UST Menu – A New Food Ordering System

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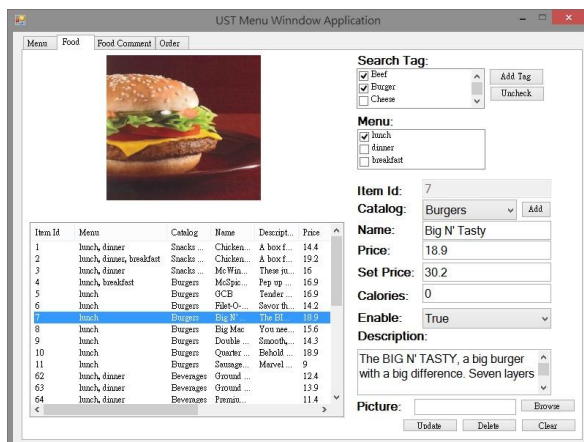Advised by Professor Gibson Lam.

Motivation

Starting from 2012, there are two times more freshmen studying in HKUST because of the 334 New Academic Structure. Therefore, the facilities in HKUST are heavily loaded especially the dining area. At the peak hour of lunch time, there are long queues outside cafe, LG5 and LG7 restaurants because people take time to look at the menu and paying for the food. This takes about 10 min for ordering the food. We aim to develop a system which can minimize the food ordering time.
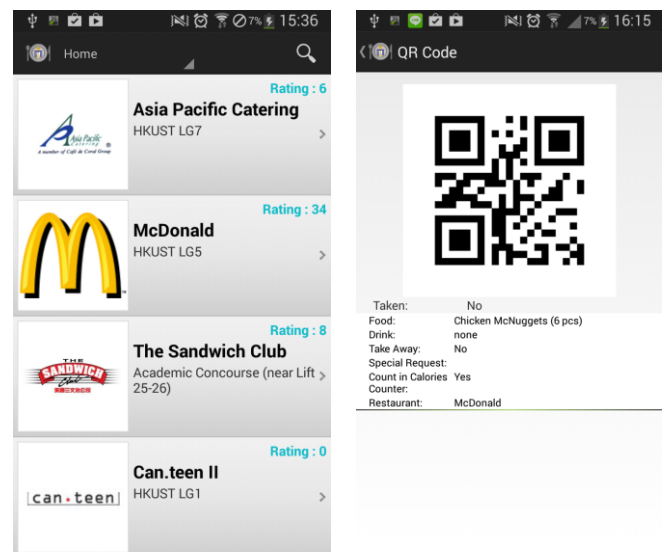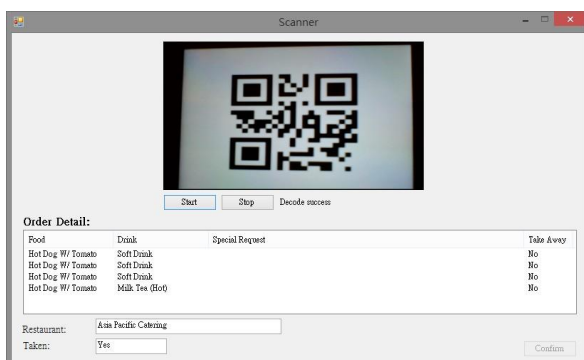
Introduction

