TIFFIN MANAGEMENT SYSTEM USING ANDROID APP

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ABSTRACT

People tend to use tiffin service very often. The main customers of these services are students and employees who live in rented apartments. The subscription of this service changes a lot as it depends for how much time the customers want the tiffin to be delivered to them. A proper management is needed for the tiffin-vendor and the customers as well to cut of the everyday hassle. Every individual who uses the tiffin service has experienced many difficulties at some time trying to order the food or even while managing the payment for the same. As always people like hassle-free services and that made us think of this system. We aim to make it easier for all the customer users to order the tiffin and the tiffin-vendors to manage the process of order handling seamlessly. In this way it would help the vendors to utilize their time easily and also grow their business.

INTRODUCTION

The customers of all tiffin service need to contact their respective tiffin-vendors every day for informing about how many tiffins or maybe how much food is needed by them. Also it gets very difficult for the tiffin-vendors to manage the orders (regardless of regular customers). Sometimes in case of special requests from the customers, the vendors may forget or get off-track while keeping those requests in mind. The customers are very eager to know where the vendor currently is and what his status is. Thus our system tries to eradicate the problems faced by both the customers as well as the tiffin-vendors to provide hassle free service.

EXISTING SYSTEM

The existing system is based simply on the phone. Tiffin-vendors and their respective customers are connected to each other just by the phone services. Order placing, order management, delivery boy instructions, money-handling is all carried out with the help of phone calls. Book based records are to be kept by the tiffin-vendors for managing monthly bills of their regular customers. These records tend to create a lot of discrepancies in management.

TIFFIN MANAGEMENT SYSTEM

The app has 4 modules viz. Admin, Customer, Tiffin-vendor, Delivery boy.

ADMIN MODULE

A centralized management of the whole system is achieved by the admin module. It has a store of tiffin-vendor profiles and delivery-boy profiles. Various analytics can thus be performed considering the data in store. The tiffin-vendor that wants to enroll for the system simply registers himself with the admin whereby the admin charges him/her the fee for broadcasting his/her tiffin service. Then using the unique credentials allotted to him/her the tiffin/vendor logs in into the tiffin-vendor module on his phone.

TIFFIN-VENDOR MODULE

Notifying the vendor about the order that has been placed is the main purpose of this module. This module is used by the tiffin-vendor to manage general updates that he/she wants to give to all the customers that are viewing his/her section. This module helps the vendor to manage the orders once they are received. The login to the vendor module is done by strict credentials. These credentials are provided to the tiffin-vendors when they register themselves to the admin for the service. The vendor can edit the tiffin menu and as also change its timing.

CUSTOMER MODULE

This module contains the functionalities that are to be delivered to the customer. To use the module the customer must login using his/her credentials or else register (in case of a first time user). It then shows up the tiffin-vendors and their respective menus. It is also used to login and authenticate for an existing customer. The customers can then place orders using this module. They can manage the quantity of the order and also add some notes to the order being placed.

