



Course Assignment – 01: Waiter – on – Wheels (Team 8)

TABLE OF CONTENTS

1. [Background Information – Waiter on Wheels Delivery Service](#)
 - a. [Current Business Model](#)
 - b. [Problems faced](#)
 - c. [What our system does](#)
 - d. [Challenges addressed](#)
2. [Scope of the proposed system](#)
 - a. [In scope](#)
 - b. [Out of scope](#)
3. [System use case diagram](#)
4. [Functional Requirements](#)
 - a. [High Level](#)
 - i. [Actors list and actor description](#)
 - ii. [Packaging of use cases](#)
 - b. [Low level \(for each use case\)](#)
 - i. [Activity diagrams](#)
 - ii. [Class diagrams](#)
 - iii. [Screen designs](#)
5. [Non-Functional Requirements](#)
 - a. [System Architecture](#)
 - i. [Network diagram](#)
 - ii. [Hardware Specifications](#)
 - b. [System Performance Requirements \(Volume Tables\)](#)
 - c. [Security Requirements \(Security Tables\)](#)
 - d. [Reliability and Performance requirements](#)

Background Description:



Current Business Model:

John and June run a food delivery service called Waiter-on-Wheels. The primary function of the service is to take orders from the customers, places order at the restaurant and delivers it from the restaurant to the customer. The profit from the model is obtained by getting food orders from the restaurant at wholesale price but selling it to customer at Maximum Retail Price (MRP) which is higher than the wholesale price.

The system needs to support business expansion to include restaurants, customers and flexible pricing strategy. It also needs to support uploading of advertisements into website.

Problems faced:

1. John and June manually take orders from the customers and book the order to the restaurants.
2. W-o-W checks the status of delivery drivers whether they are free after delivery by calling them individually and manually.
3. Cash paid by customers is collected from delivery drivers at the end of the day and verified with the order bills, then deposited into W-o-W account by bank deposit slip.
4. Statements and cheques are sent to restaurants and Horse Power Agency at the end of every week after calculation from orders accumulated for the week.
5. It is very difficult to analyse demand of orders based on location, restaurant preference, etc. to negotiate advertising plans and new contracts.
6. John and June plan to expand business, but want to cut down human-to-human communication which creates inefficiency at larger volume.

What our system does:

Our system primarily focuses on automating the processes that involve communication between different business actors. The necessary communication between restaurants, delivery drivers, service, business development teams are all governed by the system.

The system also addresses the requirement to analyse the demand for restaurants, food items and the area of town with maximum consumption which is got by computing the past records of delivery.

The system also enables the business development team to add/modify/delete restaurant and food profiles, change advertisements/promotions on the website, etc. It integrates online website booking of food items by customers to the back end process of payment, placing an order at restaurant to delivery at customer's address.

Challenges addressed:

1. Automatic booking of orders by system through internet and scheduler communicates orders to relevant parties involved according to business logic.
2. Automatic update of delivery driver status into system and once drivers complete delivery, they are shown options for next order.

3. Online payment system and payment history database help in calculation of amount over specific time period. This also helps scheduler for auto debit of account to pay third parties.
4. During peak hour period, the extra delivery orders are sent to Horse Power agency through the system, where each individual will carry out a separate express delivery to such customers.
5. The weekly consumption trends by food category, area of town and restaurants are generated and produced to business development team for analyses.

Scope of the system:

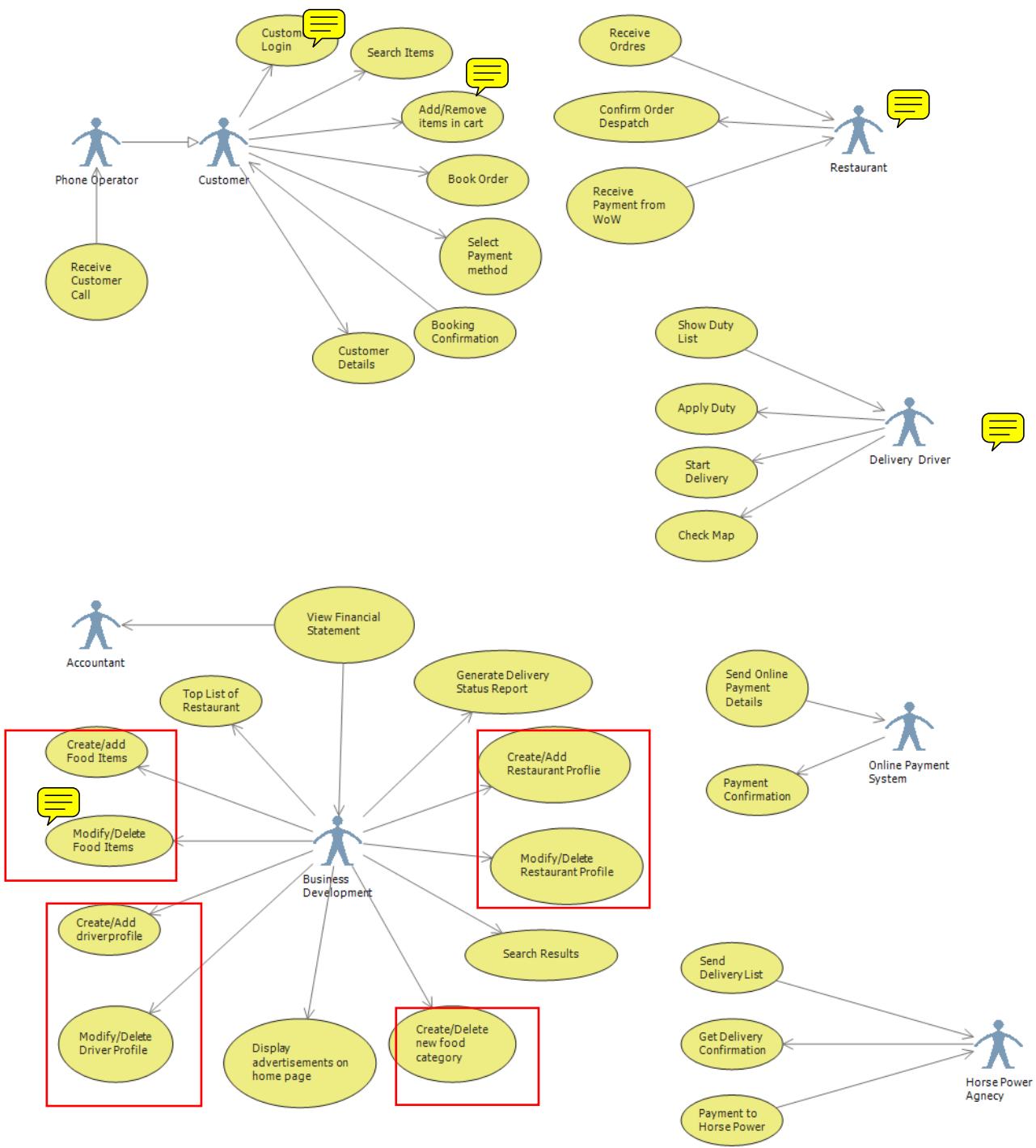
In Scope:

1. Customers making an enquiry through phone booking.
2. Customer booking orders for delivery through website.
3. Mode of payment for booking order
4. Mode of delivery – normal or express is detected by system and suggested to customer.
5. Requesting restaurants for orders for in time delivery.
6. Drivers' ability to communicate with the delivery system for next order
7. Confirmation of delivery by driver at restaurant and customer.
8. Generating monthly financial reports for accountant.
9. Generating weekly consumption statistics for business development.
10. Automatic immediate payment initiation and payment history stored at vendor end.
11. Tool to upload promotions on website homepage.
12. Add/modify/delete - Restaurant/Driver/Food Items profile.
13. Express delivery attracts additional charges and if express delivery is selected during peak hour demand, additional charges are reflected while customer makes order confirmation.

Out of Scope:

1. Decision for selecting next order done by drivers.
2. Allotment of Horse Power drivers – when peak demand and no sufficient supply of drivers from W-o-W.
3. Verification of delivery by Horse Power drivers to customers.
4. Online payment system to do payment for food items.
5. Entry of new food items and modifying existing items.
6. Verification of identity of customers at the time of delivery is done by delivery driver.
7. Pricing strategy of food items are not decided by system, the business development team can change the price of food items through Business Development Terminal. The price mentioned in the bill for each item is considered to include service charges.
8. Proper delivery by Horse Power delivery drivers is not responsibility of Waiter-on-wheels, which will mentioned in Terms & Conditions for booking through express delivery method.

System use case diagram:



Functional Requirement

High level

Actor list and actor description:

1. Customer



Customer can use online website or make phone to order meal. Firstly, there are several ways to help customer make decision: at the first page of website, customer can aware of our latest promotions which are illustrated at the top and rolling periodically, hot order meal, top restaurant, food categories and key words search. Future more, customers can use the advanced search to locate exactly they're looking for. Advanced Search include restaurant name, type of food, price range three key factors that demonstrate on our main page also. Secondly, customer can make order when customer choose food already and choose payment method. Last but not least, customer can check their order history for last 90 days and change their profile safety.

2. Accountant

Accountant has access to financial statements tab in the Business Development Screen to view financial statements. Apart from that, he/she will receive e-mail of monthly statements triggered by scheduler of the system.

3. Business Development (BD)

BD is the back office for the website. BD can manually manage (create ,edit and delete) the information of restaurants, food lists, categories and WOW Delivery Drivers. All the last information will illustrated on website automatically. At the same time, BD also can manage(create, edit, and delete) the promotion(offer) pictures which are demonstrated at the website main page. In a word, BD is the management department of WOW firm.

4. Horse Power Agency (HPA)

HPA is the third party of our business. The essential function of HPA is provide driver to deliver meal from our cooperative restaurant to customer. The HP driver is to carry only one

delivery order from a restaurant at one time. So he does not need to scan barcode and thus barcode is not printed for express delivery made by HP drivers.

5. Online Payment System

Online payment System provide two ways to help customer pay the bill. One is pay by cash, the other is pay online. Actually, when customer choose pay online, the system will transfer to the bank website.

6. WOW Delivery Driver

Each WOW delivery driver holds a mobile device which can help them choose the duty. This is noticed that the driver can only choose one duty to deliver. At the other hand, the mobile device can allow driver check all the details of duty, search map and scan QR code to double verify the identity of customer.

7. Restaurant

Restaurants in contract with W-o-W receive orders from the customer through website booking a few hours before delivery, prepare the food items and print bill for the customer and paste barcode on the food items. This is done to avoid misplacing of order items when delivery drivers take multiple orders from the restaurant for delivery. When delivery is done by Horse Power Agency, the barcode is not pasted on the food item by the restaurant.

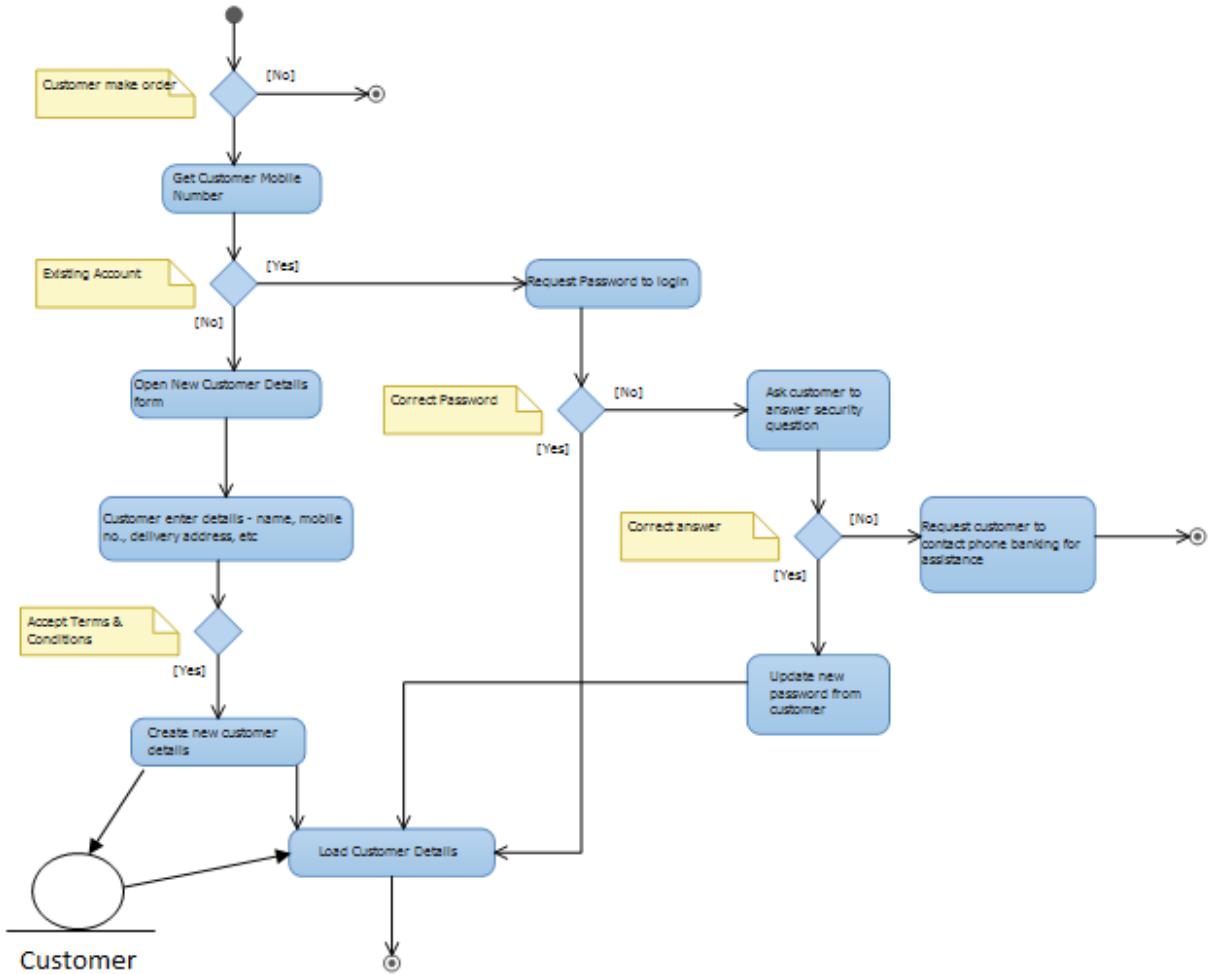
Package/Sub-Packages/Use cases:



The system use cases are packaged into different groups based on similarities in the nature of functions performed by them. They are broadly classified into enquiry, receive order, report, order, delivery, payment and maintenance.

