L.J. INSTITUTE OF ENGINEERING & TECHNOLOGY

AHMEDABAD, GUJARAT

Affiliated with **Gujarat Technological University**

AN IDP PROJECT REPORT ON

NOWAITO App.

Submitted by
Raj Patel (170320132030)

B. E. , Semester – 7

Information & Communication Technology

INVISION SOFTWARE SOLUTION

Internal Guide,
Prof. Bhautik Trivedi
(Department of
ICT Engineering)

External Guide,
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(Head of Invision
Software Solution)

Academic Year (2020-21)

L. J. INSTITUTE OF ENGINEERING AND TECHNOLOGY

COMPUTER ENGINEERING

YEAR, 2020-21

CERTIFICATE

This is to certify that the Project entitled **"NOWAITO App."** has been carried out by under my guidance in fulfillment of requirements for the degree of Bachelor of Engineering in Information and Communication Technology (7^{th} Semester) of L. J. Institute of Engineering and Technology under Gujarat Technological University, Ahmedabad during the academic year 2020-21.

Prof. Bhautik Trivedi
(Assistant Professor)

Prof. Mitesh Thakkar
(Head of Department)

Invision Software Solution

Date: 09-10-2020

TO WHOM SO EVER IT MAY CONCERN

To,

L.J.Institute of Engineering & Technology

S.G. Road & Kataria Motors Sarkhej Circle Between,

Ahmedabad-382210

Respected Sir/Madam,

*This is inform to the **H.O.D of I.C.T** Department that **Mr.Raj N Patel (170320132030)** Have successfully completed their Project Documentation of 7th **Semester** with **Invision Software Solution** at Gandhinagar.*

*The Project they working on is Titled "**NOWAITO App.**". This project is developing under **ANDROID** technology and have managed complete the project Documentation successfully in the given time duration.*

During the internship program they developed technical skills and we found him to be very hardworking and a relationship intern. The feedback of his has always been positive and we wish them all the very best for their future.

For

Invision Software Solution

Manager

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ACKNOWLEDGEMENT

I express our sincere thanks to **Prof. Bhautik Trivedi,** of Information & Communication Technology Engineering department, **L.J. Institute of Engineering & Technology** for his support and guidance for this project and care taken by him in helping us to complete the project work successfully. This is to place on record our appreciation and deep gratitude to the person without whose support this project would never been seen the light of the day.

I acknowledge the guidance of all those who have assisted us in any way to complete this project. I would like to express deep thanks to **Mr. Komal Patel ,** Head of Invision Software Solution who gave us valuable insights and knowledge that contributed substantially to this.

Finally, at the outset i would like to thank all those who have directly or indirectly helped us to accomplish our project successfully. I would also like to thank our colleagues who were always there in the need of the hour and provided with all the help and facilities, which we required, for the completion of this. Most importantly, we would like to thank our **Parents and Friends** for their precious moral support, hope, and confidence in us, and for encouraging.

Thank You.

With Sincere Regards,

RAJ PATEL (170320132030)

ABSTRACT

NOWAITO is an android application for table reservation system and also ordering food online. This project for restaurant is to handle the customer, their orders and can help customers for easily find free tables.

The project will have an android application and a web portal. Application will be handled by the customers and web portal will be managed by the cashier/manager. The restaurant menu is organized by categories of menu items.

Each menu item has a name, it's price and associated recipe. Item is categorized according to the cuisines and each item has its own description. **NOWAITO** is android application for restaurant. Customers will order the food items from display on the table then the chief will be notified about the order placed. Customers can cancel the given order in a specific time duration. The web portal will also generate a bill.

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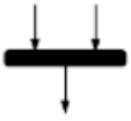
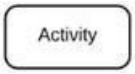
LIST OF ABBREVIATIONS

Abbreviation	Full Name
UI	User Interface
UX	User Experience
OS	Operating System
ADB	Android Debug Bridge
UML	Unified Modeling Language
DFD	Data Flow Diagram

LIST OF SYMBOLS

Symbol	Symbol Name	Description
	Connector Symbol	Shows the directional flow, or control flow, of the activity. An incoming arrow starts a step of an activity; once the step is completed, the flow continues with the outgoing arrow.
	Decision Symbol	Represents a decision and always has at least two paths branching out with condition text to allow users to view options. This symbol represents the branching or merging of various flows with the symbol acting as a frame or container.
	Start Symbol	Represents the beginning of a process or workflow in an activity diagram. It can be used by itself or with a note symbol that explains the starting point.
	End Symbol	Marks the end state of an activity and represents the completion of all flows of a process.
	Join Symbol	Combines two concurrent activities and re-introduces them to a flow where only one activity occurs at a time. Represented with a thick vertical or horizontal line.
	Fork Symbol	Splits a single activity flow into two concurrent activities. Symbolized with multiple arrowed lines from a join.

	Terminator Symbol	This symbol represents the start points, end points, and potential outcomes of a path. Often contains "Start" or "End" within the shape.
	Activity Symbol	Indicates the activities that make up a modeled process. These symbols, which include short descriptions within the shape, are the main building blocks of an activity diagram.

Chapter:1

Intoduction

1.1 Introduction to System

In my project, **NOWAITO** is an android based application for Table Reservation System and also Online Food Ordering System. It can be helpful for customers to book table at Restaurants or café at his/her time, With the help of this application customers do not need to wait for food or do not need to wait for booking table.

Customers can easily find free tables at their time. They can also view Food's menu from application and also order food online. Application also shows Food name with their price and also with their pic.

In **NOWAITO** , Android based application must be used by customers to book table from restaurants or cafes or also order food online. And web portal is used by particular admin of restaurants or cafes to confirm orders or also accept table reservation request. Admins can also update their Food's Menu from web portal.

Whenever customers book their table at any particular restaurants or cafes then they have to confirm their booking before 15 minutes and if they can't reach at that spot request should be automatically cancel by system after 10 minutes of given time slot.

1.2 Limitation of Existing System

Some projects were made using this topic but there are few limitations-

- There are various issues where multiple customers booked same table at same time. And also table reservation cancelling system is not work properly.
- There were also issue in sending request for reserving table and whenever user want to book table there was occur error for booking table in restaurant or café.

1.3 Objective Of New System

In NOWAITO, I tried to solve existing system issues and also add some new features in my system.

- Firstly, I update table reservation and cancellation system. Table must be reserved only for 45 minutes after the time when user reserved his/her table.
- User must have to give confirmation before 30 minutes of reservation time and after 10 minutes of reservation time if he/she is not able to give their confirmation so reservation cancelled directly and system will be updated automatically.

1.4 Problem Definition

A **table reservation system** is an arrangement made in advance to have a table available at restaurant. While most restaurants in the vast majority of the world do not require a reservation, and some do not have a policy or simply any channel for making one, so-called higher-end restaurants mainly in overcrowded cities often require a reservation, and some may have tables booked for weeks in advance. At particularly exclusive venues, it may be impossible to make a reservation on the same day as the planned visit.

Offering table reservations may be a good tool to increase demand for certain restaurants. As clients know that there is a limited capacity of seats, they will always prefer to make a table reservation instead of arriving at the restaurant and facing a long waiting line. This tool helps the restaurant to keep a high demand of its customers on busy nights, and even better, to increase traffic on slow nights, when customers make reservations because they don't know how crowded the restaurant will be.

A client will always benefit from being able to make a table reservation at the restaurant to which he wishes to go. Nowadays, the majority of people prefer to go out knowing that they have a reservation, instead of incurring the risk of not getting a table at the desired place.

Chapter:2

Requirement Analysis

2.1 Feasibility Study

Feasibility studies main principal to objectively and rationally uncover the strengths and weaknesses of the existing business or proposed User, presented by the environment, the resources required to carry through, and ultimately the prospects for success. In its simplest term, the two criteria to judge feasibility are cost required and value to be attained. Generally, feasibility studies precede technical development and project implementation. Various feasibility studies are as below:

❖ Economic feasibility

Economic analysis is the most frequently used method for evaluating the effectiveness of a new system. More commonly known as cost/benefit analysis, the procedure is to determine the benefits and saved that are expect from a client system and compare them with costs. If benefits outweigh costs, then the decision is made to design and implement the system. An entrepreneur must accurately weigh the cost versus benefits before taking an action.

❖ Technical Feasibility

The technical feasibility assessment is focused on gaining an understanding of the present technical resources of the organization and their applicability to the expected needs of the proposed system. It is an evaluation of the hardware and software and how it meets the need of the proposed system.

❖ Operational Feasibility

Operational feasibility is a measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. The operational feasibility assessment focuses on the degree to which the proposed development projects fits in with the existing business environment and objectives with regard to development schedule, delivery date and existing business processes.

❖ Schedule Feasibility

A project will fail if it takes too long to be completed before it is useful. Typically this means estimating how long the system will take to develop, and if it can be completed in a given time period using some methods like payback period. Schedule feasibility is a measure of how reasonable the project timetable is. Given our technical expertise, are the project deadlines reasonable? Some projects are initiated with specific deadlines. You need to determine whether the deadlines are mandatory or desirable.

2.2 Requirement of the System [Functional & Non-Functional]

❖ Functional Requirement:

The main function of this application is online table reservation.

A. Table Reservation:- The main function of this application is online table reservation user can reserve any table through this application any time and from anywhere.

B. Hall Booking:- : The second main function is user can book hall using this app also cancel booking when they need.

C. Food Ordering:- User also can order their favorite food using this application by just filling the form.

D. Contact Us:- : User can contact with hotel admin any time using this application.

E. Gallery:- : User can see all hotel updated images from gallery. Images will be provided by admin application.

❖ Non-Functional Requirement:

A. Performance Requirements: In order to assess the performance of a system the following must be clearly specified.

B. Response Time: 10 seconds are about the limit for keeping the user's attention focused on the dialogue. For longer delays, users will want to perform other tasks while waiting for the computer to finish, so they should be given feedback indicating when the computer expects to be done.

C. Workload: The system should be capable of supporting 1,000 customers" or "the system should be able to support 4 pages/sec". These statements are often good metrics at a high level management level but do not define the work that the system must support.

D. Scalability: In one respect scalability is simply specified as the increase in the system's workload that the system should be able to process.

E. Platform: A platform is defined as the underlying hardware and software (operating system and software utilities) which will house the system. Our product support Android platform with and later lollipop version.

F. Security Requirements: Before you can determine if a program is secure, you need to determine exactly what its security requirements are. So there is just one security requirement for our product

G. Database Security: For this security we are using firebase Database because without authentication Firebase is not allowing to anonymous to read and write data in database

2.3 Tools and Technologies Used

❖ Software Tools and Technologies

1) Android
2) Java
3) Android Studio
4) Sublime Text
5) Notepad++
6) XML Design
7) My SQL
8) DBMS
9) Wamp Server

❖ Hardware Tools

1) Laptop
2) Android Device
3) Restaurant or Cafe

2.4 Project Estimation:

❖ Effort Estimation

Effort estimation consists in predict how many hours of work and how many workers are needed to develop a project. The effort invested in a software project is probably one of the most important and most analysis variables in recent years in the process of project management. The determination of the value of this variable when initiating software projects allows us to plan adequately any forthcoming activities. As far as estimation and prediction is concerned there is still a number of unsolved problems and errors. To obtain good results it is essential to take into consideration any previous projects. Estimating the effort with a high grade of reliability is a problem which has not yet been solved.

❖ Cost Analysis

The Business model followed here to develop the application aims at cost effective budget. The targeted application aims at the common man who neither is techno savvy nor will be interested to buy expensive applications. The cost effectiveness of the application was the important factor which had to take care of throughout the application development.

Chapter:3

System Design

3.1 Use Case Diagram

Use case diagrams are usually referred to as behaviour diagrams used to describe a set of actions (use cases) that some system or systems should or can perform in collaboration with one or more external users of the system (actors). Each use case should provide some observable and valuable result to the actors or other stakeholders of the system.

Fig 3.1.1 Use case diagram(User)

Use case diagrams model the functionality of a system using actors and use cases. Use cases are a set of actions, services, and functions that the system needs to perform. In this context, a "system" is something being developed or operated, such as a web site. The "actors" are people or entities operating under defined roles within the system.

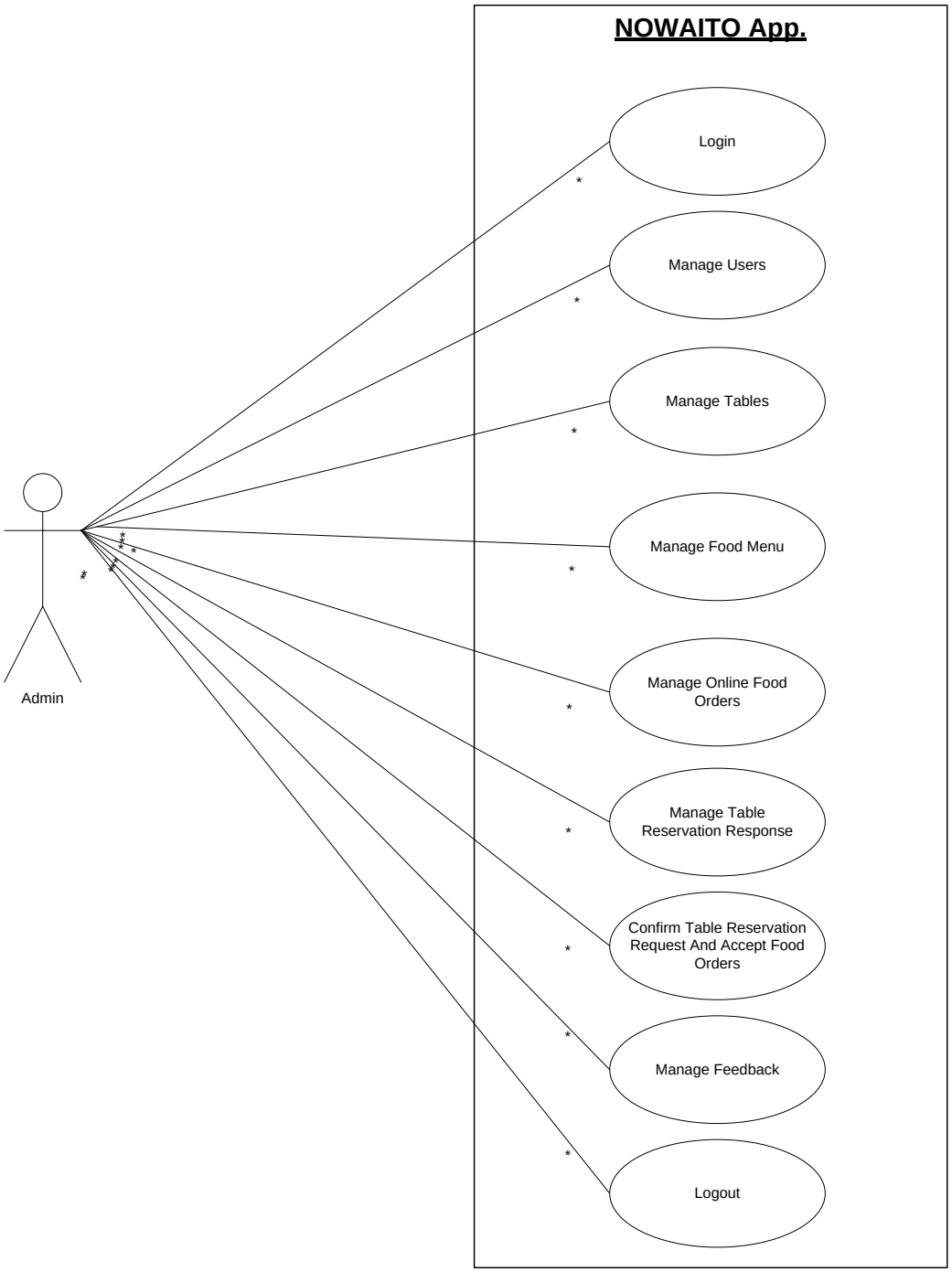


Fig 3.1.2 Use case diagram(Admin)

3.2 Activity Diagram

Activity diagram is another important diagram in UML to describe the dynamic aspects of the system. Activity diagram is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another.

