

RESTAURANT POINT OF SALES APPLICATION USING MOBILE AND WEB TECHNOLOGY

Rinabi Tanamal

Ciputra University
Surabaya, Indonesia
r.tanamal@ciputra.ac.id

Alberto Hanny Yuwono

Ciputra University
Surabaya, Indonesia
albertoyuwono90@gmail.com

Nehemia Sugianto

Ciputra University
Surabaya, Indonesia

Abstract – Eating outside has become a trend in the society, in order to fill the needs of business and the needs to fill the individual's spare time. Customer is expecting better services from the restaurant, because in some cases the restaurants do an unsatisfying service such as slow service and ordering error. In order to help the restaurant and the customer, an application using mobile and web technology based on Java Android can be developed. This application on the devices will help the customer to be able to order, call the waiter/waitress, know the availability of food and also help increase the efficiency in ordering menu.

Key: Restaurant , Android, Order menu

I. INTRODUCTION

A. Background

According to Marsum (2005) restaurant is a commercially organized place to deliver services to consumers in the form of food or beverage. Apart for gaining profit in the business, customer satisfaction is a priority as well. However, the current system applied

to the most restaurants are too dependent on waiters. When customers receive unsatisfactory service from waiters, the customer will build the notion that the restaurant have a poor service. Thus, the customer will no longer think to visit this same restaurant ever.

Other problems which sometimes occur in restaurants such as waiters who experience delays in serving customers, orders that came out not in accordance with customer demand, fault recording menu order, and when the waiters explained the menu then the availability of the ordered menu was discharged. Such issues lead to significant impact to the reputation of the restaurant.

Speedy Service on restaurant services are also influential for customer impression. Speedy service on serving is very important role to satisfy the customer. So as to improve the level of service it needs a system that can manage the service in a restaurant.

With a system which integrated into a computer system, will ease customer in ordering from a menu. In addition, customers receive flexibility in getting total

payment of the ordered menu. Customers also can find out whether or not the order has been processed. When a customer cancelling the menu, from order status, customers can take decisions directly.

In food ordering execution process for the kitchen, it come with the easy display screen that provides order information directly. As well as the order sequence from each table. With this restaurant information systems, this system is expected to provide convenience in ordering menu for kitchen section.

B. Problem Statement

From the background, then the problem statement can be limited to:

- 1) How to design and build mobile applications that can help the waiter, kitchen, and a cashier for managing the ordering process.
- 2) How to design and build a web application that can provide updated information and customer, waiter, kitchen, and cashier integrated in one system.

C. Scope

Scope will be reviewed in this research are:

- 1) The application is a web-based application and mobile based application.
- 2) Applications website at the kitchen cooking process handles queuing system, the distribution of food and beverage menu for the kitchen and pantry, checking of results with a menu of dishes ordered.
- 3) Applications website at the waiter did notification when kitchen has been finished and the dishes ready to serve.
- 4) Applications website at the cashier payment handling system adapted to the data of the customer and the kitchen.
- 5) Mobile applications on the reservation menu handle cooking process information, detailed menu, menu availability, pricing information, and method of payment.

- 6) On the customer, ordering menu consists of 3 languages, namely Indonesian, Mandarin, and English.

D. Research Objectives

The purpose of this research are:

- 1) Designing the display of a mobile application that can simplify the use for the customer.
- 2) Creating a service system that includes a web application and mobile applications that include customer, cashier, waiter and kitchen.

II. SYSTEM DESIGN

A. Use Case

1) Login & Logout

Applications run on Android gadgets are available at the dinner table restaurant.

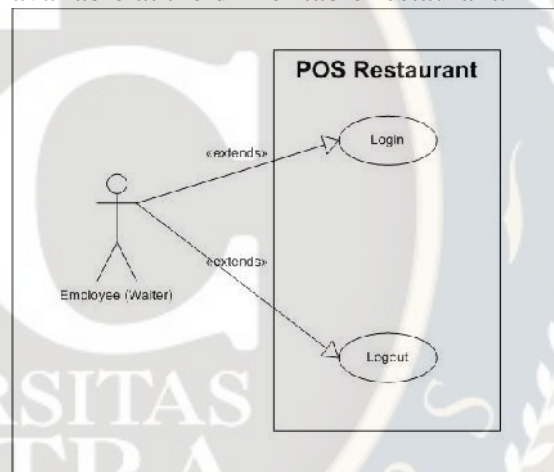


Fig.1 Use Case Login & Logout

Feature :

Login & Logout

Lead Actor:

Employee (Waiter)

Precondition:

- Users are in the Login page and fill in the username and password.
- User id waiter already registered in the database.
- Fill in the password to be the same as the one in the database.

Function:

- Login to continue working on the application process to the next stage. Login waiter as well as responsible for the activity that occurs in the ordering process.
- Logout function to delete user data waiter and order data used in the previous service.

Scenario:

Login

- Users using Android gadgets and are in the login page.
- Users fill in the fields that exist in the login page, username and password.

Logout

- The user is in the payment request page
- Activity log all activity performed after the service completed and payment has been done.
- Once the customer has completed payment stage, the user must end the activities of the service desk by pressing the logout button, then you will see a confirmation popup dialog which contains the field "password confirmation". Password that must be used in accordance with the data listed in the database.

