

An Insight on Existing Online Food Delivery Applications in India and Proposition of a New Model

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Abstract - The purpose of this research is making an online food delivery system based on Website and Android application with New Order, Order History, Restaurant Profile, Order Status, Tracking Order, and Setting Profile features. The research method used in this research is agile method with following phases: requirement definition, analysing and determining the features needed in developing application and making the detail definition of each features, system and software design, designing the flow of developing application by using Unified Modeling Language (UML) design, and database structure design, implementation an unit testing, making database and translating the result of designs to programming language code then doing unit testing, integration and System testing, integrating unit program to one unit system then doing system testing, operation and maintenance, operating the result of system testing and if any changes and reparations needed then the previous phases could be back.

The result of this research is an online food delivery system based on Website and Android application for customer, restaurant and admin user. The conclusion of this research is to help customer in making order easily, to give detail information needed by customer, to help restaurant in receiving order, and to help delivery agent while doing delivery. System provides real time current position information by using High Speed Downlink Packet Access (HSDPA) and Enhance Data for Global System for Mobile Communication Evolution (EDGE) technology, and uses a single device to obtain and send its location.

Keywords - Online Food Delivery Applications, New Model, System Based on Website and Android Application.

I. INTRODUCTION

Despite of living in an age where everything is done digitally, the students of VIT University experience a hurdle which is quite unnecessary in this era. The problem that currently exists is that due to time limitations, students are frequently unable to fetch food from an outside restaurant of their choice and these results in inadequate/ missed dinner. We intend to curb that problem by providing a platform that unifies all the nearby restaurants and allows the students to order food from the comfort of their rooms. This system will ensure a proper delivery system and will help in increasing the comfort for the students and help in the business of the restaurants. The tracking operation could be done between Android devices and web based system simultaneously, by which the receiver could also be used as the coordinate sender and the sender could also be used as the coordinate receiver. Now days GPS has been used in many applications that demand the information of the position, speed, or acceleration. GPS is now often embedded in mobile phone, com-

puter, or separated GPS module for vehicle. The use of GPS is important for the vehicle and it is used to control as well as to obtain the position of moving vehicle, especially for the company of transportation fleet. GPS is used to obtain the whole information supporting the corporate development to serve its customers. The position somewhat is shown on Google Maps to be tracked in real-time mode where the position address was directly shown to users. The system will be easily used for both monitoring and tracking by using either web service or Android.

II. RISE OF ONLINE FOOD ORDERING STARTUPS

The entire startup ecosystem in India has grown over the past ten years. People have now opted for the startup culture and have shunned their conventional jobs by turning their innovative ideas into reality.

Off late, the trend of food startups has been catching the spotlight.

Some of the most popular online food delivery sites are :

- foodpanda.in
- swiggy.com
- holachef.com
- box8.in

III. DRIVERS FOR ONLINE FOOD DELIVERY SYSTEMS

3.1 Demand Drivers

1. Demographics

With a populace of more than 1.2 billion, India is obviously one of the greatest buyer showcases on the planet today. Besides, half of this populace fall less than 25 years old, and the rest before the age of 35 years; making India among the most youthful populace on the planet as well. A large portion of the fast food request originates from age gather 18-40 years. Besides, the year 2025 the Indian working class demographic is relied upon to touch 550 million. Youthful India's craving is one of the key drivers for request in the nourishment and drink industry overall.

2. Promising Income and Consumption Levels

With an expanding number of youthful Indians being profitably utilized in lucrative ventures, areas like IT administrations have increased the expectations for everyday comforts and made their wallets fatter as well. The World Bank reports a stunning half increment in per capita salary since 2006 as of recently. Urban India sees an unmistakable change in the social setting, which advance powers the progress of fast food eateries in India. Higher discretionary cash flow is likewise a key driver for different subcategories of sustenance items as well.

With double wage families, now urban India sees both guardians make a few bucks, therefore changing the way individuals live definitely; with changes in schedules, way of life and sustenance propensities. The interest for fast access to nourishment and one with moderate rates is on the ascent. Time crunches and an expanding need to invest quality time with 92% atomic families connecting for fast food or takeout to spare time and vitality that would some way or another go into concocting a supper at home each day of the week.

3.2 Supply Drivers

1. Extending Variety of Cuisines

With more eateries offering worldwide cooking styles, this has significantly affected the general nourishment industry. Chicken biryani, burgers, margarine chicken, pizza and Hakka noodles are clients' most favored requests. North Indian charge tops, yet Chinese, Italian, south Indian and

'solid sustenance' are likewise prominent. The more Indians living in urban regions will explore different avenues regarding new cooking styles, the more will recurrence of eating out increment.