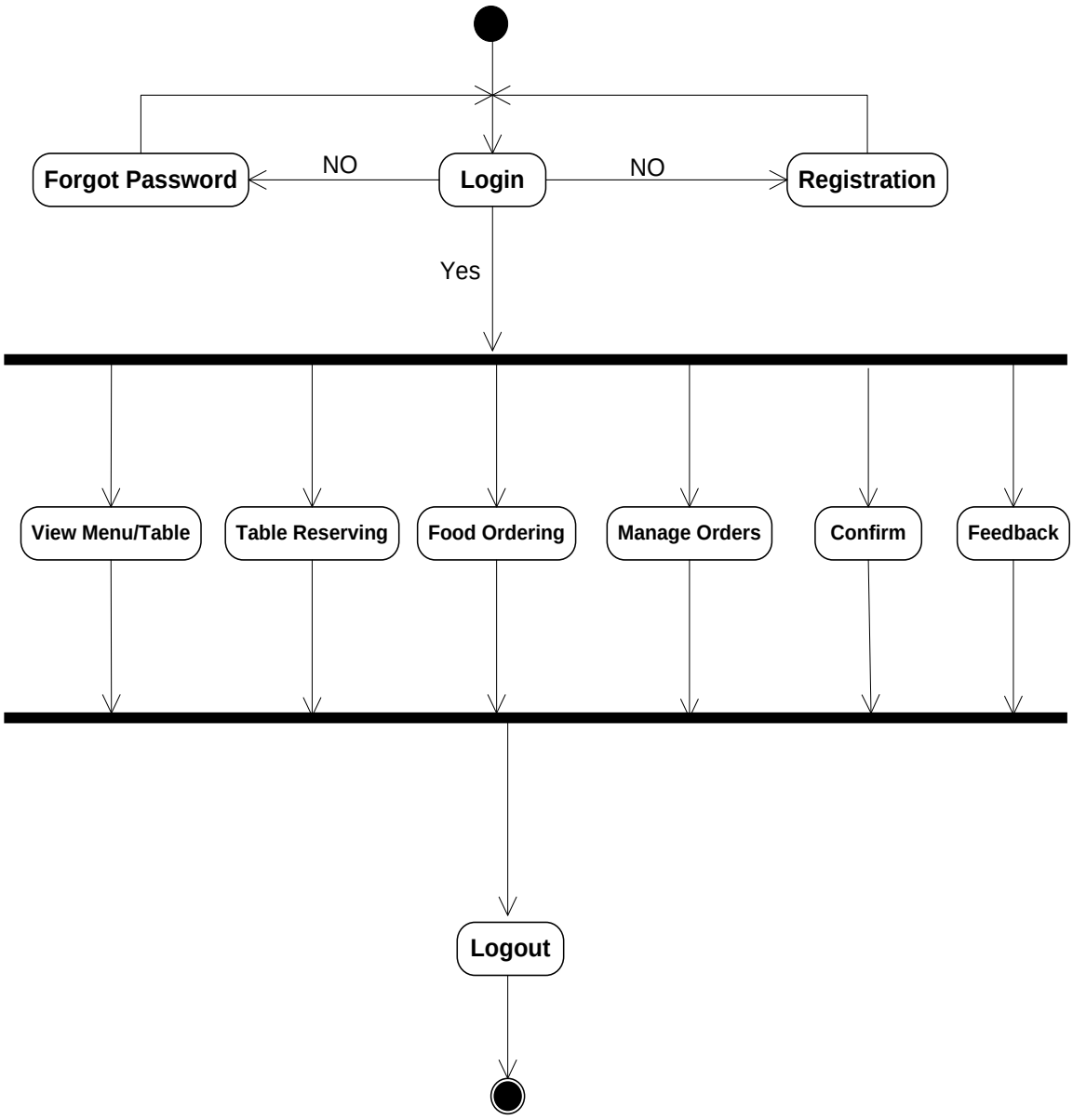


Fig 3.2.1 Activity diagram(User)

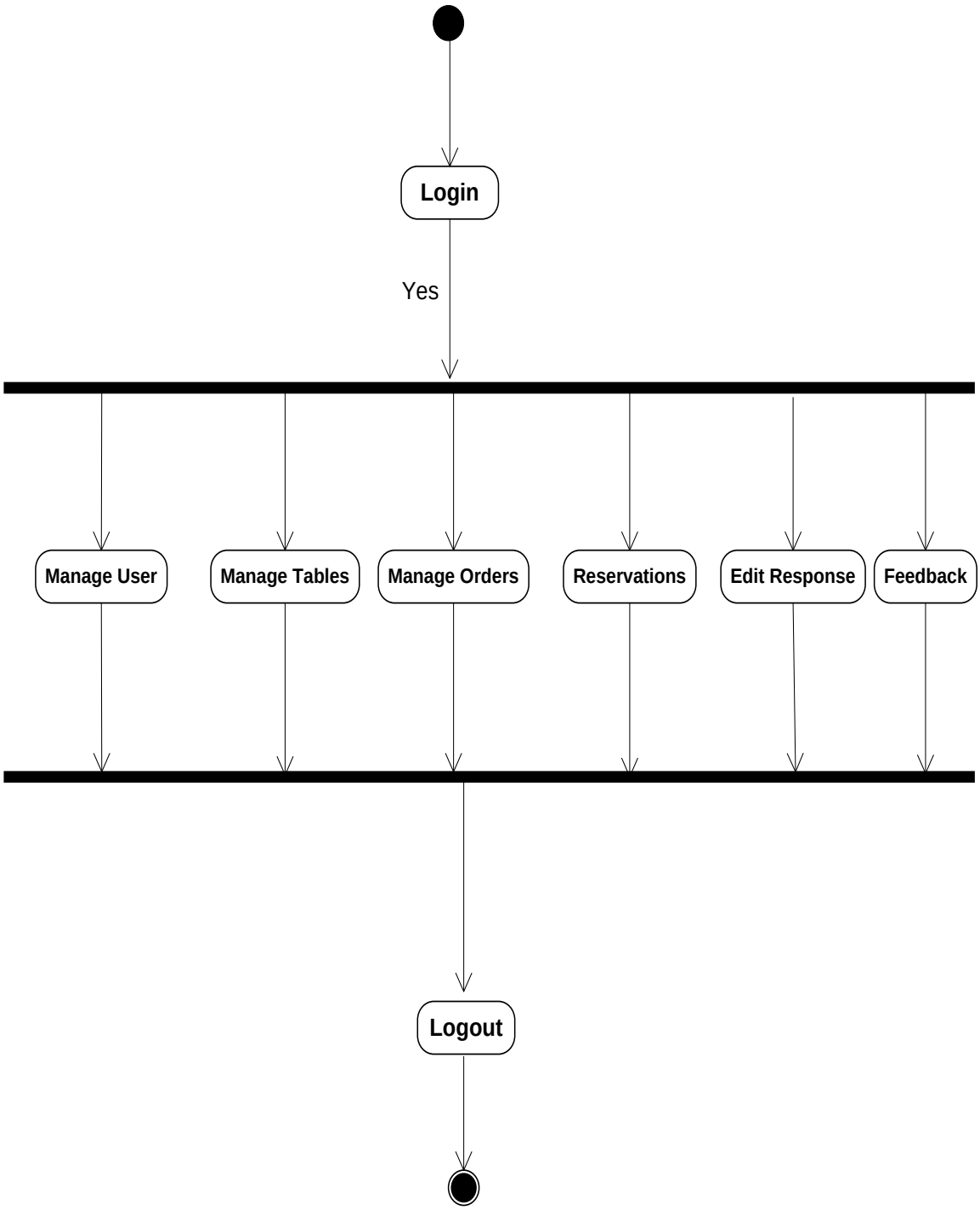


Fig 3.2.2 Activity diagram(Admin)

3.3 Sequence Diagram

Sequence Diagrams are interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when.

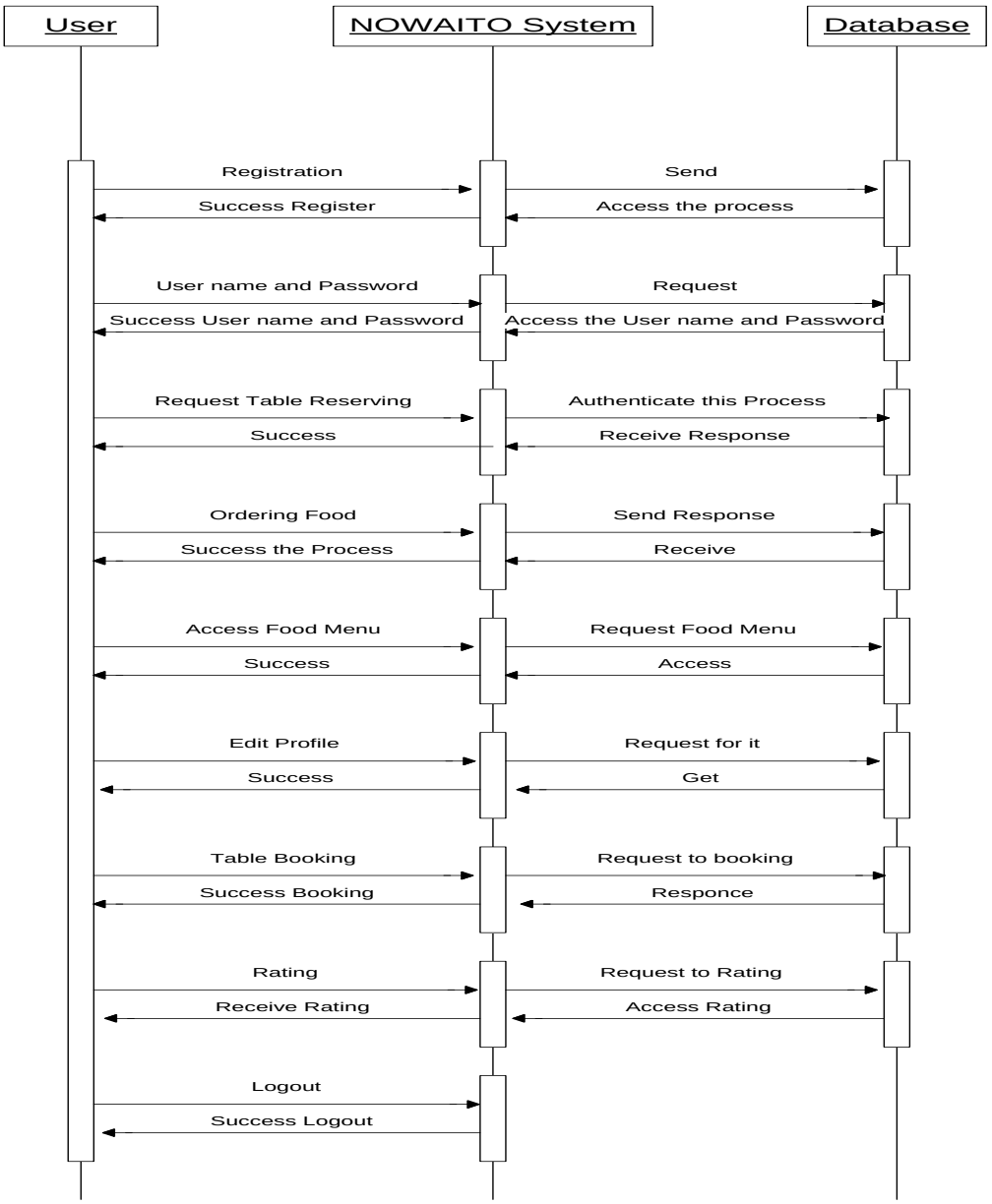


Fig 3.3.1 Sequence diagram(User)

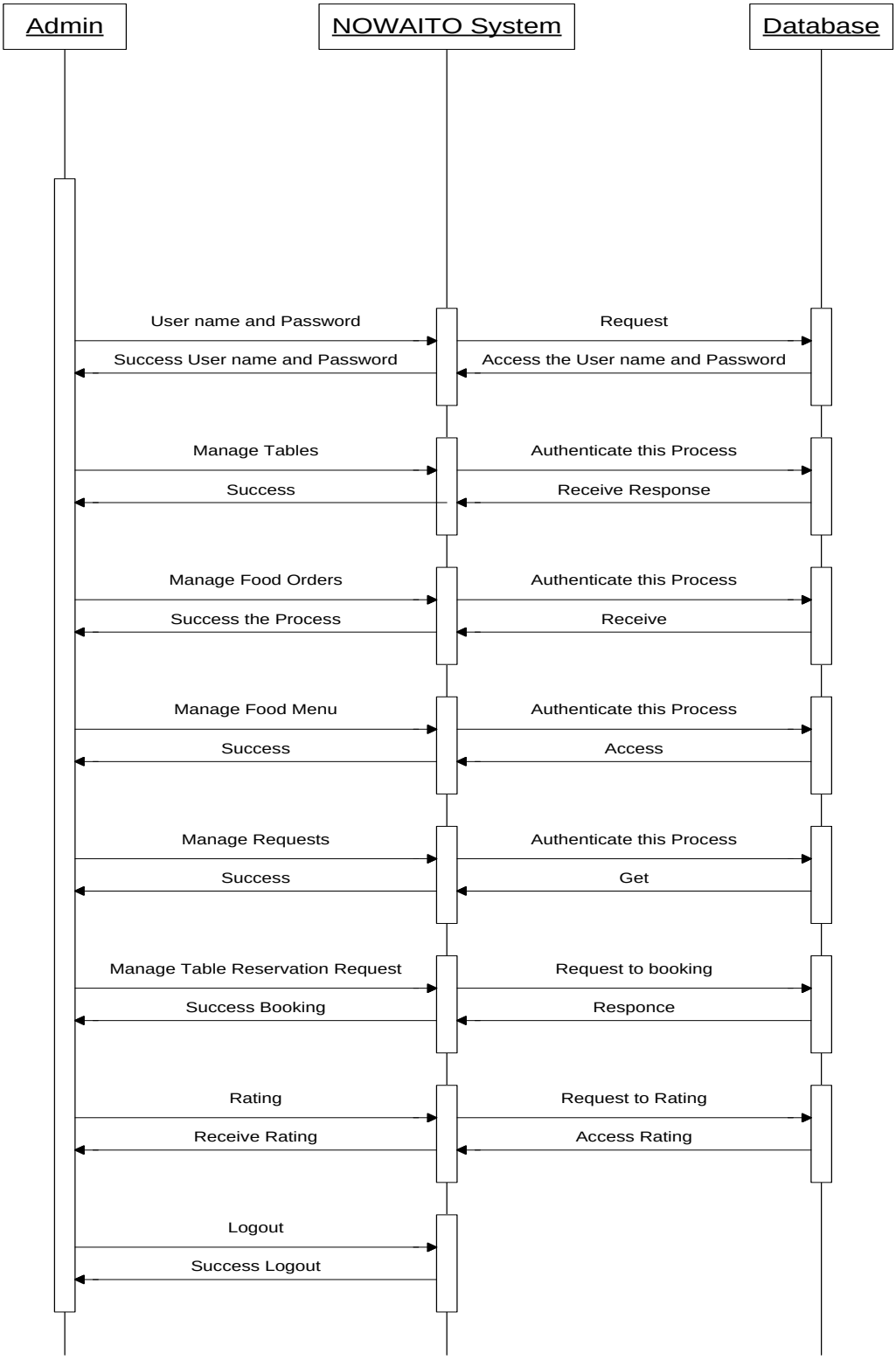


Fig 3.3.2 Sequence diagram(Admin)

3.4 State Diagram

The name of the diagram itself clarifies the purpose of the diagram and other details. It describes different states of a component in a system. The states are specific to object of a system. A State diagram describes a state machine. State machine can be defined as a machine which defines different states of an object and these states are controlled by external or internal events.

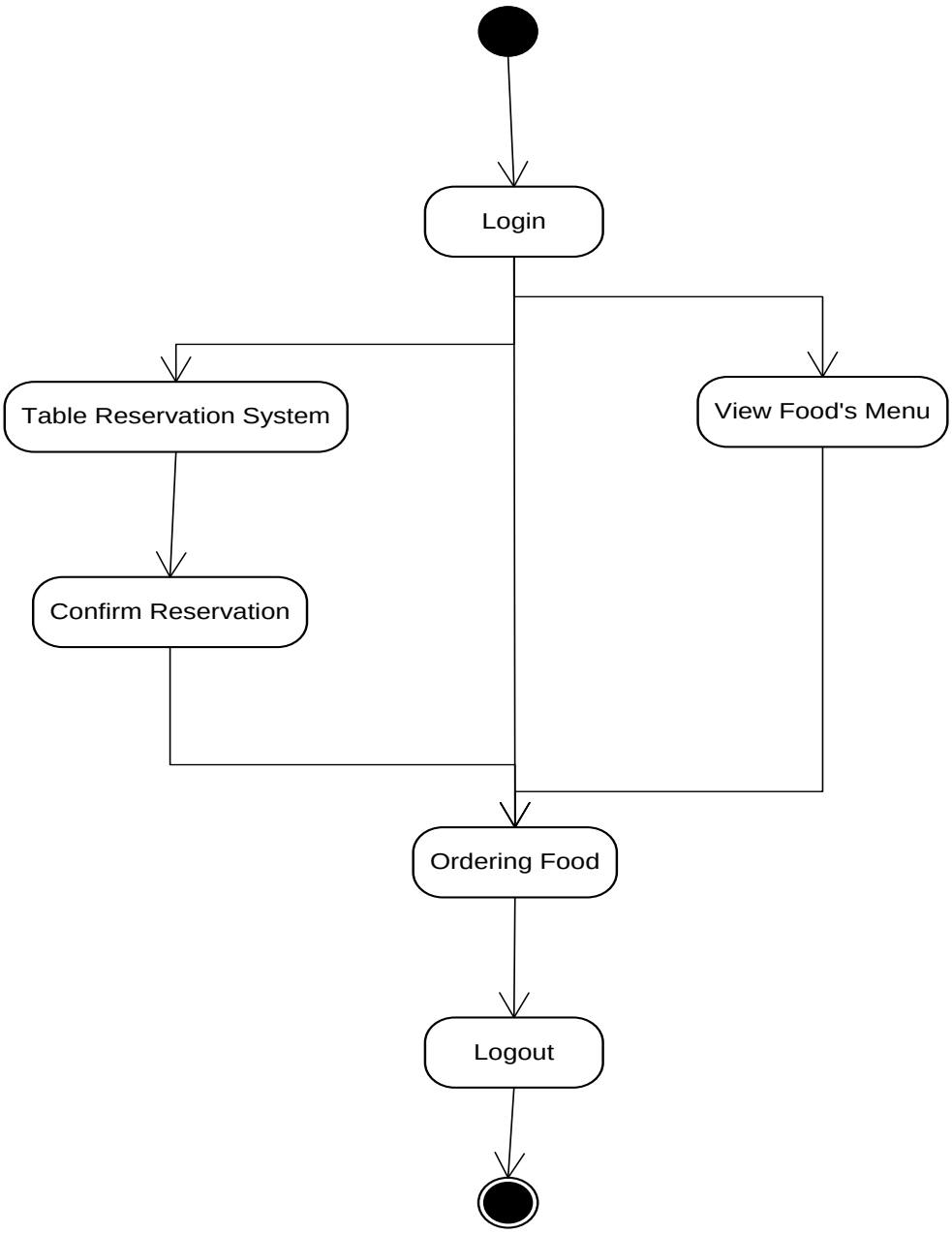


Fig 3.4 State diagram

3.5 Class Diagram

The class diagram is the main building block of object-oriented modeling. It is used both for general conceptual modeling of the systematic of the application, and for detailed modeling translating the models into code. In the diagram, classes are represented with boxes which contain three parts:

