Web development system for online food and stationery products

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ABSTRACT

The daily increasing demand from restaurant-travellers created the need to pay more attention to the hospitality industry. Customers need many alternative supplies with ease of ordering and delivery. Technical intervention has come to be obligatory to enhance the excellency of services and commercial enterprise on this monopoly. Pieces of proof have already existed for fragmentary automation of the food ordering procedure in our us of a, most of these technologies applied are primarily based on wi-fi technology. This documented reviews the utilisation and combination of net-based totally era for eating places. A dynamic database software system became designed to fetch all the statistics from a centralized database. Consumer software become given importance at some point of the improvement of this interface and performance, accuracy was the priority for better consequences and services and to reduce the majority of the human error. It became observed that this gadget became successful in overcoming the shortcomings determined in the previously evolved similar structures. furthermore, this system become very cost-effective in development as well as at some point of use. An online food and stationary product ordering device are contingent right here which make simplify the food and stationary product ordering procedure. The used gadget suggests a consumer weld and updates the food list with all to be had optional in order which, it becomes affluence the patron's paintings. Customers can choose a couple of objects to give an order and may view order information earlier than log out. Customers then get an order conformation from the system. The updated order is located in the string and restored inside the database and again back into real-time. This whole system assists the group of workers to go through the orders in actual-time and method them efficaciously with minimal mistakes. Through this website, we will try to give online food and stationery to the students and teachers of my college which was found to be very helpful. Through this website they can easily get their needful at any time. This website contains a map, where they can order from any shop of their choice.

Keywords: *Web-based, Food, PHP, MYSQL, CSS, HTML, BOOTSTARP*

1. INTRODUCTION

The online ordering system can be described as a simple and handy manner for clients to buy food online, while not having to visit the eating place. This system is enabled by using the net, it's miles the net that connects the restaurant or the meals organisation on one hand, and the client on other hand [1]. Therefore, as per this system, the customer visits the website, browses through the various food items, combos, and cuisines available there, and goes ahead and selects to purchase various items customers need. These items will then be delivered to the customer at their doorstep, by a delivery person. these days, every technical area is making an attempt to fashion human lifestyles cosy. inside the beyond couple of years, there was a significant boom of online eatery. It's only a single window for ordering from numerous collections of eating places.

This system could be very beneficial to individuals who are very busy at paintings their daily work life or domestic and do no longer have the time to move out of doors or cook dinner meals. clients don't want to have the technical information to function it. due to the fact it's far designed in a completely modest way. It presents a whole dashboard with facts approximately menus, orders, and so forth. it's miles very customer-pleasant online ordering system. In this project a website is designed through which anyone, anytime can easily access to their needful stationeries and foods at ease, wherever they are (make sure they can order only around the college basis). This project mainly targets the students and the teachers of our college.

