LIN-TEAK: AN ONLINE ORDERING SYSTEM AND FOOD SERVICE APPLICATION WITH THERMAL PRINTED RECEIPT OF LIN-TEAK MILK TEA SHOP

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Overview of the Current State of the Technology

Statement of the Problem

The general aim of the study is to identify how can an online ordering system help in contributing to one's business growth during a pandemic crisis.

Along with this general problem, the following questions are also expected to be answered by the end of the study:

1. How can an online ordering system expedite certain workflows around a business?

2. How does an online ordering system facilitate well communication between the seller and the customer?

3. How can an online ordering system serve as a platform to expand the marketplace of the business?

4. What are the variables to be considered in creating an online ordering system?

5. What is the level of convenience that an online ordering system offers to both the business and its customers?

Objective of the Study

Scope and Limitation

Scope

The scope of the study circles around the following:

Access Levels

Certain limitations, permissions, and boundaries are offered by the system. This allows the system to be accessed differently dependingly on the type of end-user that will use the system.

Administrator. The administrator is the one that has the raw control of the system. Restrictions and boundaries are not applied to the administrator. Management of couriers, as well as management of orders, are some of the few functionalities that the administrator has control over.

Courier. A courier is someone employed by the business to handle tasks regarding deliveries. The options for the courier are limited to viewing and updating orders that the courier deliberately accepted and took.

Registered Customer. A registered customer is someone who has an account in the system. Customization of the account's profile such as address and contact details management is a privilege offered to a registered customer. Lastly, the ordering capabilities are fully accessed at this level.

Guest Customer. A guest customer is someone who wishes to access the system's ordering options quickly without having to sign-in or sign-up for an account. Only the ordering functionalities are given to a guest customer.

Functionalities

Below are the general functionalities that the system can offer. These enable the system to operate in different ways and communicate well with the users involved in the system.

Order Management. This allows the administrator to view the orders initiated by the customers of the system. The administrator can manage these orders by confirming the order by means of approval or rejection. Upon the approval of the order, the administrator can then set an estimated time of delivery within the placement day of the order. Rejected orders are immediately disposed from the queue of pending and unapproved orders, customers are then notified about it and the reasons for its rejection.

Receipt Printing. After an order has been approved, it directly goes into printing, where the details for the order are printed using a thermal printer, like a receipt. Information such as the order number, receiver of the order, items ordered,

the amount for each one, the total amount, and the included additional expenses are all listed in the receipt. A QR Code that represents the order number is also imprinted for courier tracking purposes.

Courier Management. This entitles the administrator to add the couriers into the system employed by the company to handle the deliveries. This part of the system allows the administrator to view the current status of the courier as well as its current deliveries. Adding and removal of couriers in the system are also scoped in this.

Courier Status Tracking. This mostly relies on the courier itself. The courier can set its status and the status of the deliveries that they deliberately took from the shop for delivery by scanning the QR Code or inputting the order number manually.

Notification. This allows the administrators, couriers, and customers to receive dedicated notifications. Placement of orders and statuses of couriers and their deliveries are all notified to the administrator of the system. For the courier, notification about the pending undelivered orders will be shown in the courier's app. The approval or rejection of the order and the current status of the order are notified on the customer side.

Limitation

Putting aside the functionalities offered by the system, the following are the known limitations:

1. Refunds are not handled by the system. This kind of concern is by any means manually talked over by both parties; the seller and the buyer.

2. Cancellation of an order can be done only within an uncertain time span. The time window that is given for canceling an order solely depends on how much time it will take before the order gets approved by the administrator of the system.

3. Notifications are only done through the e-mails and accounts of each user in the system. SMS notification is merely dependent on the client of the

system. Since most of the reliable SMS APIs require a subscription or payment in order to avail their text-messaging services.

4. Messaging directly through the system to contact the customer/ is not supported. The system can only offer the contact details of both end-users where the users themselves can use these to manually connect with the others.

