ONLINE RAILWAY FOOD ORDERING SYSTEM

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ABSTRACT: The proposed system is an integrated online food ordering system that enables fast food delivery for the customers. It overcomes the disadvantages of manual food ordering system. Our proposed system is a medium to order online food hassle free from restaurants for the passengers who travel from train. The food system improves the method of taking the order from customer. This system will set up a food menu which will be available online and passenger can easily place the order as per their wish. Based on this, customers can easily track the orders. The system will provide a feedback system in which user can rate the food items. Also, the proposed system can recommend hotels, food, based on the ratings given by the passenger, the hotel staff will be informed for the improvements along with the quality. The payment can be made online.

*Index Terms - **Railway Food Ordering System, Recommendation systems.***

I. INTRODUCTION

The existing railway system takes food orders manually. This creates errors and makes it difficult to process the orders. For this, we have proposed an integrated system that will overcome the current manual ordering system. Our food ordering system for railways will provide relevant food items that will be preferred by the user, along with an added feature such as a recommendation system. The proposed model presents a process of preparing data set based on ratings. This rating-based system will help passengers select from the list of popular food items as per their choice. Passengers can access the menu which will be available online. This will let passengers place orders with just a few clicks. We are also making use of an advanced wallet feature to help passengers pay for the food items. Railway employees can use these orders through an easy to navigate graphical interface for efficient processing.

II. RELATED WORK

The aim of this project is to develop a system which can take orders a website and display them on the website. We aim to accomplish this task by creating a website for managing the canteen menu and orders. The website would make use of HTML5, JavaScript, and Bootstrap for frontend and JSP for the backend. Appropriate security features shall be implemented to prevent attacks using 2048 bit. The orders placed in advance will have an ORDER ID which shall be used to get the order delivered directly to the serving counter. Payments can be made via cash or e-wallet. Payments for online ordering can be made only via e-wallet. SMS alerts would be sent for events like 'Order Placed', 'Order Accepted', 'Order Declined-Wallet Payment Successful-Wallet Recharge Successful-Wallet Refund Successful' and 'Order Delivered'.

content-based recommendation systems that recommend an item to a user based upon a description of the item and a profile of the user's interests for a food recommendation system by the dataset. The primary idea in this technique is to find a subset of users who have similar interests and preferences and then use this subset for offering recommendations. The output of the recommender system varies: the goal of the personalization defines usage.

Mean Absolute Error (MAE): MAE measures the average magnitude of the errors in a set of predictions, without considering their direction. It's the average over the test sample of the absolute differences between prediction and actual observation where all individual differences have equal weight.

$$\text{MAE} = \frac{1}{n} \sum_{j=1}^{n} |y_j - \hat{y}_j|$$

If the absolute value is not taken (the signs of the errors are not removed), the average error becomes the Mean Bias Error (MBE) and is usually intended to measure average model bias. MBE can convey useful information, but should be interpreted cautiously because positive and negative errors will cancel out.

Root mean squared error (RMSE): RMSE is a quadratic scoring rule that also measures the average magnitude of the error. It's the square root of the average of squared differences between prediction and actual observation.

$$\text{RMSE} = \sqrt{\frac{1}{n}\sum_{j=1}^{n}(y_j - \hat{y}_j)^2}$$

III. DESIGN PHASE

One of the main objectives of a food ordering system is to ensure customer satisfaction. Manual listing of orders by waiters/waitresses may result to slow response in customer service. The process of ordering food online will overcome the disadvantages of the manual food ordering system, which is currently being used in Indian Railways. With the help of the online food ordering system, passengers will be able to select from the list of popular food items as per their choice.

The interface will have a home page which will show ratings of top-rated food items to the customer, a link to the login/signup page for customers as well as restaurants to update their menus, also a link order history page to show booking history, contact us page, and a search option to fasten up the process of searching for top rated food item. After selecting food item the customer will be redirected to a payment portal which will enable the users to pay online via card or choose for cash on delivery. A customer can also cancel the order but there will be a buffer time. The customer can only cancel orders within that buffer time only.