Activity Diagrams

Use case #1: Customer Login

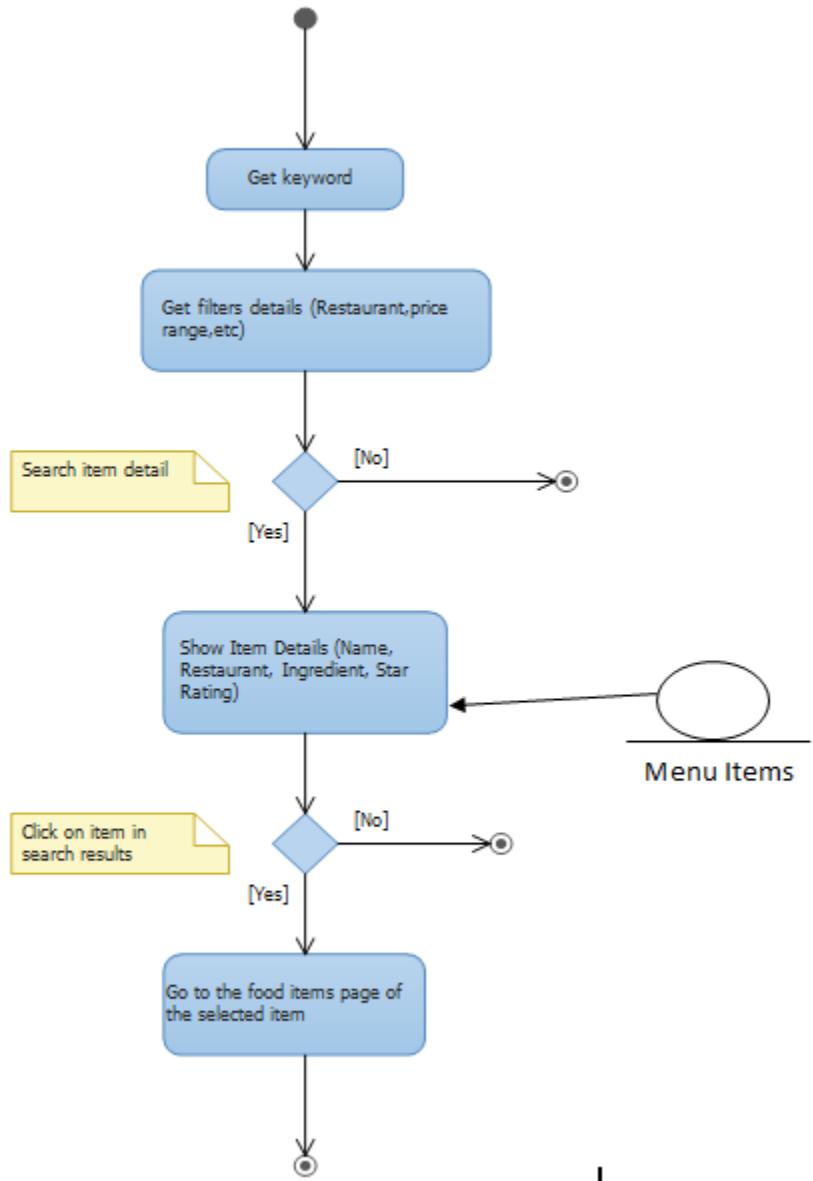


This use case is activated when customer logs into his account in the website.

Mobile number is used to authenticate customer identity during registration, by prompting customer to enter verification code sent to customer.

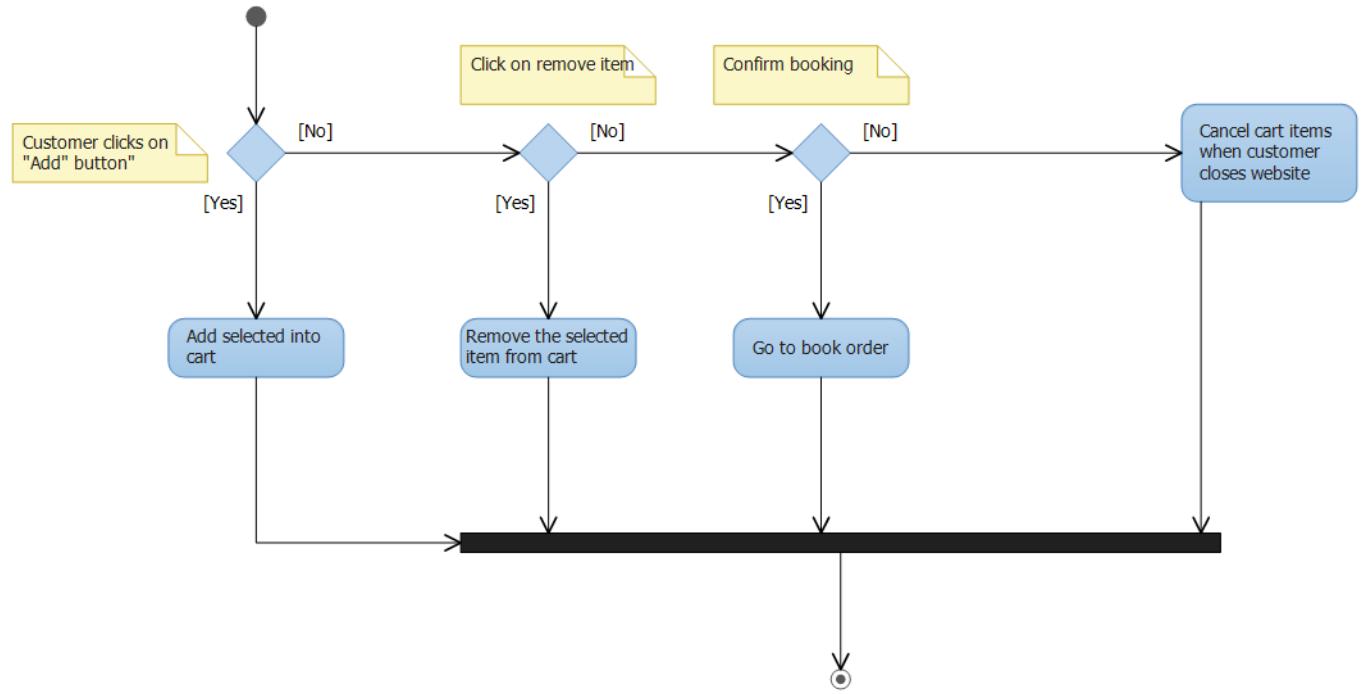
It also enables registered customers to login into website after verifying customer database stored at W-o-W. If customer forgets password or does wrong entry, it gives option to reveal password with security question. If customer fails to login after all these attempts, prompts customer to do booking through phone operator booking process.

Use Case #2: Search Items



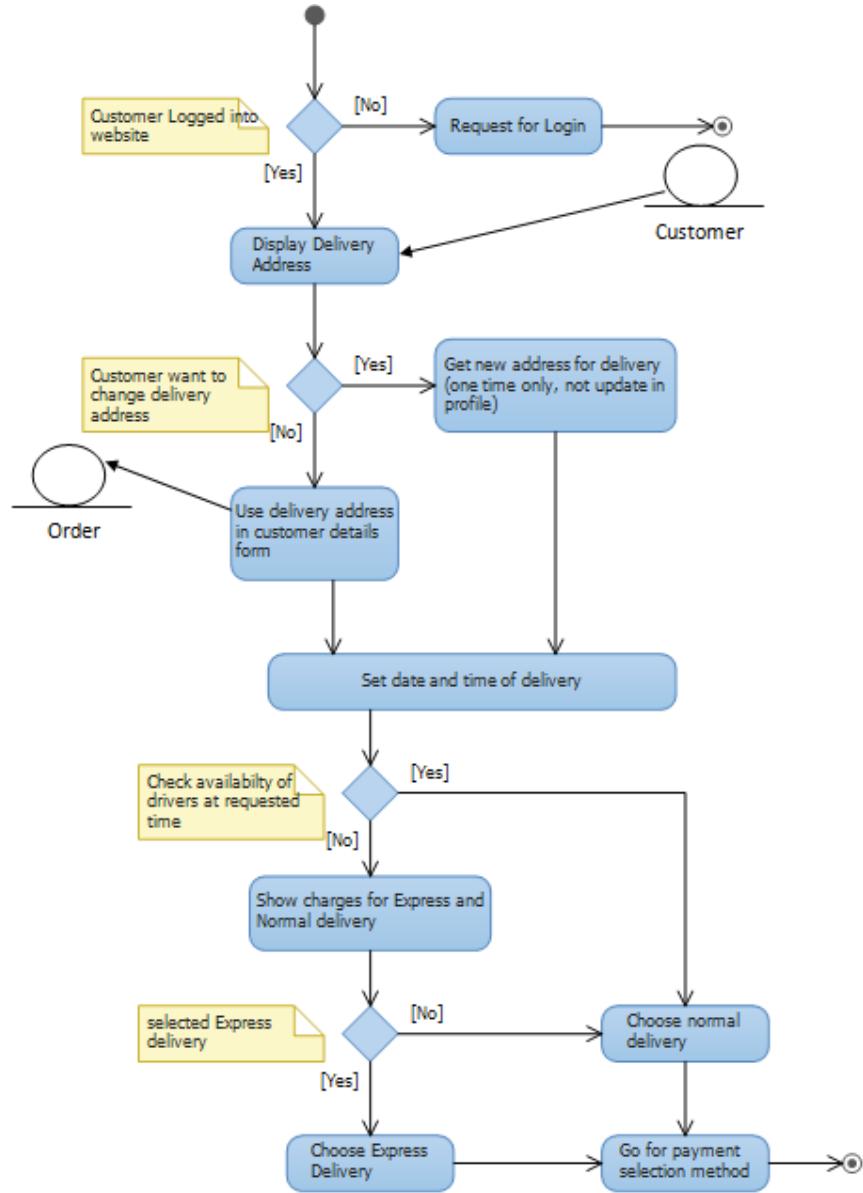
This section gets the keyword from the user and searches database for the matching keywords in food items and restaurants list. It returns the results of the search in the search results page of the website along with the links attached to each result, to enable user to open the page from the search results page directly. It includes filters for selection of price range, food category, preferred restaurant, etc.)

Use case #3: Add/Remove items in cart:



It helps to manage the items added into the website cart that is available once a user opens the website. If customer has not logged in, then he is prompted to login before making a payment confirmation.

Use case #4: Book Order



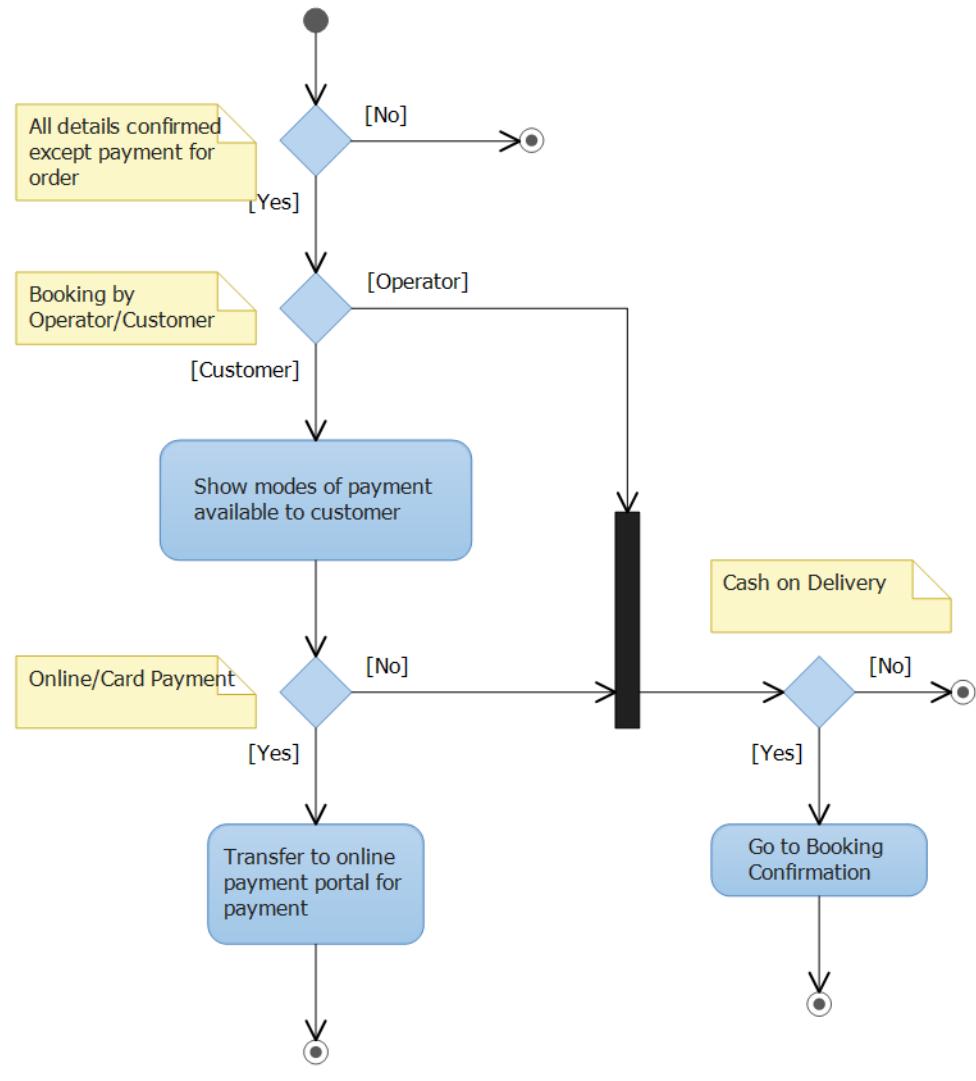
It triggers when customer is opting to pay for items in the cart (on website). It checks for customer ID and delivery address, if there is any change in the address, it gives customer an option to change the address one time and it will not update the address in the customer profile information.

When the delivery time is selected by customer, it prompts customer for express delivery or normal delivery depending on the peak period and availability of drivers in the delivery time opted.

If in house drivers are not available, only then customer is prompted for choice of delivery.

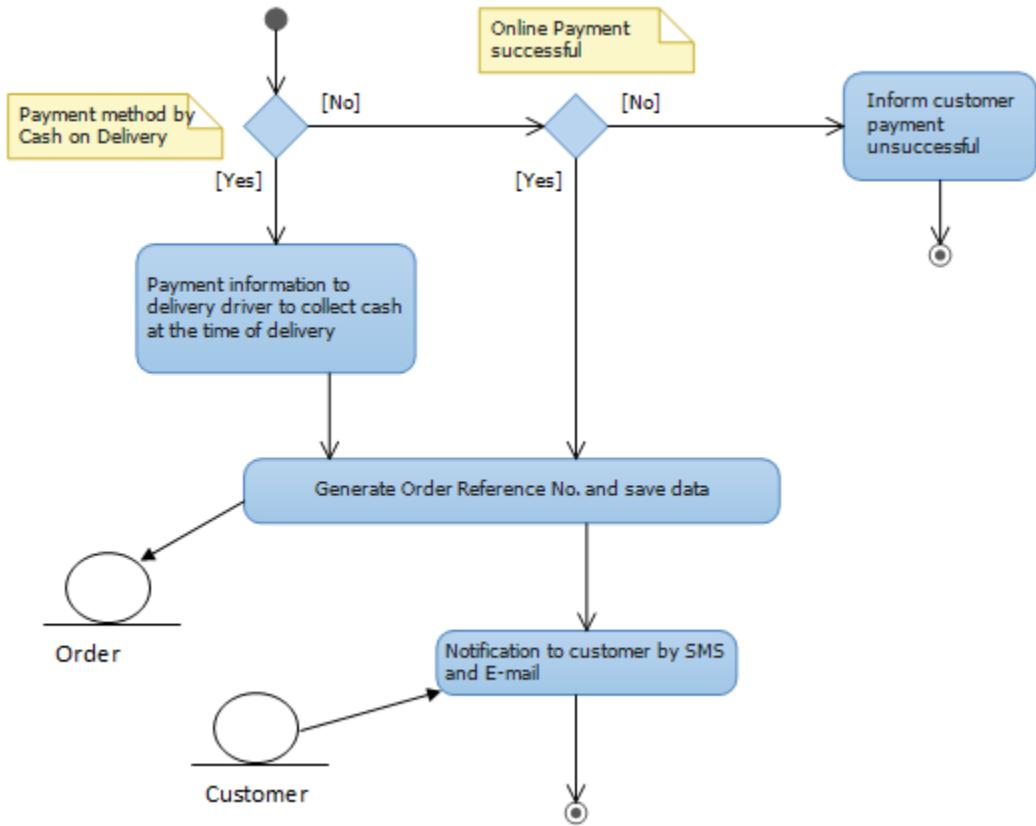
Based on the customer preferences on mode of delivery, the amount to be paid will be calculated and the website will go the payment method page for confirmation. Service charges for express delivery are based on amount to be paid for Horse Power for such deliveries.