2. LITERATURE SURVEY

An automatic food ordering & stationery product system is proposed if you want to preserve track of consumer orders well. Bean, M. applied a food ordering system for distinct forms of eating places & stores wherein customers will make an order or make wont food & products with one click on most effective. Through an android software for tablet pcs, this system changed into carried out. The front cease became evolved the use of JAVA, Android and on the backend MySQL database changed into used [2]. The Technology Acceptance Model (TAM) (Davis, 1986) as a theoretical grounding to study adoption of using the Web environment for ordering food. S.M. Alagoz et. al has investigated the factors that influence the attitude of internet users towards online food ordering systems. They used the TAM for the development of their system. They mainly implemented it in Turkey among university students [3]. Technology has impacted restaurants in more ways than one. While point of sale systems and credit cards have long been the norm, we've seen the advent of other noteworthy advances, including: Online Ordering, Mobile Payment/Paying by Phone, Customer Kiosk Ordering, Digital Loyalty Programs [4]. Restaurant technology in 2016 reports the results from various restaurant-goers to understand the true feelings that diners have about restaurant technology systems [4]. food enterprise has continually been a worthwhile enterprise no longer simplest for manufacturers, suppliers, however also for the users, distributers. the online food delivery system is nowadays a much needed in this ongoing pandemic situations. A. Singh et. al. proposed a real-time online food ordering system for the customers. Through their proposed system the food can be ordered online very easily from restaurants as well as mess services. For the preliminary implementation of the system utility pay-on-transport charge system is used [5]. Sometimes we don't feel like cooking or doesn't feel like to go to the restaurants, therefore to remove such situation. S. S Parvatikar came with an idea of Online Food Ordering Management System which can help the customers to get food delivered immediately. This is mostly designed for a single restaurant having various food items at valuable food prices. In this system we can also mention the quantity we want in our order and finally can make the payment. When the order is placed, it gets stored in the database of the restaurants. Here, they had used the DBMS (Dynamic Database Management System) [6]. A project was built by Md. M Rahman a responsive online application for restaurant which helps customers to order foods online. The application was made responsive as the application can be accessed through various devices with different size of screens. Facebook API is integrated to the application. Laravel 5.4 PHP framework has been used to develop the backend of the system and Bootstrap 4 framework used for developing the responsive frontend [7]. For our system development research work aims to design and develop a wireless food ordering & stationery product system for restaurants & shops. This system targets mainly the students and teachers who are having always a busy schedule. Technical operations of wi-fi Ordering device (WOS) which includes systems structure, function, boundaries, and guidelines had been supplied on this machine. by way of supplying higher exceptional customer service and decreasing human errors to improve the control element for restaurants & stores. design implementation can be discussed in this paper. This system implements wireless data access to servers. that order information is up to date in the imperative database. The eating place or keep proprietor can manage the menu changes without problems.

3. METHODOLOGY

Right here we are ging to discuss the methodology and techniques decided on for the studies and offers a motive why those methods and technique had been used. Then we discussed software program improvement technique and offers a purpose for it.

3.1. Research of Methodology

I think research is a method by which we find a new scientific meaning of this subject matter. Someone says – "a scientific and systematic search for pertinent information on a specific topic". Research of methodology collects facts and data information for choice-making. There are generally two strategies for conducting research. For developing system HTML, PHP, JAVA, MYSQL, BOOTSTRAP which is shown by DFD and ERD. A systematic method has to be used for engaging in any research to discover the answer to the problem systematically. The simulation first begins with the getting into with consumer's credentials (name, user identity, and password). once that has been confirmed, the patron can be logged in and order can be placed by particular the amount of the food or product(s) requiring. Now the order will be moved into the cart with displaying order no., cus_id, food/product_name, price and quantity. once the purchaser's order is finalised, they're redirected to the charge window in which the whole charge is showed and the consumer can choose the fee approach of what is their mind and heart want to, and then confirmation of order massage is despatched to the consumer. The DFD and the Entity Relationship Diagram of the Online Food Ordering & Stationery Product Ordering System are given in below-

3.1.1. Data Flow Diagram (DFD): This below diagram is called a data flow diagram (DFD), which suggests the manner of ordering food and stationary product via online ordering systems. The oval form manner centre ordering system. The containers around the diagram are control boxes. The control box shows the quantity of techniques and their description. The boxes across the diagram are information save. The field represents a bit of information is stored and among the containers and oval shape it indicates the flow of data. Below figures 1, 2, 3 shows the DFD of the ordering food and stationery products process for users.

a) Level 0 DFD

DFD Level 0 is also called a Context Diagram. It is a basic overview of the whole system or the processes those are analysed or modelled. It is designed to be an intuitive view, showing the system as a single high-level process, with its relationship to external entities.
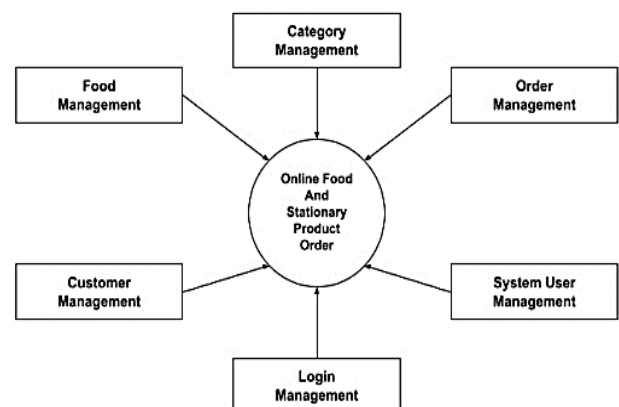