3.1 Block diagram

Passenger login. Passenger places order. Web ordering system is accessed by the database. Admin manages the order through menu management system. The order is then received by the pantry. Following bill is generated.
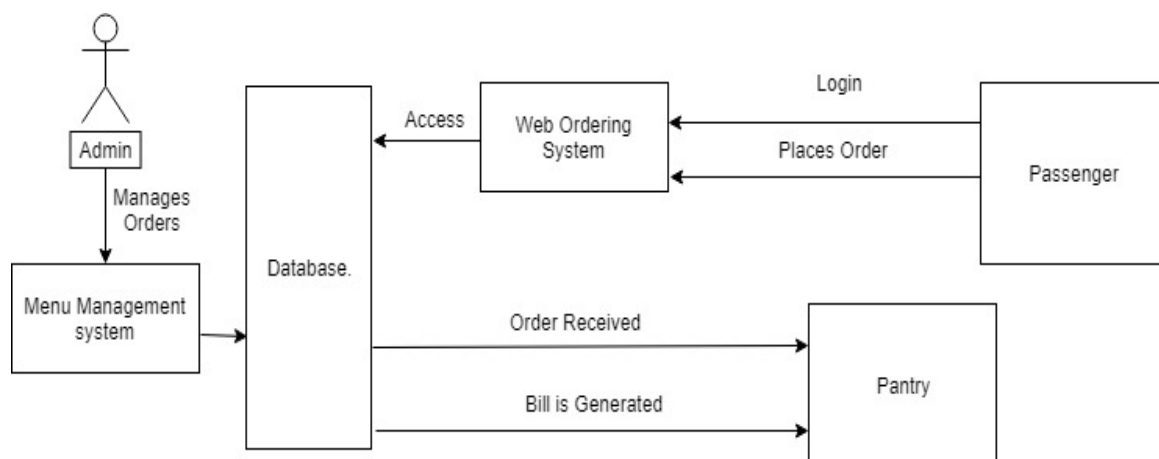

Fig 1: Block Diagram

The above diagram is a Block Diagram Fig.1 of the proposed system. In this, Diagram when the order is placed by the passenger it gets stored in the database and the admin manages the food order through the database. The order is then received by the pantry. Based on the order the food is prepared. Finally, a bill is generated. This is how the flow of Block Diagram is depicted in the figure above.

3.2 Activity diagram

The activity diagram shows the flow of activities in the system. Fig.2 provides the overview of activities in online railway food ordering system. All users of the system are provided with below menu options: Home, Menu, My Cart, User Account, About Us and Contact.
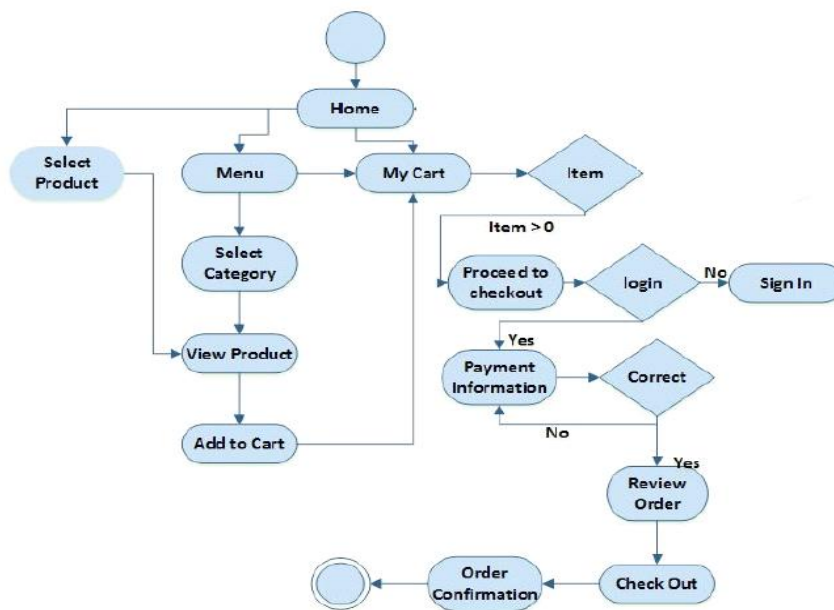
Fig 2: Activity Diagram