Use Case #5: Select Payment Method



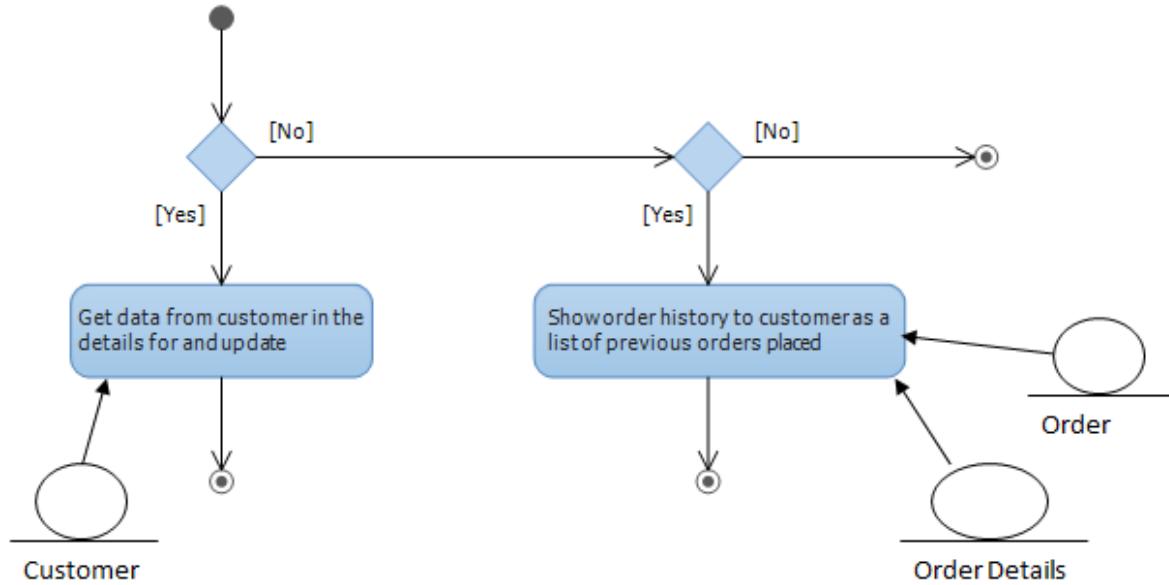
This use case is triggered when the user confirms the items to book for order (through the cart), it gets user's preferred mode of delivery and according to preference, transfer to online payment portal if it is selected by customer. If cash on delivery is selected, it confirms booking of order.

Use case #6: Booking Confirmation



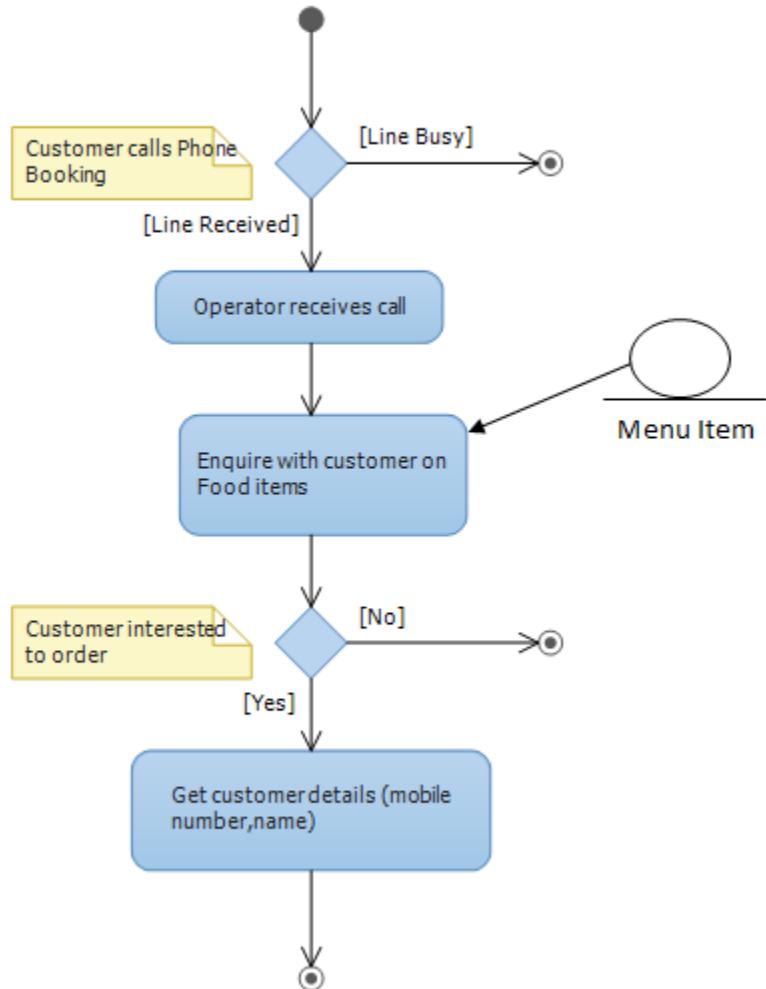
After booking of order is initiated delivery address confirmed and mode of delivery selected, the method of payment is selected by customer here. Once the payment selection is done, order reference number is generated for the order and is saved in the database. It sends SMS/E-mail notification to customer upon confirmation.

Use case #7: Customer Details



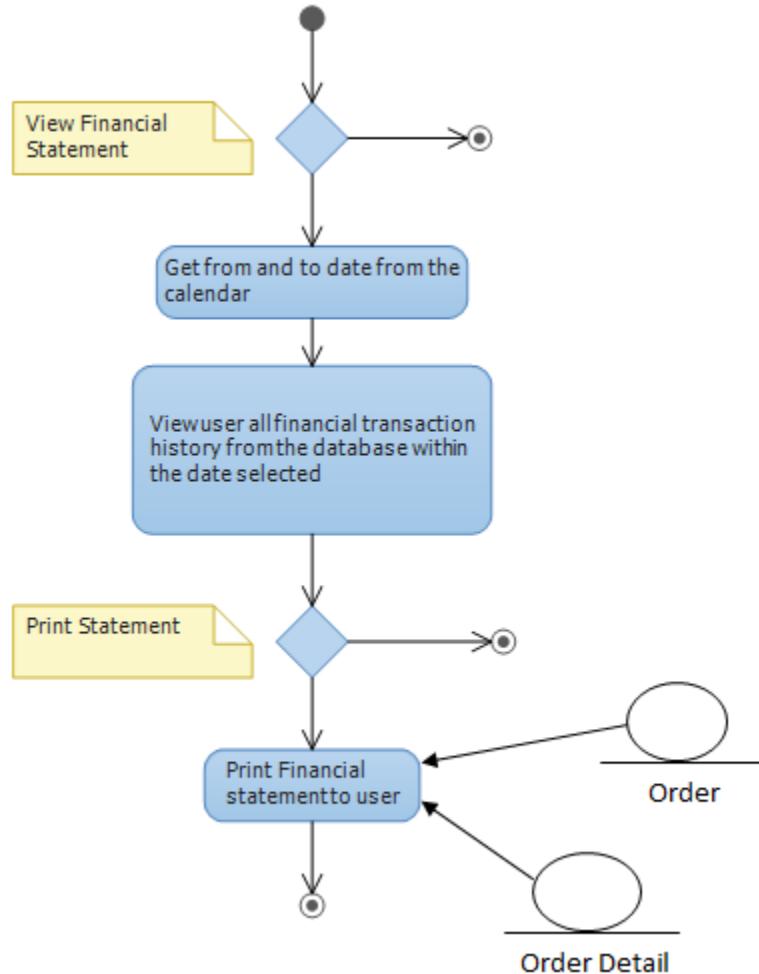
After login by customer into website, he can update his mobile number for SMS notification and the default delivery address in his account information. He can also view the order history which is stored up to 90 days in the database.

Use case #8: Receive Customer Call



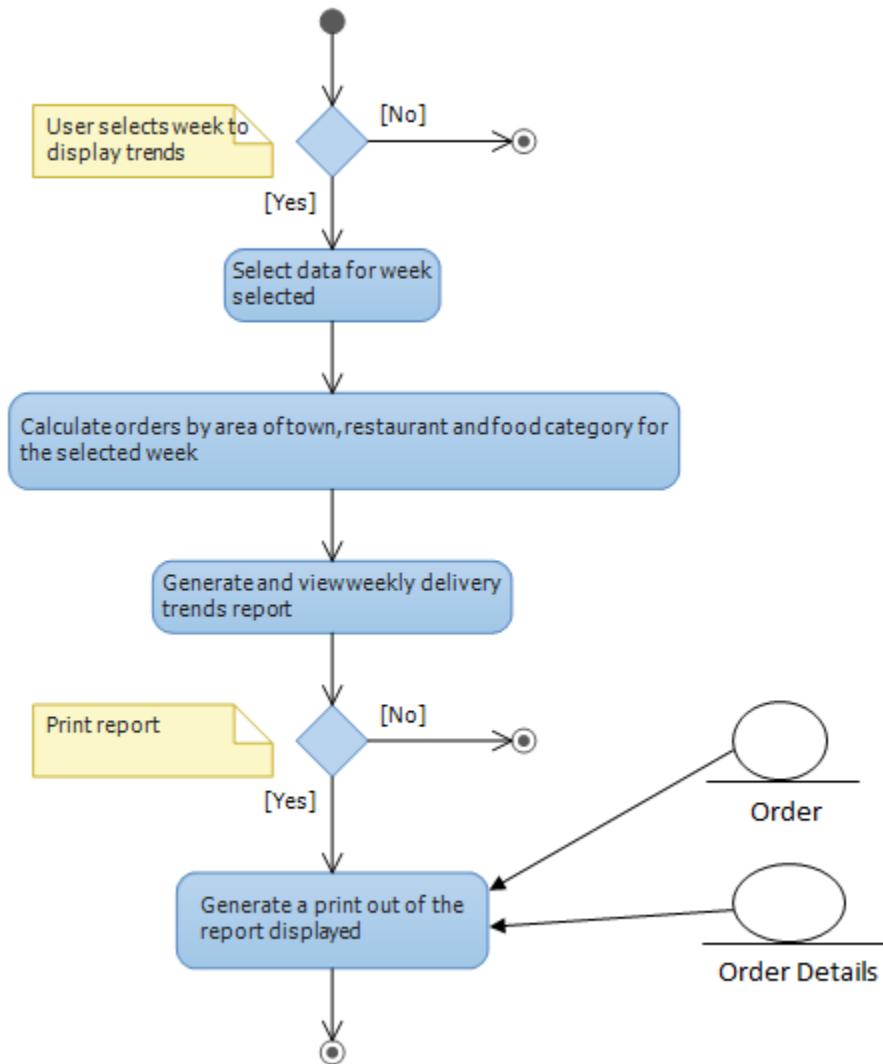
Phone Booking Operator receives call from the customer who are not able to book online and from customers who forgot password and security question, to do quick booking online. The phone operator enters customer's user ID but his ID as password and makes booking in the same way as customer does online.

Use Case #9:View Financial Statement



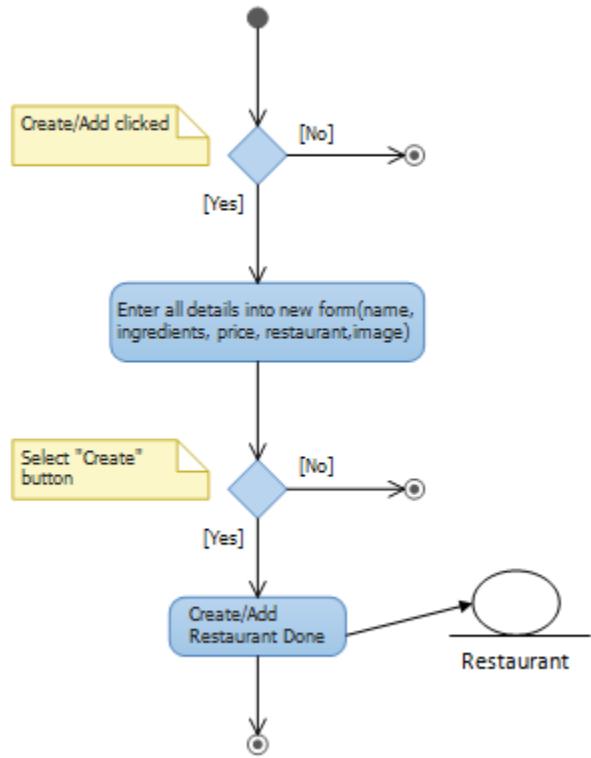
This enables the user to view all financial transactions with the W-o-W bank account. It takes in the date range to be displayed and shows the transaction history for the selected window. It also gives the user an option to take a printout of the statement for reference.

Use Case #10: Generate Delivery Statistics Report



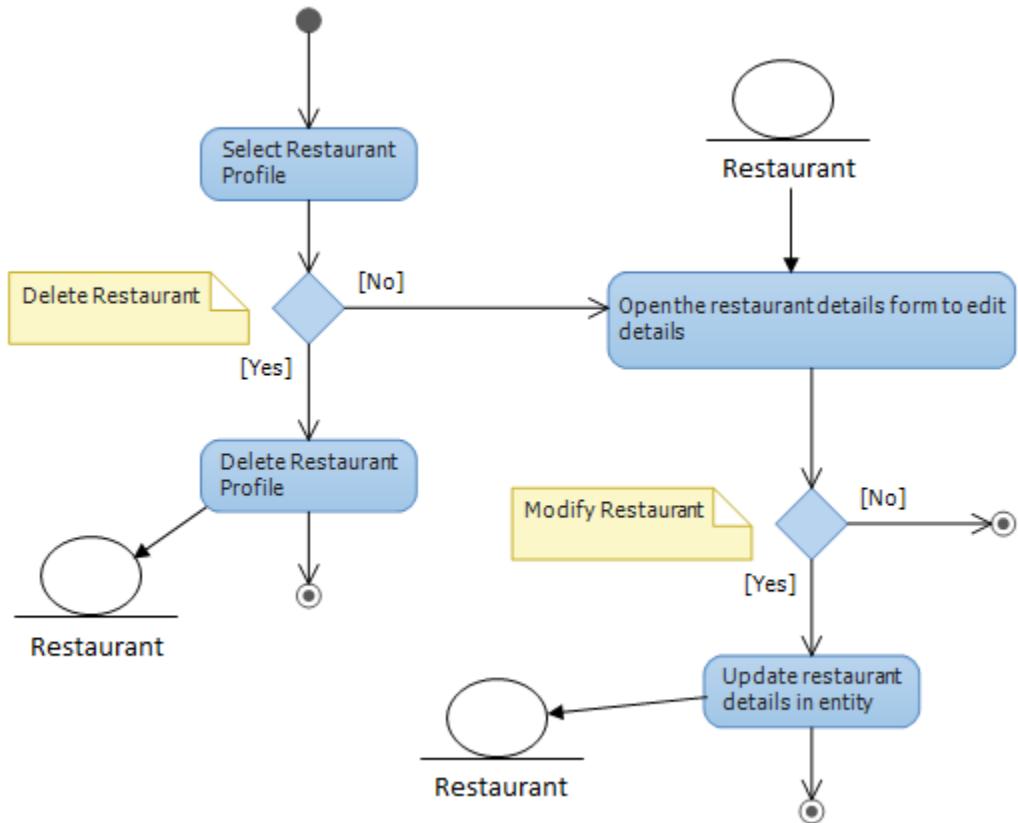
This use case enables BD Team to analyse daily trends of the sales by area of region, restaurants or food category consumed for each week, to enable them make smarter decisions. It enables them to print the report of these trends.