2. Overhauling of Retail Formats

With a huge number of universal sustenance brands and eateries making them accessible at prevalent shopping centers, these appear to be the perfect space to get more clients who go to shopping centers to shop. Also, conversely, more clients going to nourishment courts and eateries at shopping centers, shop! It is a win-win circumstance for all gatherings, to be sure.

3. Ascending of Contract Cultivation

Contract development is basically an official understanding that ensures agriculturists' buys from goliath worldwide organizations, if they concur and supply the favored harvests to the organizations. For instance, McDonald's at present has more than 400 agriculturists developing potatoes for them in more than 2000 sections of land of farmland in the condition of Gujarat.

4. Rising of Logistics Providers

It's not simply valid for the rising e-trade industry where dispatches and conveyance taking care of organizations are on the ascent. There are calculated suppliers for the nourishment business as well, for example, Radhakrishna Foodland who is a neighborhood accomplice, giving their coordination's administrations to worldwide goliaths in India, for example, McDonald's AND Pizza Hut.

IV. EXISTING MODELS

Online sustenance conveyance is turning into an undeniably famous pattern. It is a prevailing fashion as well as really increases the value of F&B organizations deals and clients fulfillment.

These locales are generally worked by two principle plans of action: The Marketplace and White name arrangements.

1. Marketplace:

A couple of cases of Marketplaces are Foodpanda, Deliveroo and the sky is the limit from there. A marketplace records the eateries on its site and clients are coordinated to this site to arrange. It then masterminds conveyances for the clients and get commissions through the requests. The drawback of this is they as a rule work with a lot of traders

thus it has a tendency to pack and may reduce your brand image.

2. White Label Solutions:

White Label solutions give you your own particular online store with a full framework that helps you in your operations. Rather than paying a singular amount of cash to enlist an IT architect to help you with making an online site, white mark arrangements help you to make one as well. It is possible that they help you in with conveyance or you will need to discover your conveyance accomplices to work with. Purchasers will go straight to your site to request which will build your image deceivability and you will get the opportunity to keep a full client database that can be valuable when you shape your advertising procedures.

V. WORKING OF EXISTING MODELS

The vast majority of the food delivery services have their own site or application. What you need to do is put in a request from their site/application. A client will scan for a most loved eatery, as a rule separated by means of kind of food and look over accessible things, and pick conveyance or get. Payment should be possible in cash or could be paid ahead of time, with the eatery giving back a percentage to the company.

A few eateries have their own particular requesting gateway and conveyance administrations. Each time a client puts in a request, eatery are right away advised with every one of the subtle elements of the request. The majority of these keep clients arrange history to make visit requesting advantageous. When request set these eateries begin handling it. With online entries the likelihood of making blunders or sending incorrectly requests to the client is invalid.

Payment alternatives: Various payment choices to clients on your site as each client may have an alternate inclination.

Portable amicable: Website/App can be gotten to when moving this will expand your range.

Client Friendly: Options can be separated by, location, conveyance time, conveyance expense, and so on.

Productive Staff: Onboard Good gourmet experts to guarantee clients get what they requested and how precisely they needed it to taste. Great neighborhood drivers are procured with finish land data to guarantee quicker and opportune conveyances to clients.

Profit earned from: The site itself procures through promotion and connections that surface as the client takes a

gander at it. In the event that the site has a colossal number of hits this will probably happen. The site will likewise have more hits if web search tools are set up so that the webpage comes up on page one. Along these lines, as far as locales being productive, this (and plan additionally) are the tip of the ice sheet. They produce income from commissions on requests from eateries furthermore through conveyance charges on the off chance that if the request esteem is underneath the base recommended sum in your city. The commissions would run between 10 to 15% + the conveyance charges, which the eatery bears. In future, destinations may charge for posting an eatery on top of the outlines and in a noticeable place on application.

Talking about FoodPanda (– Which is one of the greatest sustenance benefit sites, grabbing twofold the subsidizing of that of Zomato, with \$310 million) while worldwide natural ways of life and QSR like McDonald's, and Pizza Hut have their own sites from where you could arrange nourishment, different organizations who need to take part in the sustenance conveyance business decide on sites like FoodPanda and Zomato. There are numerous others springing up who have comparative sustenance conveyance groups, with their own coupon and rebates framework to get more clients - Just Eat and TastyKhana for example, who have quite recently entered the market as of late. These select sites win commissions on each request and the advantage to clients is that they can get to various nourishment sites offerings at only one stop, profit rebates and restrictive offers to get greatest esteem out of their on the web or versatile application orders. Zomato is a standout amongst the most prevalent applications and sites that not just give clients a chance to request nourishment from different eateries, yet have a rating framework and a restrictive telephone number utilizing which clients could reserve a spot at the eateries. Their favorable position is the entrance to call records, utilizing which they consistently streamline their procedures. It's no big surprise they have now gotten a subsidizing of more than \$163 million for business advancement. A fascinating point to be noted here is that FoodPanda arrangements to augment their administrations and tie up with eateries that can't do home-conveyance. There will be coordinations related ventures done by FoodPanda to just grow their compass and get a bigger chomp of the home conveyance advertise. Despite who shows signs of improvement financing, it is the 'aggregate review' of sites that would at last take the greatest share of the pie. Indeed, even before Zomato or FoodPanda had made an impact on the brilliant Indians, there was Burrrrrp!, which is presently non-existent as are other comparative sites which mushroomed at a certain