DELIVERY-BOY MODULE

After food is prepared the remaining work left is delivering the food. The delivery boy may be the tiffin-vendor himself or some other person that is responsible for delivering the food to the customer. He gets all the information about the tiffins to be delivered. After delivering a tiffin he may just update the status of the order and thus carry-on with the delivery process.
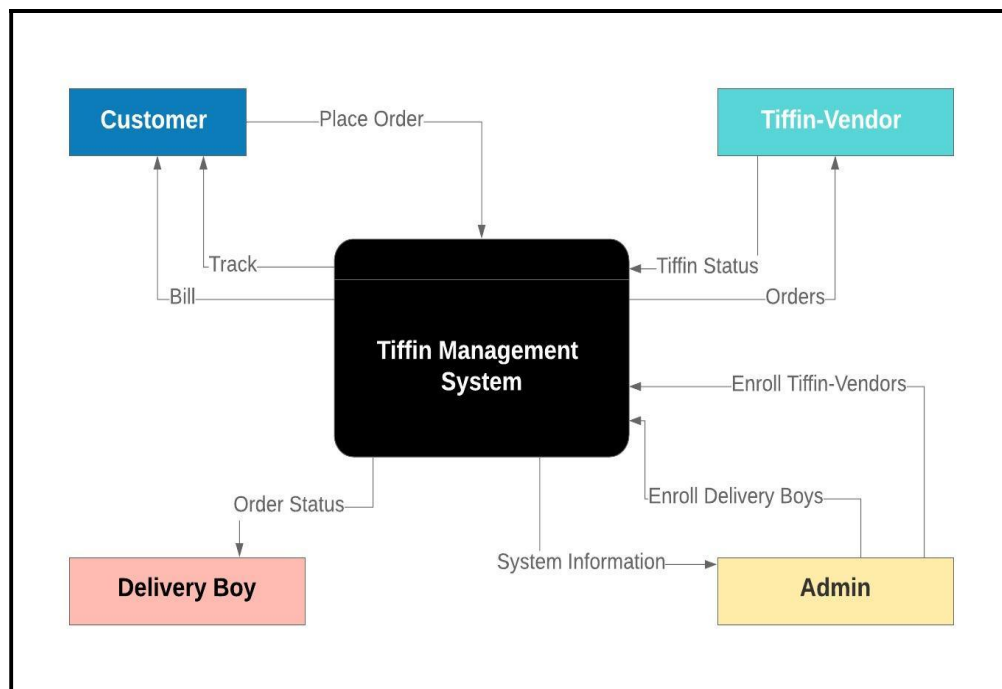
SYSTEM ARCHITECTURE

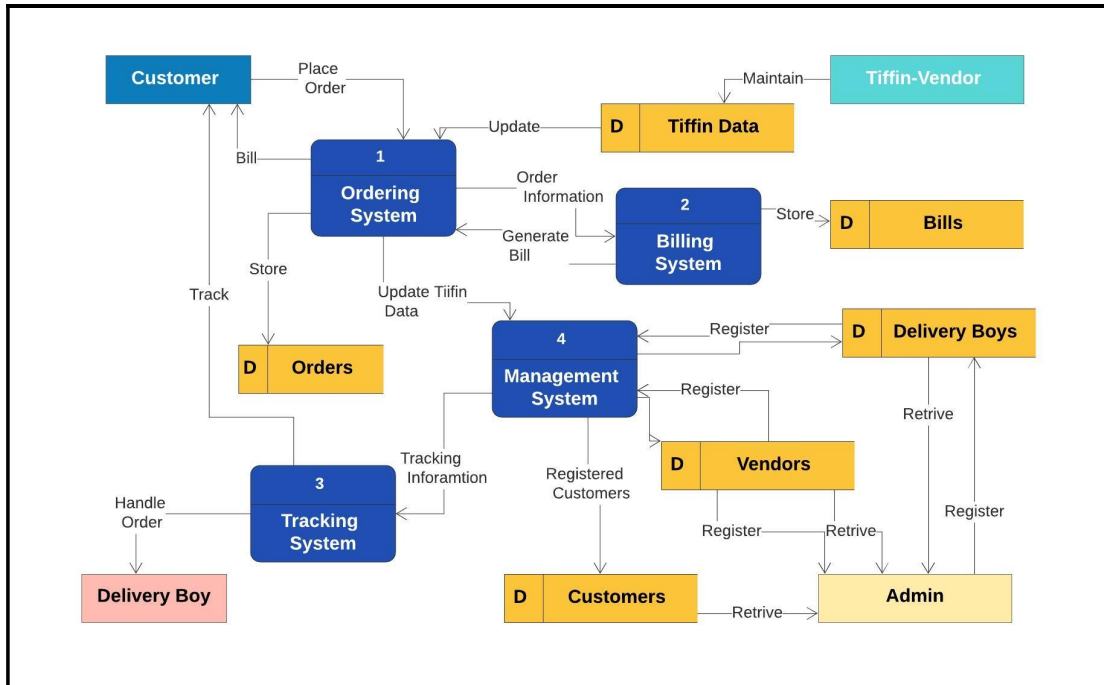Fig 1: Data flow diagram (level-0) illustrating the system architecture