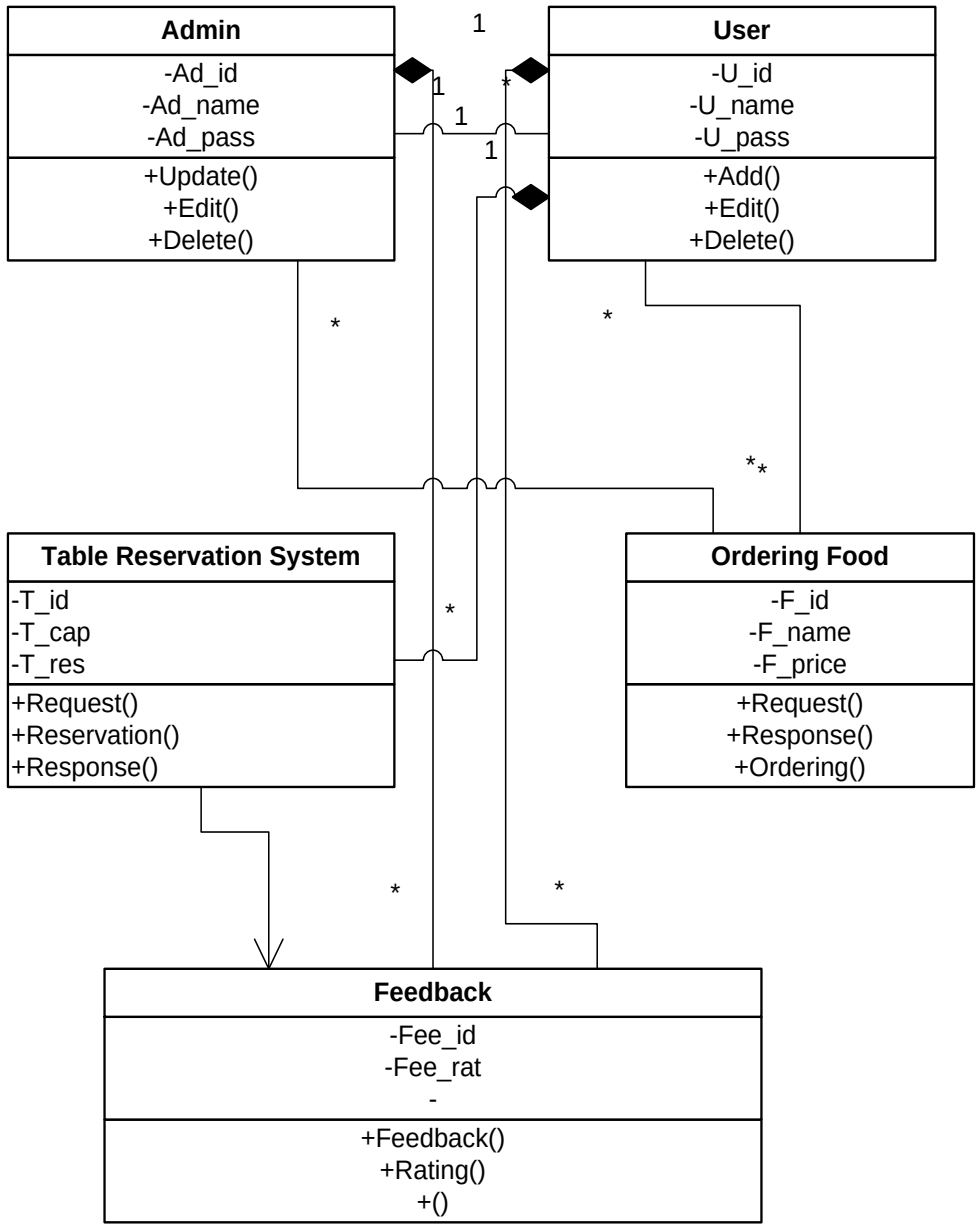


Fig 3.5 Class diagram

3.6 E-R Diagram

ER diagrams are related to data structure diagrams (DSDs), which focus on the relationships of elements within entities instead of relationships between entities themselves. ER diagrams also are often used in conjunction with data flow diagrams (DFDs), which map out the flow of information for processes or systems.

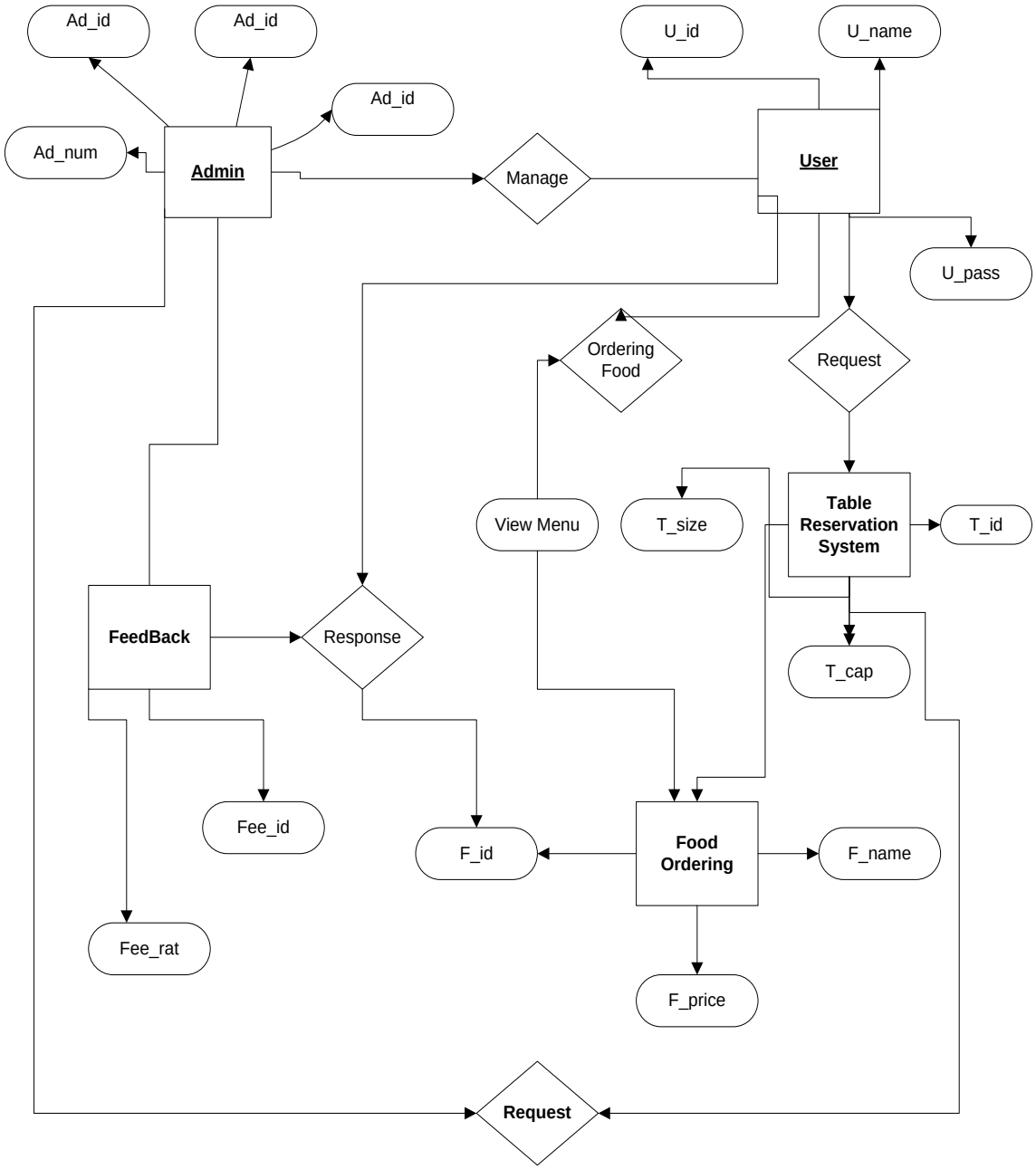


Fig 3.6 E-R diagram

3.6 DFD Diagram

A data flow diagram is a graphical depiction of flow of data through intended software system and is used as 1st step to create an overview of system. It's really useful as it provides overview of data as well as functionality to software designers.

❖ DFD (LEVEL - 0)

A level 0 DFD, also called a fundamental system model or a context model. It represents the entire software element as a single process with input and output data.

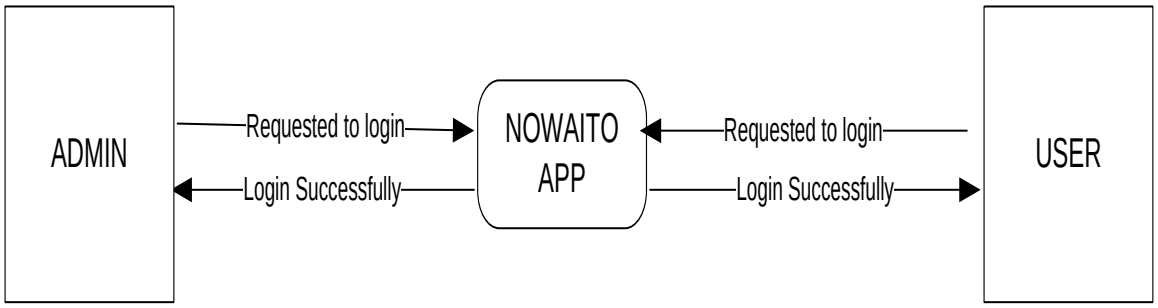


Fig 3.7.1 DFD (Level-0)

❖ DFD (LEVEL - 1)

A level-1 data flow diagram (DFD) is more detailed than a level-0 DFD but not as detailed as a level-2 DFD. It breaks down the main processes into sub processes that can then be analysis and improved on a more intimate level. The following diagram describes DFD level-1.

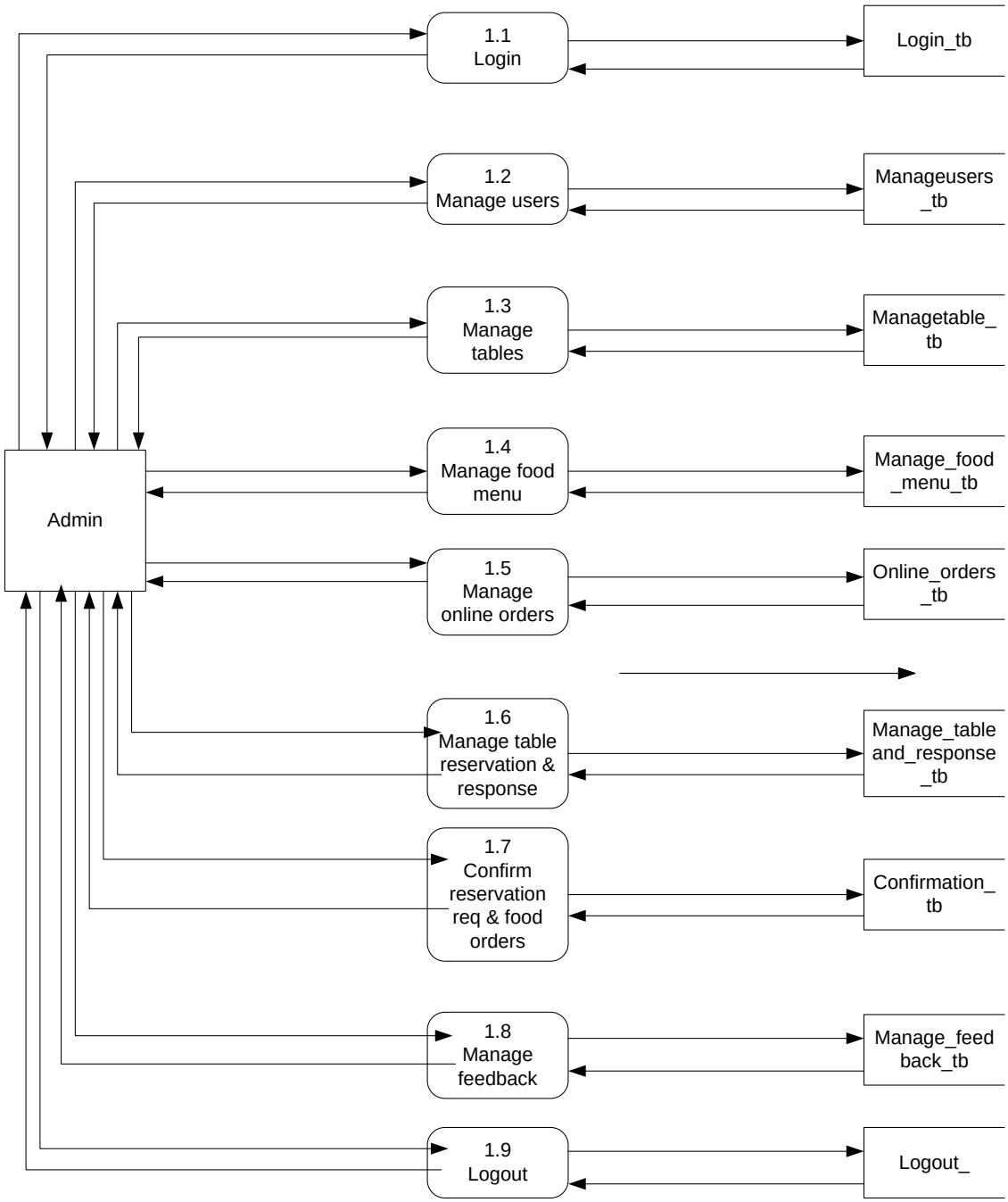


Fig 3.7.2 DFD (Level-1)

❖ DFD (LEVEL – 2)

A level-2 data flow diagram (DFD) offers a more detailed look at the processes that make up an information system than a level-1 DFD does. It can be used to plan or record the specific makeup of a system. To edit this DFD level-2 template, just sign up for a free Lucidchart account.

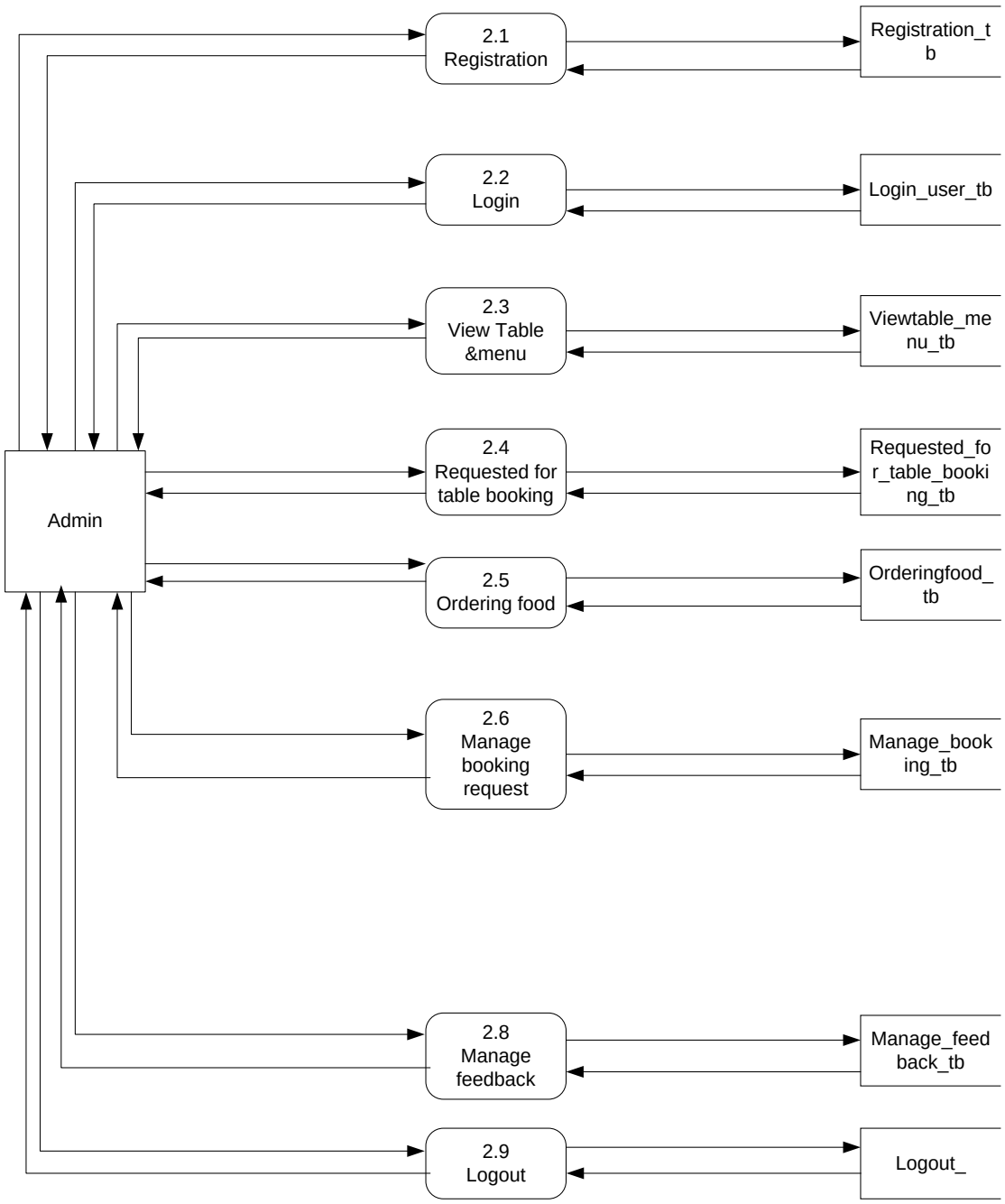


Fig 3.7.3 DFD (Level-1)

