A Novel Approach of Online Food Management System for Needy People During Covid-19

Aishwarya Sadhu[1]
Department of JIS College of Engineering
Kalyani, Nadia, West Bengal ,

Anusua Biswas[2]
Department of JIS College of Engineering
Kalyani, Nadia, West Bengal,

Sumanta Chaterjee[3]
Department of JIS College of Engineering
Kalyani, Nadia, West Bengal,

***Abstract*— In this Covid situation, it is very difficult for some communities of people to afford food, so Flame on is taking the initiative for feeding the poor and unemployed people who are unable to afford to buy ingredients for food during lockdown. To promote to people for extending their hands too for the needy people, they can donate us, support us. "Online Food Management System" is a web application business that serves people in any situation with ready-made food. This system develops service facilities for restaurants end as well as to the customers end. The restaurant management system can handle the clients, their orders and can help them easily find free tables and place orders. In this online food management system, online ordering and reserving will become user-oriented and organized. For ordering a meal online, the customer has to first become the authenticated user of our site, and then he/she can view the remaining area of the site.**

Keywords: FMS, Covid-19

1.INTRODUCTION

'*FlameOn*' is the online web application which manages the food ordering business. Food business is a kind of business that serves people from any corner through online process with ready-made cooked food. This system is developed to provide service facility to restaurant and, also to the customer. This food managing process can be handled by admin user who will be handling the customers, their orders booking and can deliver them with easy way of finding tables and seat booking and place orders. The services that are provided is food ordering and reservation table management by the customer through the system online, customer information management and menu information management. The restaurant menu is organized by categories of menu items. Each menu item has a name, price and associated description. This project analysis that many restaurants have a lot of management difficulty in business such as customer ordering reserving tables maintaining the items once a customer orders food with reservation, it becomes very difficult in managing reservations process along with the food orders. Also, this management system can do some favour to optimize food costs, the most controllable expenses. It also helps to abolish man-made mistakes and deliver time from manually transferring data about sales report on labor hours. As the website already tracks and collect data from so many different aspects of a business, it will automatically deliver any varieties of sales and financial report, permitting to focus on providing information. Ordering a meal online, the customer has to first successfully login and become the authenticated user of our site, and then he/she can view the remaining area of the site. Becoming the member of this site is to avoid placing the fraud bookings. Undergoing this food management project, we want to manage the business such as customer ordering and reservation table because many restaurants faced many difficulties. Along with this, '*FlameOn'* is also trying to serve food in their locality for the people who cannot afford their meals in this pandemic situation. Apart from this, '*FlameOn'* has arranged a donation process for people to donate and support '*FlameOn'*.

'FlameOn' is a non-profitable business management system to help the poor people during Covid-19 situation. The main objective is to provide charity service during covid-19 for needy people. This service system will surely help the poor people as well as the common people.

These are the facilities available on *'FlameOn'*:

- Arrange Proper Promotional activities.
- Special facilities available.
- Special discounts during special occasions.
- Varieties of menu items with fresh ingredients.
- Special Dining Facilities for Booking available.
- Insight to unlock new channel in future.
- Donation for serving food to the needy is available.

2. LITERATURE REVIEW

In a case study food management system through a restaurant supply, Kuan Ju Chen et al. [1] proposed a wonderful idea to analyze the execution of the suggested models, which is used to signify the IMP solution.

In an online food management system for restaurants supply, T. Shimmura et al. [2] proposed a unique system that is organized by which information of staff can be whacked by ordering using an advanced point-of-sale (POS) system. In this arrangement, cooking and the kitchenette staff can view all the consumer orders by the dishes that was ordered and supplied and the proceeded timing per order.

In the research work for suggested restaurants, P. Ajitha et al. [3] proposed an affectionate result which computes NLP algorithm used for detecting the details and ideas of the user

remarks. The termination and outcome of the research work divulge the recommended approach provide high precision.

In a proposed system, Hassain Saeed et al. [4] solved problems overlook by today restaurant through. The use of technologies such as Mobile and Web applications, Internet of Things (IoT), Near-Field Communications (NFC) sensors, and cloud computing.