Figure -1: level 0 DFD

b) Level 1 DFD

As described previously, context diagram (level 0 DFD) where the whole system is appears in front of us as a one-way process. A level 1 DFD where management data stored into the main frame and to the main frame passes the data to generate the reports this whole process makes together and create level 1 DFD.
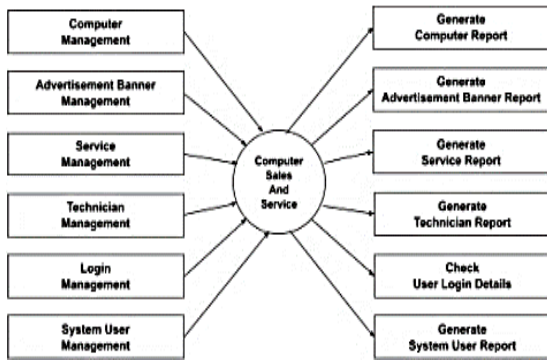

Figure -2: level 1 DFD

c) Level 2 DFD

After executing level-0 and level-1 DFDs all the data are combined in 2-level DFD. Then all the main storing place started to operated together, and data is started pass through and pass in. this whole process makes it a "system".
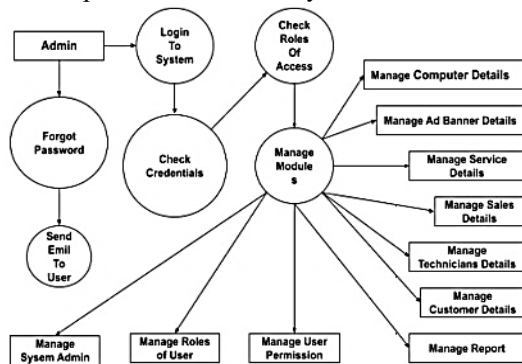

Figure -3: level 2 DFD

3.1.2.   ER Diagram: An entity-relationship model describes interrelated things of interest in a specific domain of knowledge. This diagram represents the relationships of all the levels of DFD (levels 0,1,2) which are inter-connected to each one for execution of the system.
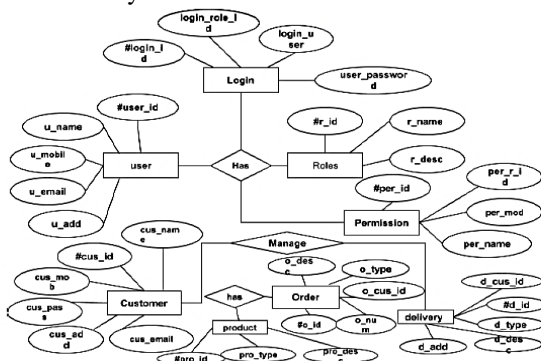