Use Case #11: Create/Add Restaurant Profile



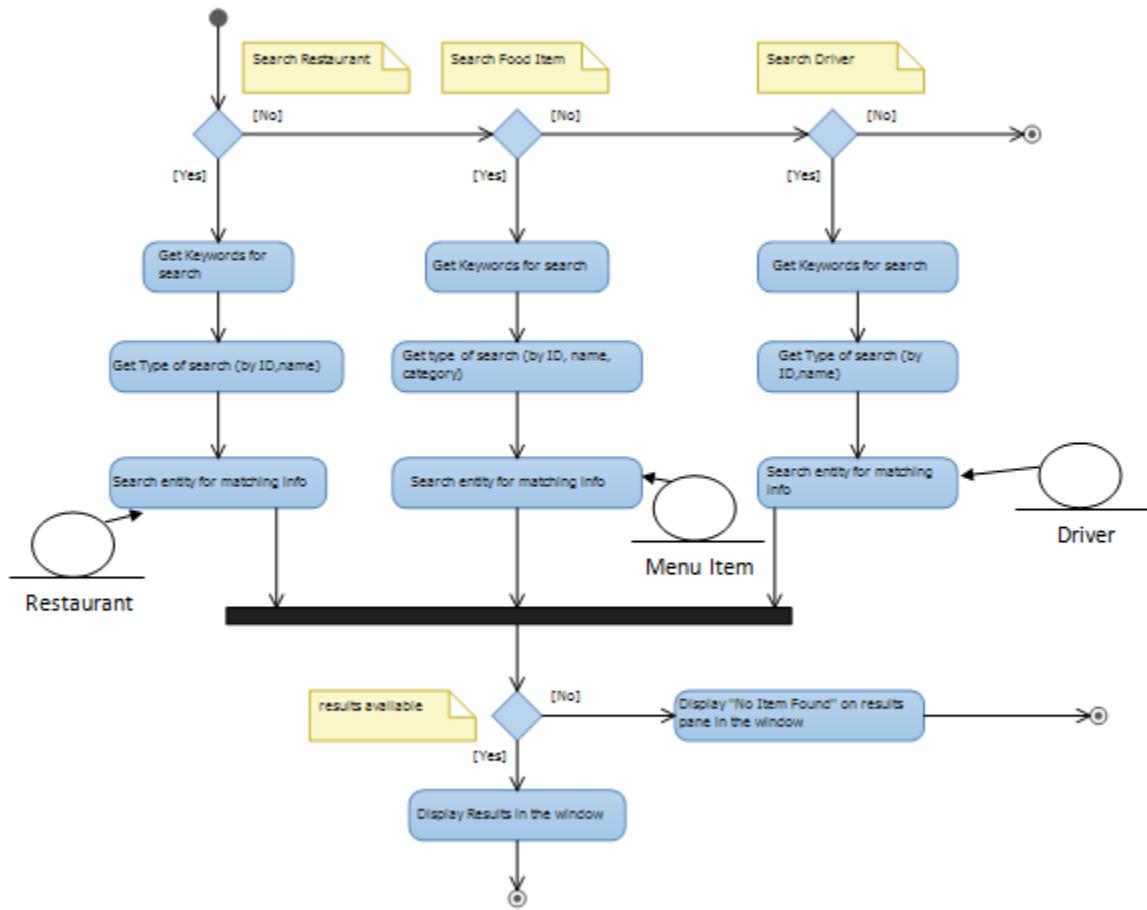
This use case enables the BD Team to create a new restaurant profile into database. Food items cannot be created for a restaurant unless a new profile is created. When a restaurant is added, location is updated in the map database. Once, a new restaurant is created, profile is added in the restaurant database.

Use Case #12: Modify/Delete Restaurant Profile



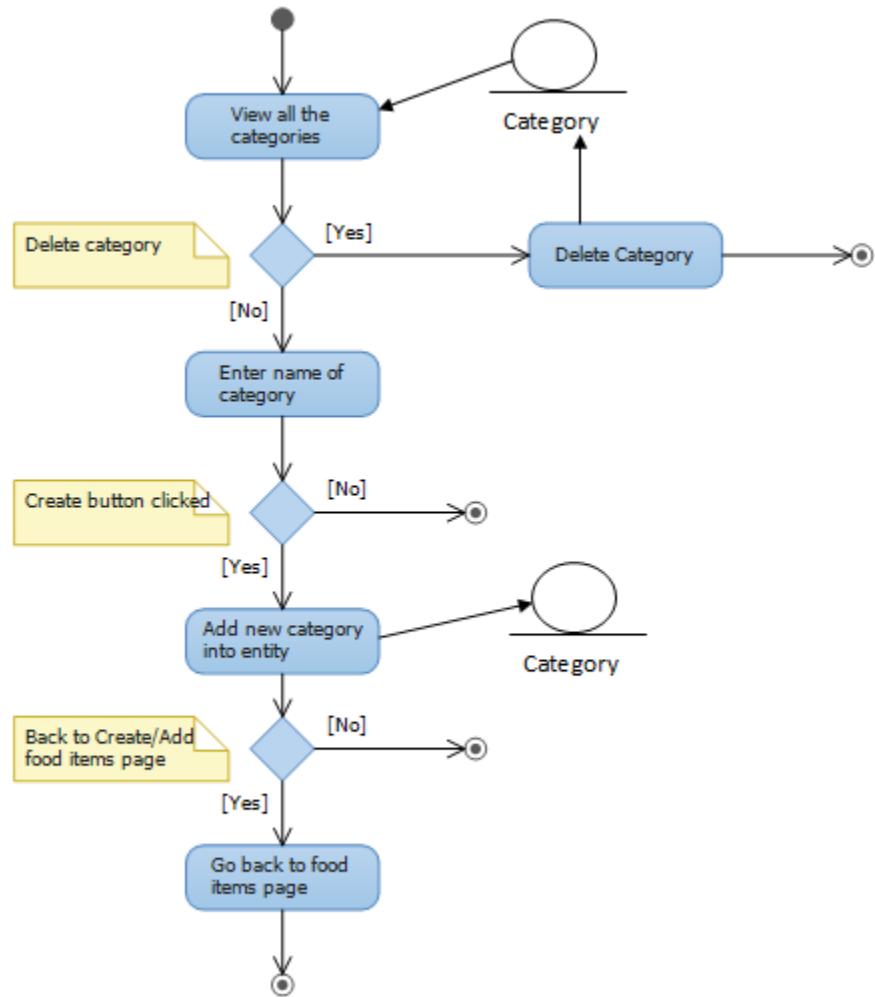
This use case enables the BD Team to modify/ delete the existing restaurant profile from database. The business development team selects the restaurant profile from the list displayed. To delete the profile, the user opens the restaurant profile and delete. The user can delete the restaurant profile only if there are no food items in the restaurant profile.

Use Case #13: Search Results



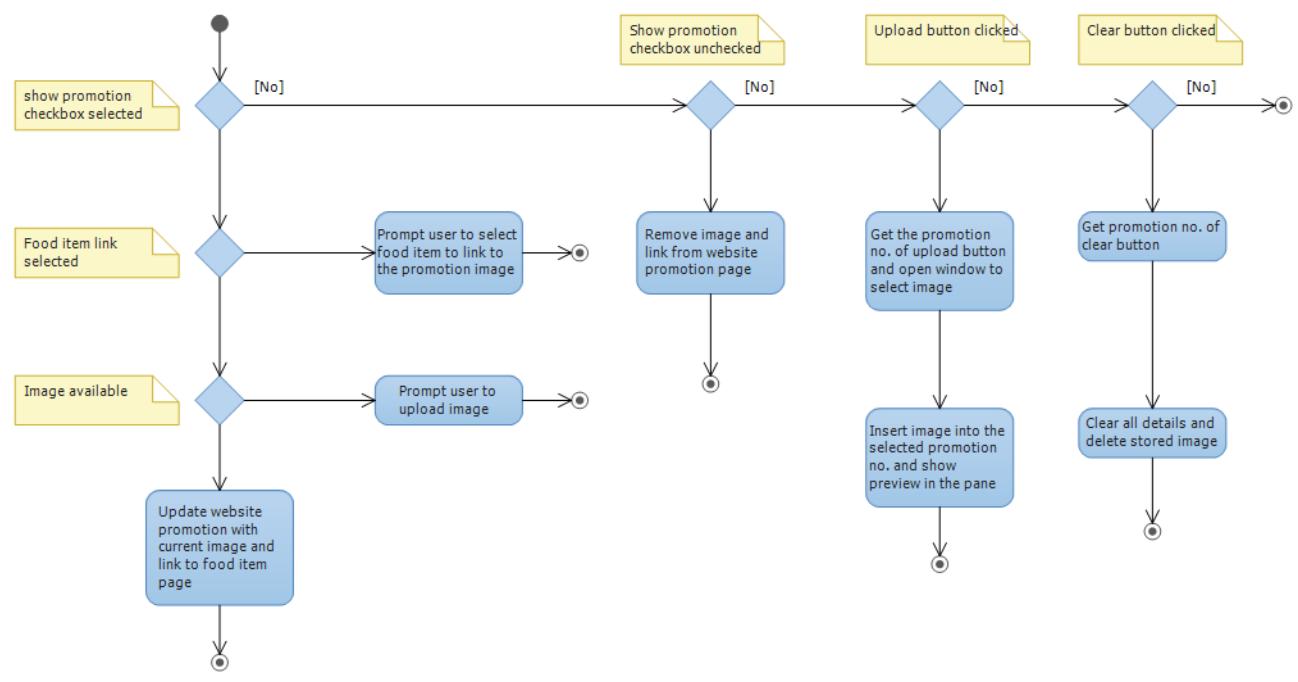
This is a common use case for business development team to search keywords of food items, restaurants, drivers and food category. The search results are displayed in the result window. If no result is found, then display “No Item found” in the search results window.

Use Case #14: Create/Delete New Food Category



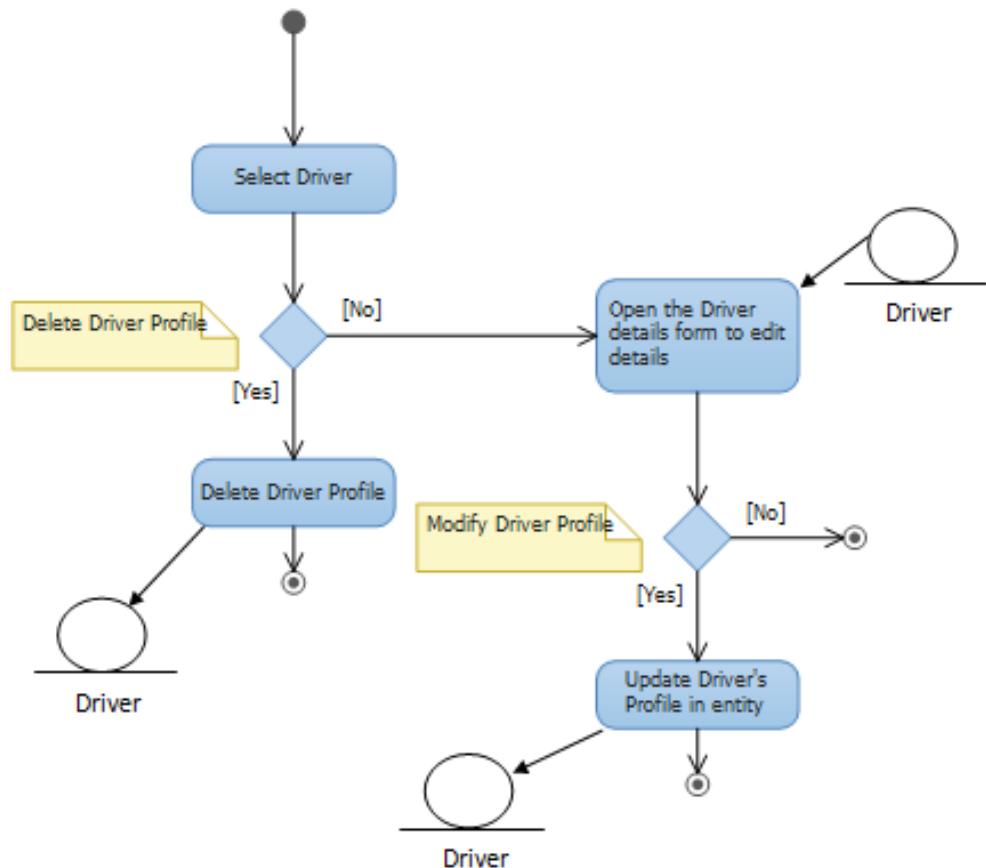
This use case enables user to create a new food category or delete an existing one from the database or create a new category. When food category is deleted, it does not delete the food item associated with it. It simply stores those food items with "No Category Allotted".

Use Case #15: Display advertisements on home page



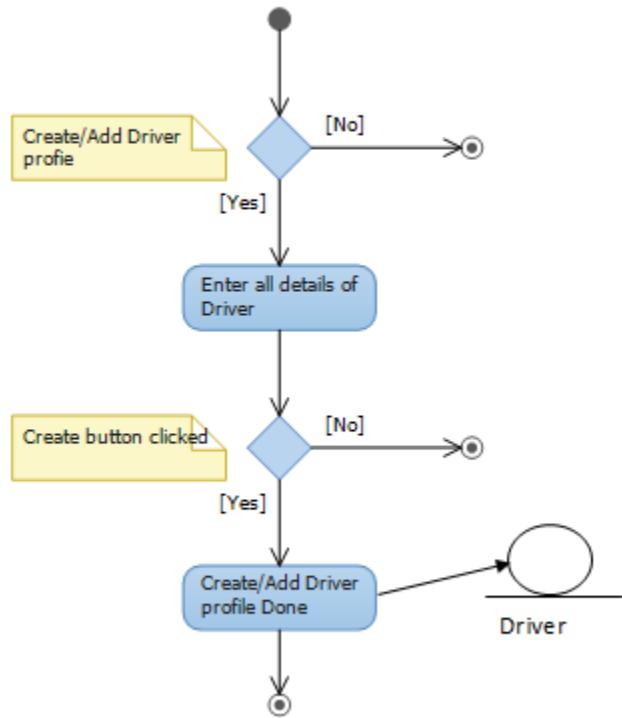
This use case enables BD Team to automatically upload the promotion images into the website such as advertisements of new food items, new combo meals, etc. without getting into website building technicalities. It shows preview of the image and gets the associated link with image which loads the food items page on the website.