In Multi-touchable E-restaurant Management System, Soon Nyean Cheong et al. [5] spotlights some of the restrictions of the PDA-based online food ordering process. The system comprises of several-touchable attractive dining menu that permits consumer to give order accordingly on the processed multi-touchable table using fingerprint during the busy schedule.

In a real-time map to the restaurant, Vindya Liyanage et al. [6] proposed a theory which is executed as a mobile view application using new IT concepts such as Business Intelligence, Data Mining, Predictive Analysis and Artificial Intelligence. This also includes graphics and 3D modeling that needs remaining information related to food.

In this research work, P. Manjunath et al. [7] focuses mainly on the combination of the several locations present in the office places. With this proposed system, it can examine and produce the contrasting description to convey the accurate recognition to the elevated management about the wastage of food.

In this paper, Weidong Xi et al. [8] theoretically defines the term of difficulty-related food assembling quality and develops the relationship between the system, food quality of difficulty related system, mechanism, the behaviors, establishing and control danger.

3.METHODOLOGY

3.1 DATA FLOW DIAGRAM:

3.1.1 Zero Level DFD:

The zero-level data flow diagram of food managing process is to elaborate the high-level process of restaurant. It is a primary survey of the overall food management system or process which is being examined. The model is designed in such a way that at a glance we can view of payments, orders and view item sub-processes visualizing the system as a unique high-level entity with the relation to exterior entities of food ordering and items which should be properly well-known by a huge crowd of entities in zero level data flow diagram of food management system such as restaurant items payment where we have described the high-level flow of food processing system.

Set of activities for '*FlameOn*':

- Manage all the restaurants.
- Manage all the items.
- Manage all the sales.
- Manage all the payments.
- Manage all the orders.
- Manage all the item categories.

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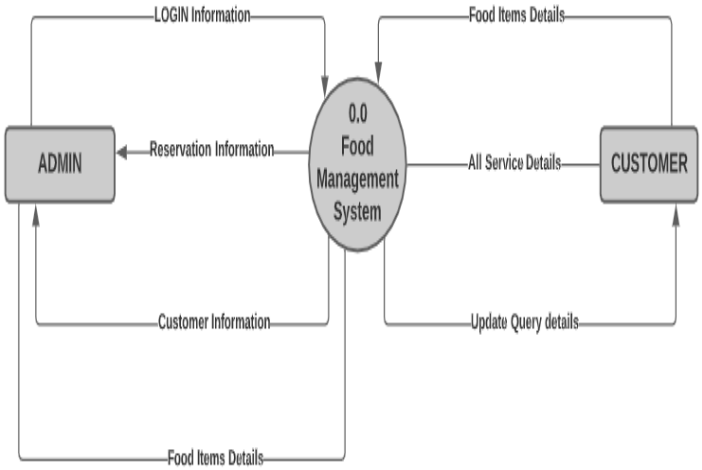

Fig 1(a): Zero Level Data Flow Diagram

3.1.2 FIRST LEVEL DFD:

First level data flow diagram of restaurant management system shows how the system is divided into subsystems each of which deals with one or more of the data flow or from an external agent and which together provides all the functionalities of the restaurant management system as a whole it also identifies internal data stores of item category orders payment sell items that must be present in order of the restaurant system to do its job and show the flow of data between the various part of restaurant items orders item category payments of the system data flow diagram level 1 provides a more detailed break out of piece of the first level data flow diagram.

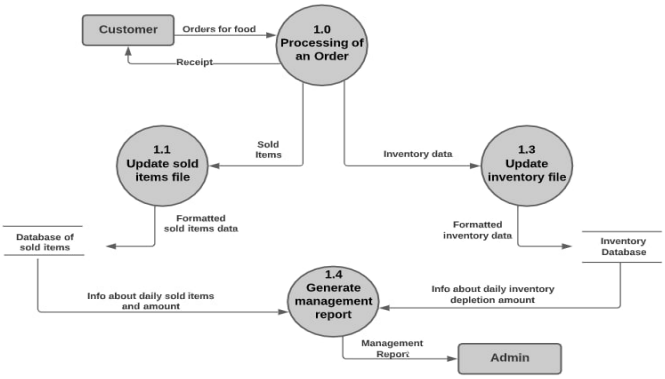

Fig 1(b): First Level Data Flow Diagram

3.2 ER DIAGRAM – FOOD MANAGEMENT SYSTEM

ER is an Entity Relationship Diagram which set forth the model of Food Managing Process Entity. This relational diagram of Food Management System provides all the visional implement of database tables and the relations between Sells, Restaurant, Orders etc. It uses the organized data to elucidate the connection between organized data groups of food management system practicality.