Figure -4: ERD of ordering system

3.1.3.   Flowchart: The below figure is called flowchart. This is the simple understanding diagram to understand the whole system process. Step-by-step all the data started to flow to right way. Arrows are defied the right path to data flow. This flow defined as a diagrammatic illustration using algorithm.
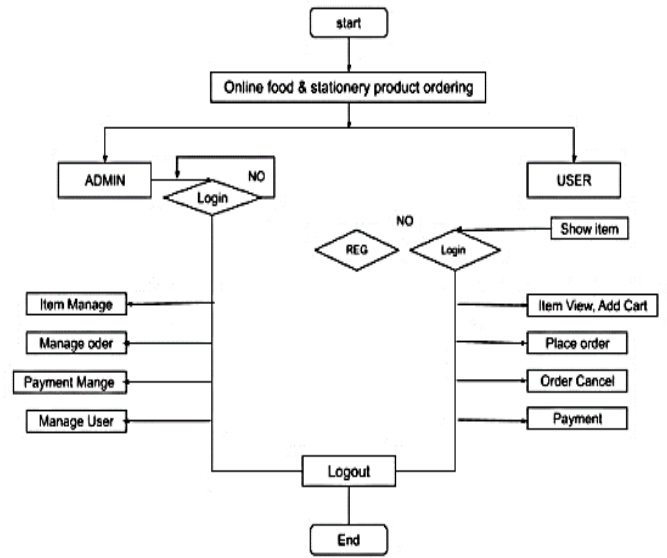

Figure -5: Flow chart of ordering system

3.1.4. Programming languages Used

- **PHP**: Hypertext Pre-processor is a language that began developing web applications, PHP basically stands for personal home page but it is now used for the recursive initialism. Hypertext Pre-processor code is executed by an interpreter, it's then applied as an internet server module. The output of every of the interpreted and completed php code is mixed by means of the use of the net server, which may be a daemon or as a not unusual Gateway Interface or CGI executable.

- **HTML:** It is stands for Hyper Text Markup Language. it is used to layout and developing web pages the usage of a markup language. HTML is the aggregate of Hypertext and Markup language. Hypertext defines the link between the web pages interconnected.it can be assisted by technologies such as CSS and JavaScripting. A markup language is used to define the text document within a tag which defines the structure of web pages. HTML was created by Tim Berners-Lee in 1991.

- **BOOTSTRAP:** Bootstrap allows and easily enables to design and develop websites congenial to all devices including various screen readers and also self-starting process which is undependable to continue without any type of external inputs. Bootstrap is an unfastened CSS and JavaScript framework that helping to proceed to developers to designed and displayed. The framework changed into first conceived by Mark Otto and Jacob Thornton at the same time as operating at Twitter in 2010. Bootstrap is a free and open-source CSS framework directed.

- **JAVA:** Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. In web developing application we generally use JavaScript; it is a class-based language for application development. It used in either HTML parts or CSS part. In CSS it has no type, but in HTML there are two types: inline and internal.

- **CSS:** The acronym CSS of Cascading Style Sheets with an emphasis placed on "Style." While HTML is used to structure a web document (defining things like headlines and paragraphs, and allowing developer to embed images, video, and other media). CSS comes through and specifies developer's document's style—page layouts, colours, and's fonts are all determined with CSS. Think of HTML as the foundation (every house has one), and CSS as the aesthetic choices (there's a big difference between a Victorian mansion

and a mid-century modern home), that means CSS designed and styled the HTML part to the viewers.

- **MySQL:** It's miles an Open-Source Relational Database Management System (RDBMS). In MySQL, "My" is call of co-founder Michael Widenius's daughter and "sq." is abridgment for structured query Language. on this we stored all information of clients, objects and so forth.
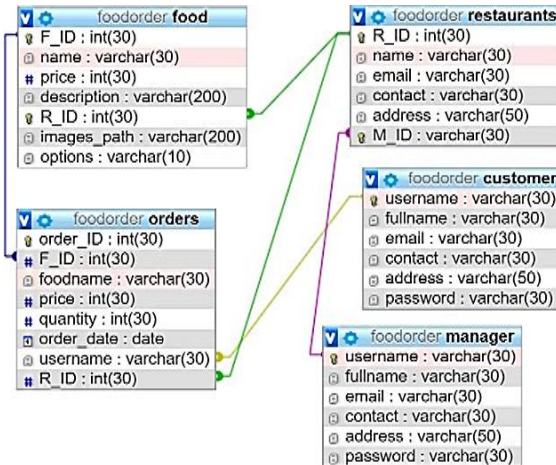
Figure -6: Database Requirements [8]

Table -1: Customer database [8]