Fig 2: Data flow diagram (level-1) illustrating the system architecture
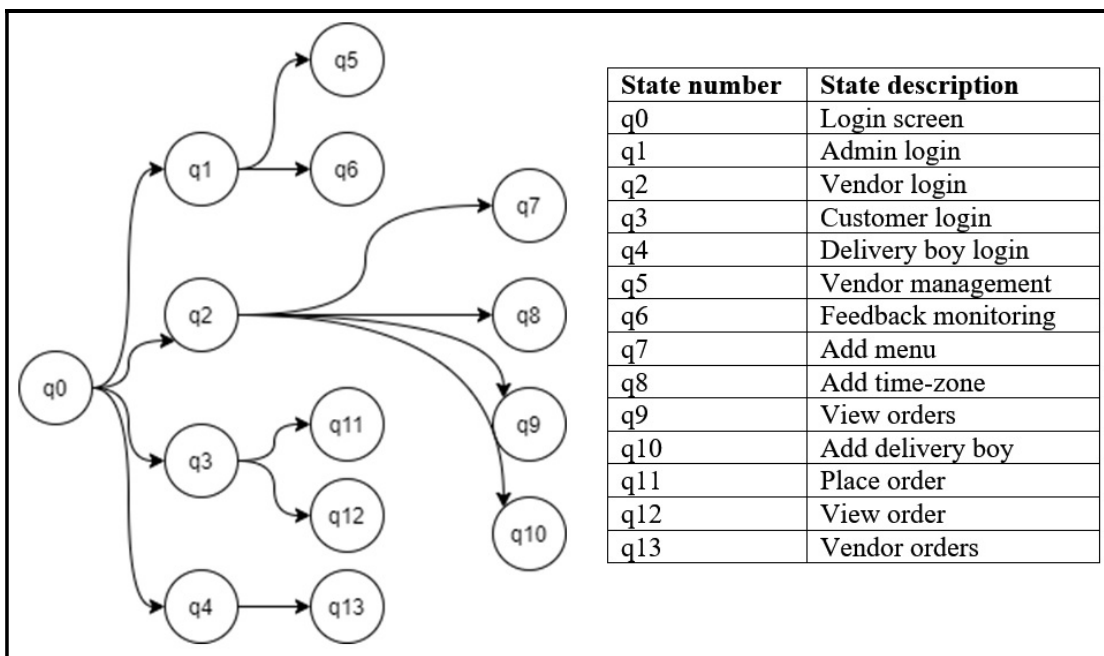
MATHEMATICAL MODELLING

State number	State description
q0	Login screen
q1	Admin login
q2	Vendor login
q3	Customer login
q4	Delivery boy login
q5	Vendor management
q6	Feedback monitoring
q7	Add menu
q8	Add time-zone
q9	View orders
q10	Add delivery boy
q11	Place order
q12	View order
q13	Vendor orders