Chapter:4

Data Dictionary

4.1 Login_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	L_id	Int(11)	Primary Key	L_id of Login_Tb
2.	L_name	Varchar(50)	Not Null	L_name of Login_Tb
3.	L_pass	Varchar(50)	Not Null	L_pass of Login_Tb
4.	L_image	Varchar(50)	Not Null	L_image of Login_Tb
5.	L_lastseen	Date time	Not Null	L_lastseen of Login_Tb

Tab 4.1 Login Table

4.2 Table_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	T_id	Int(11)	Primary Key	T_id of Table_Tb
2.	T_name	Varchar(50)	Not Null	T_name of Table_Tb
3.	T_capa	Varchar(20)	Not Null	L_capa of Table_Tb
4.	T_image	Varchar(50)	Not Null	T_image of Table_Tb
5.	T_lastseen	Date time	Not Null	T_lastseen of Table_Tb
6.	T_status	Enum (available/ Not available)	Not Null	T_status of Table_Tb
7.	Status	Enum	Not Null	Status of Table_Tb
8.	T_cdate	Datetime	Not Null	T_cdate of Table_Tb
9.	T_udate	Datetime	Not Null	T_udate of Table_Tb

Tab 4.2 Table Reservation System Table

4.3 Category_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	Cat_id	Int(11)	Primary Key	Cat_id of Cate_Tb
2.	Cat_name	Varchar(50)	Not Null	Cat_name of Cate_Tb
3.	Cat_image	Varchar(50)	Not Null	Cat_imagme of Cate_Tb
4.	Cat_status	Enum (active/ inactive)	Not Null	Cat_status of Cate_Tb
5.	Cat_cdate	Datetime	Not Null	Cat_cdate of Cate_Tb
6.	Cat_udate	Datetime	Not Null	Cat_udate of Cate_Tb

Tab 4.3 Category Table

4.4 Item_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	I_id	Int(11)	Primary Key	I_id of Item_Tb
2.	Cat_id	Int(11)	Foreign Key	Cat_id of Category_Tb
3.	I_name	Varchar(20)	Not Null	I_name of Item_Tb
4.	I_unit	Varchar(50)	Not Null	I_unit of Item_Tb
5.	I_price	Varchar(30)	Not Null	I_price of Item_Tb
6.	I_status	Enum (available/ Not available)	Not Null	I_status of Item_Tb
7.	I_image	Varchar(50)	Not Null	I_image of Item_Tb
8.	I_cdate	Datetime	Not Null	I_cdate of Item_Tb
9.	I_udate	Datetime	Not Null	I_udate of Item_Tb

Tab 4.4 Item Table

4.5 User_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	U_id	Int(11)	Primary Key	U_id of User_Tb
2.	U_num	Varchar(20)	Not Null	U_num of User_Tb
3.	U_name	Varchar(20)	Not Null	U_name of User_Tb
4.	U_pass	Varchar(50)	Not Null	U_pass of User_Tb
5.	U_add	Text	Not Null	U_add of User_Tb
6.	U_status	Enum (available/ Not available)	Not Null	U_status of User_Tb
7.	U_image	Varchar(50)	Not Null	U_image of User_Tb
8.	U_cdate	Datetime	Not Null	U_cdate of User_Tb
9.	U_udate	Datetime	Not Null	U_udate of User_Tb

Tab 4.5 User Table

4.6 Feedback_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	F_id	Int(11)	Primary Key	F_id of Feedback_Tb
2.	U_id	Int(11)	Foreign Key	U_id of User_Tb
3.	F_rate	Varchar(50)	Not Null	F_rate of Feedback_Tb
4.	F_msg	Text	Not Null	F_msg of Feedback_Tb
5.	F_cdate	Date time	Not Null	F_cdate of Feedbac_Tb

Tab 4.6 Feedback Table

4.7 Order_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	O_id	Int(11)	Primary Key	O_id of Order_Tb
2.	T_id	Int(11)	Foreign Key	T_id of Table_Tb
3.	U_id	Int(11)	Foreign Key	U_id of User_Tb
4.	O_quan	Varchar(50)	Not Null	O_quan of Order_Tb
5.	O_price	Varchar(50)	Not Null	O_price of Order_Tb
6.	O_status	Enum (pending/ Confirm/ complete)	Not Null	O_status of Order_Tb
7.	O_type	Enum	Not Null	O_type of Order_Tb
8.	O_cdate	Datetime	Not Null	O_cdate of Order_Tb
9.	O_udate	Datetime	Not Null	O_udate of Order_Tb

Tab 4.7 Order Table

4.8 Order-Details_Tb:

Sr.no	Field	Data Type	Constraint	Description
1.	Od_id	Int(11)	Primary Key	Od_id of Orderd_Tb
2.	T_id	Int(11)	Foreign Key	T_id of Table_Tb
3.	O_id	Int(11)	Foreign Key	O_id of Order_Tb
4.	Od_quan	Varchar(50)	Not Null	Od_quan of Orderd_Tb
5.	Od_price	Varchar(50)	Not Null	Od_price of Orderd_Tb
6.	Od_status	Enum (pending/ Confirm/ complete)	Not Null	Od_status of Orderd_Tb
7.	Od_tprice	Varchar(50)	Not Null	Od_tprice of Orderd_Tb
8.	Od_cdate	Datetime	Not Null	Od_cdate of Orderd_Tb
9.	Od_udate	Datetime	Not Null	Od_udate of Ordedr_Tb

Tab 4.8 Order-Details Table

Chapter:5

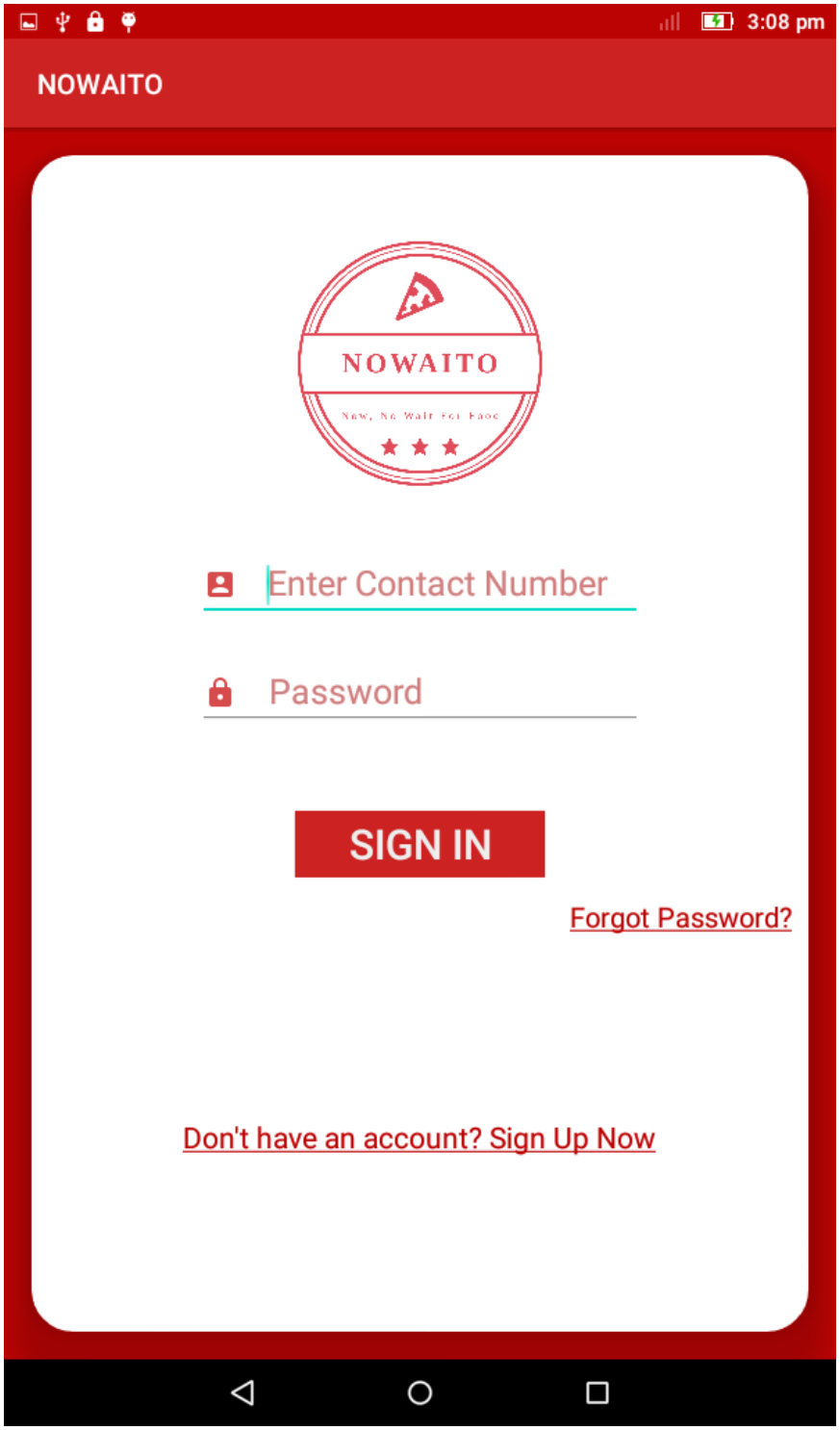
SnapShot

5.1 NOWAITO Logo :

Snapshot 5.1 NOWAITO logo

Description: This is logo of NOWAITO logo, I used it into splash screen for 3 seconds time.

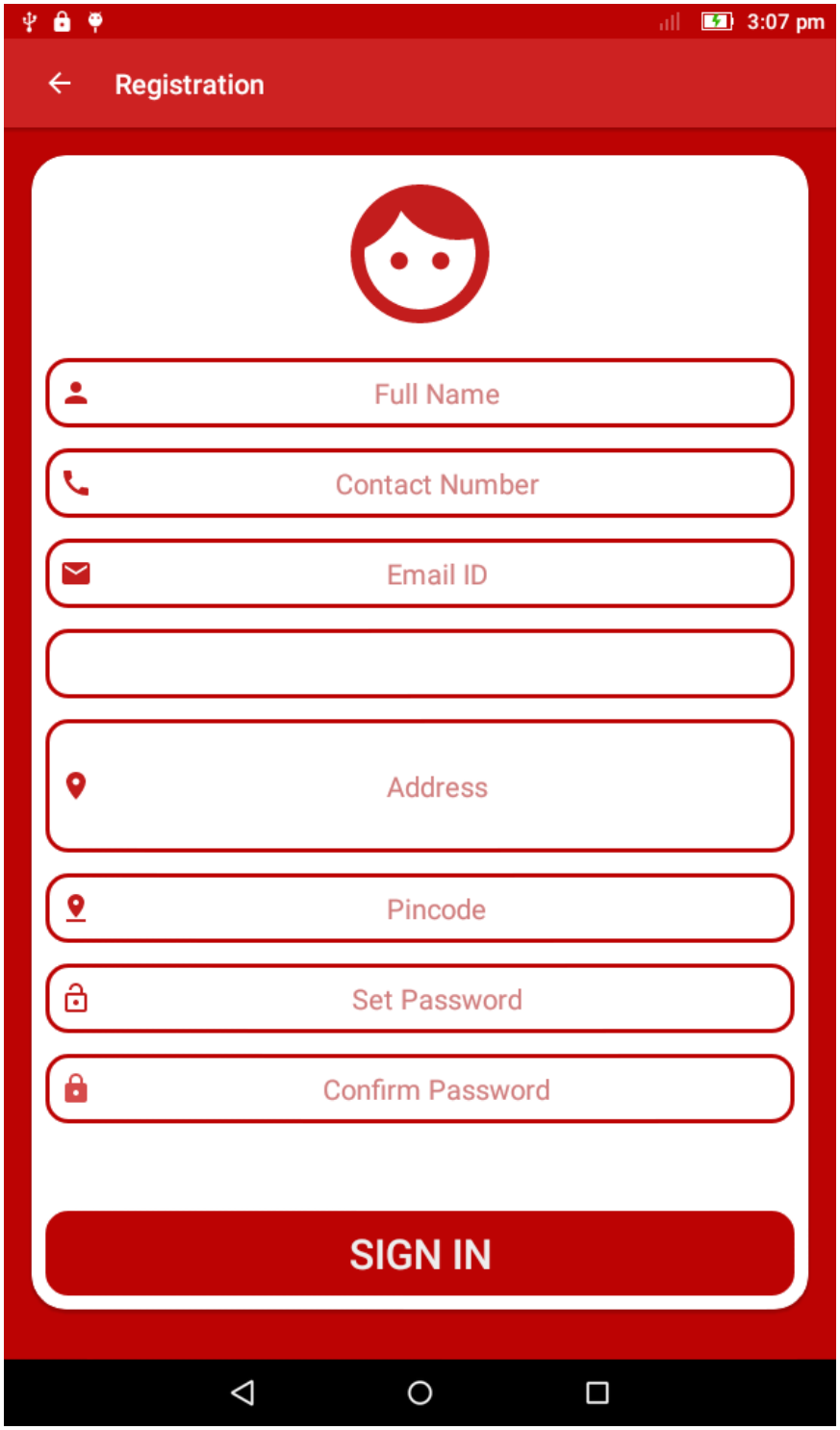
5.2 Login Page :



Snapshot 5.2 login Page

Description: This page is a user Login page. User will be Login in to the Android Application

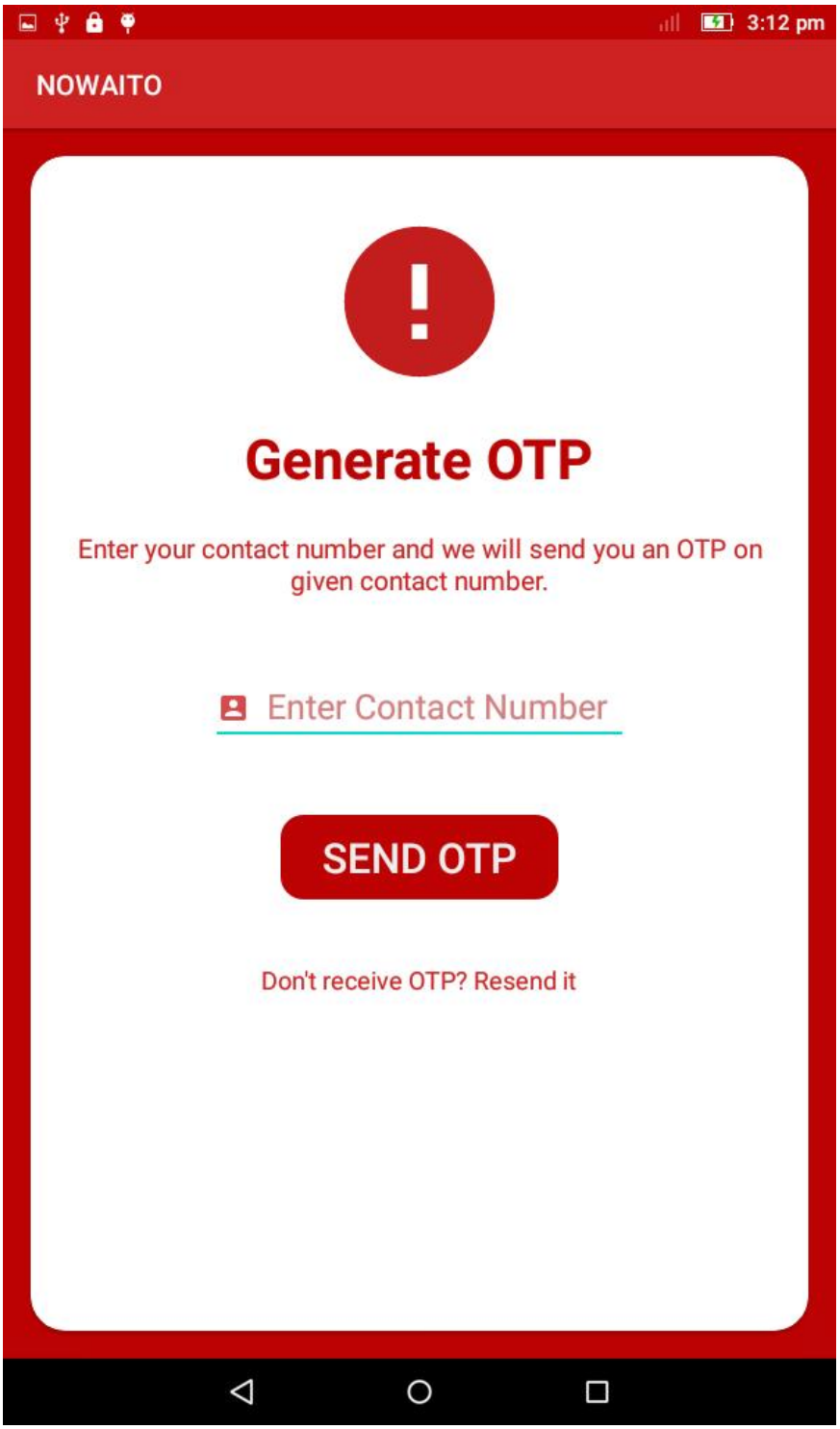
5.3 Registration Page :



Snapshot 5.3 Registration Page

Description: This page is a user Registration page. User will be Register in to the Android Application.