IV. IMPLEMENTATION

1) HOME PAGE consists of various pages like BOOK, HISTORY, WALLET, PAY, SIGNUP, LOGIN, HOME, SEARCH. Here BOOK will refer to booking the various orders. History will indicate all the previous orders. WALLET will consist of credits and balance amount of the passenger. PAY is a payment page. The User /Admin can login to the site after signing up and access the website. fig 3 In the SEARCH page passenger can search for the recommended food item. MENU will basically display all the food items.
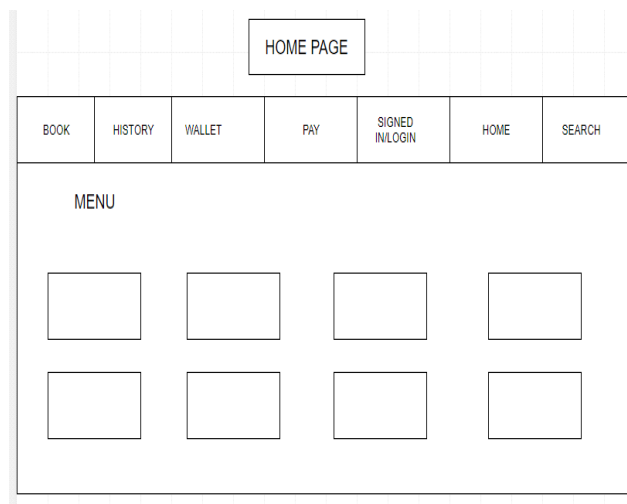

Fig 3: Home Page

2) The ORDER PAGE in Fig 4 will have the selected food item which the passenger has ordered. They can search for food item and select the quantity. Finally, they can then proceed for payment.
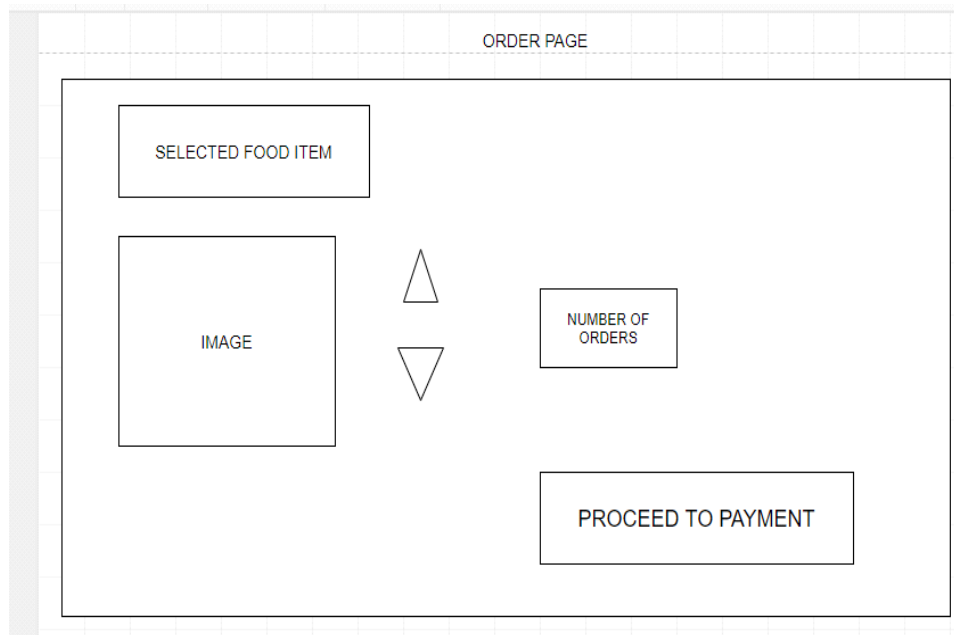
Fig 4: Order Page

