GT Foodline

Digitizing On-campus Dining Options: Placing orders online for faster pick-up

By:

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CS 4365 - Intro to Enterprise Computing

GTFoodLine

Introductions

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Objectives

- To create a mobile app that allows user to place order for on campus dining locations and get notified when the food is ready for pick-up

- Vendors make more profits by better reallocation of resources

Research Problem Being Addressed

- Mobile Apps
- Online Shopping, Databases
- OCR(Image Processing)
- Payments and Transaction Processing

It is a widely useful project of practical importance which uses combination of features and is technically challenging

Background/Related Work

Paypal's Order Ahead System

- Plans to implement in the UK's 4 restaurants chains
- Tested in the US at Jamba Juice in California
- Restricts pay using Paypal Account

Data Collection Approach

- Dependent on GT Dining for Menu and Vendor information
- No electronic data available
- Images of Menu had to entered manually as a JSON object
- Vendors and Users differentiated during Sign-Up

System Architecture
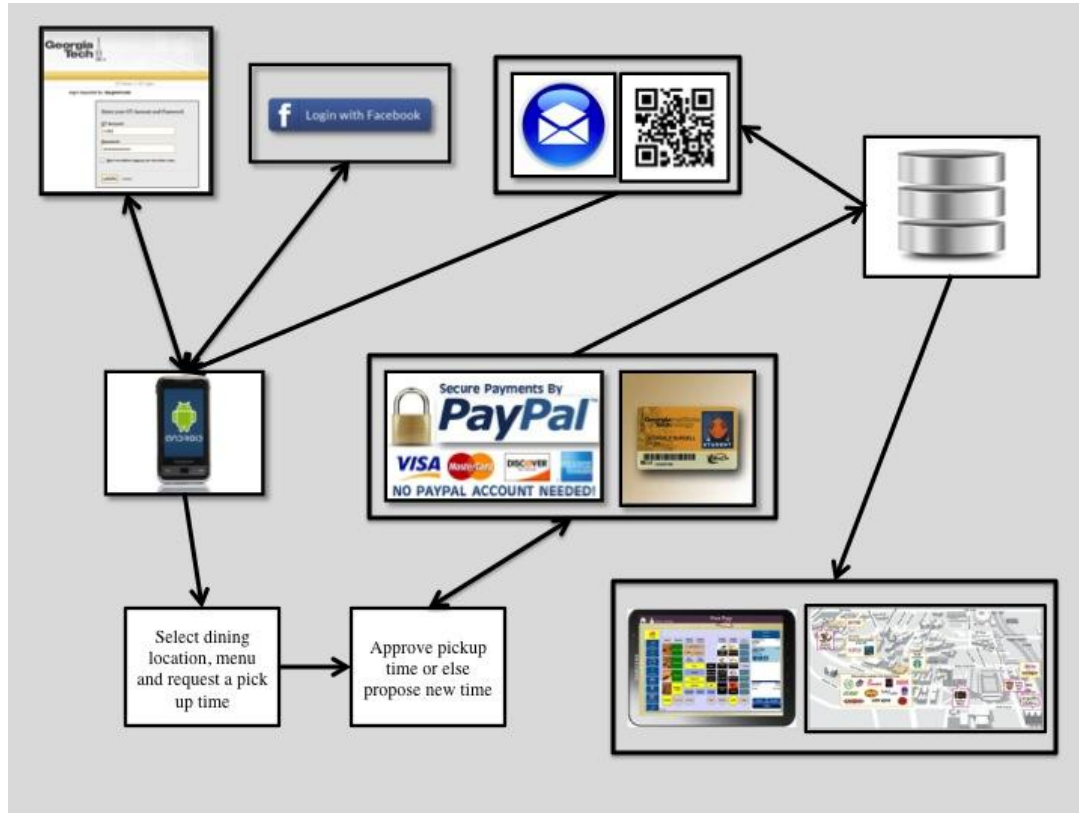
Design Approach/Method

- Android app for customer as well as vendor

- PHP for Backend Restful API calls

- MySQL database for storing information

- PayPal for payment

Functional Components

- Login Page
- Restaurants Page
- Menu Page
- Order Page
- Payment Page
- Confirmation Page
- Orders placed Page (for Vendor)

Pick-Up Time Algorithm

Based on the following information:

- Work day divided in time slots
- Resources restriction at restaurants
- Limit of servers/baristas/chef
- Food type adds to the limit
- Provide alternate time the same day

Cost Analysis

- Lowers the production cost and maximizes profit
- App is FREE for users and vendors
- Cuts down the cost of operating multiple cash registers
- Only added cost is in training and QR codes scanner

Demo

Limitations

- Currently only available for Android Smartphone users

- People with visual disability cannot use it

- Specific to Georgia Tech needs for now

3 Most Interesting Contributions

- Saves time by not waiting in lines

- Know instantly when you food is ready for pick-up

- Vendors can maximize profits and offer better service

What we learned / Bottlenecks

- Dependent on GT Dining and GT OIT

- Algorithm for food pick-up time is not always perfect

Lessons Learned - Success

- Creating an online shopping and payment system for the first time

- Learnt Android development

- Learnt PHP

- Understanding the complexity in Transaction Management

Lessons Learned - Failure

- Unable to implement some features due to dependencies on GT Dining and GT OIT

- Lack of Android Development knowledge forced to change strategies during implementation phase

Relevant concepts learnt in class

- Transaction Management

- Online Shopping

- Payments

Future Work

- Recommendation for customers based on his previous orders
- Trends for vendors regarding food items
- Deals and Coupons can be applied online
- Add Reviews about food and restaurants
- Support login through GT CAS and Facebook
- Support multiple forms of Payment
- Rewards Program Integration
- QR Code for Order Confirmation

Application across various Domains

- Call Centers

- Hospitals

- Factories

- Shops

- Offices

Questions

Thank You