Food Management System entities and their attributes:

- Items Entity: Attributes of items are item_desc, item_type, item_price.
- Orders Entity: Atrributes of orders are order_id, order_desc, order_time.
- Restaurant Entity: Attributes of restaurants are rest_name, rest_desc.
- Admin Entity: Atrributes of restaurants are admin_email, admin_password.

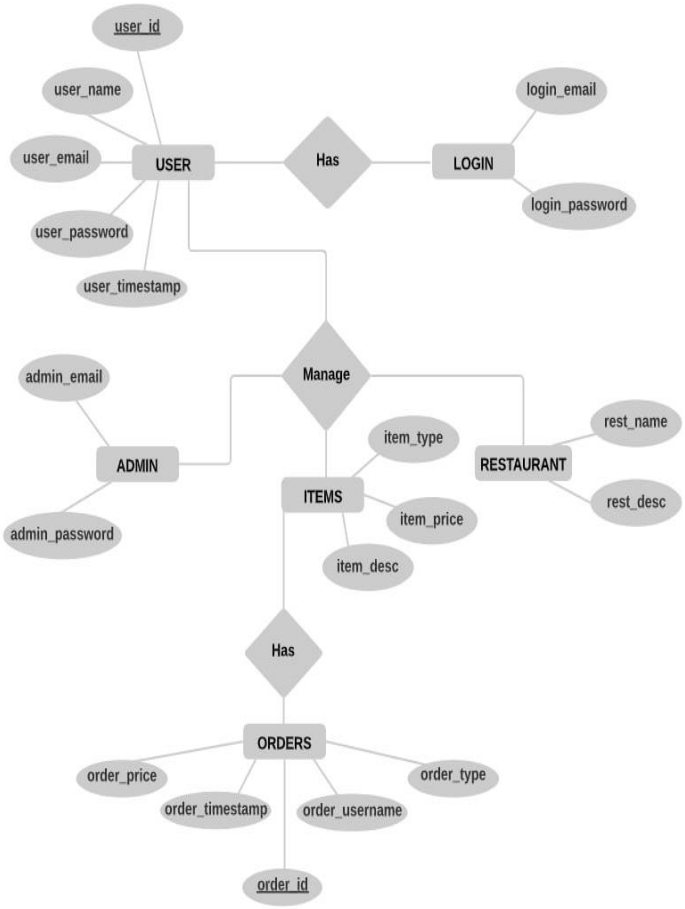

Fig 2: ER Diagram

3.3WORKFLOW DIAGRAM OF FUNDRAISING CHARITY THROUGH *'FlameOn'*

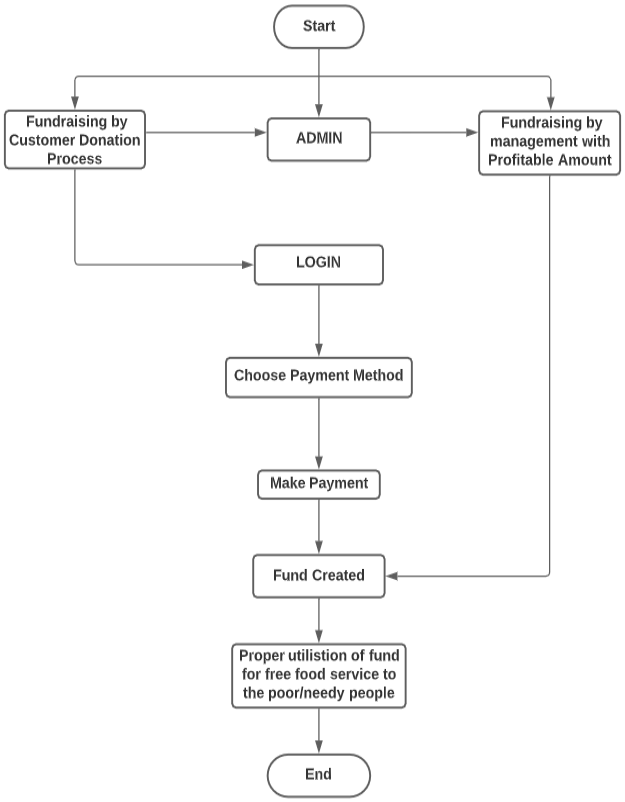

Fig 3: Workflow Diagram

'FlameOn' has taken the initiative to help the poor and helpless people with serving food. *'FlameOn'* is a non-profitable business management system because management has decided -

- To open a donation fund where customers can donate as much they can donate.
- Donation will also be given by the management end.
- Management will collect the money from the profitable amount that the management receive from the customer.

4. RESULTS AND DISCUSSIONS

The restaurant management system allows the admin user of the restaurant to manage all the details of the customer without much effort. It reduces the pen and paperwork that one needs to do. It will be extremely useful to store the details of the user with available time for managing restaurants well it can give some suggestion to manage in managing the restaurant well and how to run it smoothly and efficiently.