Customer

Column	Type	Null	Default	Links to	Comments	MIME
username(Primary)	varchar(30)	No				
fullname	varchar(30)	No				
email	varchar(30)	No				
contact	varchar(30)	No				
address	varchar(30)	No				
password	varchar(30)	No				

Table -2: Indexes [8]

Indexes

Keyname	Type	Unique	Packed	Column	Cordianility	Collection	Null	Comment
PRIMARY	BTREE	Yes	No	username	5	A	No	

Table -3: Food database [8]

Food

Column	Type	Null	Default	Links to	Comments	MIME
F_id(Primary)	int(30)	No				
name	varchar(30)	No				
price	int(30)	No				
description	varchar(200)	No				
R_id(Primary)	int(30)	No		restaurant->R_id		
imagepath	varchar(200)	No				
options	varchar(10)	No	ENABLE			

4. DESIGN, ANALYSIS AND IMPLEMENTATION
4.1. Analysis
After collection of information, a system assessment has been won. Then distinct techniques are used (Data Flow Diagram, Entity relationship Diagram, Waterfall method and so on.) for structured system evaluation & design technique (SSADM) to analyse the system and make it right into a logical manner.

4.2. Utilization or Implementation
upon getting the logical structure of the system, the implementation steps are proceeded. on this step, the logical structure is transformed into bodily structure via decoding and improvement of the gadgets. The Frontend and Backend a part of the system was developed and examined. So, we are able to be assured that our project is on proper route.

a) Diagnostic Analysis of System
After implementing, the system has been perfectly evolved to make apprehend the needful necessities. Then the end result is analysed. In this analysed part, this project's conclusion and future recommendation have been made.

b) Waterfall Model
The waterfall model is likewise called established technique for the software programming development. The entire processing of the system development is split through it specific levels. The model has been brought to the world in the Seventies. Each appearance has a complete output is unexampled. It became the world number one SDLC model for use widely. in order that, from time to time it is known as Waterfall by SDLC. In 2012 Dennis and Wixom and Roth uttered that "The waterfall model is used when the system requirements are well known, technology is understood and the system is a new version of an existing product". Mainly there are five stages in the Waterfall model or SDLC. If there is an obstruction faced in any level of the rotation, the system without any delay verve to the foregoing level to checking all this phases.
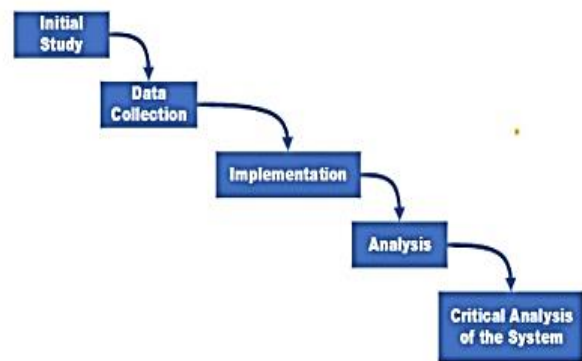
Figure -8: Waterfall Method in step [7]

System Design: The necessities of documented within the preceding segment are very well studied on this segment and the system design is ready. system design includes a transformation of the user implementation model into software program layout. The layout specification of the proposed system consists of the subsequent:
- Database tactic
- Structural charts
- Pseudo codes for the modules in structural charts.

Implement: Now system layout provides some inputs, the ordering-system is evolved in numerous units. Then the entity is examined.

Combining and Substantiation: The units of this system advanced inside the previous level are combined right into a processer. Then the complete system is substantiation.

Formation: While the all type of examine is performed, the product is engaged in the client surroundings.

Maintenance: Discovering the troubles in the consumer surroundings. Patches are launched to repair those problems.