Use Case #16: Modify/Delete Driver Profile



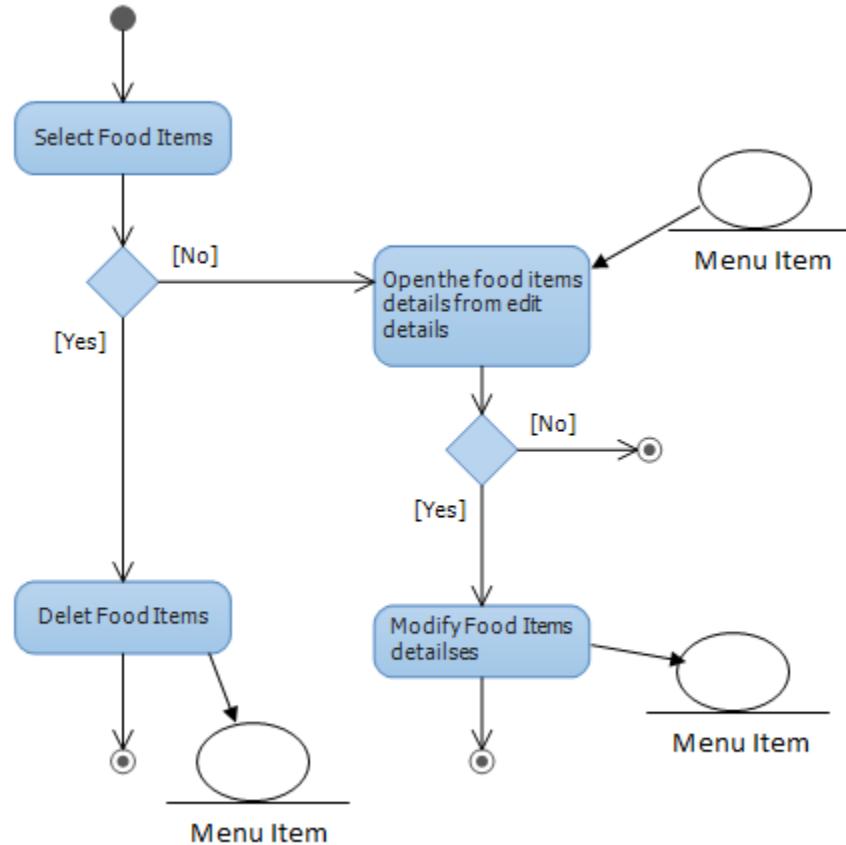
This use case enables the BD Team to modify the details of existing driver such as address and also to delete an existing driver profile from the database.

Use Case #17: Create/Add Driver Profile



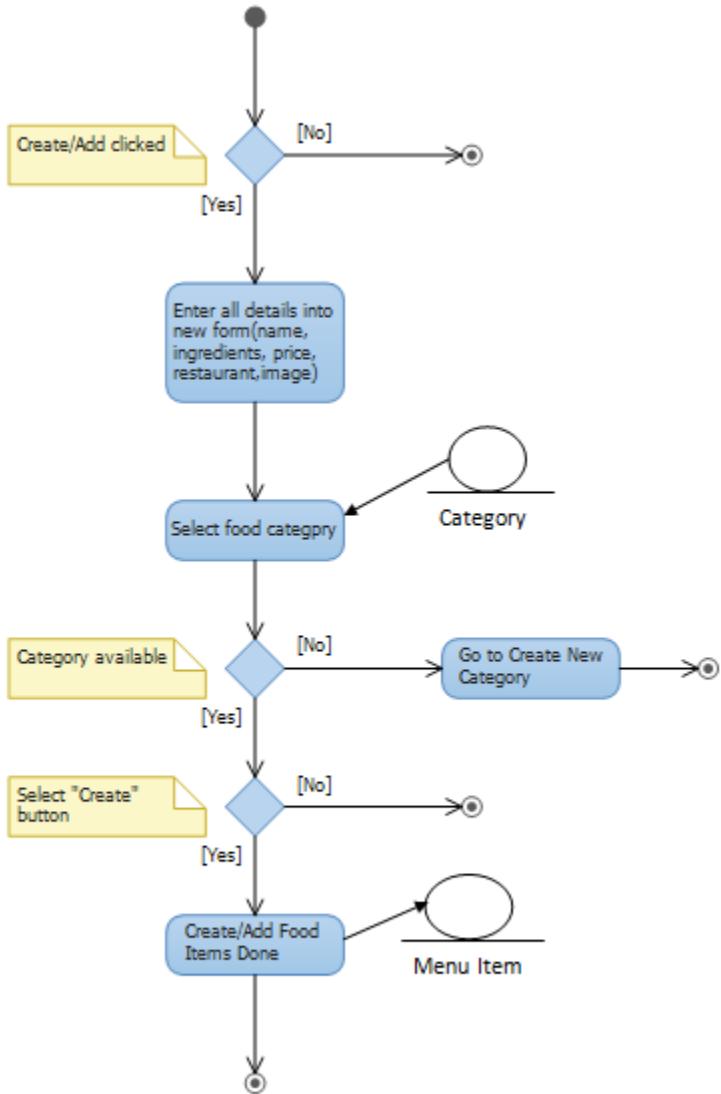
This use case enables the BD Team to add a new driver profile as new drivers enrol into work. The mobile given to each driver will be linked only if Driver ID is created in the system.

Use Case #18: Modify/Delete Food Item



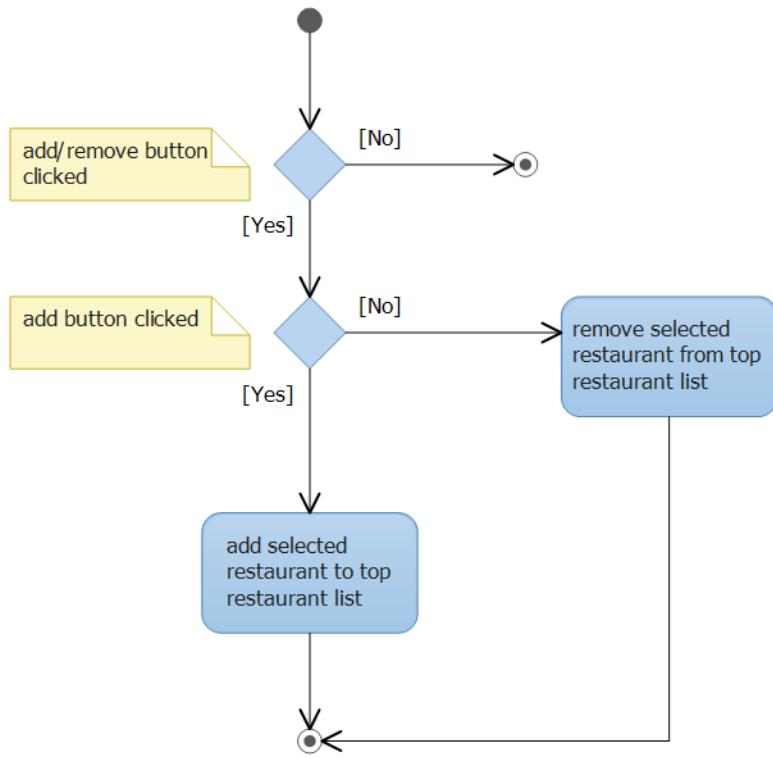
This use case enables user to modify existing food items details in the database such as change price, food category, etc. If food item is selected, user has an option to edit as well as delete food item.

Use Case #19: Create/Add Food Item



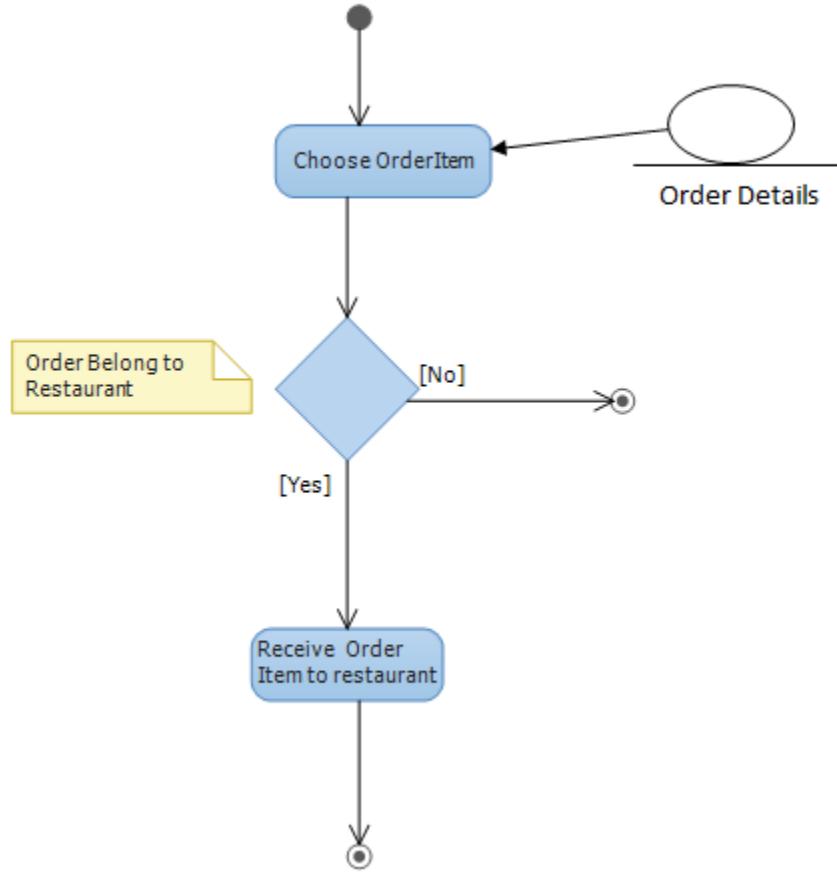
This use case helps to create a new food item into database after all details are entered and food category and restaurant are selected.

Use Case #20: Top List of Restaurant



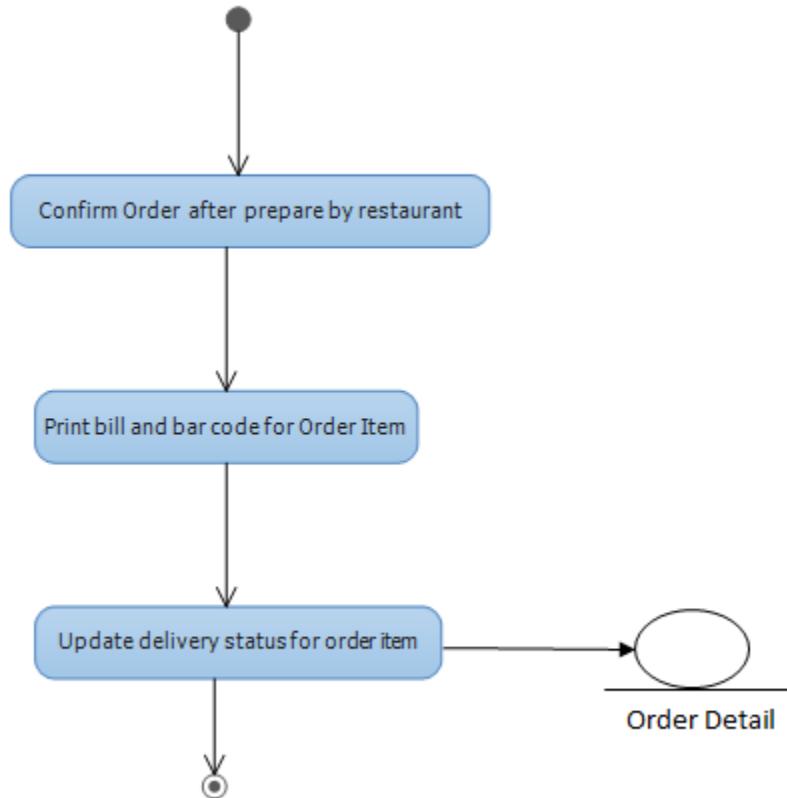
BD team has the option to promote particular restaurants depending on their sales. Thus, this use case enables them to highlight particular favourite restaurants on the website homepage with the help of this tool. This option is used by the business development team to promote particular restaurants at the time of making contracts, provide promotion, etc. When the restaurant is selected, it is redirected to search results page on website showing all items for that particular restaurant.

Use Case #21: Receive Order



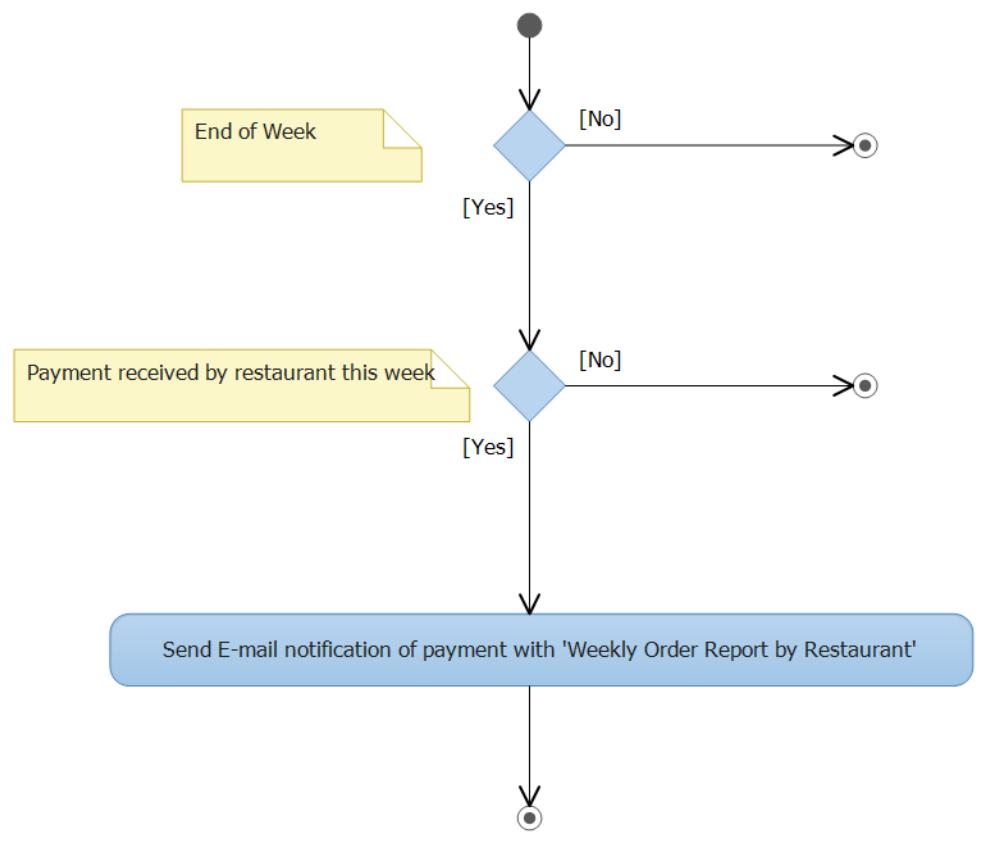
Restaurant has a temporary list to display all orders done by restaurant on that day. The orders after booking is stored in scheduler and is sent to the relevant restaurant's order list for making delivery. The list is sorted by latest delivery time.