Fig 3: Mathematical modelling representing the workflow of the app

RESULT AND DISCUSSION

We used the initial version of our app to simulate the customer-vendor-delivery model among our classmates. We measured the accuracy with which our proposed goals were being accomplished. We noted down the drawbacks of our initial application and are working on it to make a fault-free and robust application for all possible scenarios.
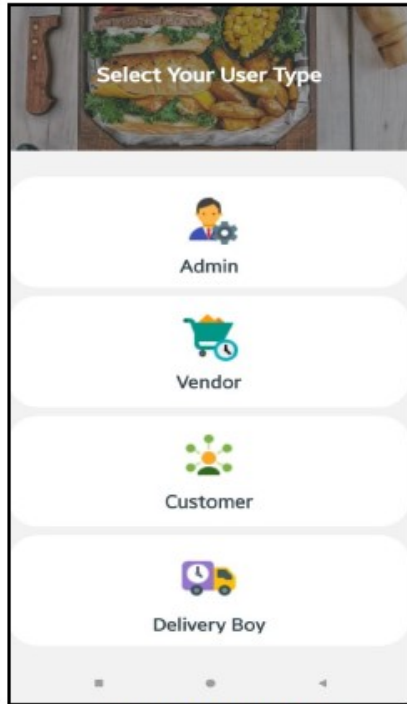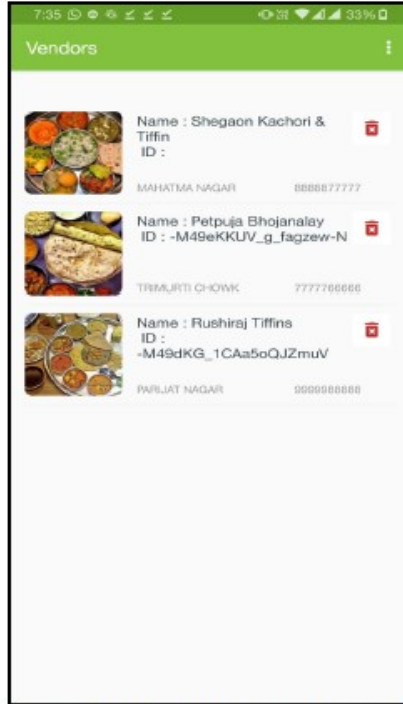
Fig 4: Main menu
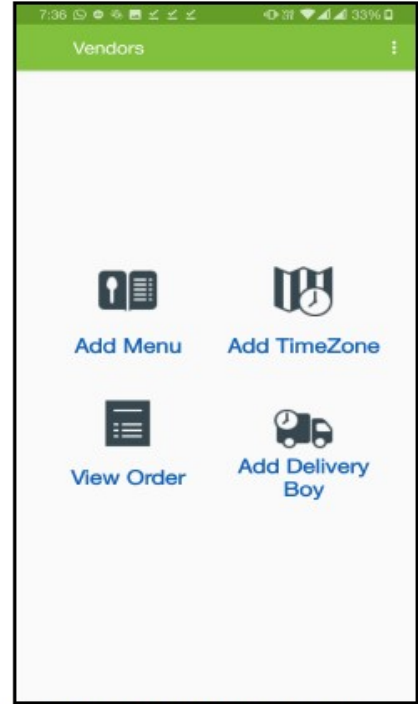