4.2.1. System Pattering:
The system pattern is also known as Rapid Action Development (RAD) technique. In this approach, the evaluation, layout, and utilizing of phases are carried out simultaneously and again and again in a rotation intelle the system is finished. The basics of evaluation and design are finished, using the system. Then the work at the system patterning begins right away. in order that, many bugs and issues remained at the system. After that, the users or venture sponsors provide remarks at the ordering system. Then, the system is again analysed, again designed, and carried out primarily formed on feedback. This procedure keeps intelle the customers or task patronize are happy with this system.
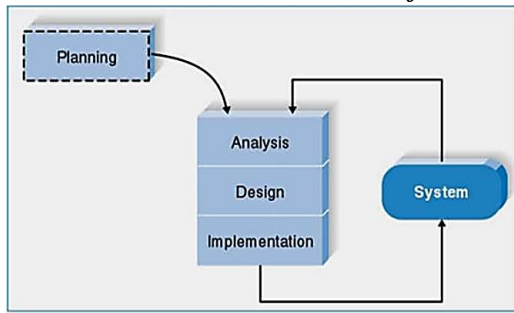
Figure -9: Waterfall Method in Chart [7]

5. RESULTS AND DISCUSSION

5.1. Protection

Protection is one of the maximum crucial matters for a web utility, in particular if the system consists of transaction and person non-public statistics. As it's far an online food and stationary ordering system, all type of transactions will be made through the website and the utility additionally saves a one-of-a-kind form of private facts. In devoirs to assuring the safety of this special strategies have been used. For assuring the safety of the password, the default hashing characteristic of visual Studio has been used. visual Studio handles all of the passwords via encrypting and decrypting automatically, which has been hashed based totally on the name of the game key of the software program. one in all of the maximum essential troubles for internet applications is go-website request forgery (CSRF) assaults. CSRF is a sort of malicious take gain of whereby unauthorized instructions are completed on behalf of an authenticated person while s/he clicked at the malicious hyperlink. visual Studio routinely generates a CSRF "token" for every lively person consultation managed by means of the use of the software program. This token is used to verify that the authenticated patron is the only making the requests to the software program. whenever an HTML form within the software is defined, a CSRF hidden token area is included in the form in order that the default CSRF protection made aware of visual Studio can enable the requesting.

5.2. Uses

Students successfully use the Web application. They ordered whenever they wanted, and got food and stationery things. Also didn't have to worry that they made orders, because the mapping system was there.

5.3. Profile of Problems

In the present system, all work is done on paper. The order report, food category, and food are stored in the register and at the end of the session, the reports are generated. Because of, my project is new apply for my college and also difficult to agree all stationary shop and food restaurant to register in this website. So, this project is now only based on theory, but it will soon to apply in real life work.

5.4. Structure of the project
  - ✓ *Previously of Log in*
  - o Register
  - o Administrator Login
  - o About Us
  - o Contact Us
  - ✓ *Administrator Login*
  - o Edit Website Details
  - o Add Food Items
  - o Remove food Items
  - o Add Restaurants
  - o Delete Restaurant
  - o Logout
  - ✓ *User Login*
  - o My Profile
  - o Menu
  - o Search Food Items
  - o My Cart
  - o Order
  - o Logout

5.5. Scope and Feasibility

This activity is likewise called the workability-study. It begins off evolved with a requesting from consumer for a newest system. This entails the subsequent:
  a) discover the contractive consumer for a newest system.
  b) make clear the consumer request perceive deficiencies within the modern-day device.
  c) establish dreams and targets for the new device.
  d) decide the feasibility for the new gadget
  e) prepare a project charter so one can be used to manually test of the project.

Critical model might also itself include a couple of models, modelling exceptional elements of the system. The data flow diagrams may also version the information and their relationships and the state transition diagram may additionally model the time-established behaviour of the machine. The vital model accordingly consists of the subsequent:
  • Context diagram / level 0 diagram.
  • Levelled data flow diagrams.
  • system specification for elementary bubbles.
  • information dictionary for the go with the flow and stores at the DFDs.