Use Case #22: Confirm Order Despatch



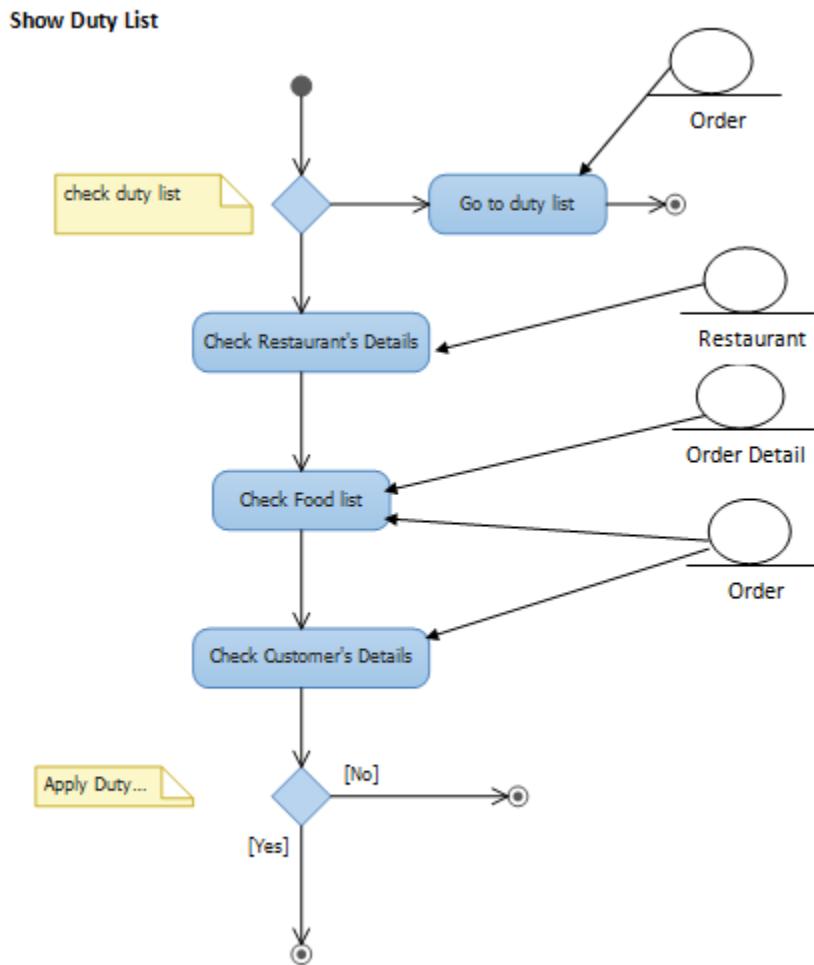
The Restaurant has a temporary list of all orders for delivery for the day. At the time of delivery from restaurant, the bill and bar code are printed for order item and the delivery status is updated and confirmation is done at W-o-W.

Use Case #23: Receive Payment from WOW



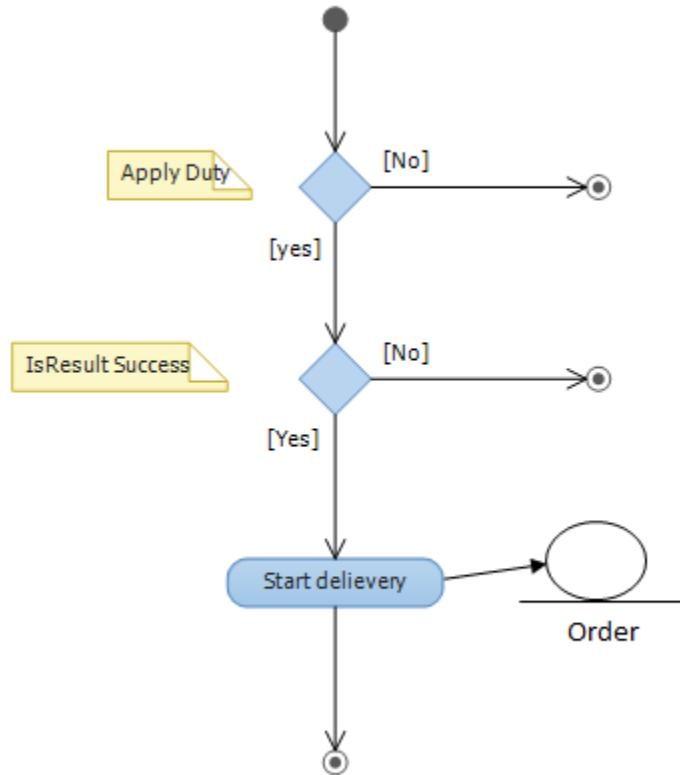
Restaurant received the order payment bill from wow every end of week for all orders made in the week. Scheduler automatically connects the account with online payment system for payment. Payment history is shown in the restaurant payment history page.

Use Case #24: Show Duty List



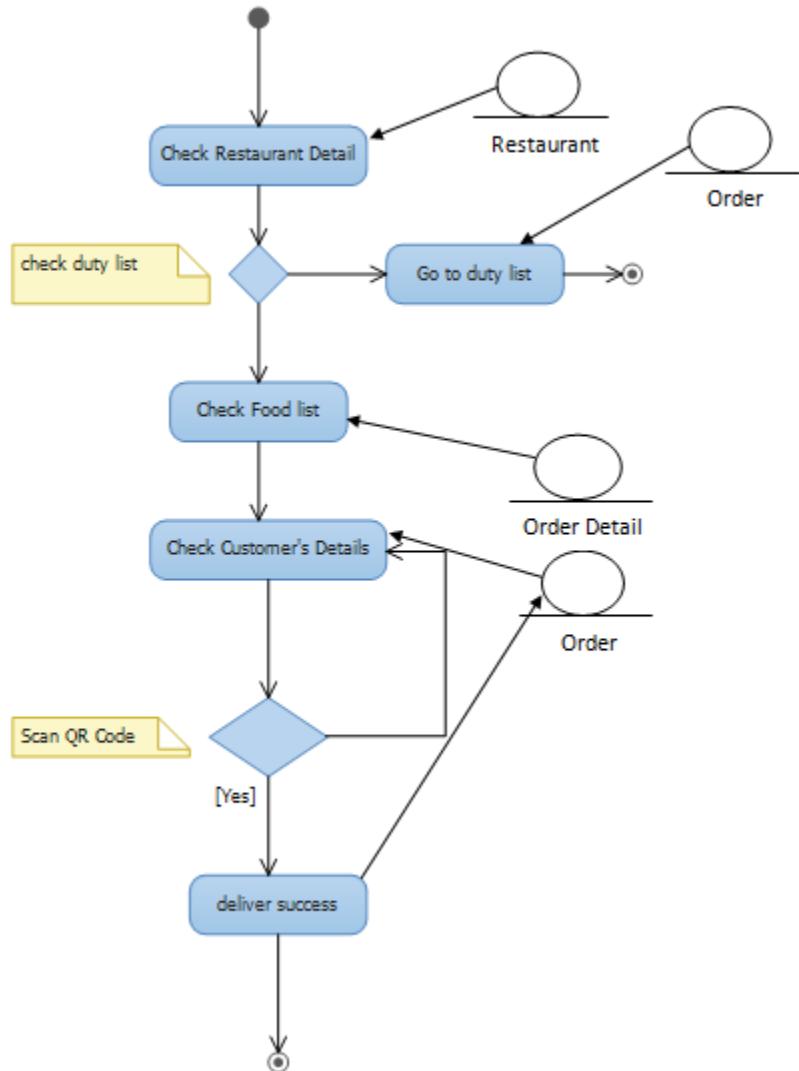
The system displayed the detail order information and driver could apply the duty. First, the home page opens and the duty list shows the restaurants from which driver can select orders in the restaurant. Orders are displayed for the day and are updated every one hour cycle.

Use Case #25: Apply Duty



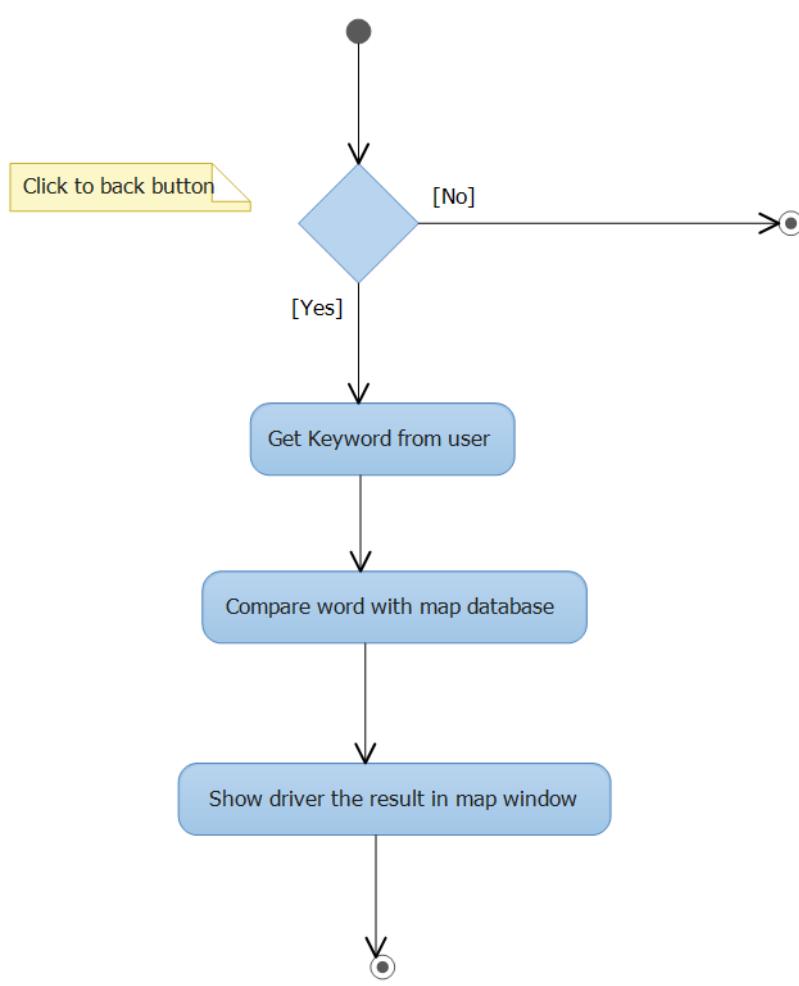
The delivery driver applied the duty. When the application was successful, driver started delivery process. Driver selects the order from the myduty list and once, order is fulfilled he can make confirmation of delivery.

Use Case #26: Start Delivery



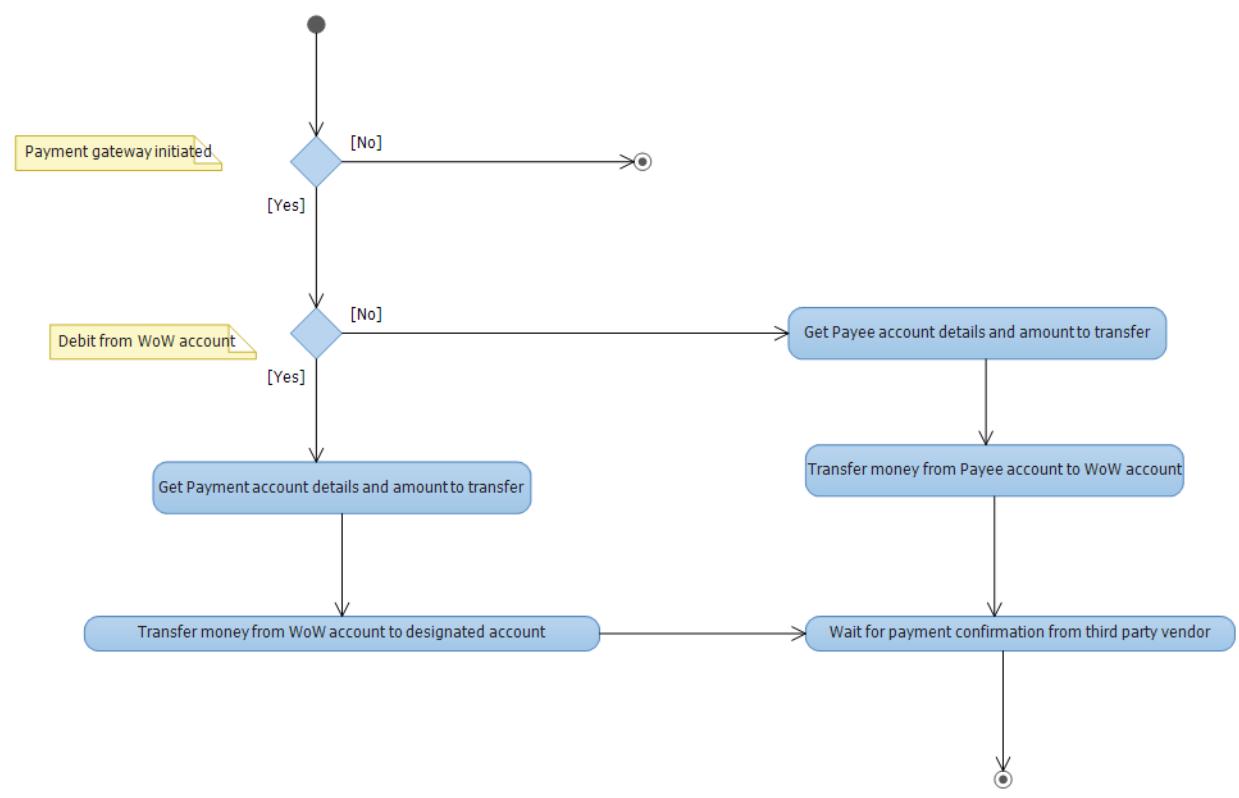
Once, the delivery driver makes a delivery to customer, he manually checks the customer identity and then scan the barcode on the food item if it is normal delivery made by in house drivers. The food items are verified with the database and if all items are confirmed, then it shows apply successful and removes the order from myduty list of the driver.

Use Case #27: Check Map



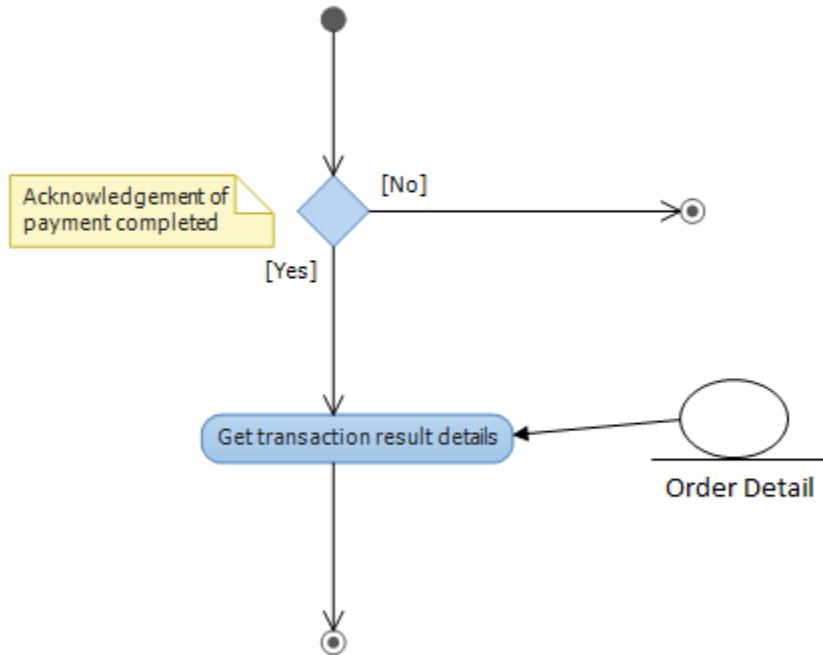
The delivery driver can access map to see the location of restaurants, etc. which are stored in map database. It can be accessed by drivers through their mobile device at any point of time.