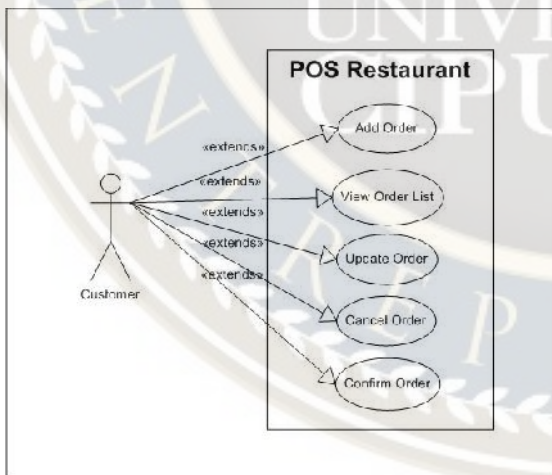


Fig.2 Use Case Add, view, update, cancel, confirm Order

2) Add Order

Feature:

Add Order

Lead Actor:

User

Precondition:

The user has to login earlier and on page Display Menu.

Function:

Add Order serves to increase the number of orders order food along with the desired quantity.

Scenario:

- Users are in the Display Menu, then press the order button the user list on the bottom center of the display.
- After the display order list appears, the user can choose the one that you want to cancel the menu by pressing the delete button on one of the menu list.

B. User Interface Mockup

1) Mobile Application User Interface

This section describes an overview of the user interface on the Android app.



Fig.3 User Interface Display Menu



Fig.4 User Interface Detail Menu



Fig.5 User Interface Order List

2) User Interface Web Application

This section describes an overview of the user interface in web applications.



Fig.6 User Interface Desktop Login



Fig.7 User Interface Status Table

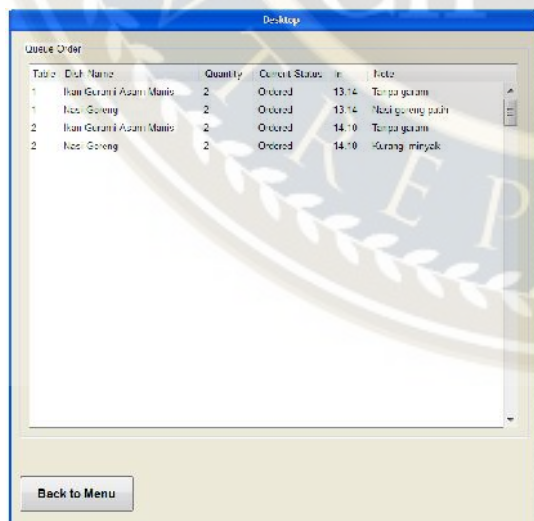


Fig.8 User Interface Queue Order

C. Database

1) Conceptual Database Design

This is a conceptual image database for Point of Sales application Restaurant.

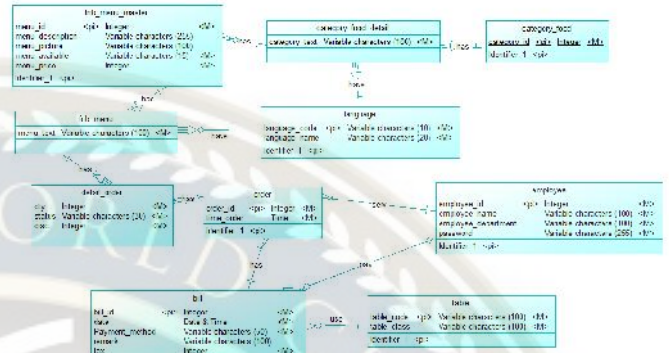


Fig.9 Conceptual Database POS Restaurant Application

2) Physical Database

This is an image database for the Physical Point of Sales application Restaurant.

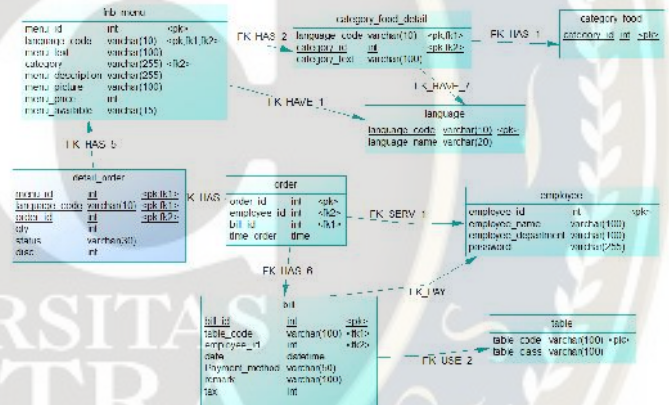


Fig.10 Physical Database POS Restaurant Application

3) Denormalization Database

In making of this application, Denormalization needed for the use of the database so it can be more simple and efficient. Here is a picture of Denormalization in database of Point of Sales Restaurant's application.

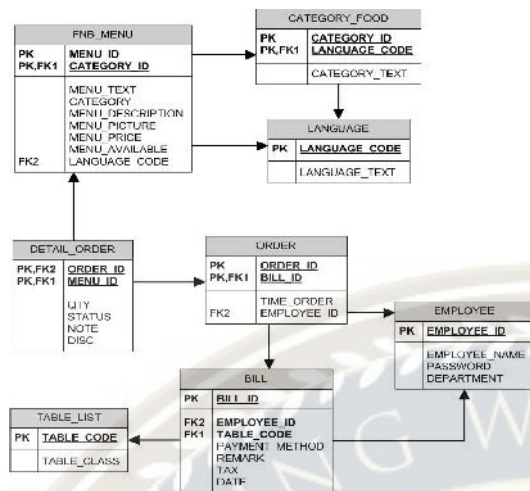


Fig.11 Denormalization Database POS Restaurant

III. CONCLUSIONS

This paper is still in the design stage and not yet at the stage of implementation. Authors would be very grateful if there is any comments or suggestions for development.

The Shortcomings in this design lies in the design of desktop features that handle orders. The design of queuing system are simple and requires further development. The other suggestions might be to add supporting features for adding customer comforts.

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