Figure -10: Homepage
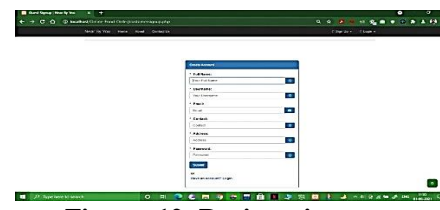

Figure -11: Login and Registration page

Figure -12: Registration page

Figure -13: Menu page

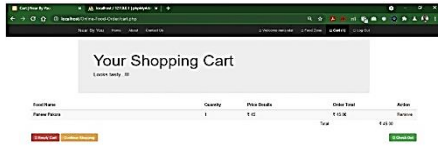**Figure -14: Information page**
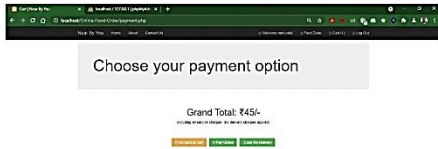

Figure -15: Checkout page

Figure -16: Payment page

Figure -17: Order placed Page

With the help of the system, human beings can order food and stationary products easily. It additionally ensures that the people do not wasting of their most valuable time and using their time consistently within their own works. ultimately, this could make sure that it allows to reduce labour expenses. The system clarified that this could be greatest price-effective and dependable than other systems. This system is tough to forge or cheat while in comparison to other systems in phrases of payment for the food. It is very easy to apply and has the least upkeep. It does now no require any kind of human arbitration and for this reason may be referred to as completely automatic. There are not any obstacles as such for this system, but one needs to keep in mind to the smaller constant like server breakdown while the system is applied.

6. CONCLUSION

The online food and stationary product ordering system mainly targets the customers like students and teachers of the college within the campus to ease them as to balance their busy schedule and also get their food on time and get their needful stationaries. Easy register interface, variable choices to meet the customer need and various payment options of this system helps also the restaurants and stationary shops to get their customer satisfaction and rating.

- After implementing this system in our college arena, we get a very excellent feedback from our teachers and students.

- This system also helped many people who are unemployed and thinking of started a restaurant or stationary shop. They now can easily open without any hesitation as they get the customers easily without any one-time loss.
- Waterfall method is very convenient for this project and get the better outcomes for development of the system.
- Cyber security is added to our system for the better customer experience. Here, OTP and captcha are generated in every step of action on the system.
- Bugs at the early stage of this system development in database and the link failure between to web pages is fixed in the span of this project. Now the system is working feasibly and well-maintained order. And a very good feedbacks we get from this system.

7. REFERENCES

[1] http//www.nibblematrix.com/online-ordering-sstem-definition/
[2] Bean, M. (2015) Laravel 5 Essentials. Packt Publishing Ltd.
[3] Alagoz, S. M. and Hekimoglu, H. (2012) 'A Study on Tam: Analysis of Customer Attitudes in Online Food Ordering System', Procedia - Social and Behavioral Sciences, 62, pp. 1138–1143. DOI: 10.1016/j.sbspro.2012.09.195.
[4] https://www.bizimply.com/blog/restaurant-technology-trends/
[5] International Research Journal of Engineering and Technology (IRJET) Volume: 05 Issue: 06, Online Food Ordering Management System June -2018, Abhishek Singh, Adithya R, Vaishnav Kanade, Prof. Salma Pathan, Department of Computer Engineering, Modern Education Society's College of Engineering, Maharashtra, India.
[6] International Research Journal of Engineering and Technology (IRJET) Volume: 07 Issue: 11, Online Food Ordering Management System November 2020, Sunidhi S Parvatikar, Basaveshwara Engineering College, Vidyagiri, Bagalkot, Karnataka, India.
[7] Implementation of Responsive Online Food Ordering Application with Social Media Integration January 2018 Thesis for Bachelor of Science (Honours) in Information Technology.Advisor: Shah Reza Mohammad Fahad Ul Hossain Authors: Md. Muminur Rahman.
[8] https://download.codeprojects.org/media/2020/04/Online_Food_Order_IN_PHP_CSS_Js_AND_MYSQL