLUSION

The growth of Business to customer (B2C) e-commerce market increases the importance of home deliveries in the metropolis area. SOS helps users by having delivering those daily essentials. Because of SOS lockers, order are delivered to user anytime even if they are not at home. Furthermore, it provides users to keep various types of items in their lockers which is then becomes a reposeful purchase. To encapsulate, the use of SOS lockers will become an interesting alternative means of shopping at the ease of user.

## REFERENCES

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