Kenyatta University

Department of Computing & Information Technology

SCO400: ANALYSIS DOCUMENT

Title: Online Hotel Management System For Chicken-Land Pilau Hotel Kasarani With Sentiment Analysis

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Reg. No: J17/0678/2018

Project Supervisor: Dr. Abraham Mutua

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OVERVIEW

This analysis document is aimed at

1. Analysis on the functionality of similar existing systems
2. Requirements definition.
3. Analysis of the functionality of the proposed solution.

CHAPTER 1: THE CURRENT SYSTEM

The hotel currently utilizes a manual system for management. An interview was conducted to acquire information on the business model and business processes carried out on a daily routine. Currently the, business employs one manager (the owner) and a waitress on daily wage. In the morning, the owner notes down the expenses occurred to produce the food, this can vary depending on prevailing prices. In the day, the hotel accepts both call-for-delivery orders as well as walk-in customers. Every order and its value is recorded in a notebook by both the waitress and the owner. Orders can be paid for via cash or mobile money. In the evening, the owner does a reconciliation of all the earnings and takes note of the profit. Profit=Income-expenses. The hotel also regularly received feedback by word of mouth from customers. The current system is quite efficient as it informs the owner of the business's daily performance fairly accurately. The owner is actually able to make decisions as to the quantity of food to make based on average daily sales. The business remains afloat using the current system and this points to the fact that it actually works.

The current system faces challenges such as inability to easily track performance and reaching out to customers to enhance sales. It is also quite difficult t establish a long term performance trend accurately. Additionally, the owner has to spend time in the evening calculating the profit. It also lacks a way of receiving customer feedback from one time customers after the leave the premises and a way to document such reviews for long term business performance evaluation.

To cope with these, the business could consider employing an electronic hotel management system especially to handle the orders and manage customer relationship.

CHAPTER 2: METHODOLOGY

The hotel owner was interviewed with a view to acquire information about the current system of operations and getting opinion on the system requirements. A lot was discussed including the process of making business decisions such as how much food to cook per day, determining performance and receiving customer feedback. The owner gave information on how profits are calculated on a daily basis. At the beginning of each day, the owner notes down all expenses on ingredients. In the evening, the expenses are subtracted from the total income for the day to determine profit. For bills such as rent, the owner needs to save up gradually.

Analysis of similar systems

This analysis shall involve the study and sampling of three electronic systems similar to the current manual system namely **Jumia Food Vendor App, Bolt Restaurant and Uber Eats for restaurants**

These three are popular mobile applications used for hotel and restaurant management.

Jumia Food Vendor App

- Get orders from your tablet or mobile phone
- Receive and manage your orders quickly
- Access performance reports and receive customer reviews
- Chat, directly from the app with Jumia support team

Bolt Restaurant

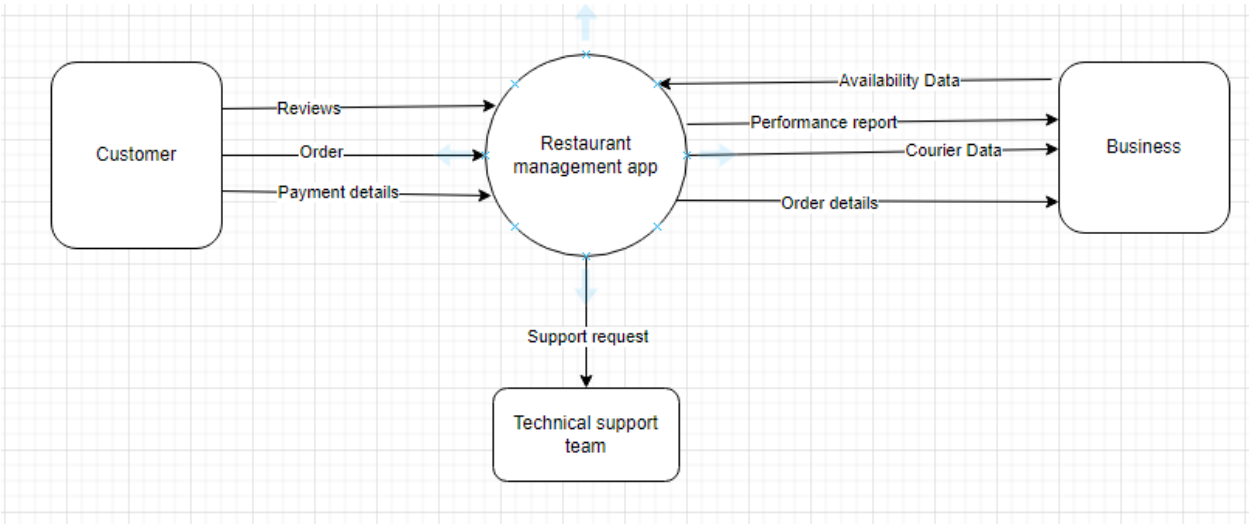
- Allows receiving orders from people using Bolt Food App

Uber Eats for restaurants

- Used by Uber Eats (A food ordering and delivery app used by customers) partners.
- Manage orders from anywhere
- Installed on mobile phones and tablets
- Monitoring the business in real time
- Accepting or rejecting orders
- Tracking couriers
- Adjust item availability quickly

- Contact Uber Eats support team at any time.