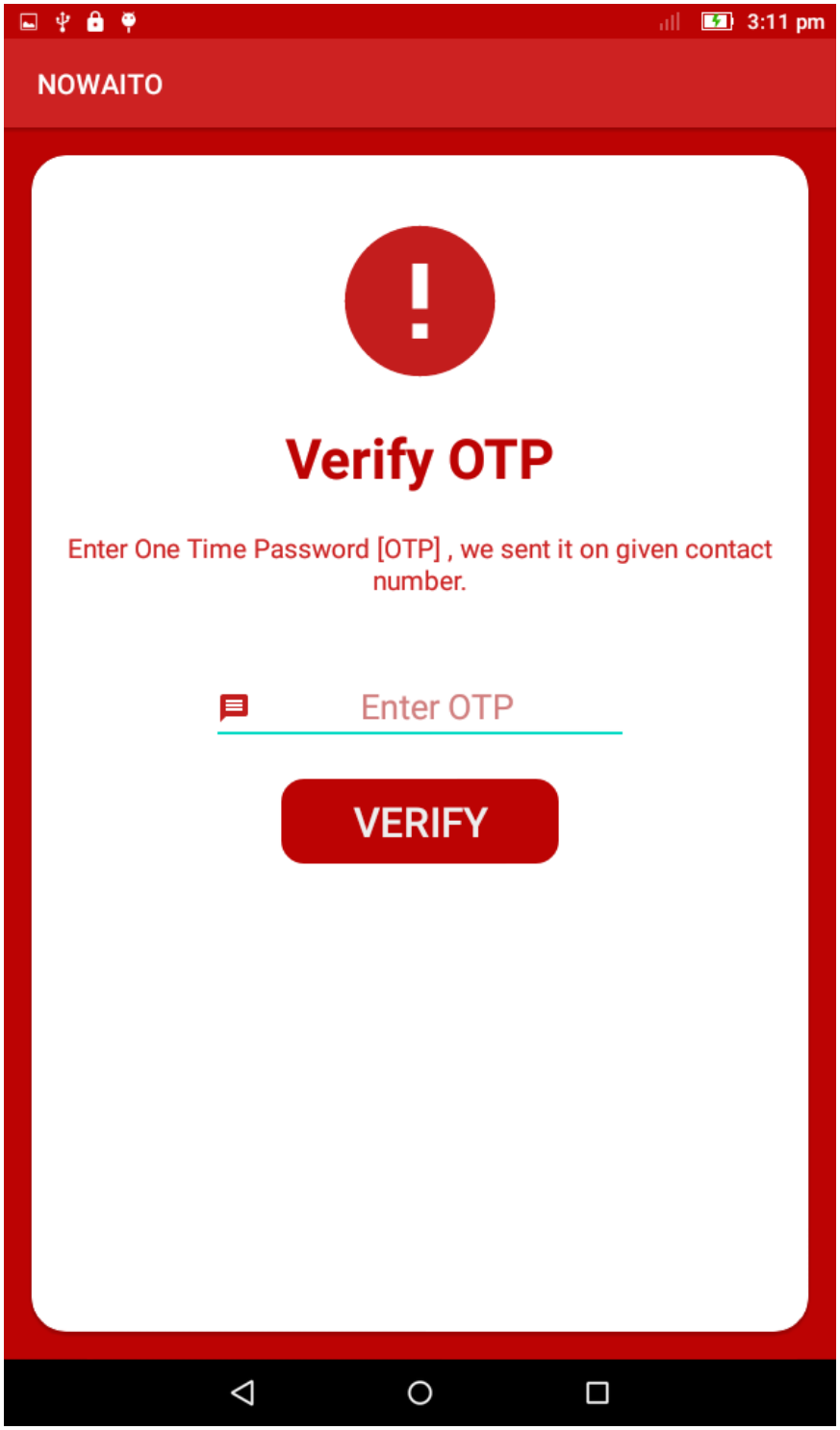
5.4 Forgot Password :



Snapshot 5.4 Forgot Password

Description: This page is Generate OTP page, when user forgot his/her password at that time he/she has to verify his/her id.

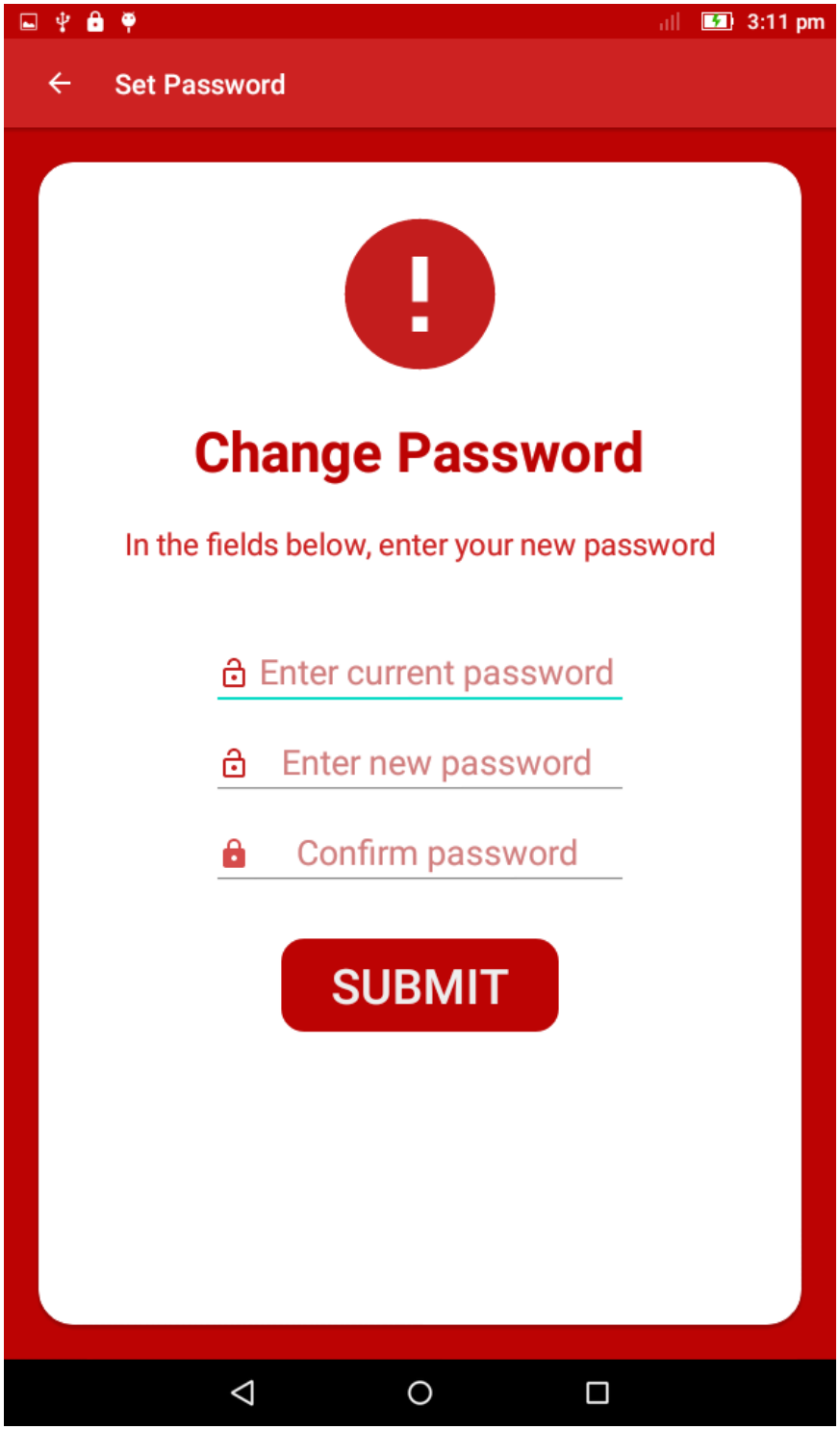
5.5 OTP Verification :



Snapshot 5.5 OTP Verification

Description: This page is OTP Verification page. when user forgot his/her password at that time he/she has to verify his/her id.

5.6 Change Password :



Snapshot 5.6 Change Password

Description: This page is for Change Password page, when user wants to reset his/her password.

Chapter:6

Future Enhancement

6.1 Future Enhancement:

After taking survey, we found out following observations:

- 83.3% of people prefer dinner time and 50% of people prefer lunch time as the best time to go to the restaurants or café.
- 80.9% of people prefer to go to the restaurant in Sunday followed by 63.8% on Friday.
- 70.8% people surveyed do not wait for table at restaurant or café more than 15 minutes.

Keeping these things in perspective our project targets these audience and provide following enhancements.

- We can add more restaurants that offer lunch and dinning.
- Adding special offers on Week Days to get more customers.
- In case there is any requirements of shifting a booked table to some other time due to high influx of people or some other circumstances, the new booking time should by not more than 15 minutes.

Chapter:7

Conclusion

7.1 Conclusion:

The project has concluded that if a customer is willing to visit the restaurant and he finds no table is available for the dinner/lunch then he/she has to wait long for the table availability. With the help of **NOWAITO App**. user can choice the table's location according to their need and willing e.g. Table can be reserved as according to number of visitors. Moreover, you can easily book the hall for a celebration party or any mega event and can see pictures of interior from the App. Keeping in view the demand of proposed project that gives a series of services and provides the customer to easily book hall or to reserve their available table without waiting through an android app.

In this particular project we have resolved issues being faced by restaurant located in Faisalabad by developing app named as "**NOWAITO App**." that can be downloaded and then just update his/her self-data and can have access to latest news and menu with the restaurant. This app will get its importance as now days more and more people are getting into android and fast life.

Chapter:8

References

8.1 References:

[1] Dhore B., SurabhiThakar1, PrajaktaKulkarni, RasikaThorat, "Digital Table Booking and Food Ordering System Using Android Application" in International Journal of Emerging Engineering Research and Technology Volume 2, Issue 7, October 2014, PP 76-81.

[2] ShwetaShashikantTanpure, Priyanka R. Shidankar, Madhura M. Joshi, "Automated Food Ordering System with Real-Time Customer Feedback", in International Journal of Advanced Research in Computer Science and Software Engineering, Vol. 3, Issue 2, February 2013.

[3] Jhabuawala Mustafa, Kothari Radhika, NaikRiddhi, SlatewalaAbdulquadir,"Touch & Dine- A Multi-Touchable Restaurant System" in UACEE International Journal of Computer Science and its Applications - Volume 2: Issue 1.

[4] Khairunnisa K., Ayob J., Mohd. HelmyA.Wahab, M. ErdiAyob, M. IzwanAyob, M. AfifAyob, "The Application of Wireless Food Ordering System", in MASAUM Journal of Computing, Volume 1 Issue 2, September 2009.

[5] Soon Nyean Cheong, Wei Wing Chiew, Wen JiunYap,"Design and Development of Multi-Touchable E-Restaurant Management System" ,in 2010 International Conference on Science and Social Research (CSSR 2010), December 5 - 7, 2010, Kuala Lumpur, Malaysia.

[6] T.P. Liang, Chen Wei Huang, Y-HsuanYeh, Binshan Lin. "Adoption of mobile technology in business- a fitviability model" Industrial Management & data systems, vol . 107, pp. 1154-1169, 2007.

Chapter:9

Appendix

9.1 AEIOU Summary

AEIOU is an investigative tool to help interpret observations gathered by ethnographic practices in the field. It is an Observation tool. Its two primary functions are to code data, and to develop building blocks of models that will ultimately address the objectives and issues of a client. AEIOU stands for 5 elements to be coded: Activity, Environment, Interaction, Object, and User.

Activities:

Activities are goal directed sets of actions—paths towards things people want to accomplish. What are the modes people work in, and the specific activities and processes they go through?

Environments:

Environments include the entire arena where activities take place. What is the character and function of the space overall, of each individual's spaces, and of shared spaces?

Interactions:

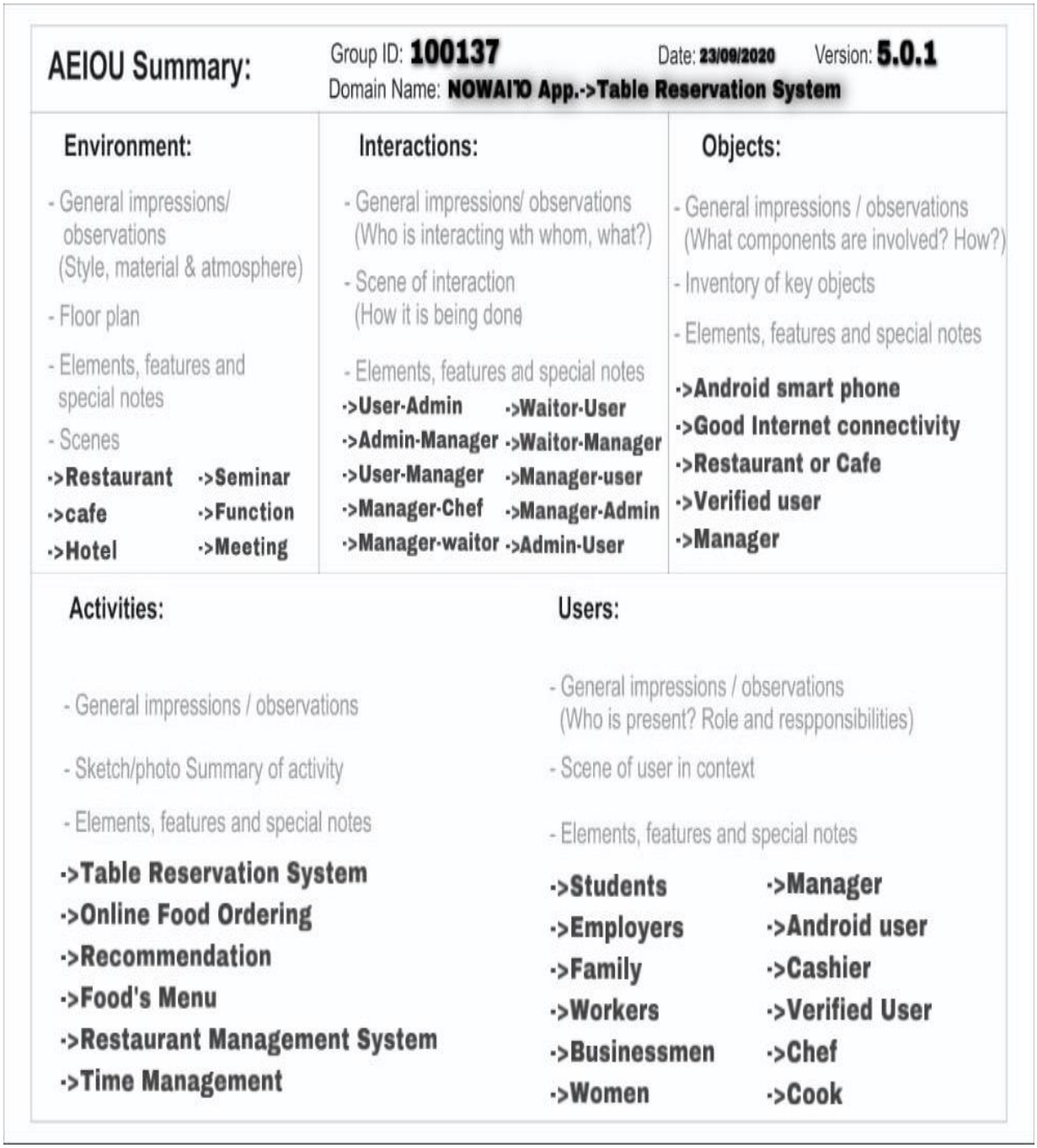
Interactions are between a person and someone or something else; they are the buildingblocks of activities. What is the nature of routine and special interactions between people;between people and objects in their environment, and across distances?

Objects:

Objects are building blocks of the environment, key elements sometimes put to complex or unintended uses (thus changing their function, meaning and context).

Users:

Users are the people whose behaviors, preferences, and needs are being observed. Who is there? What are their roles and relationships? What are their values and prejudices?



AEIOU Summary:

Group ID: **100137** Date: **23/09/2020** Version: **5.0.1**

Domain Name: **NOWAI'O App.->Table Reservation System**

Environment:

- General impressions/ observations (Style, material & atmosphere)
- Floor plan
- Elements, features and special notes
- Scenes

->Restaurant ->Seminar
->cafe ->Function
->Hotel ->Meeting

Interactions:

- General impressions/ observations (Who is interacting wth whom, what?)
- Scene of interaction (How it is being done
- Elements, features ad special notes

->User-Admin ->Waitor-User
->Admin-Manager ->Waitor-Manager
->User-Manager ->Manager-user
->Manager-Chef ->Manager-Admin
->Manager-waitor ->Admin-User

Objects:

- General impressions / observations (What components are involved? How?)
- Inventory of key objects
- Elements, features and special notes

->Android smart phone
->Good Internet connectivity
->Restaurant or Cafe
->Verified user
->Manager

Activities:

- General impressions / observations
- Sketch/photo Summary of activity
- Elements, features and special notes

->Table Reservation System
->Online Food Ordering
->Recommendation
->Food's Menu
->Restaurant Management System
->Time Management

Users:

- General impressions / observations (Who is present? Role and respponsibilities)
- Scene of user in context
- Elements, features and special notes

->Students ->Manager
->Employers ->Android user
->Family ->Cashier
->Workers ->Verified User
->Businessmen ->Chef
->Women ->Cook

Fig 9.1AEIOU Summary

9.2 Empathy Canvas

At this stage, the emotional aspects of the user are discovered. This stage will involve use of empathy map.A User Empathy Map can help tee up a discussion about the needs a user has. The discussion will be centredaround what was observed, and what can be inferred about these user groups' beliefs and emotions.

User:

Users are the people whose emotions and beliefs are to be analyzed. Who is there? Who will perform activities? How a scenario is going to affect them?

Stakeholders:

Stakeholders are individuals, groups or organizations that are affected by the activity of the system. They directly or indirectly affect the activities performed by the user.

Activities:

These are the main activities that the user performs in the project that are directly or indirectly affected by the stakeholders.

Story Boarding:

These represent the stories that are related to their project, or which effects users' empathy towards the project. It represents how the project activities can influence the lives and beliefs of users. There can be both positive as well as negative aspects. We have shown two happy and two sad stories that gives an idea on how the activities can have an impact on users.

