Design and Management of Dabbawalla Tiffin Application in the Flutter Environment

Nidhi Joshi[1], Shivani Dagwale[2], Akshay Reddy Singadiwar[3], Shivansh Singh[4], Prof Manoj Vairalkar[5]
[1,2,3,4] *Student, Department of Computer Science and Engineering, Guru Nanak Institute of Engineering and Technology, Nagpur, Maharashtra, India*
[5] *Professor, Department of Computer Science and Engineering, Guru Nanak Institute of Engineering and Technology, Nagpur, Maharashtra, India*

Abstract **- In the hustle and bustle of life, people tend to compromise majorly on the quality and quantity of food they eat, which in turn causes a number of health issues. Most of the time, students and employees who live far away from their town face getting affordable healthy food. This problem made tiffin service providers realize the growing need of tiffin services. The project aims to build a fully functional Dabbawalla Tiffin Application taking into account the requirements posed by local constraints. The project enables the user to select his/her location, track down orders, digital wallet, food menu management and real time updates about tiffin orders. The project has been created in Dart language using Flutter framework.**

Index Terms **- Dabbawalla, E wallet, Flutter, Homemade food supply, Mess, Tiffin service.**

1.INTRODUCTION

As large workforce in India moves out of their home for the purpose of employment, managing their daily meals becomes quite challenging for most of them. It is observed that most of the people prefer the tiffin services. Traditionally these messes have relied on register for management of mess tiffin services of their client. It brings confusion for both owner and customer in order to make payment of ordered food. Currently there is requirement for creating digital platform. A customer will search for his/her favorite tiffin service, usually filtered via type of cuisine and choose from available items and choose delivery or pickup. Payment can be amongst cash or wallet. This application will enable the customer to actively track the tiffin. The application is mainly for ordering homemade food from the available franchises.

2.OBJECTIVE

- To make homemade food easily available to the customer within time.
- One would get home delivery of affordable hygienic food.
- The application will be useful for students, employees, hostel residents.
- It will also provide employment to the home chefs, housewives etc.
- The user can get to know the exact location of tiffin box thus the estimated arrival time can be determined.

3 LITERATURE SURVEY

Zomato initially named as Foodie Bay was started in 2008 by Mr. Deepinder Goyal. It is a restaurant searching platform providing in-depth details with autonomous reviews and ratings. Foodie bay, the initial name was changed to Zomato in November 2010 to increase their reach among people. To differentiate themselves from their competitors, Zomato concentrated on adding approx... 18,000 new places to eat from. Along with they also decorated many special features, such as pointed to particular dishes or opening times". To be the largest resource in food supply market, Zomato bought urban spoon, a leading restaurant service providing portal for $52 million to enter US, Canada and Australia to leverage local insights and experience and to expand their business in overseas seeing the future goal and objective. Marketing Strategy Global mobile app Focusing on digital marketing channels for potential customers Acquire the competitors: To be the largest resource in food supply market, Zomato bought urban spoon for $52 million to enter US, Canada and Australia.

4. THE MODEL OF MESS TIFFIN MANAGEMENT SYSTEM

This system identifies two types of users: Mess owner (Owner) and the Customer. The user interface has been developed using Flutter and handles the input of all owner-customer information. The main window has been created which allows role-based log-in to either customer or the owner. Both roles have different functionalities.

Few functional highlights of the system are as follows:

- The mess owner creates new customer and can also delete existing customer.
- Mess owner can update the menu every day.
- The owner has a record about payment information of each user.
- According to the information from database the owner handles the management of mess service.
- The owner can also send the message to customer about mess bill payment.
- The customer can choose the menu items.
- The customer can record the response about menu. Based on this food can be prepared. As a result, there is no food wastage problem.
- The customer can also skip the tiffin and inform the mess about it.
- Each customer has a separate record in the database.
- Each customer provides the credentials to login to the window.
- In customer window, the customer knows about the remaining days left for payment and the due date of payment The functionality provided by various buttons is described briefly.

5. PROPOSED SYSTEM

It is a 2-way communication application where user's current location will be detected first. And according to his location nearby franchises will be displayed. For this he must give location permission to the application.

By clicking the next button, a day wise menu will be shown. And if the user wishes to see other day menu a separate button will be kept.

User will be directed to the cart then, where one has to select no. of particulars which he wants to order. E-wallet and COD will the payment options given to the user.

The vendor has to first register to the application where he can enter his own menu and the cost of the dish. As soon as the customer places an order the vendor's application receives a notification that order has been placed. The user's database, vendor's database is being saved in SQLite Database. After placing the order, the User can actively track the tiffin.

Proposed system uses N-tier application:

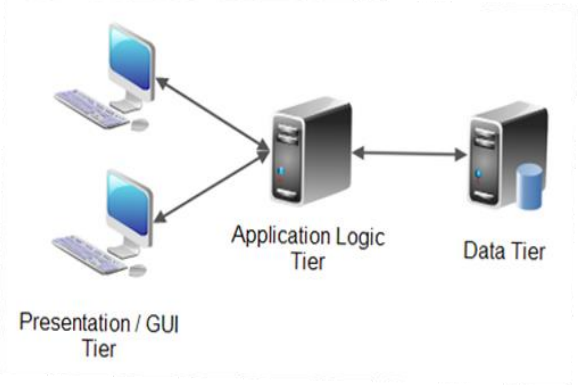

Fig 1: N-tier Architecture

N-tier architecture is also called multi-tier architecture because the software is engineered to have the processing, data management, and presentation functions physically and logically separated. That means that these different functions are hosted on several machines or clusters, ensuring that services are provided without resources being shared and, as such, these services are delivered at top capacity. The "N" in the name n-tier architecture refers to any number from 1.