point, however couldn't remain consistent with their esteem suggestion. We have tended to different online nourishment benefits that convey prepared suppers at homes and working environments. There is another administration in view of the sustenance conveyance show - the online basic supply advertise. A portion of the main names in this classification incorporate PepperTap, which as of late got some unrestrained financing from Snapdeal and BigBasket. Different administrations like TapTapMeals exist, which is conveyance of "home-cooked" suppers other than the typical worldwide QSR menu.

VI. OUR SOFTWARE METHOD

Online Food Delivery System is created by using

Agile model:

1. Requirements definition

Analyses based on similar application and determine the necessary features in the application, as well as do the details about the features that will be created with function of each feature.

Features that are needed in application for customer are as follows:

a. Order

Order is the main feature of the customer side application that will be used to make orders. There are two ways to make orders, the first one is using website and other is android application.

b. Account

The user can use the online food delivery system only when they have account.

c. Restaurant Profile

Restaurant profile is the features that will be used to show restaurant profile. It will also include the restaurant's timings, its rating and popular dishes.

d. Order status

Order status is the features that will be used to show order status consist of "order delivery and tracking of the order.

e. Menu Management

Restaurant can modify its menu including change the availability status of each menu through this feature.

f. Admin

Admin can accept the request of the customer and can modify the restaurant request.

2. System and software design

Make the application design workflow for customer side, restaurant side, delivery side, and admin side using Unified Modelling Language (UML) design consist of Use case diagram, class diagram, sequence diagram, activity diagram, collaboration diagram, state transition diagram and dataflow diagram.

3. Implementation and unit testing

This is the developing application phase; it includes making database and translating the design result done in the previous phases to programming language codes.

After that, a program unit testing was integrated with development. The application development divided to two phases, which are:

a. Database making

Database is made based on the design. It used MySQL database management system which will be related between the applications developed in Android OS and the website developed in using Java Server Page (JSP).

b. Application and website development

This phase is translating the result of design into Java Programming for customer and courier side application, and Java Server Page for restaurant side and admin side websites. After doing these two phases, a program unit testing will be done.

4. Integration and system testing

After doing program unit testing in the previous phase, all applications and websites will be integrated into one whole system. After that, a system testing will be done. The applications and websites will be integrated using one database.

5. Operation and maintenance

After doing integration into one whole system, if there is any changes or reparations needed then the previous phases can be back. User's favorite menu, and "Order Status" to show order status in real time to user.

In this system, there are 3 main parts: the sender, the server, and the tracker. The position sender was getting the position from satellites and sent the coordinates to the serv-

er. On the server side, these coordinates were saved in MySQL database tables. On the tracker side, the data were obtained from the server and would be shown on Google Maps.

VII. CONCLUSIONS AND SUGGESTIONS

7.1 Conclusions

Based on the result of this research, it can be concluded:

1. The Online Food Delivery application can help customer in making order easily,
2. The Online Food Delivery application gives information needed in making order to customer.
3. The Online Food Delivery website application made for restaurant can help restaurant in receiving orders and modifying its data
4. The Online Food Delivery website application made for admin can help admin in controlling all The Online Food Delivery system.
5. The Online Food Delivery system can help the customer to track his order.
6. The Online Food Delivery allows customer to give reviews and ratings.
7. The Online Food Delivery system allows restaurants to view their reviews given by the customer

7.2 Suggestions

Below are some suggestions addressed to the next The Online Food Delivery:

1. For the next development, this application can be developed to another platform such as Blackberry and iOS, therefore other customers who are using Blackberry operating system and iOS can also use this application and the target user segmentation will also be wider.
2. For the next development, this application can be developed by adding other payment method such as klikBCA, Visa, MasterCard, etc to facilitate customer in payment process.
3. For the next development, this application can be integrated with social media such as Facebook, Twitter, etc to facilitate customer in getting The Online Food Delivery application information.

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