Gourmet Restaurant Management System

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Abstract:

Key words:

1. INTRODUCTION

The greatest dilemma in running a gourmet restaurant business is reducing the operational costs, increasing productivity thus maximizing profits. In order to maintain the quality of services offered, it is essential to develop a robust system that ensures excellent service delivery. One of the ways to improve the restaurant services is by introducing an on line ordering system that is fully automated hence no order or reservations are done manually. This results in a healthy system that saves time for both the restaurant and the clients. The clients benefit by having have a better and quality dining experience because they have an opportunity to pre-order their meals to their specifications prior to coming to the restaurant [1].

The objective of this report is to present the design, implementation, testing and analysis of a restaurant software management system that will allow customers to order their meals on line. The novelty of this design is that it allows customers to include special request that modify the contents of their meal. The system and planning part of this project details the introduction, literature review and the chosen company background. It is followed by the problem formulation and research background which contains the problem statement, project scope, constraints, assumptions, operational environment and literature review. It is then followed by the project management system in which an overview of the schedule is given in form of a Gantt chart and division of labour among the team members. The Methodology which includes sprint planning and sprint documentation is then presented. The system requirement analysis section then follows. The system design including all subsystems and implementation are then presented. The report ends with software testing and a conclusion.

2. Literature review

3. Company background

Olives and Plates Restaurant was chosen to be used in presenting the proof of concept. It is in line with the set objectives of the project defined in the later section of this report. It is a catering company located at the university of Witwatersrand main campus. It was started in 1996. By 2001 it was a fully flagged food catering company. It currently has 115 employees and it provides specialised services for instance catering, restaurant, coffee shop, express kiosks and also provides outside catering services to functions at the various venues. This project will mainly focus on developing a software management system for the olives and plates club house and conference centre. It is a gourmet restaurant that serves the university staff members, students and visitors. The clubhouse is beautifully revived old style architecture with elegant finishes. It is situated on the Wits main campus and serves versatile menu with quality ingredients. The restaurant can host up to 120 guests comfortably without a dance floor and 100 guests with a dance floor. They cater for ordinary, Halaal and Kosher clients [2].

4. PROBLEM FORMULATION AND RESEARCH BACKGROUND

4.1 Problem statement

Clients have meals at restaurants for different reasons. Some of these reasons include:

- The need to save time that could have been used in preparation of a meal at home. This then allows them to focus on urgent work or business activities
- When spending quality time with family and friends.
- When one has travelled to a new destination and would like to sample new food. Clients have an expectation to receive quality and efficient services from their chosen restaurant. In most restaurants currently the manual system is being used, in this system, reservations and orders are made telephonically or physically by the waiters or waitresses. This system has the following demerits;
- A client may arrive at a restaurant only to find that it is fully booked hence the client has to make alternative arrangements.
- The waiters and waitress may take the meal order incorrectly these may result in the customer being dissatisfied with the quality of service.
- The clients have to do payments when they arrive

at the restaurant.

The above mentioned dilemmas result in the system being inefficient and hence poor quality of service. To mitigate these problems, it would be necessary to design and implement an automated online ordering and reservation system that allows the clients to customize their meal, make orders and payment in advance should they want to. These would result in an improved dining experience.

4.2 Project scope

The project scope was given in [2] but it is listed here for reference: A custom tailored restaurant software management system to run on PC server or on cloud computing services is to be implemented.

- The system runs a back-end service which manages all the essential databases, e.g., recipes for dishes, customers and
- Customer orders, stocks of ingredients for the dishes, employees - part-time and full-time hired waiters/waitresses, managers, suppliers of stocks, etc.
- The front-end services feature interfaces for interacting with the management systems. These include features for: Customers: Customers can make orders and reservations to be, picked up for take-away; dine- in, home delivery, etc.
- A unique feature of the gourmet restaurant is that orders may include special request to modify the content of the dish for example no-salt, no-sugar, etc. The possible devices for interacting with the system include PCs (desktops), Laptops, tablets, mobile-phones, etc.
- Restaurant Manager: The manager interacts with the system to manage:
  1. Stock Inventory
  2. Recipe/Menu planning
  3. Reservations
  4. Dish/Food costs
  5. Customer database
  6. Tr2ck delivery
  7. Accounting/Financial Administration
  8. Waiters/Waitresses duties, o-days, leave, etc.
  9. Generation of reports - Analytics
  10. Special events
- System Administrator: A system administrator is responsible for all computer related services such as setting-backups of databases, stopping/restarting system services, general system maintenance, etc.

4.2.1 Project objectives 123 Stake holders

4.2.2 Clients This are the customers who buy the food and services offered at the restaurant

4.2.3 System administrators This the restaurant employee who is in charge of updating the website with current information from the restaurant

4.2.4 Restaurant manager This is the head of the restaurant that checks to ensure that a good relationship is maintained between the client and the restaurant

4.2.5 Project manager This refers to the leader of the gourmet restaurant management project

4.2.6 Developers These are the software developers who implemented the system.

5. Success criteria

The project will be deemed successful if an online gourmet restaurant management system that allows clients to make online booking, ordering and cancellation for meals is designed, implemented and tested.

6. Constraints

- The major constraint was time

2.5 Assumptions

- The users of the system and the restaurant management have basic knowledge in use computers, tablets or phones hence can easily interact with the system

7. PROJECT MANAGEMENT

7.1 Project time management

The time management is shown in form of a Gantt chart in figure 1 below:

7.2 Project team and division of labour

The project team members are divided into two: The front end and back end. Their detailed duties are fully described below:

8. METHODOLOGY

8.1 Sprint planning document

8.2 Sprint retrospective

8.2.1 Design patterns