Methodology of the Study

To employ the right process in developing the proposed system in such a short span of time. The proponents are planning to use the Waterfall Model. The Waterfall Model is useful and can provide a number of benefits where deadlines are vital (Banks, 2021). This is because the process offered by the model is very straightforward because of its linear structure (Banks, 2021).
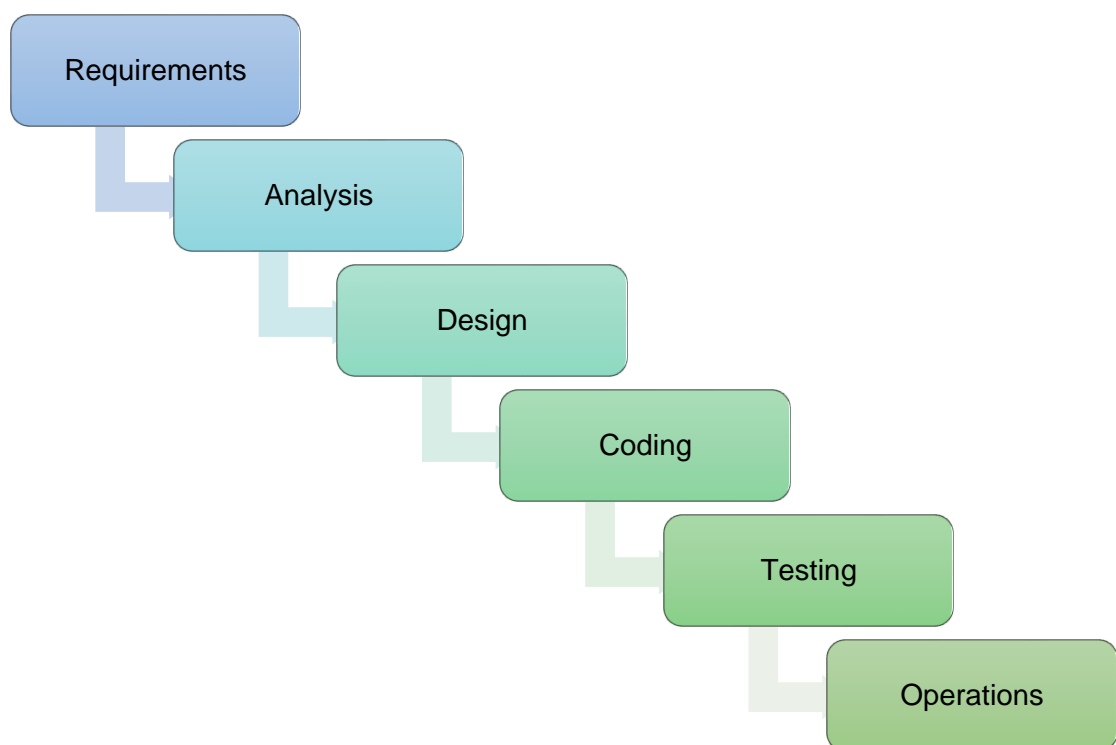

Figure 1: The Waterfall Model

The Waterfall Model encompasses six processes that are followed throughout the development.

Requirements. In this phase, the necessary pieces of information are gathered from the client. This information will serve as the specification that needed to be followed by the system.

Analysis. The information gathered at the Requirements phase is thrown into the analysis stage of the study. The specifications will be analyzed in order to come up with a possible model and workflow for the system. At the end of this phase, the logical process of the system is produced.

Design. Technical requirements are provided in the Design phase. Specifications such as the programming language to use, the tools to be incorporated, the services to be used, and more will be specified at this phase.

Coding. The source code for the system is finally written. Using the produced outputs from the earlier stages, the code is built from the ground up. Each specification will be used and implemented while creating the source code for the system.

Testing. Once the writing of source code is finished, it is important to see whether it is fully functional or not. This is where the Testing phase kicks in. The system will be tested by various testers. Testers will report any issues that needed to be resolved, such as bugs, performance issues, and more. Once the issues are identified it is common to go back to the coding phase and eliminate these issues in the system.

Operations. This will be the last phase of the model. At this point, the system is ready for deployment to a working environment. The process does not stop at the deployment, since maintenance is also a part of this. Maintenance will be done as a regular checkup and update to the system. This ensures the functional state of the system.

Significance of the Study

REFERENCE LIST

Banks, F. (2021, January 21). *Waterfall Model: What Is It and When Should You Use*

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