N-tier architecture would involve dividing an application into three different tiers. These would be the -

1. Logic tier -

This layer coordinates the application, process commands, makes logical decisions and evaluations, and performs calculations. It also moves and processes data between the two surrounding layers.

2. Presentation tier -

The topmost level of application is the user interface. The main function of the interface is to translate tasks and results to something the user can understand.

3. Data tier -

Here the information is stored and retrieved from the database or file system. The information is the passed

back to the logic tier for processing, and then eventually back to the user.

Use Case Diagram:

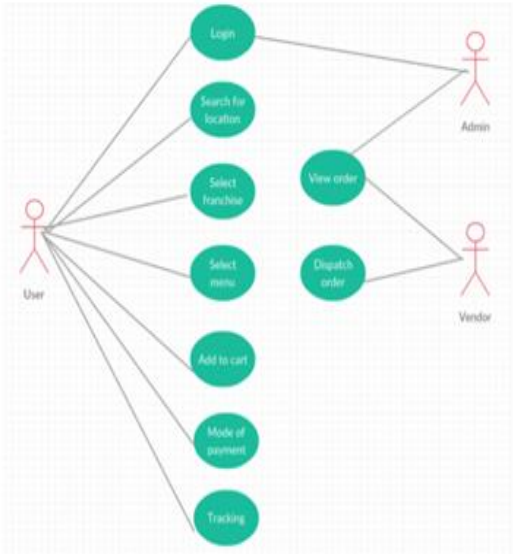

Fig 2: Design for user application

Model used: Spiral Model Spiral Model is a combination of a waterfall model and iterative model. Each phase in spiral model begins with a design goal and ends with the client reviewing the progress. The spiral model was first mentioned by Barry Boehm in his 1986 paper. The development team in Spiral-SDLC model starts with a small set of requirements and goes through each development phase for those set of requirements. The development team adds functionality for the additional requirement in every increasing spiral until the application is ready for the production phase.

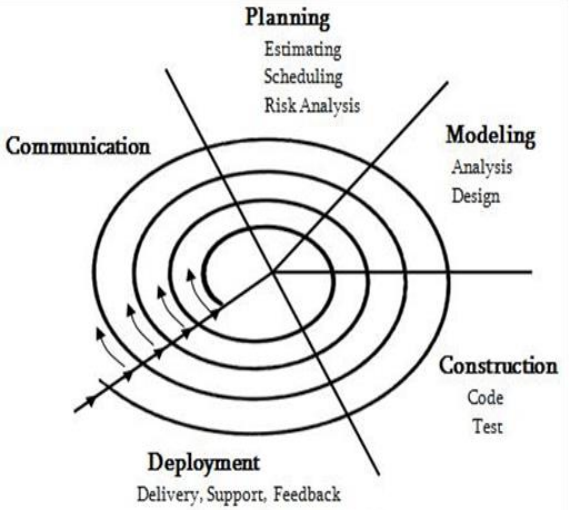

Figure : Spiral Model

6. CONCLUSION

In this project we have implemented a role-based mess tiffin management system which efficiently manages the entire functionality of mess owner and customer. The owner can manage customer records and preferences easily whereas the customer can register and enjoy tiffin service based on personal preferences. It also handles the mess bill payment according to tiffin consumed by the customer. Food wastage is reduced as the customer orders only that food which he/she prefers to order from range of available menu items. The mess owner can prepare less food in case the customer decides to skip tiffin for a particular day. This will help reduce food wastage and save the owner's money. The tiffin delivery can be done at given address correctly.

Currently this has been developed as a desktop application. We aim to deploy this project in an Android Application as a Google Play store app. In this era of smart phones if we deploy it on a portable device then many users can download and use it. In future, we are also planning to add functionality of sending SMS and WhatsApp messages along with real time calling.

7.ACKNOWLEDGEMENT

Before we get into thick of things, we would like to add few words of appreciation for the people who have a part of this project right from its inception. This writing of this project has been one of the significant academic challenges. We have faced without the support, patience and guidance of the people involved; this task would not have been completed. It is to them we owe by deepest gratitude.

It gives us immense pleasure in presenting this project report on this platform. It has been our privilege to have a project guide who has assisted us from the commencement of this project. The success of this project result of sheer hard work and determination put in by us with the help of our guide.

REFRENCE

[1] https://www.google.co.in/search?source=hp&ei=VarwWdeoDInD0gSrtJOgDg&q=literature+survey+for+zomato& oq=literature+survey+for+zomato&gs_l=psyab.3...2041.10158.0.10567.0.0.0.0.0.0.0..0.0....0...1.1.64.psyab..0.0.0....0.IXKFyZ9qZ3s

[2] [Aug. 23, 2013]. OASIS. (2007, April.), "Web Services Business Activity (WSBusinessActivity) Version 1.1," Available: http://docs.oasisopen. org/ws-tx/wstx-wsba-1.1- spec-os.pdf