Fig 5: Add and manage vendors
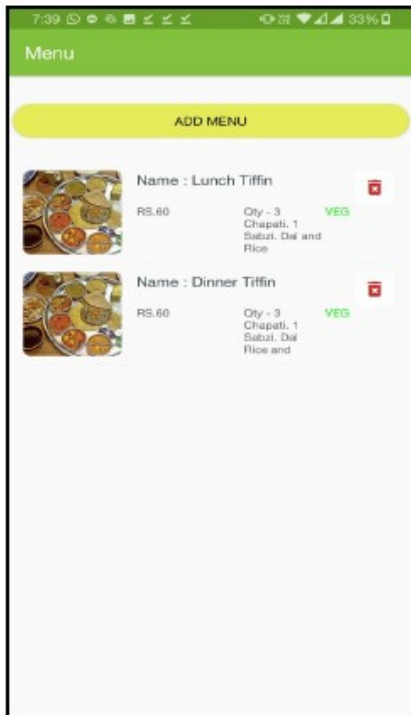

Fig 6: Vendor's screen
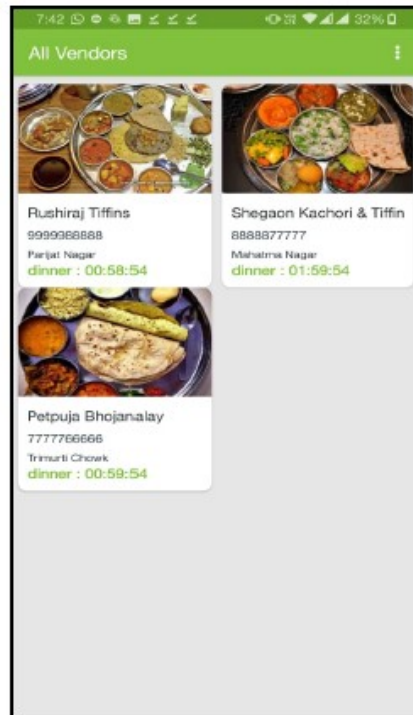

Fig 7: Vendor manages menu
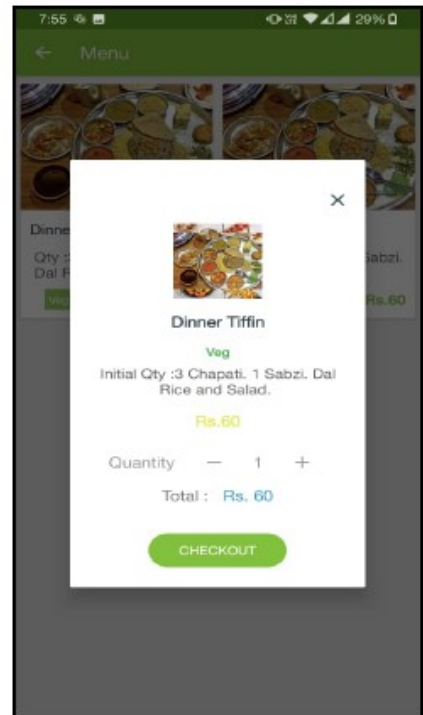

Fig 8: Customer views vendors

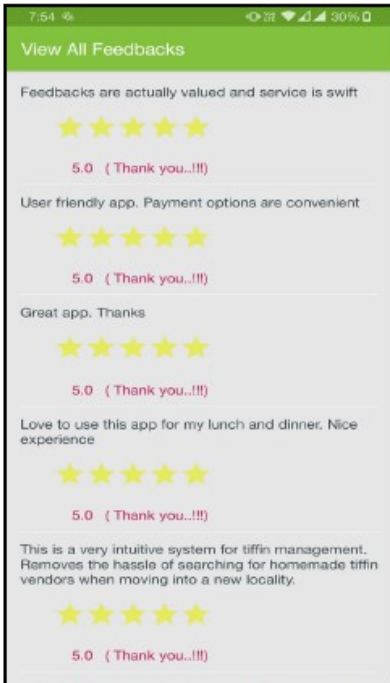
Fig 9: Customer order tiffin
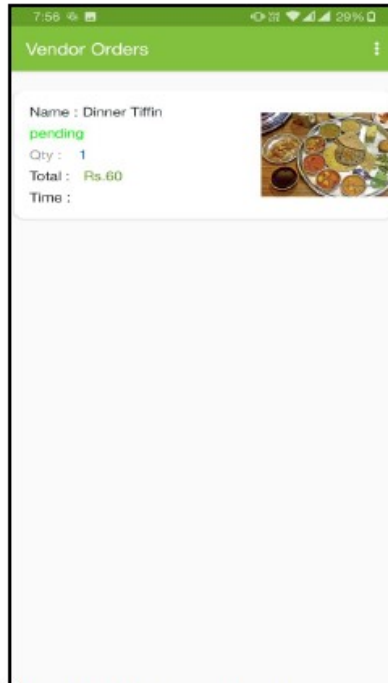
Fig 10: Customer feedbacks to admins
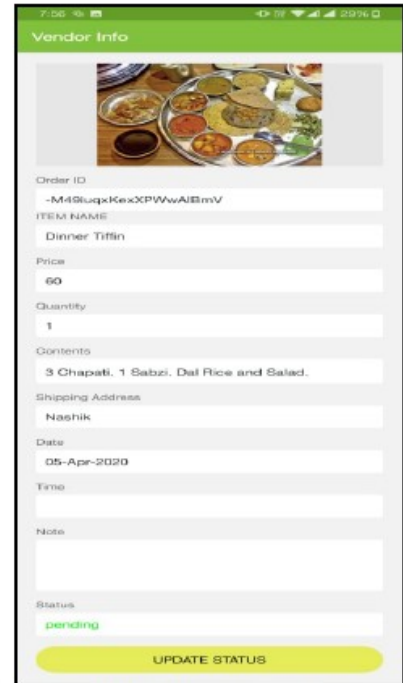

Fig 11: Delivery boy's screen

Fig 12: Changing status after delivering the orders

CONCLUSION

The proposed tiffin management system provides a secure and user-friendly interface for handling the tiffin order. The system can be easily adopted by tiffin-vendors and used by the customers. The hassle of managing the orders, bills and delivery patterns is thus eradicated. It leverages the performance of normal tiffin delivery system to another level.

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