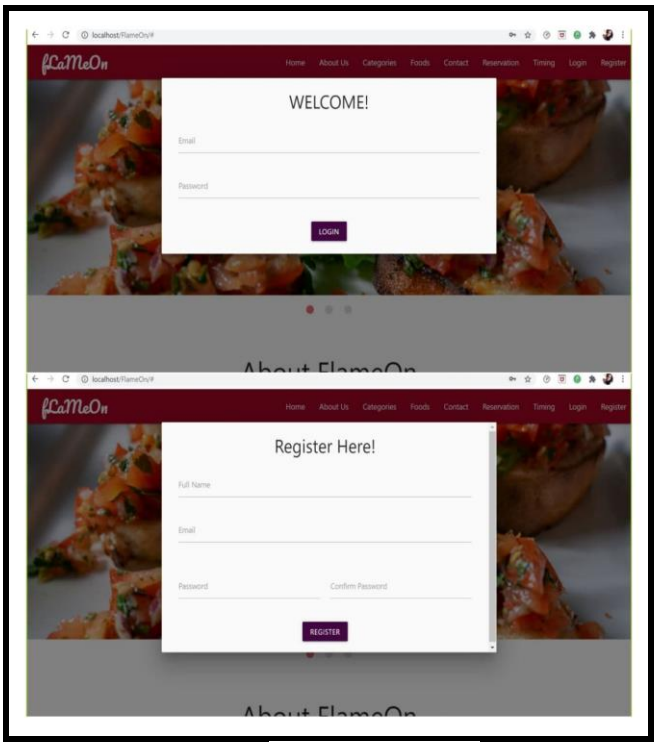

Fig 4(a): Register and Login Page

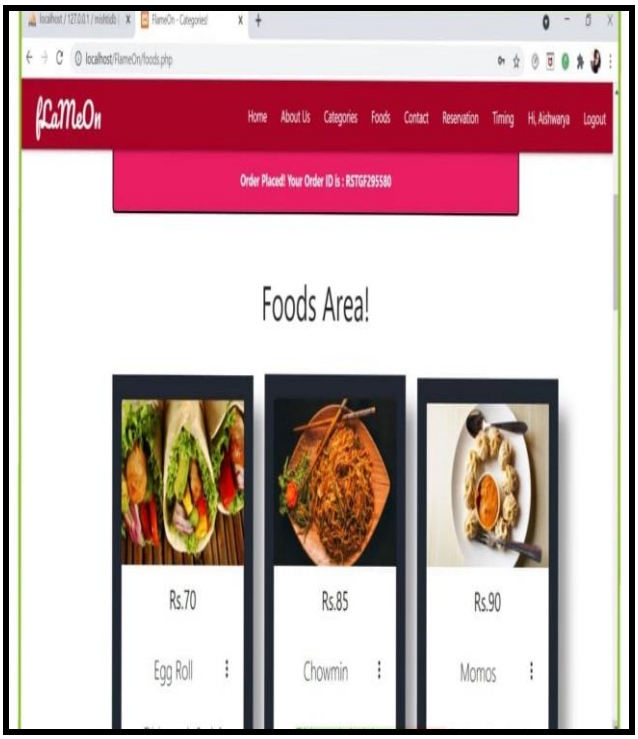

Fig 4(c): Order Page

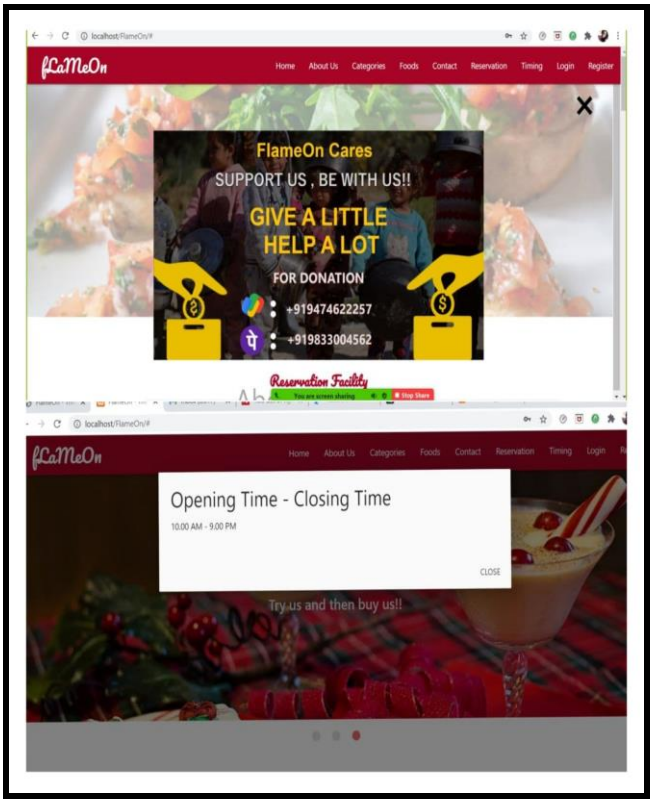