Design For **Table Reservation System** Design By **Raj Patel**

Date **23/09/2020** Version **5.0.1**

USER	STAKEHOLDERS
->Students ->Employers ->Family Members ->Businessmen ->Workers	->Restaurant Owner ->Cafe Owner ->All Users ->Company's CEO

ACTIVITIES

->Table Reservation System
->Online Food Ordering
->Recommendation
->Food's Menu
->Restaurant Management System
->Time Management

STORY BOARDING

HAPPY

->With NOWAITO App. you can manage and access your reservations anytime from any android device, including phones and tablets.

HAPPY

->NOWAITO is easy to use, time-saving, android-based restaurant reservation system platform. No monthly or per customer fees to pay.

->NOWAITO advantage of our secure platform that we built with the latest cutting-edge, industry-leading technology tools.

SAD

->Whenever you want to use NOWAITO App. Or you need to reserve table, you must have Internet connectivity in your device

SAD

->There is no right or wrong answer for whether to take reservations. It all depends on the type of restaurant concept, the size of your dining room, and the impression you want to give customers.

Fig 9.2Empathy Canvas

9.3Product Development Canvas

Product development canvas can give you insights to these problems when creating a product, factors such as Purpose, people, product experience, product functions, product features, and components.

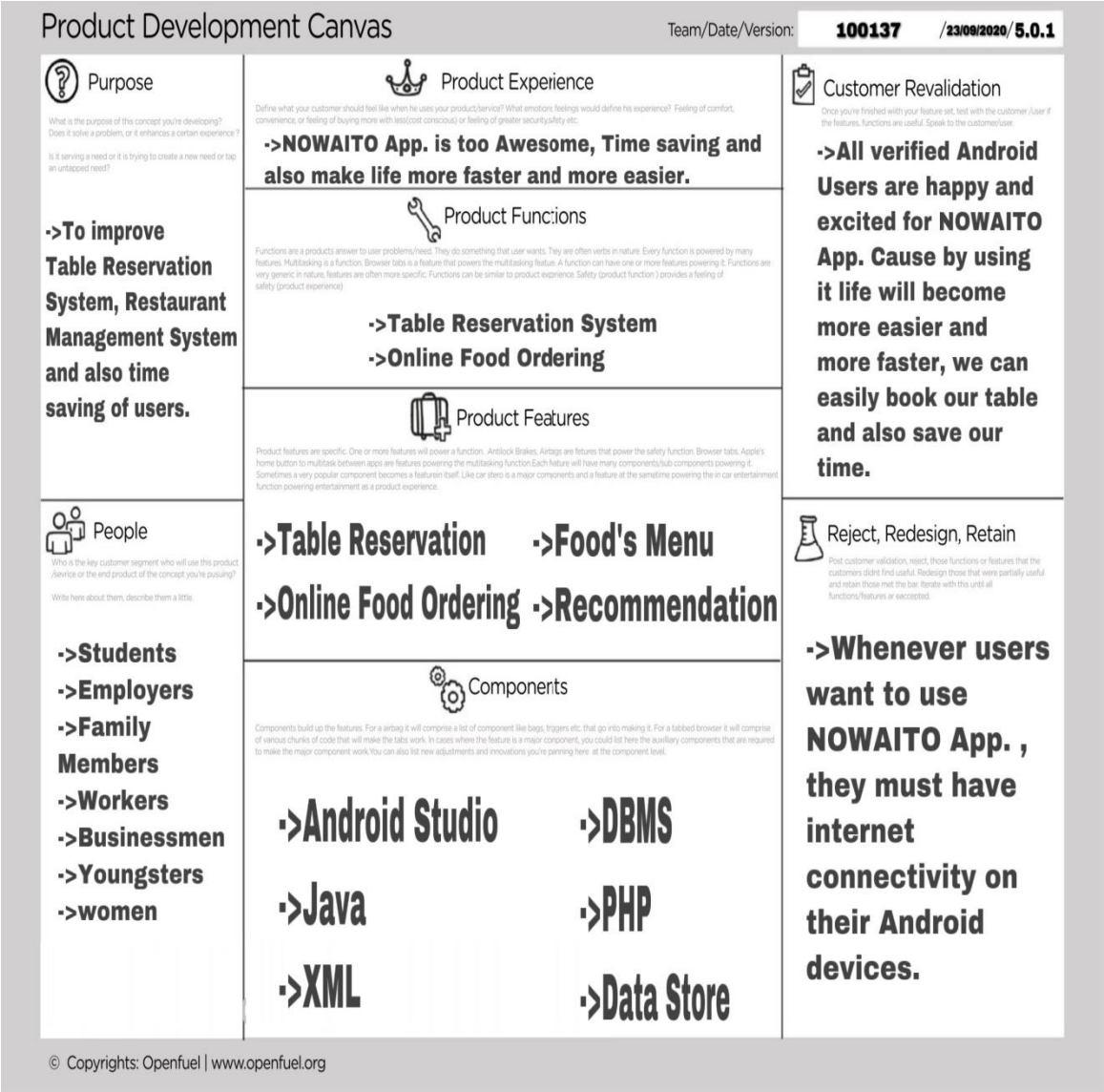


Fig 9.3Product Development Canvas

9.4Ideation Canvas

Sometimes turning an idea into a business isn't as hard as you think. Using Ideation Canvas can help you turn those ideas into business opportunity. It's important to let the world see and hear about your idea. It may even boost its chance to get develop and evolve.

People:

In this part, we define the different people for whom we are interested to solve the problems.

Activities:

In this part, we write down whatever every segment of people does. We make the list, as long as possible.

Situation/Context/Location:

Every above-mentioned activity can be done in a different situation, location or context.

Props/Possible Solutions:

In this part we note down the objects, technologies or solutions which may be possible outcomes to our idea/challenge. The prop need not be related as it’s always randomness that helps in finding new ideas.

Here objects are Mobile for run application, Internet for using fetching data, Laptop for run project.

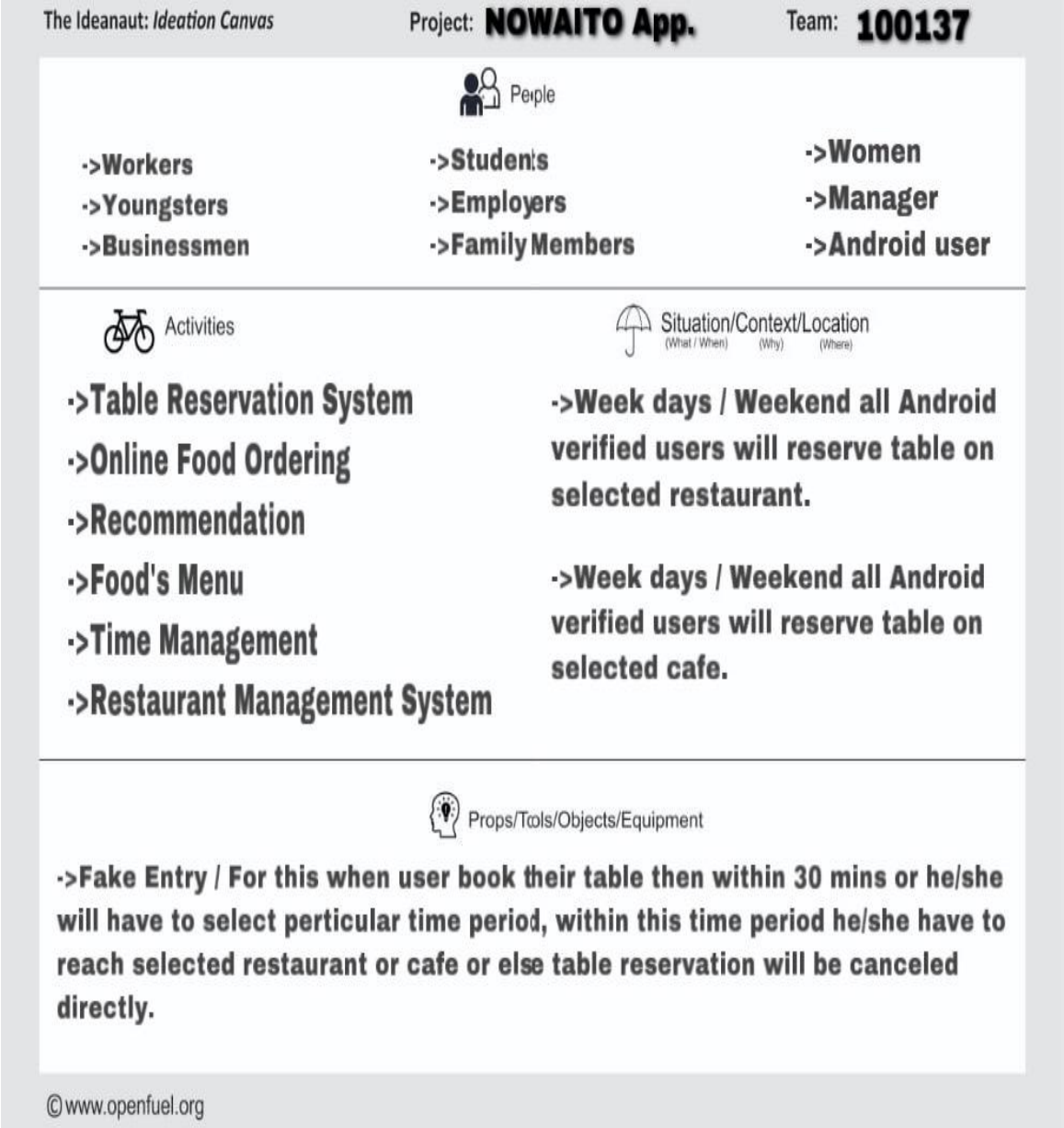


Fig 9.4Ideation Canvas

9.5.1Patern Search & Analysis Report [PSAR]

→**PSAR-1**

GUJARAT TECHNOLOGICAL UNIVERSITY
(GTU)
INNOVATION COUNCIL (GIC)
Patent Search & Analysis Report
(PSAR)

Date of Submission : 06/09/2020

Dear Patel Raj Nitinkumar,

Studied Patent Number for generation of PSAR	:	20BE7_170320132030_1

PART 1: PATENT SEARCH DATABASE USED

1. Patent Search Database used	:	Google Patents
Web link of database	:	https://patents.google.com/
2. Keywords Used for Search	:	Table Reservation System ,Restaurant Management,Online Food Order
3. Search String Used	:	https://patents.google.com/?q=Table+reservation+system+restaurant&oq=Table+reservation+system+for+re
4. Number of Results/Hits getting	:	687

PART 2: BASIC DATA OF PATENTED INVENTION /BIBLIOGRAPHIC DATA

5. Category/ Field of Invention	:	
6. Invention is Related to/Class of Invention	:	Table Reservation and Restaurant Management system
6 (a) : IPC class of the studied patent	:	WO2013191644A1
7. Title of Invention	:	NOWAITO app
8. Patent No.	:	
9. Application Number	:	PCT/SG2012/000218
9 (a) : Web link of the studied patent	:	https://patents.google.com/patent/WO2013191644A1/en?q=Table+reservation+system+restaurant&oq=Table+reservation+system+for+restaurant
10. Date of Filing/Application (DD/MM/YYYY)	:	06/21/2012
11. Priority Date (DD/MM/YYYY)	:	
12. Publication/Journal Number	:	
13. Publication Date (DD/MM/YYYY)	:	
14. First Filled Country : Albania	:	

Page 1

15. Also Published as

Sr.No	Country Where Filed	Application No./Patent No.
1		

16. Inventor/s Details.

Sr.No	Name of Inventor	Address/City/Country of Inventor
1	Sastra WINART	Singapore
2	Ker Ching CHO	Singapore

17. Applicant/Assignee Details.

Sr.No	Name of Applicant/Assignee	Address/City/Country of Applicant
1	Suthar Yogin P	United States
2	Rose James W	United Stated

18. Applicant for Patent is : Individual

PART 3: TECHNICAL PART OF PATENTED INVENTION

19. Limitation of Prior Technology / Art

The draw back to the Open Table and other PC based solutions however is the cost and difficulty of implementation. For Table Reservation & Restaurant Management System Users-Admins must need internet Connectivity.

20. Specific Problem Solved / Objective of Invention

Take walk-in and phone reservations.Take online reservations through the website, mobile phone or other devices connected to the internet. Provide reports and analytics to help restaurants analyse operations as well as make marketing decisions. Help restaurants serve customers better by keeping customer dining history and preferences. For example, the system will know how many times the customer has dined at a restaurant. Work with multiple tablet devices. All the data will be in sync and mirrored across all devices. The backend data architecture will be based in the "cloud" and pushed to the tablet devices. Be able to work both on WiFi and 3G connection.

21. Brief about Invention

Reference will now be made in detail to an exemplary embodiment of the present invention, examples of which are illustrated in the accompanying drawings. While the invention will be described in conjunction with the embodiment, it will be understood that they are not intended to limit the invention to these embodiments. On the contrary, the invention is intended to cover alternatives, modifications and equivalents, which may be included within the spirit and scope of the invention as defined by the appended claims. Furthermore, in the following detailed description of embodiments of the present invention, numerous specific details are set forth in order to provide a thorough understanding of the present invention. However, it will be recognized by one of ordinary skill in the art that the present invention may be practiced without these specific details. In other instances, well-known methods, procedures, components, and circuits have not been described in detail as not to unnecessarily obscure aspects of the embodiments of the present invention For purposes of brevity and clarity, descriptions of embodiments of the present invention are limited hereinafter to table reservation and management systems. This however does not preclude embodiments of the invention where fundamental principals prevalent among the various embodiments of the invention such as operational, functional or performance characteristics are required.

22. Key learning Points

A table reservation method comprising receiving a reservation query from a first device, the reservation query indicating a premise location and a reservation requirement, retrieving a reservation record from a database associated with the premise location, the reservation record listing a plurality of tables, each of the plurality of tables being listed as one of available and unavailable, identifying at least one of the plurality of tables being listed as available and satisfying the reservation requirement, updating the reservation record by listing the identified at least one of the plurality of tables as unavailable and assigning a reference code thereto, and communicating the updated reservation record to at least one second device associated with the premise location.

23. Summary of Invention

It is a complete table management system that computerizes host-stand operations and replaces traditional pen-and-paper reservation system. Restaurant stand to save time and money through the operational efficiencies gained in this. Customer data is can be stored electronically and

Page 2

retrieved easily, allowing them to deliver a superior customer service experience.It will be able to integrate seamlessly with online websites, powering the back end needed to provide an instant, free, confirmed online reservation system. Diners will be able to book 24/7 and receive their confirmation immediately. For restaurants, they will be able to fill their empty seats with customers coming from their own website and also the extensive booking network that we plan to build through our partner websites.

24. Number of Claims : 17

25. Patent Status : Published Application

26. How much this invention is related with your IDP/UDP?

< 70 %

27. Do you have any idea to do anything around the said invention to improve it? (Give short note in not more than 500 words)

In my project , NOWAITO is an android application for table reservation system and also ordering food online. This project for restaurant is to handle the customer, their orders and can help them easily find free tables. The project will have an android application and a web portal. Application will be handled by the customers and web portal will be managed by the cashier/manager. The restaurant menu is organized by categories of menu items. Each menu item has a name, it's price and associated recipe. Item is categorized according to the cuisines and each item has its own description.

Page 3

→PSAR-2

GUJARAT TECHNOLOGICAL UNIVERSITY
(GTU)
INNOVATION COUNCIL (GIC)
Patent Search & Analysis Report
(PSAR)

Date of Submission : 08/09/2020

Dear Patel Raj Nitinkumar,

Studied Patent Number for generation of PSAR	:	20BE7_170320132030_2

PART 1: PATENT SEARCH DATABASE USED

1. Patent Search Database used	:	Google Patents
Web link of database	:	https://patents.google.com/
2. Keywords Used for Search	:	Table Reservation System,Online Food Order,Menu and Recommendation
3. Search String Used	:	Systems and methods for table reservation
4. Number of Results/Hits getting	:	689

PART 2: BASIC DATA OF PATENTED INVENTION /BIBLIOGRAPHIC DATA

5. Category/ Field of Invention	:	
6. Invention is Related to/Class of Invention	:	Systems and methods for managing table and seating use in commercial establishments
6 (a) : IPC class of the studied patent	:	US10037686B2
7. Title of Invention	:	NOWAITO Application
8. Patent No.	:	
9. Application Number	:	US 61/770,467
9 (a) : Web link of the studied patent	:	https://patents.google.com/patent/US10037686B2/en?q=table+reservation+system+restaurant&oq=table+reservation+system+for+restaurant
10. Date of Filing/Application (DD/MM/YYYY)	:	02/28/2014
11. Priority Date (DD/MM/YYYY)	:	
12. Publication/Journal Number	:	
13. Publication Date (DD/MM/YYYY)	:	
14. First Filled Country : Albania	:	

Page 1

15. Also Published as

Sr.No	Country Where Filed	Application No./Patent No.
1		

16. Inventor/s Details.

Sr.No	Name of Inventor	Address/City/Country of Inventor
1	Andrew Ford	United States
2	James Ford	United States
3	Narisa Wild	United States

17. Applicant/Assignee Details.

Sr.No	Name of Applicant/Assignee	Address/City/Country of Applicant
1	Chowtime Inc	United States
2	Apple Inc	United States

18. Applicant for Patent is : Individual

PART 3: TECHNICAL PART OF PATENTED INVENTION

19. Limitation of Prior Technology / Art

If table management server 142 determines that restaurant 110 is subject to rate limiting during the requested seating time, table management server 142 may apply the imposed rate limitation to the candidate slots in step 414. In such aspects, the rate limiting information may identify whether restaurant 110 is subject to rate limiting during one or more days or time intervals (e.g., on specified holidays, on specified days and/or time intervals), or alternatively, is subject to a default, global rate limitation. Further, if the rate limiting information identifies multiple default rate limitations, table management server 142 may impose that rate limitation resulting in a maximum ratio of seated customers (e.g., "covers") per interval.