Use Case #28: Send Online Payment Detail



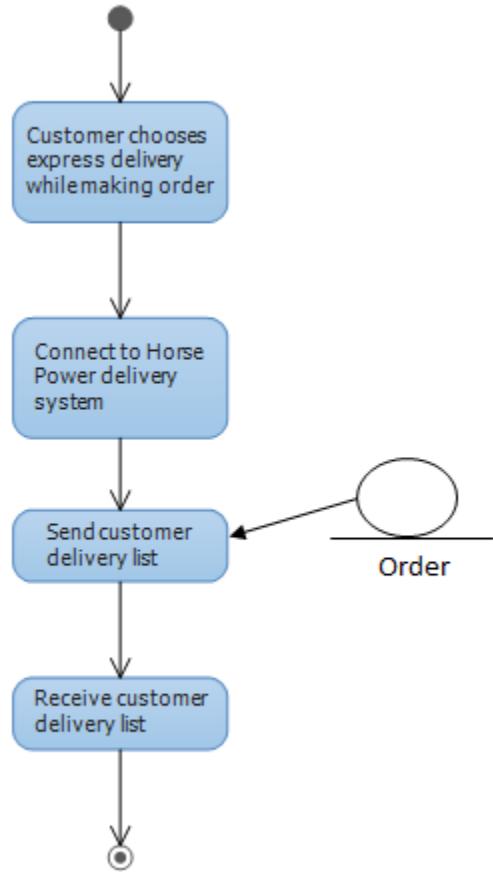
The System got the detail information of payment process and then transferred money to designated account. This use case is a general use case that can be used by W-o-W system to schedule regular payment to restaurants, Horse Power agency on particular basis.

Use case #29: Payment Confirmation



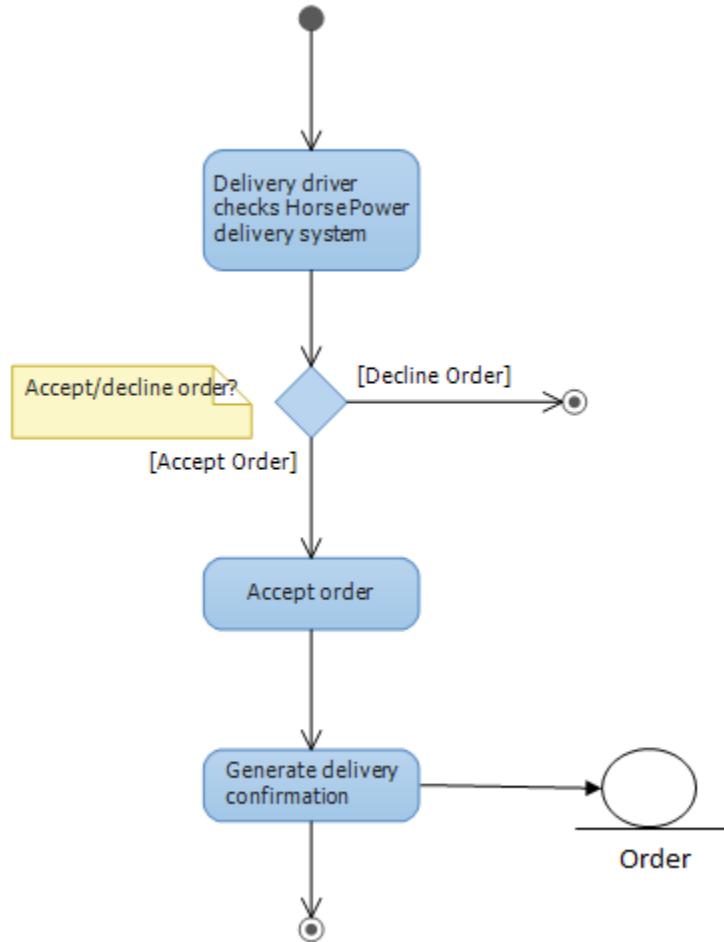
Online payment system acknowledges transaction status and after confirmation of payment to the vendor, the confirmation status is sent to the system. After confirmation, in case of online payment, the process is transferred to placing order at the restaurant end.

Use Case #30: Send Delivery List



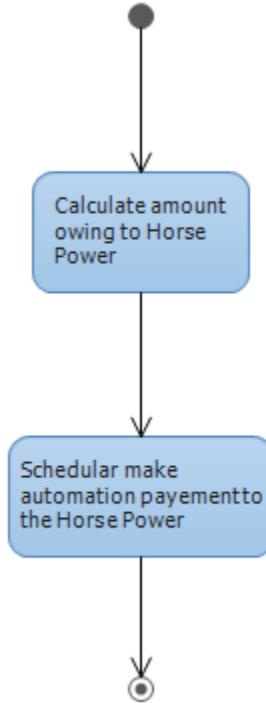
The System sent the detail order information to Horse Power Agency a few hours before delivery if the orders are express delivery. Horse power driver can take only one order from restaurant to one customer, so the need to scan food items before delivery is not needed. Hence in case of express delivery, the restaurant need not print barcode.

Use Case #31: Get Delivery Confirmation



Horse Power Agency confirms delivery by HP delivery drivers in case of express delivery and confirms the W-o-W system by this use case. Once they select confirm delivery, the system will update the status of order as delivered. Here verification of delivery is done by the agency and the W-o-W system and the company has no role played in it.

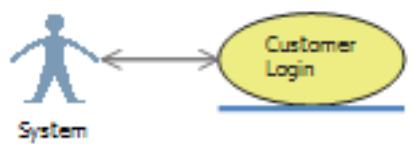
Use Case #32: Payment to Horse Power



Calculate the amount to be paid for express delivery service provided by the Horse Power agency and the scheduler in the system will make automatic payment to the Horse Power agency and updates the transaction in payment history database.

Class Diagrams:

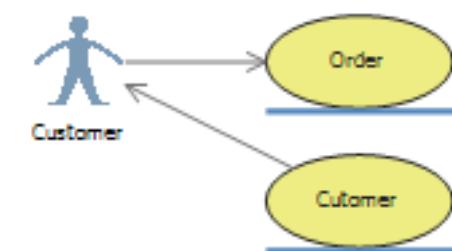
Customer Login



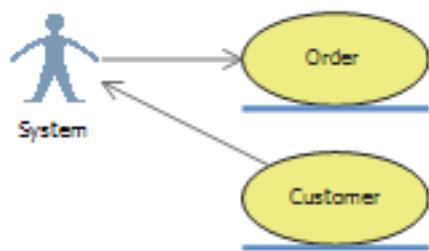
Search items



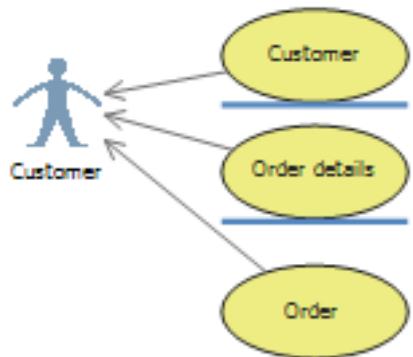
Book order:



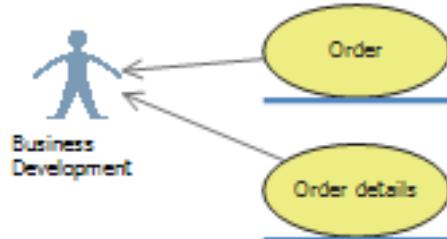
Booking confirmation:



Customer details



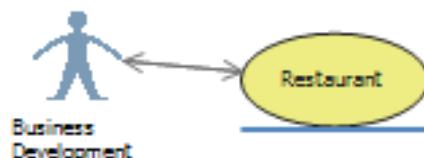
Generate delivery statistics report



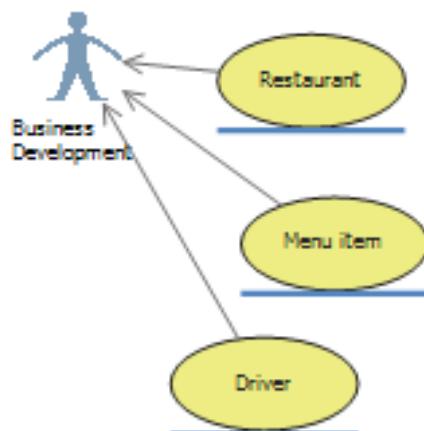
Create/add restaurant profile:



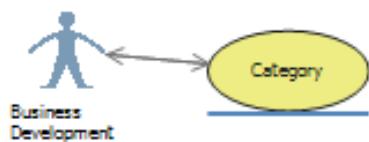
Modify/delete restaurant profile:



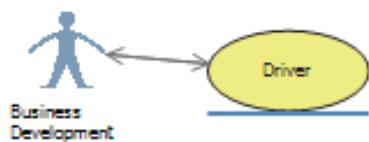
Search results:



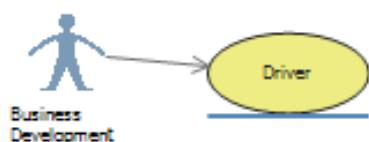
Create/delete new food category:



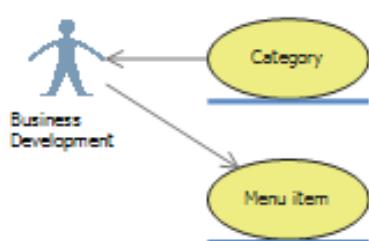
Modify/delete driver profile



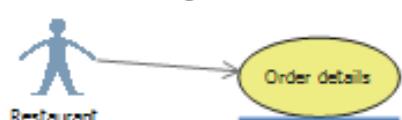
Create/edit driver profile:



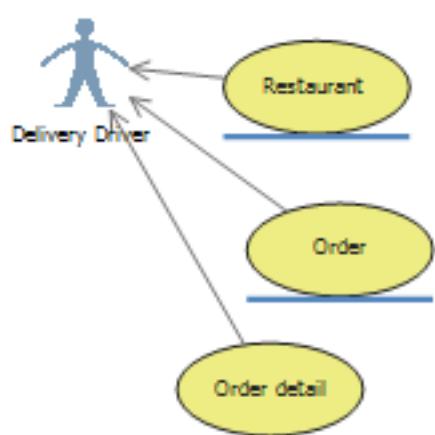
Create/add food item:



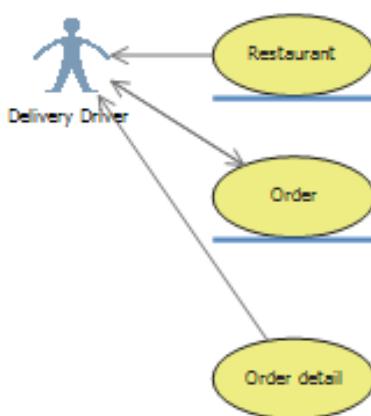
Confirm order dispatch:



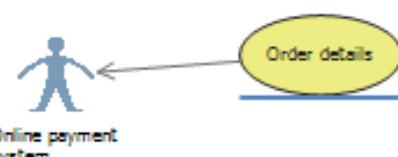
Show duty list:



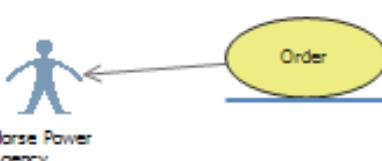
Start Delivery



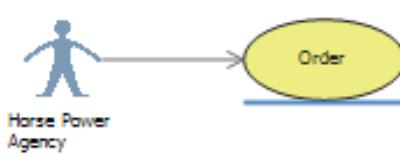
Payment confirmation



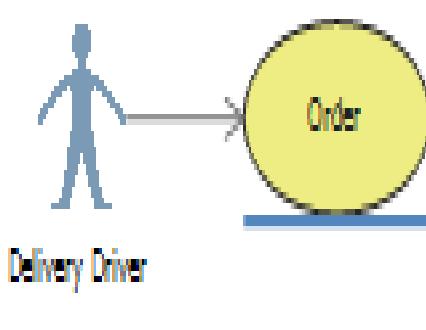
Send Delivery List



Get Delivery Confirmation



Apply duty:

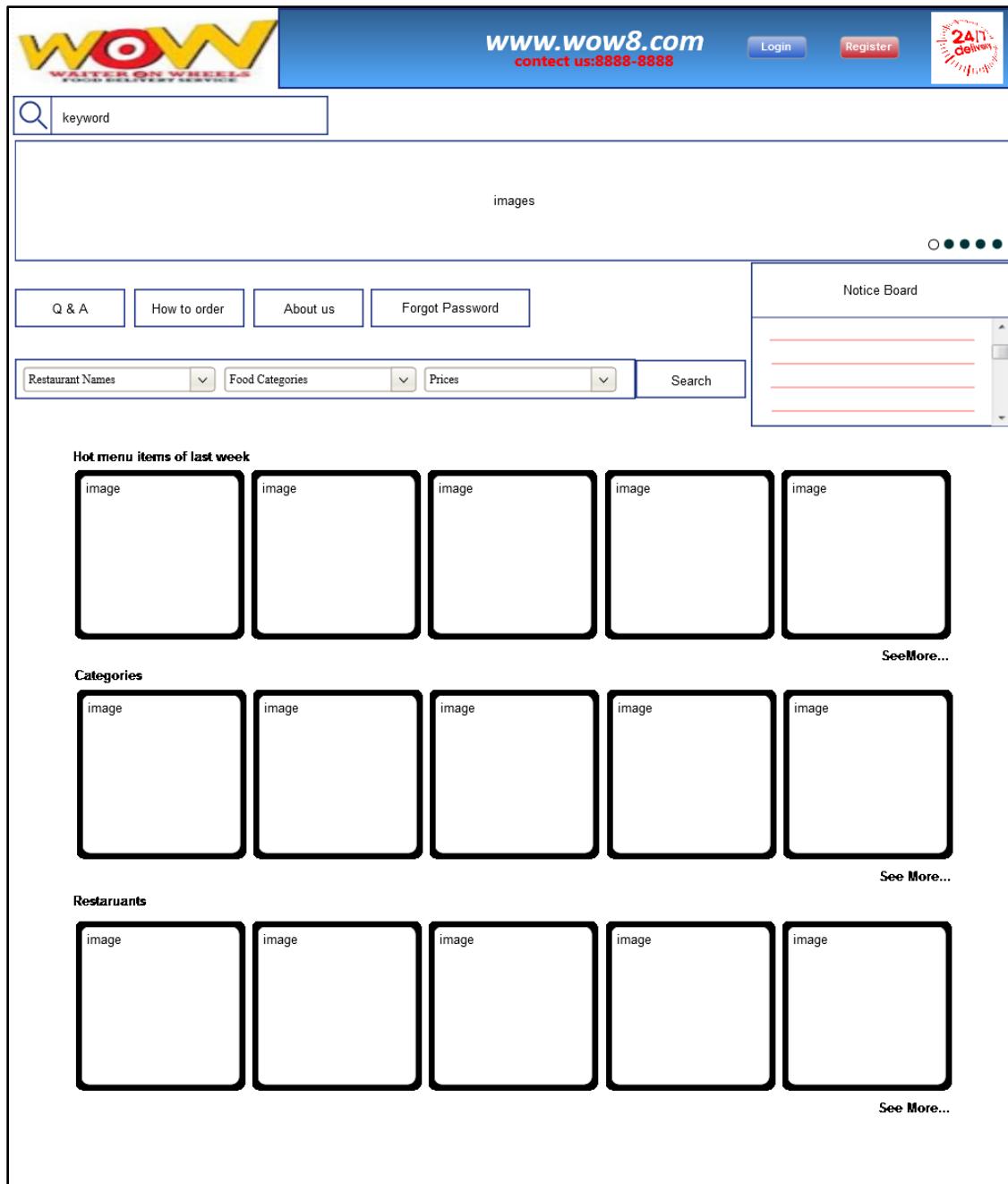


Screen Designs:

There are five different types of users interacting with the system such as website design (for customers and phone booking operator), Business Development Portal (for John & June), Restaurant portal (for restaurants), mobile application interface (for delivery drivers)and Horse Power portal (for Horse Power Agency).