A context-level diagram for the three systems would be as follows

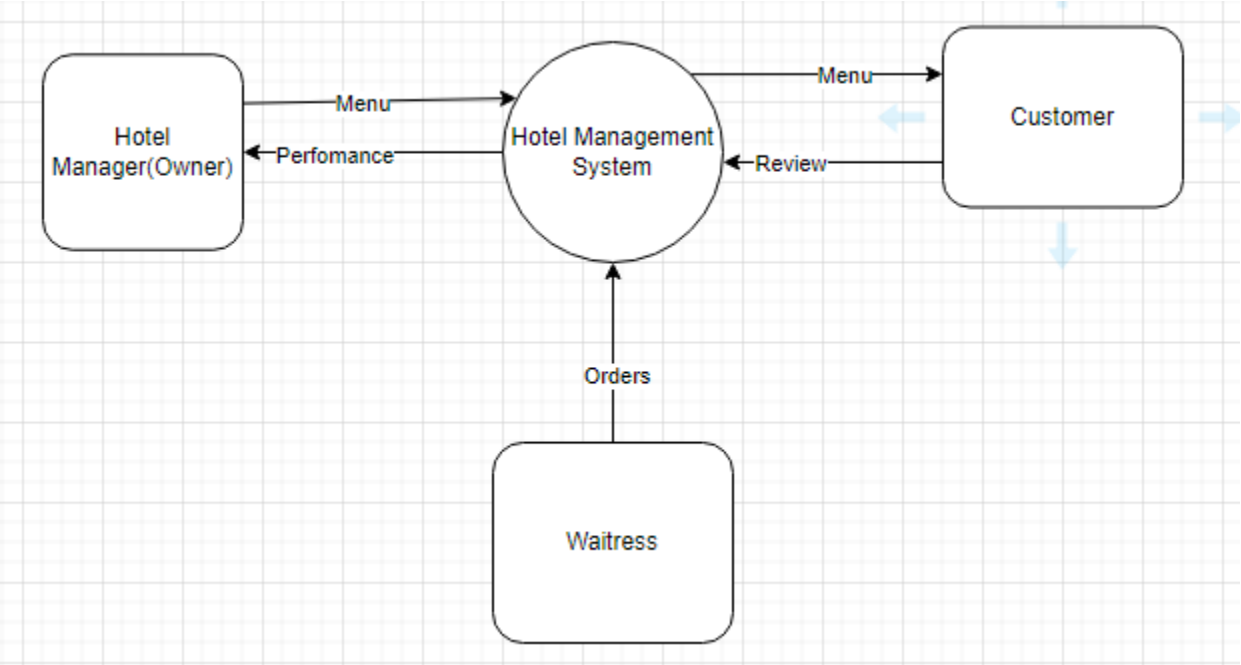


This applications provide very easy ways to manage orders and track performance. However they perform poorly at enhancing the Hotel's ability to reach out to customers and improve based on their reviews which would greatly improve results. The apps are also platform centric (they are more popular than the actual food providers) and this would be a stumbling block for the hotel as using one platform denies you access to customers on other platforms. Registering for such platforms would also involve as major shift in Chicken-Land Pilau Hotel's business model. The hotel mainly serves in-hotel-dining customers while the apps highly encourage food delivery or pickup customers. The shift would need use of single use utensils as opposed to the current stock of reusable utensils and cutlery. It would also involve training both the hotel owner and the worker (waitress) on how to manage the hotel on the basis of the new applications. The cost of such a shift could incur a cost that outweighs benefits.

CHAPTER 3: PROPOSED SYSTEM

It is in the view of these implications that is deemed necessary to make an electronic hotel management system to aid the business in achieving goals.

Context diagram for proposed system



The new system will enable the customer to view the hotel's daily menu and from that make a decision which will be communicated to the waitress. Based on this information, the waitress is able to create an order in the system and serve the order. The customer also has the ability to create a review. The hotel manager can update the hotel's daily menu and view performance.

Proposed system Use case

The proposed electronic system has the following primary users with their corresponding use cases.

1. **Admin-The Hotel Owner**

The admin is a role played the hotel owner. This role has the ability to create and update menu items, create orders, track orders (view order details), track performance and perform sentiment analysis.

2. **Hotel side user-Waiter**

The waiter executes a subset of the admin use cases. These are creating orders and tracking the orders.

3. **Customers**

The customer executes two use cases. These are viewing the hotel's menu and writing reviews to be read by the hotel admin.

Beyond these two, the system will have authentication required for the admin and the waiter (hotel side user). Customers do not need to be authenticated.


ChickenLand Pilau Hotel Management System with Sentiment Analysis
View online menu
Create and update menu items
Create orders
Track orders
Track performance
Create reviews
Send email to past customers
Sentiment analysis
Admin
Waiter
Customer

CHAPTER 4: REQUIREMENTS

This chapter lists down the system requirements as gathered during the system analysis stage.

4.1 User requirements

User requirements are requirements set by the end user. In this system these are:

- Multiple users can use system concurrently.
- Owner can filter orders by date, value and number of items.
- System to classify reviews without user's intervention.
- System to always produce final product, not data that that needs further processing.

4.2 Functional requirements

These describe what input the system accepts and the expected outputs. They describe how a system should behave under certain circumstances

- Dashboard showing performance and current state of restaurant in metrics of orders, reviews, income and menu items.
- The user will be able to create menu items, create menu page.
- A view orders page to track orders created.
- The user will be able to create orders, create orders page.
- Customer menu page visible to both the hotel management and the customers.
- Review creating page for customers.
- Authentication of users, different roles to access different views based on privilege.

4.3 Non-functional requirements.

Non-functional requirements relate to attributes of the system. Could include attributes such as scalability, performance and maintenance.

- No lagging while posting or retrieving data.
- Minimum training, ease of use.
- Error handling-always catch errors and provide useful message on how to recover.
- Feedback when a successful change of system state triggered by user is completed.
- System should always be available as needed by the business.