20. Specific Problem Solved / Objective of Invention

In one embodiment, a user of client device 102 may execute a native application (e.g., local table management application 102A) to provide table and seating management services to restaurant 110. Further, in additional embodiments, a user of client device 104 may provide similar table and seating management services to restaurant 110 by executing local table management application 104A through an instance of a web browser 104B. In certain aspects, local table management application 104A may include one or more Hyper Text Markup Language (HTML) files, eXtensible Markup Language (XML) files, JavaScript files, SWF files of Microsoft Silverlight™-compatible rich Internet application files, or files having any other format or combination of formats compatible with web browser 104B. For example, web browser 104B may include a Microsoft Silverlight™ plugin media player that provides an application framework for executing local table management application 104A when provided as a Microsoft Silverlight™-compatible rich Internet application. In such instances, web browser 104B may provide the visual appearance and interactive functionality of the local table management application 104A. Communications network 120 may be implemented with any form or medium of digital data communication. Examples of communication network 120 include a local area network ("LAN"), a wireless LAN, e.g., a "WiFi" network, a wireless Metropolitan Area Network (MAN) that connects multiple wireless LANs, and a wide area network ("WAN"), e.g., the Internet. Consistent with embodiments of the present disclosure, network 120 may comprise the Internet and include any publicly-accessible network or networks interconnected via one or more communication protocols, including, but not limited to, hypertext transfer protocol (HTTP) and transmission control protocol/internet protocol (TCP/IP). Moreover, communications network 120 may also include one or more mobile device networks, such as a GSM network or a PCS network, that allow user devices, such as user devices 102 and 104, to send and receive data via applicable communications protocols, including those described above. Client devices 102 and 104 may be implemented using an apparatus with at least one processor or a computer-based system, which may execute software instructions to provide table and seating management and allocation services at a commercial establishment (e.g., a restaurant 110). For example, client devices 102 and 104 may include, but are not limited to, a personal computer, a laptop computer, a notebook computer, a hand-held computer, a personal digital assistant, a mobile phone, a smart phone, a tablet computer, a wearable computing device (e.g., a smart watch or a wearable eyewear-based computing device), an embedded computing device, and any additional or alternate computing device operable to transmit and receive data across network 120.

21. Brief about Invention

Reference will now be made in detail to embodiments of the present disclosure, examples of which are illustrated in the accompanying drawings. The same reference numbers will be used throughout the drawings to refer to the same or like parts. In this application, the use of the singular includes the plural unless specifically stated otherwise. In this application, the use of "or" means "and/or" unless stated otherwise. Furthermore, the use of the term "including," as well as other forms such as "includes" and "included," is not limiting. In addition, terms such as "element" or "component" encompass both elements and components comprising one unit, and elements and components that comprise more than one subunit, unless specifically stated otherwise. Additionally, the section headings used herein are for organizational purposes only, and are not to be construed as limiting the subject matter described. The disclosed embodiments relate to computer-implemented systems and methods that enable a commercial establishment to adaptively allocate and manage table inventory, seating inventory, and other resources. In one aspect, the commercial establishment may include a restaurant. In such instances, the disclosed table management techniques may also enable the restaurant to efficiently allocate tables and seats based on factors that include, but are not limited to, a time of day, a party size, estimated turnaround times for the party size, table status and hold information, rate limits for the restaurant, server section usage and turnover time, point-of-sale (POS) information, and preferences and attributes of various customers. The disclosed embodiments are, however, not limited to restaurants, and in additional embodiments, the disclosed embodiments may enable other commercial establishments, such as bars, sporting arenas, and performance venues, to effectively allocate and manage table inventory, seat inventory, and other resources.

22. Key learning Points

Computerized systems and methods are provided for allocating and managing table and seating inventory at commercial establishments, such as restaurants. In one implementation, a computer-implemented method receives a first request to allocate table inventory at a commercial establishment. In some aspects, the first request may include a first party size and a first requested time. Based on a received request, the method may determine a mode of allocation associated with the commercial establishment. The method may identifying one or more first units of table inventory capable of accommodating the first party size at the first requested time. In certain aspects, the identification may be based on at least the determined allocation mode.

23. Summary of Invention

Consistent with embodiments of the present disclosure, a computer-implemented method receives a first request to allocate table inventory at a commercial establishment. In certain aspects, the first request includes a first party size and a first requested time. Based on the received request, the method may determine an allocation mode associated with the commercial establishment. The method may identify one or more first units of table inventory capable of accommodating the first party size at the first requested time. In some aspects, the identification may be based on at least the determined allocation mode. Consistent with further embodiments of the present disclosure, an apparatus is provided that includes a storage device and at least one processor coupled to the storage device. The storage device stores a set of instructions for controlling the at least one processor, and the at least one processor, being operative with the set of instructions, is configured to receive a first request to allocate table inventory at a commercial establishment. In certain aspects, the first request includes a first party size and a first requested time. Based on the received request, the at least one processor may be further configured to determine an allocation mode associated with the commercial establishment. The at least one processor may further configured to identify one or more first units of table inventory capable of accommodating the first party size at the first requested time. In some aspects, the identification may be based on at least the determined allocation mode. It is to be understood that both the foregoing general description and the following detailed description are exemplary and explanatory only, and are not restrictive of the invention as claimed. Further, the accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate embodiments of the present disclosure and together with the description, serve to explain principles of the invention as set forth in the accompanying claims.

24. Number of Claims : 67

25. Patent Status : Published Application

26. How much this invention is related with your IDP/UDP?

< 70 %

27. Do you have any idea to do anything around the said invention to improve it? (Give short note in not more than 500 words)

In this pattern , there is perfect table reservation system, when user book table so at that time for that table reservation request sent on manager's site , he or she will conform booking if table is unreserved. so this system will perfectly suit for my project. In my project , NOWAITO is an android application for table reservation system and also ordering food online. This project for restaurant is to handle the customer, their orders and can help them easily find free tables. The project will have an android application and a web portal. Application will be handled by the customers and web portal will be managed by the cashier/manager. The restaurant menu is organized by categories of menu items. Each menu item has a name, it's price and associated recipe. Item is categorized according to the cuisines and each item has its own description.

Page 3

→PSAR-3

GUJARAT TECHNOLOGICAL UNIVERSITY
(GTU)
INNOVATION COUNCIL (GIC)
Patent Search & Analysis Report
(PSAR)

Date of Submission : 11/09/2020

Dear Patel Raj Nitinkumar,

Studied Patent Number for generation of PSAR	:	20BE7_170320132030_3

PART 1: PATENT SEARCH DATABASE USED

1. Patent Search Database used	:	Google Patents
Web link of database	:	https://patents.google.com/
2. Keywords Used for Search	:	Automatic Menu Display ,Management System,Service Request and Order Entry
3. Search String Used	:	https://patents.google.com/?q=restaurant+management+system&oq=restaurant+management+system
4. Number of Results/Hits getting	:	1149

PART 2: BASIC DATA OF PATENTED INVENTION /BIBLIOGRAPHIC DATA

5. Category/ Field of Invention	:	
6. Invention is Related to/Class of Invention	:	Electronic restaurant service management system
6 (a) : IPC class of the studied patent	:	US20030182209A1
7. Title of Invention	:	NOWAITO App.
8. Patent No.	:	
9. Application Number	:	US10/104,187
9 (a) : Web link of the studied patent	:	https://patents.google.com/patent/US20030182209A1/en?q=restaurant+management+system&oq=restaurant+management+system
10. Date of Filing/Application (DD/MM/YYYY)	:	03/25/2002
11. Priority Date (DD/MM/YYYY)	:	
12. Publication/Journal Number	:	
13. Publication Date (DD/MM/YYYY)	:	
14. First Filled Country : Albania	:	

Page 1

15. Also Published as

Sr.No	Country Where Filed	Application No./Patent No.
1		

16. Inventor/s Details.

Sr.No	Name of Inventor	Address/City/Country of Inventor
1	Li Ge	United States
2	Chenxi Yang	United States
3	Rong Ge	United States

17. Applicant/Assignee Details.

Sr.No	Name of Applicant/Assignee	Address/City/Country of Applicant
1	Ncr Corporation	United States
2	High Technology Solutions Inc	United States

18. Applicant for Patent is : Individual

PART 3: TECHNICAL PART OF PATENTED INVENTION

19. Limitation of Prior Technology / Art

In this system There must be need internet access for this Electronic restaurant service management system, we need access at the both side User's side (customer) and also Admin Side (Chef) . There is also one limitation at initial stage you have to invest more money for this system and also you need to update system at certain time period. When Multiple orders are given at same time so at that time there is one problem is generate some time. there is also one problem with change order in this Electronic restaurant service management system.

20. Specific Problem Solved / Objective of Invention

The server computer receives the message/data from all of the terminals and dispatches them to the destinations or save them to database. The minimum hardware requirement for server computer includes wireless and wire network connection, storage device, CPU, memory, output device and display device. The server software package dispatches the terminal requests and responses, renders the dynamic graphic and text EATs menu, and operates database management.

[0013]

Kitchen Terminal can be a display device, a computer or a printer. It will list orders immediately after a customer requests the order. An optional function of kitchen terminal is sending back order status to EATs and service desk terminals. The order status includes "Food item is being prepared", "Food item is done" and "Food item is coming" etc.

[0014]

All waiters or service staffs wait at service desk terminal(s), checking the incoming customers' requests and locating the origins. This routine design saves half of the waiters' trip since they can always bring the right item to the right person once they see the requests from the service desk terminal. And it saves customer's waiting idle time too. A typical service desk terminal can be a display device, a computer or a printer. An optional function of the service desk terminal is sending an acknowledgement back to the original sender. Whenever a customer requests service, the message will be displayed on the service desk terminal. As to the checkout request, the message will be displayed on both the service desk terminal and the cashier terminal, and a bill will be printed out. Customer is able to view his bill on his EAT and chooses his favorite payment method.

21. Brief about Invention

In traditional restaurant environment, waiters write down customers' orders and manually input them into computer system or handle them directly to kitchen. Customer may experience such problems as, when they need service, e. g. ordering, checking out or adding items, they cannot find waiter. However, when they are studying the menu, enjoying the food or chatting, waiters keep disturbing. Simply asking for a cup of water could take half an hour. Another problem is the order might be delayed if waiter carries it to kitchen, especially when there is a high customer volume. While the customers complain of the long waiting time, the restaurant owners are also headache of the too much time and money spent in training new employee.

Various systems and programs have been created in an attempt to expedite the service and cut the cost. For instance, U.S. Pat. No. 6,845,263 to Camaisa, et al. uses portable computer and video monitor showing photo-realistic image for interactively ordering restaurant menu items.

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However, this system is not convenient because it needs every customer to input a lot of information, which has no nothing to do with food, just to identify customer. It is not cost efficient either because every customer terminal has its own database and disk. And ordering food is only partial restaurant services. Besides ordering food, customer may have other requirements, for instance, adding beverage, question about food, asking for napkins, etc., where a lot of customer idle time still exists.

U.S. Pat. No. 5,236,509 to Mueller, et al. describes a method and apparatus for facilitating self-ordering of items in a fast food environment. Customers place their own orders by touching a video console to reduce errors and theft by counter employees. This system is targeted to a high-density, short duration fast food operation. However, in a fast food environment, where lines of customers are frequently encountered, some patrons are intimidated or confused and may require human assistance, which slows down the entire system.

22. Key learning Points

1) Electronic restaurant service management system
2) Food Ordering System
3) Chief's Food Preparation System
4) Food's Menu
5) Recommendation
6) Feedback System

23. Summary of Invention

This invention is a computer system involving both software and hardware. The system is composed of central server computers and service location terminals, including customer's Electronic Assistant Terminals (EATs), kitchen terminal(s), service desk terminal(s), cashier terminal(s) and office terminal(s), which are connected by wireless or wired LAN. Customers, waiters, kitchen staffs and restaurant managers can acquire or transmit commands through their terminals. The central server coordinates the terminals and updates data in database.

[0011]

Electronic Assistant Terminals (EATs) are small hand-held devices. They are placed on each table adjacent to each seat with their own electronic identification code, connecting to server computer by wireless networks. Service personnel can locate each seat simply by the EATs electronic identification code. The EATs have a graphic display device, showing graphic and text menu items, which are loaded from servers whenever a synchronizing procedure is triggered. Optionally, the EATs can show other information such as the restaurant tradition, nutrition facts, health tips or weather information. The EATs can also send out customer requests, receive responses from other terminals and display service status. Customers can use buttons, touch screen, mouse or possible speech recognition to browse the menu and select their requests. The menu order requests will be routed to the kitchen terminal through the server, and special service requests, e.g. drinks, napkins, forks etc., will be routed to the service desk terminal through the server too. Some optional functions of EATs include merging bill and credit/debt card payment. EATs have minimum software and hardware configurations because their main functions are simply menu display, command transmission and status display. The EATs are low power consuming device, which can be powered by rechargeable battery.

24. Number of Claims : 11

25. Patent Status : Published Application

26. How much this invention is related with your IDP/UDP?

< 70 %

27. Do you have any idea to do anything around the said invention to improve it? (Give short note in not more than 500 words)

An automatic menu display, service request, order entry and management system used in restaurant comprises of a central server, Electronic Assistant Terminals (EAT) and service location terminals. The central server synchronizes the menu display, dispatches service requests and order entries to appropriate service locations, including kitchen, cashier, service desk and bar. All the information related to sales and requests are stored in a database located on the central server.In my project NOWAITO main focus is on Table Reservation System and online food ordering. I'll take this system as reference for my future needs, This project for restaurant is to handle the customer, their orders and can help them easily find free tables. The project will have an android application and a web portal. Application will be handled by the customers and web portal will be managed by the cashier/manager. The restaurant menu is organized by categories of menu items. Each menu item has a name, it's price and associated recipe. Item is categorized according to the cuisines and each item has its own description.

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→PSAR-4

GUJARAT TECHNOLOGICAL UNIVERSITY
(GTU)
INNOVATION COUNCIL (GIC)
Patent Search & Analysis Report
(PSAR)

Date of Submission : 11/09/2020

Dear Patel Raj Nitinkumar,

Studied Patent Number for generation of PSAR	:	20BE7_170320132030_4

PART 1: PATENT SEARCH DATABASE USED

1. Patent Search Database used	:	Google Patents
Web link of database	:	https://patents.google.com/
2. Keywords Used for Search	:	Restaurant Management System ,computer network client terminal,telephone communication client terminal
3. Search String Used	:	https://patents.google.com/patent/CN101961408A/en?q=Restaurant+Management+System
4. Number of Results/Hits getting	:	698

PART 2: BASIC DATA OF PATENTED INVENTION /BIBLIOGRAPHIC DATA

5. Category/ Field of Invention	:	
6. Invention is Related to/Class of Invention	:	Restaurant management system and method based on full reservation
6 (a) : IPC class of the studied patent	:	CN101961408A
7. Title of Invention	:	NOWAITO App.
8. Patent No.	:	
9. Application Number	:	CN2010102964746A
9 (a) : Web link of the studied patent	:	https://patents.google.com/patent/CN101961408A/en?q=Restaurant+Management+System&oq=Restaurant+Management+System
10. Date of Filing/Application (DD/MM/YYYY)	:	09/29/2010
11. Priority Date (DD/MM/YYYY)	:	
12. Publication/Journal Number	:	
13. Publication Date (DD/MM/YYYY)	:	
14. First Filled Country : Albania	:	

Page 1

15. Also Published as

Sr.No	Country Where Filed	Application No./Patent No.
1		

16. Inventor/s Details.

Sr.No	Name of Inventor	Address/City/Country of Inventor
1	Zhang Qiliang	China

17. Applicant/Assignee Details.

Sr.No	Name of Applicant/Assignee	Address/City/Country of Applicant
1	Zhong Ming	China

18. Applicant for Patent is : Individual

PART 3: TECHNICAL PART OF PATENTED INVENTION

19. Limitation of Prior Technology / Art

Here in fact the direct or indirect connection of mentioning is meant, input module, judge module, order number generation module, distribution module, condition enactment module and SMS transmission module go up each other and all have each other related, form an organic whole, this connection between mutually with regard to two modules each other, may be indirect, also may be directly, and what mainly will limit only be data flow relation between them, rather than actual physical connection relation.Can judge module mainly be used in the stage of quitting the subscription of, be used for judging quitting the subscription of.The order number generation module is by a certain predetermined information being generated a unique distinguishing mark, and just order number is managed this predetermined information, also is convenient to quit the subscription of.Distribution module is that the important information that will generate in the predetermined information of order number extracts, and as number, time, the expectation environment (as smoking seat, nonsmoking section, box, hall, face window or the like) of having dinner, carries out dining table automatically and distributes.The condition enactment module is the basis that judge module is judged, various restrictive conditions in the condition enactment module, be artificial pre-designed, for example be set in the half an hour of the scheduled time before beginning and move back meal, for example setting group more than 10 must not make a reservation and quit the subscription of, for example set must not make a reservation of having ordered dishes and quit the subscription of, or the like.Like this, when the client wants to quit the subscription of, judge module in the customer management module is at first transferred pairing all predetermined informations of order number of client's input, then the condition in these predetermined informations and the condition enactment module is compared, to determine whether this order can move back.