- Consists of three applications: Android App, Windows App and QR code Scanner
- Android App functionalities: Food Ordering, Food Search, Food Bookmarking, Food Rating, Shopping Cart and Calories Counter
- Windows App functionalities: Menu Information Editing, Food Information Editing, Reviewing Food Comments and Order Checking
- QR code Scanner: Scan the QR code on the Android App and show the details of the order
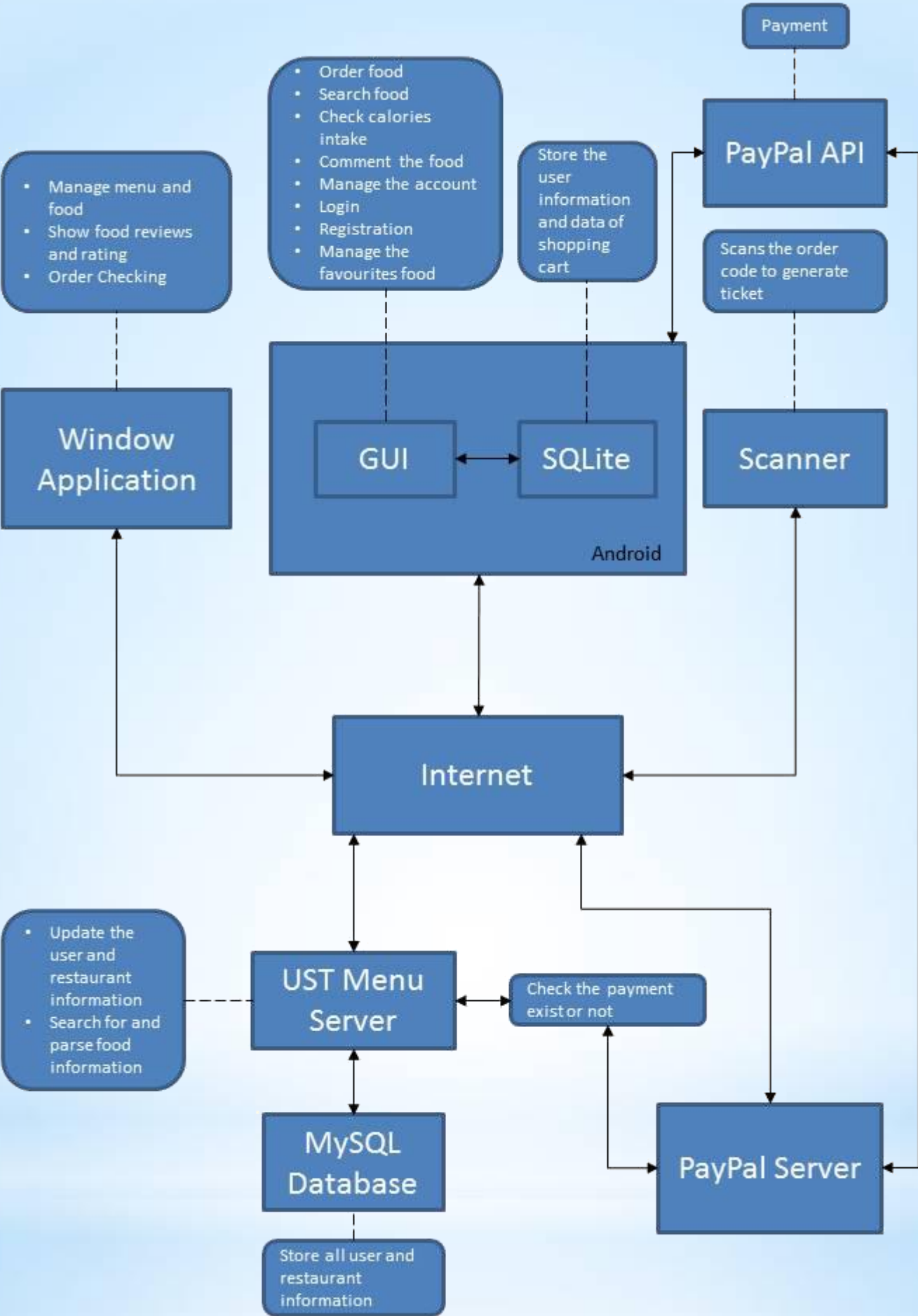
Design

⬇ Windows App for restaurant owners

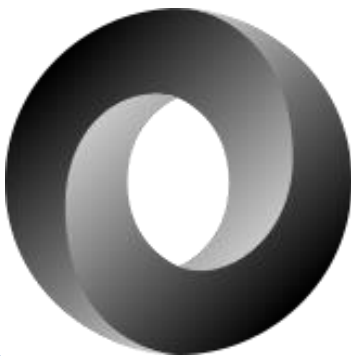⬇ QR code Scanner

⬆UST Menu Android App

System Overview

Payment

PayPal API

- Manage menu and food
- Show food reviews and rating
- Order Checking

- Order food
- Search food
- Check calories intake
- Comment the food
- Manage the account
- Login
- Registration
- Manage the favourites food

Store the user information and data of shopping cart

Scans the order code to generate ticket

Window Application

GUI ↔ SQLite

Android

Scanner

Internet

- Update the user and restaurant information
- Search for and parse food information

UST Menu Server

Check the payment exist or not

MySQL Database

Store all user and restaurant information

PayPal Server

Implementation

We developed our system using C#, JAVA, PHP, JSON, SQLite…
- JSON(JavaScript Object Notation)
  - ➢ open standard format that uses human-readable text to transmit data objects
- QR code
- SQLite
  - ➢ Embedded database for local/client storage in application software
- Threading
  - ➢ Allow multi-tasking and ensure the Application is running smoothly

Conclusion

- We have successfully developed UST Menu which can significantly reduce the food ordering time.
- After the testing, it showed that our system can achieve all the functionalities we planned to implement originally.
- Our System according to the evaluation is highly reliable, secure and user-friendly.

Further Development

- Food sales analyst tools for the Windows Application
- Supports multi-platform, e.g. iOS, Windows Phone, …
- Alarm function which can notify the user to get the food when it is ready
- Saving the frequent order setting as default
- Using NFC to generate meal ticket instead of QR code