Fig 4(b): Home Page of the website

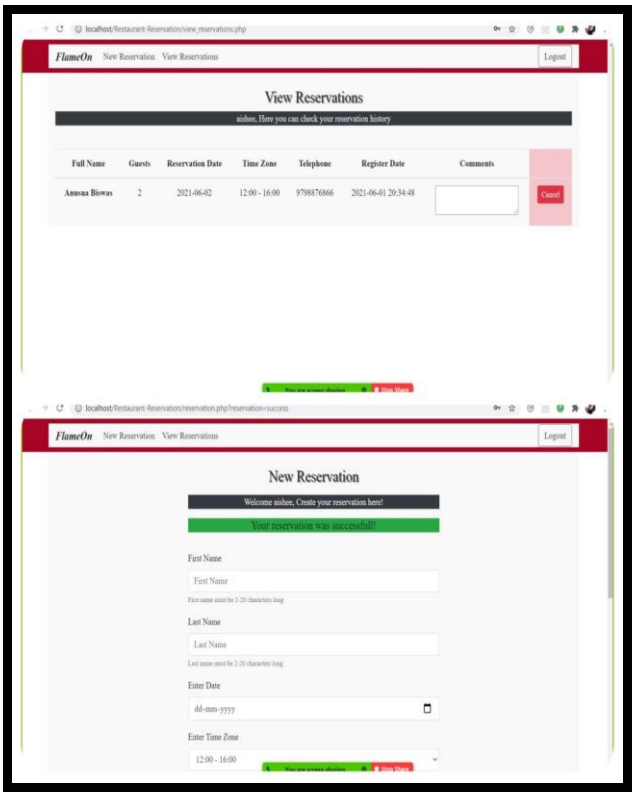

Fig 4(d): Reservation Page

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