20. Specific Problem Solved / Objective of Invention

Preferably, of the present invention based in the comprehensive predetermined dining room management system, the information that the described information logging modle in the described speech conversion box is write down have with described dining room Telephone computer relation management end in the identical form of information that writes down in the customer management module of installing.
Preferably, of the present invention based in the comprehensive predetermined dining room management system, the interface that has the dining room login interface in the login remote server in the customer management module of installing in the Telephone computer relation management end of described dining room, and the input unit of described dining room Telephone computer relation management end comprises liquid crystal touch screen.
Preferably, of the present invention based in the comprehensive predetermined dining room management system, also be provided with the telephone number identification module that is connected with described voice guide module in the described speech conversion box; Be provided with in the described customer management module: direct or indirect each other judge module, order number generation module, distribution module, condition enactment module and the SMS transmission module that connects.

21. Brief about Invention

Continuous development along with catering trade also progressively strides forward to electronization in management, by the internal affairs of computerized information system management catering trade, makes operation oversimplify more, efficiently.With finance is the center, alleviates a line labor intensity of operating personnel, saves handing over to the next shift the time of business personnel, strengthens finance audit management.Provide multiple and order dishes, clearing, statistical report form function, provide the branch kitchen directly to print the foreground data of ordering dishes.
Considerable food and drink software systems are arranged in the market; but from the industry integral level; food and drink company uses the ratio of software still not high; food and drink software still belongs to the market lead-in stage; the quantity of specializing in the company that Catering Management software manages also and few, scale is also little; and institute goes out software and only is in this part of reservation

Page 2

mostly, can not satisfy the demand of going deep into of many catering industries.This has determined the development trend of following food and drink software industry, subscribes, and has dinner financial management, integrated flow process such as statistical analysis.
The voice self-aid system be based on hotel management software-client logical on the unartificial service voice of exploitation from subscribing, quit the subscription of system.System makes things convenient for reserving by phone, save hotel's job costs and non-working time telephone reservation, moving back the possibility of meal of client.

22. Key learning Points

1) Restaurant Management System
2) Food Ordering System
3) computer network client terminal
4) telephone communication client terminal
6) Menu & Recommendation

23. Summary of Invention

Another purpose of the present invention is to provide a kind of dining room management system and method that the saving human resources of the predetermined and unsubscribe from services in dining room all can be provided outside operating time and operating time.
For achieving the above object, according to a scheme of the present invention, provide a kind of based on comprehensive predetermined dining room management system, comprising: client terminal, described client terminal comprises computer network client terminal and telephonic communication client terminal, and described computer network client terminal can pass through the browser access remote server; Dining room Telephone computer relation management end, it has input unit, central processing unit, speech conversion box, the artificial receiving terminal of phone and data storage, and in the Telephone computer relation management end of described dining room customer management module is installed; Remote server, it is connected with described computer network client terminal network, and described remote server is provided with the information platform module, described information platform module is provided with Registering modules, client's login interface and the MIM message input module that uses for client terminal, and also is provided with dining room login interface, information issuing module, data download module that the Room Telephone computer relation management end of serving the meals uses on the described information platform module; Wherein, described speech conversion box is connected with described telephonic communication client terminal, and is provided with voice guide module and information logging modle in the described speech conversion box; The artificial receiving terminal of described phone also is connected with described telephonic communication client terminal; Described central processing unit is connected with the artificial receiving terminal of described phone with described speech conversion box, can control the switching that is connected between described telephonic communication client terminal and described speech conversion box and the artificial receiving terminal of described phone.

24. Number of Claims : 21

25. Patent Status : Published Application

26. How much this invention is related with your IDP/UDP?

< 70 %

27. Do you have any idea to do anything around the said invention to improve it? (Give short note in not more than 500 words)

A kind of based on comprehensive predetermined dining room management system and method.The present invention relates to a kind of dining room management system and method, particularly relate to a kind of dining room management system and method that can realize remote reservation/quit the subscription of. In my project , NOWAITO is an android application for table reservation system and also ordering food online. This project for restaurant is to handle the customer, their orders and can help them easily find free tables. The project will have an android application and a web portal. Application will be handled by the customers and web portal will be managed by the cashier/manager. The restaurant menu is organized by categories of menu items. Each menu item has a name, it's price and associated recipe. Item is categorized according to the cuisines and each item has its own description.

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→PSAR-5

GUJARAT TECHNOLOGICAL UNIVERSITY
(GTU)
INNOVATION COUNCIL (GIC)
Patent Search & Analysis Report
(PSAR)

Date of Submission : 11/09/2020

Dear Patel Raj Nitinkumar,

Studied Patent Number for generation of PSAR	:	20BE7_170320132030_6

PART 1: PATENT SEARCH DATABASE USED

1. Patent Search Database used	:	Google Patents
Web link of database	:	https://patents.google.com/
2. Keywords Used for Search	:	Integrated Hospitality Management System,embedded smart devices with cloud ,payment solutions
3. Search String Used	:	https://patents.google.com/patent/US20160360818A1/en?q=Restaurant+Management+System
4. Number of Results/Hits getting	:	1259

PART 2: BASIC DATA OF PATENTED INVENTION /BIBLIOGRAPHIC DATA

5. Category/ Field of Invention	:	
6. Invention is Related to/Class of Invention	:	Integrated Hospitality and Restaurant Management System
6 (a) : IPC class of the studied patent	:	US20160360818A1
7. Title of Invention	:	NOWAITO App.
8. Patent No.	:	
9. Application Number	:	US14/726,926
9 (a) : Web link of the studied patent	:	https://patents.google.com/patent/US20160360818A1/en?q=Restaurant+Management+System&oq=Restaurant+Management+System
10. Date of Filing/Application (DD/MM/YYYY)	:	06/01/2015
11. Priority Date (DD/MM/YYYY)	:	
12. Publication/Journal Number	:	
13. Publication Date (DD/MM/YYYY)	:	
14. First Filled Country : Albania	:	

Page 1

15. Also Published as

Sr.No	Country Where Filed	Application No./Patent No.
1		

16. Inventor/s Details.

Sr.No	Name of Inventor	Address/City/Country of Inventor
1	Faisal Saeed	United States
2	Zia Hasnain	United States

17. Applicant/Assignee Details.

Sr.No	Name of Applicant/Assignee	Address/City/Country of Applicant
1	Tatchi Solutions Inc	United States

18. Applicant for Patent is : Individual

PART 3: TECHNICAL PART OF PATENTED INVENTION

19. Limitation of Prior Technology / Art

Current full integrated systems have limited hardware and software capability. It is advantageous for a business to have a single scalable system comprised of hardware and software components and modules with unlimited upgrade flexibility. The ISS is a software and hardware subsystem that can be configured to run on a standalone server or integrated with a restaurant's existing back-end system by populating a shared database. The ISS subsystem comprises various software venue management system modules. These modules include but are not limited to a Request Submission Software Module (RSM), a Front Counter Console Software Module (FCCM), an Administrator Console Software Module (ACM), a Manager Console Software Module (MCM), a Chef Console Software Module (CCM), a Server Module (SM), and a Payment Module (PM). The social and digital media content may include but is not limited to a gaming menu that will allow customers to play preloaded and downloadable games on the input device, a chat and announcement menu that will allow the customer to securely chat (text, voice, or video conference) via the input device with other customers at different tables within the same restaurant or chain of restaurants, a classified ads menu that will allow customers to post classified ads to the restaurant's virtual bulletin board in the nature of local real estate, local jobs, local services, selling items and local events, and a music menu that will allow the customer to both purchase music and queue up music in an existing restaurant audio system.

20. Specific Problem Solved / Objective of Invention

A hospitality management system having a computer server configured to operate a hospitality management software, a computer input device and display, the system further having a software interface configured to interact with the hospitality management software, the computer input device, and display, the system further having an improvement comprising:
a first software component configured to display a digital menu stored on the computer server, the digital menu being an electronic representation of menu items offered for purchase at an establishment; and wherein the first software component is configurable to filter digital menu items based on one or more preferences received from the input device such that the display of digital menu items are restricted based on the one or more preferences received from the input device. A hospitality management system having a computer server configured to operate a hospitality management software, a computer input device and display, the system further having a software interface configured to interact with the hospitality management software, the computer input device, and display, the system further having an improvement comprising:
a first software component configured to display a digital menu stored on the computer server, the digital menu being an electronic representation of menu items offered for purchase at an establishment; a second software component configured to receive and store user generated images of said menu items via the internet or mms messaging; and a third software component configured to retrieve the stored user generated images from the server and display said images in conjunction with the digital menu on the computer input device and display.

21. Brief about Invention

The present invention relates to hospitality service provider and restaurant management systems and accompanying hardware. Existing inventions include digital menus displayed on portable tablets screens in restaurants, games and interactive trivia displayed on fixed and portable tablet screens at restaurant tables, the ability to book reservations over the internet, and the ability to pay for and order food over the internet. These ad hoc pieces leave customers, hospitality service providers and restaurants unfulfilled because the components of these systems are not integrated in a way to give meaningful experiences to customers, hospitality service providers and restaurants alike.
As opposed to ad hoc management and entertainment pieces, full integrated systems can be used to manage restaurant data and customer interactions and allow for complete control of all the data exchange between the customer and the hospitality service providers or restaurant.

Page 2

These systems are easy to maintain and support with single interfaces that aim to reduce human data entry errors. Full integration means eliminating redundancy and allowing seamless inter-component communication. Monitoring and supporting of non-disparate systems leads to a better collaboration and interaction among different system components and increased over all productivity and save cost.

22. Key learning Points

1) smart table integrates communication systems
2) sensors
3)payment solutions
4)smart apps
6)mobile
6)embedded smart devices with cloud and big data back end solutions

23. Summary of Invention

The Integrated Restaurant Management System (IRMS) is a complete end to end hospitality service provider (which may include but is not limited to restaurants, cafes, hotels, stadiums, food courts, and parks, hereinafter referred to as "restaurant") management solution comprising swappable and scalable software and hardware components. When the components are integrated under one system, the processes of restaurant food ordering, payment, inter and intra-restaurant social networking, interactive multiplayer inter and intra-restaurant gaming, targeting advertisements, coupon redemption, creating menu ratings and reviews, making retail purchases, purchasing movie ticket ahead of a show, become seamlessly automated and can be performed from the mobile devices and "smart tables."
Components of IRMS ecosystem include a computer input device and display that acts as an interface to the rest of the IRMS system by communicating user requests to a computer sever and in turn receiving user responses from the computer server. The computer server processes user requests and applies predefined logic to connect to the other physical or logical components within the ecosystem or to third party ecosystems.
Restaurant customers directly interact with the IRMS via a "smart table" comprised of multiple computing devices and peripherals that is connected to the IRMS server network using. The table comprises an embedded or mounted tablet device and a number of embedded peripheral accessories that utilize multi-purpose sensors, multimodal biometric authentication technologies, mobile payment technologies to create a seamless dining and entertainment experience.

24. Number of Claims : 31

25. Patent Status : Published Application

26. How much this invention is related with your IDP/UDP?

< 70 %

27. Do you have any idea to do anything around the said invention to improve it? (Give short note in not more than 500 words)

A smart table configured to optimize hospitality management for hospitality venues. The smart table integrates communication systems, sensors, payment solutions, smart apps, mobile and embedded smart devices with cloud and big data back end solutions to create a complete ecosystem. The primary objective of this invention is to provide a fully integrated data and multimedia experience to customers, employees, and owners of hospitality venues. In my project , NOWAITO is an android application for table reservation system and also ordering food online. This project for restaurant is to handle the customer, their orders and can help them easily find free tables. The project will have an android application and a web portal. Application will be handled by the customers and web portal will be managed by the cashier/manager. The restaurant menu is organized by categories of menu items. Each menu item has a name, it's price and associated recipe. Item is categorized according to the cuisines and each item has its own description.

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9.6 Periodic Progress Report[PPR]

→PPR-1

PPR Details

Periodic Progess Report : First PPR

Project : NOWAITO App.

Status : Reviewed

1. What Progress you have made in the Project ?

For my project, i collect the information about table reservation system from different different restaurants.Using this information i decide the flow of my project in details and will start implementation of my project.

2. What challenge you have faced ?

When i think about this project at that time i was totally confused that how ill implement..? Which platform i use..?after that i research on my doubts and discussed with my internal guide.

3. What support you need ?

https://en.wikipedia.org i used this site and got some information from my external guide.

4. Which literature you have referred ?

https://www.tripadvisor.in this site will be use for collect the information of different restaurants for table reservation system.

Document : Download

Comments

Comment by Internal Guide :
None

Comment by External Guide :
None

Comment by HOD :
None

Comment by Principal :
None

Comment by University Admin :
None

→PPR-2

PPR Details

Periodic Progess Report : Second PPR

Project : NOWAITO App.

Status : Reviewed

1. What Progress you have made in the Project ?

After collecting information, I start learning basic design code of XML for my Application Layout..!

2. What challenge you have faced ?

At initial stage, it's little bit difficult to remember XML's syntax. But after some time i used to it. During creating layout of my application because of Data Loss we faced challenges...!

3. What support you need ?

I got support from my external guide for learning XML's design code and also watch online XML's tutorial.

4. Which literature you have referred ?

Literature referred is https://developer.android.com for learning XML.

Document : Download

Comments

Comment by Internal Guide :

None

Comment by External Guide :

None

Comment by HOD :

None

Comment by Principal :

None

Comment by University Admin :

None

→ PPR-3

PPR Details

Periodic Progess Report : Third PPR

Project : NOWAITO App.

Status : Reviewed

1. What Progress you have made in the Project ?

In this period, i clear my doubts regarding Data Dictionary. How to store data and also about back-end language code.!

2. What challenge you have faced ?

It's toughest part for me, cause it's very important to store data of users properly and securely. It's quite difficult compare to other tasks.!

3. What support you need ?

I watch many tutorials of SQL online from stackoverflow site.

4. Which literature you have referred ?

Literature referred is https://stackoverflow.com for learning SQL code.

Document : Download

Comments

Comment by Internal Guide :

None

Comment by External Guide :

None

Comment by HOD :

None

Comment by Principal :

None

Comment by University Admin :

None

→ PPR-4

PPR Details

Periodic Progess Report : Forth PPR

Project : NOWAITO App.

Status : Reviewed

1. What Progress you have made in the Project ?

In this segment, I start learning java code language for my android studio base application.

2. What challenge you have faced ?

At initial stage, it's little bit difficult to remember syntax of code. But after some time i used to it.!

3. What support you need ?

I got support from my external guide for learning Java code and also watch online java code's tutorials.

4. Which literature you have referred ?

Literature referred is https://developer.android.com for learning Java code.

Document : Download

Comments

Comment by Internal Guide :

None

Comment by External Guide :

None

Comment by HOD :

None

Comment by Principal :

None

Comment by University Admin :

None

PLAGIARISMA

94% Unique

Total 31497 chars (2000 limit exceeded) , 244 words, 12 unique sentence(s).

Results	Query	Domains
Unique	Submitted by Raj Patel (170320132030)	
Unique	Komal Patel (Department of (Head of Invision ICT Engineering) Software Solution)Academic Year (2020-21)L	
Unique	Mitesh Thakkar (Assistant Professor) (Head of Department)ACKNOWLEDGEMENTI express our sincere thanks to	
Unique	Prof Bhautik Trivedi, of Information & Communication Technology Engineering department,	
5 Results	I would like to express deep thanks to Mr	fourcornerperspectives.blogspot.com theseus.fi yukoz1.hatenablog.com pt.scribd.com
Unique	INSTITUTE OF ENGINEERING & TECHNOLOGY AHMEDABAD, GUJARAT Affiliated with Gujarat	

Technological University AN IDP

Unique , Semester – 7Information & Communication Technology INVISION SOFTWARE SOLUTION Internal Guide, External Guide,

Unique INSTITUTE OF ENGINEERING AND
76,700 TECHNOLOGYCOMPUTER ENGINEERINGYEAR, 2020-21CERTIFICATEThis is to certify that the Project entitled
Result ” has been carried out by under my
Unique guidance in fulfillment of requirements for the

Institute of Engineering and Technology under Gujarat Technological University, Ahmedabad during the academic year

Unique Institute of Engineering & Technology for his support and guidance for this project and This is to place on record our appreciation and deep gratitude to the person

Unique This is to place on record our appreciation and deep gratitude to the person

Unique I acknowledge the guidance of all those who have assisted us in any way to
Unique Komal Patel , Head of Invision Software Solution who gave us valuable insights and

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L.J. INSTITUTE OF ENGINEERING & TECHNOLOGY AHMEDABAD, GUJARAT Affiliated with Gujarat Technological University AN IDP PROJECT REPORT ONNOWAITO App. Submitted by Raj Patel (170320132030) B. E. , Semester – 7Information & Communication Technology INVISION SOFTWARE SOLUTION Internal Guide, External Guide, Prof. Bhautik Trivedi Mr. Komal Patel (Department of (Head of Invision ICT Engineering) Software Solution)Academic Year (2020-21)L. J. INSTITUTE OF ENGINEERING AND TECHNOLOGYCOMPUTER ENGINEERINGYEAR, 2020-21CERTIFICATEThis is to certify that the Project entitled "NOWAITO App." has been carried out by under my guidance in fulfillment of requirements for the degree of Bachelor of Engineering in Information and Communication Technology (7th Semester) of L. J. Institute of Engineering and Technology under Gujarat Technological University, Ahmedabad during the academic year 2020-21.Prof. Bhautik Trivedi Prof. Mitesh Thakkar (Assistant Professor) (Head of Department)ACKNOWLEDGEMENTI express our sincere thanks to Prof. Bhautik Trivedi, of Information & Communication Technology Engineering department, L.J. Institute of Engineering & Technology for his support and guidance for this project and care taken by him in helping us to complete the project work successfully. This is to place on record our appreciation and deep gratitude to the person without whose support this project would never been seen the light of the day.I acknowledge the guidance of all those who have assisted us in any way to complete this project. I would like to express deep thanks to Mr. Komal Patel , Head of Invision Software Solution who gave us valuable insights and knowledge.