3) PAYMENT PAGE in fig 5 consists of various payment options like cash on delivery (COD) as well as CARD payment.
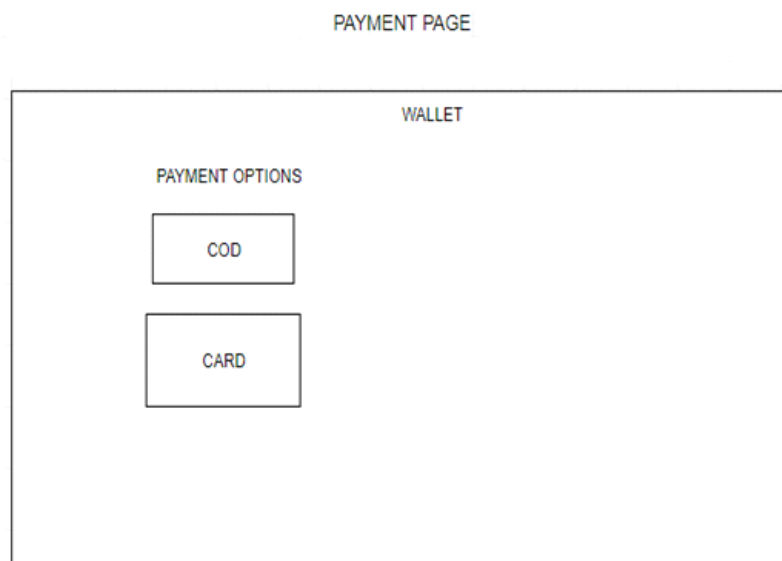

Fig 5: Payment Page

4) The ORDER SUMMARY page in the fig 6 will consist of the previous order history. Passenger can view the details of the order that has been placed. They can even cancel the orders in a given buffer time.
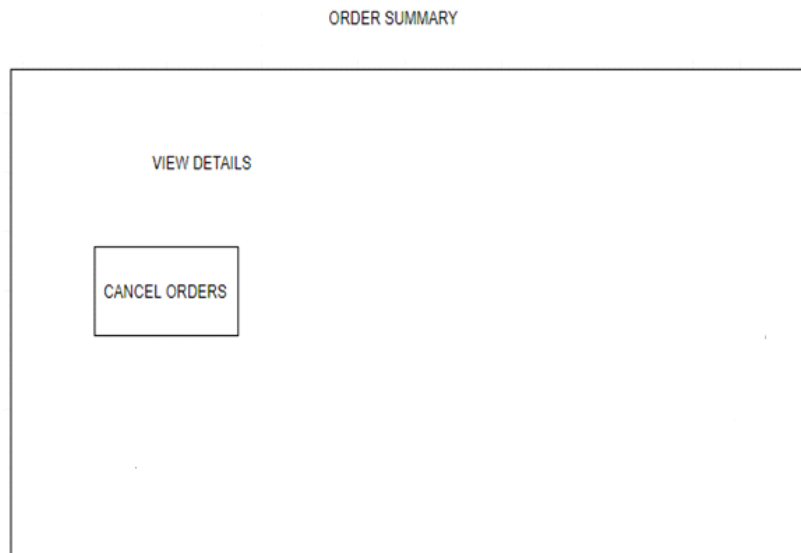
Fig 6: Order Summary

V.   CONCLUSION

In this paper we would like to implement this online railway food ordering system with the following features inbuilt thus making the user interface great to use. We will be adding a recommendation system to our project. Rating will be given to every food item that has been ordered. Our website will be available for every outstation trains. Create the master and slave database structure to reduce the overload of the database queries. We have proposed a algorithm which ensures recommendation based on the ratings based on food items.

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