Website Design:

a. Home Page:



b. Login Page for Customer

The screenshot shows the login page for the Waiter On Wheels (WOW) food delivery service. The top navigation bar includes the WOW logo, the website address www.wow8.com, contact information "contact us:8888-8888", and "Login" and "Register" buttons. A red circular badge in the top right corner says "24/7 delivery". The main section is titled "Login" and contains a message "Please fill in your username and password!". It has fields for "Username" and "Password", and a "Forgot password?" link. At the bottom are "Back" and "Submit" buttons, and a copyright notice "ALL RIGHTS RESERVED BY Team8".

C. New customer details

The screenshot shows the registration page for the Waiter On Wheels (WOW) food delivery service. The top navigation bar includes the WOW logo, the website address www.wow8.com, contact information "contact us:8888-8888", and "Login" and "Register" buttons. A red circular badge in the top right corner says "24/7 delivery". The main section is titled "Register" and contains a message "Please fill in your account information". It has fields for "ID", "password", "Re-password", "E-mail", "Phone", "Address", "Postali", "security question", "Answer", and "One-time password". There is also a checkbox for accepting the [Terms and Conditions](#). At the bottom are "Submit", "Clear", and "Back" buttons, and a copyright notice "ALL RIGHTS RESERVED BY Team8".

d. Terms & Conditions page

The screenshot shows a web page for 'www.wow8.com'. At the top, there is a blue header bar with the 'WOW' logo on the left, the website address 'www.wow8.com' and contact information 'contact us: 8888-8888' in the center, and 'Login' and 'Register' buttons on the right. A red circular badge with '24x7 delivery' is also present. Below the header, the main content area has a white background with a thin blue border. The title 'Terms and Conditions' is centered at the top of this area. In the bottom right corner of the content area, the text 'ALL RIGHTS RESERVED BY Team8' is visible. At the very bottom of the page is a solid blue footer bar.

e. Change Password page

The screenshot shows a web page for 'www.wow8.com'. The layout is similar to the previous page, with the 'WOW' logo, website address, contact info, and 'Login'/'Register' buttons at the top. A red '24x7 delivery' badge is also present. The main content area has a white background with a thin blue border. The heading 'Forgot your password?' is centered at the top. Below it, there are two input fields: one labeled 'Q:' and another labeled 'A:', both enclosed in light gray boxes. In the bottom right corner of the content area, there is a 'Submit' button. At the very bottom of the page is a solid blue footer bar.

f. Check Profile & Order History page

My Profile

| | | | |
|---------------------------------------|----------------------|--------------|----------------------|
| ID: | <input type="text"/> | Re-password: | <input type="text"/> |
| password: | <input type="text"/> | | |
| E-mail: | <input type="text"/> | | |
| Phone: | <input type="text"/> | | |
| Address: | <input type="text"/> | Postal: | <input type="text"/> |
| <input type="button" value="Change"/> | | | |

Order History (last 90 days)

| Date | Reference No. | Name | Status | Remarks |
|------------|---------------|------|--------|---------|
| 2013-08-29 | 00003 | elva | ... | ... |
| 2013-07-23 | 00002 | elva | ... | ... |
| 2013-06-16 | 00001 | elva | ... | ... |

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g. Change Personal Profile page

Change your profile

| | | | |
|--------------------|----------------------------------|--------------|----------------------|
| ID: | <input type="text"/> | | |
| password: | <input type="text"/> | Re-password: | <input type="text"/> |
| E-mail: | <input type="text"/> | | |
| Phone: | <input type="text"/> | | |
| Address: | <input type="text"/> | Postal: | <input type="text"/> |
| security question: | <input type="button" value="▼"/> | | |
| Answer: | <input type="text"/> | | |
| One-time password: | <input type="text"/> | | |

Yes I have read and agree with the [Terms and Conditions](#)

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h. Promotions – Food items page

The screenshot shows a promotional page for the **WOW Waiter On Wheels FOOD DELIVERY SERVICE**. The top navigation bar includes the website address **www.wow8.com**, contact information **contact us:8888-8888**, and links for **Login** and **Register**. A red circular badge in the top right corner says **24/7 delivery**.

The main content area features a large yellow banner with the word **promotion**. Below it is a **Cart** section with a shopping icon. The cart contains three items:

| Food | quantity | price | cancel |
|-----------|----------|-------|--------|
| milk | 1 | \$1.5 | X |
| hamburger | 1 | \$3.0 | X |
| cake | 1 | \$2.0 | X |

Below the cart, there are summary details:

- Subtotal:** \$0
- Delivery charge:** \$0
- GST(7%):** \$0
- Total:** \$0

At the bottom of the page are **Back** and **Pay now** buttons, and a copyright notice **ALL RIGHTS RESERVED BY Team8**.

i. Search Results page

The screenshot shows a search results page for the **WOW Waiter On Wheels FOOD DELIVERY SERVICE**. The top navigation bar includes the website address **www.wow8.com**, contact information **contact us:8888-8888**, and links for **Login** and **Register**. A red circular badge in the top right corner says **24/7 delivery**.

The left side of the page has input fields for **R's name**, **Category**, and **Price**, each with a corresponding empty input box. Below these fields is the text **The price contains the service charge already**, followed by four empty input boxes arranged in a 2x2 grid.

The right side of the page features a **My favourites** section with a shopping icon. It displays the same cart items as the previous page:

| Food | quantity | price | cancel |
|-----------|----------|-------|--------|
| milk | 1 | \$1.5 | X |
| hamburger | 1 | \$3.0 | X |
| cake | 1 | \$2.0 | X |

Below the cart, there are summary details:

- Subtotal:** \$0
- GST(7%):** \$0
- Total:** \$0

At the bottom of the page are **Pay now** and **Clear** buttons, and a copyright notice **ALL RIGHTS RESERVED BY Team8**.

j. Confirm to pay page



www.wow8.com
contact us:8888-8888

Login

Register



List of food

| | quantity | quantity | price | cancel |
|-----------|----------|----------|-------|--------|
| milk | 1 | 1 | \$1.5 | ✖ |
| hamburger | 1 | 1 | \$3.0 | ✖ |
| cake | 1 | 1 | \$2.0 | ✖ |

(Displayed when peak hour)

Delivery method

- Express way (Charge \$X extra)
- Normal Delivery

Submit

Notice: Now is peak hour, You need to wait 30-50 mins when you receive your meal. If you want receive your meal quickly, you can choose express way to deliver your meal that will charge you \$X more.

Delivery charge: \$0

GST: \$0

Total amount: \$0

Pay now

Back to Homepage

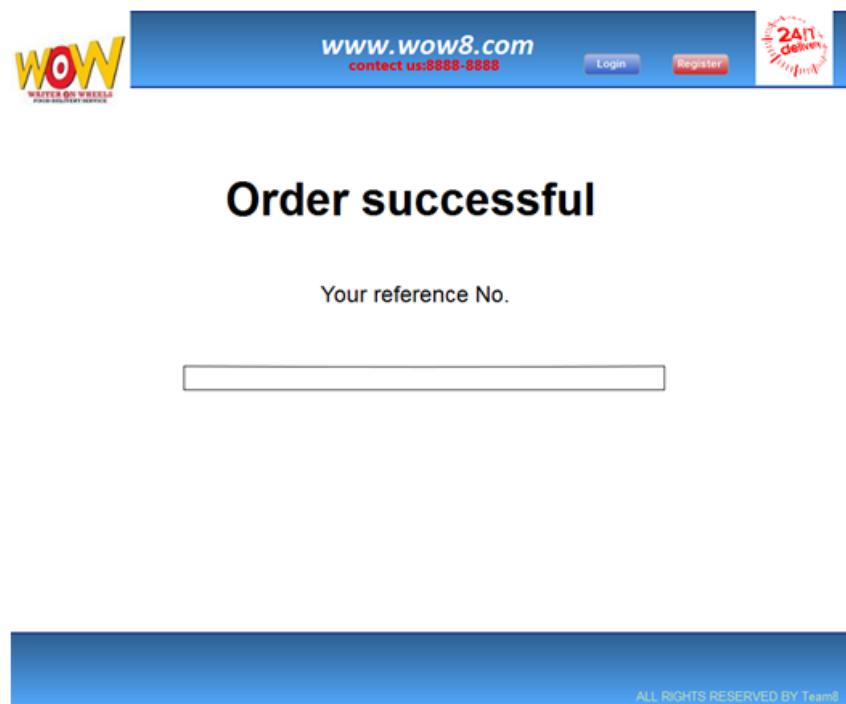
The price contains the service charge already

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k. Choose Payment method page

The screenshot shows the 'Payment Method' page of the website www.wow8.com. At the top, there is a blue header bar with the logo 'WOW WAITER ON WHEELS FOOD DELIVERY SERVICE', the website address 'www.wow8.com contact us:8888-8888', and 'Login' and 'Register' buttons. A red circular badge in the top right corner says '24/7 delivery now!'. Below the header, the page title 'Payment Method' is displayed in a purple box. The main content area is divided into two sections: 'PAY ONLINE' on the left and 'PAY BY CASH' on the right. Under 'PAY ONLINE', there are three options: 'VISA' with a VISA logo, 'MASTER' with a MasterCard logo, and 'PAYPAL' with a PayPal logo. A 'Bank page' button is located at the bottom of this section. Under 'PAY BY CASH', there is an option 'SGD' next to an image of a Singapore dollar bill. At the bottom right of the page is a 'Submit' button. The footer of the page contains the text 'ALL RIGHTS RESERVED BY Team8'.

l. Order Confirmation Success page



Business Development:

a. *Restaurants Profile*

Home Page - Business Development

Restaurants Food Items Driver Advertisements Statistics Financial Statements

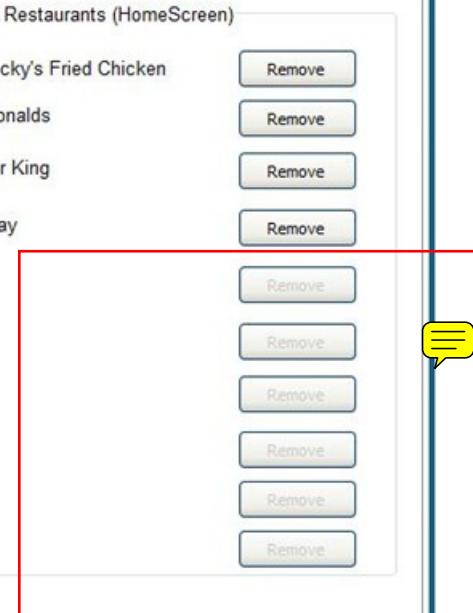
Search Type name or ID Search by name, ID ▾

List of Restaurants : Add New Restaurant

| ID | Name of Restaurant | Address | Add to Top List |
|-----|--------------------------|------------------|-----------------|
| KFC | Kentucky's Fried Chicken | 72, Orchard Road | Add |
| MCD | Mc Donalds | 27, Queensway | Add |
| BGK | Burger King | 87, Clarke Quay | Add |
| SBW | Subway | 38, Farrer Road | Add |

Top 10 Restaurants (HomeScreen)

| | |
|--------------------------|--------|
| Kentucky's Fried Chicken | Remove |
| Mc Donalds | Remove |
| Burger King | Remove |
| Subway | Remove |
| | Remove |



b. *Food items Profile*

Home Page - Business Development

Restaurants Food Items Driver Advertisements Statistics Financial Statements

Search Strawberry Search by name, ID or category ▾

Create/Delete Category Add New Item

| ID | Name of Item | Restaurant | Category | Type |
|----------|---------------------------------------|--------------------------|------------|---------|
| KFC-0001 | Crushers - Strawberry | Kentucky's Fried Chicken | Drinks | Veg |
| MCD-0237 | Strawberry Cone Dip | Mc Donalds | Ice Cream | Veg |
| BGK-0015 | Big Chicken Meal + Strawberry Delight | Burger King | Combo Meal | Non-Veg |

c. Driver Profile

Home Page - Business Development

Restaurants Food Items Driver Advertisements Statistics Financial Statements

List of Drivers :

| Driver ID | Name of Driver | NRIC/FIN | Address | Date of Joining | Years of Exp |
|-----------|----------------|----------|------------------------|-----------------|--------------|
| 1231257 | John Smith | G124983K | 23,Clementi Street - 4 | 14-10-2010 | 2 |
| 1238794 | Chen Mikael | H239013L | 49,Farrer Park | 04-03-2011 | 1 |
| 1247809 | Gary Albert | G389279K | 114,Holland Avenue | 01-06-2011 | 1 |
| 1258906 | Fisher Gerald | F198934D | 34,Serangoon Road | 05-02-2013 | 0 |

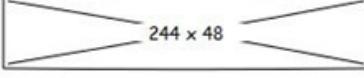
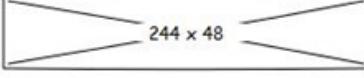
Create new Driver Update Driver Info Delete Driver

d. Promotions page

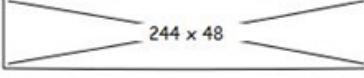
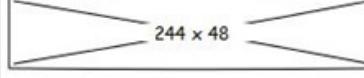
Home Page - Business Development

Restaurants Food Items Driver Advertisements Statistics Financial Statements

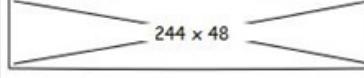
Promotion 1

Show on Website (Promotion)
Caption
Food Item Preview
 244 x 48 

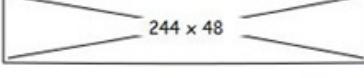
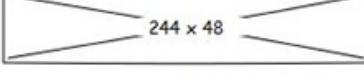
Promotion 2

Show on Website (Promotion)
Caption
Food Item Preview
 244 x 48 

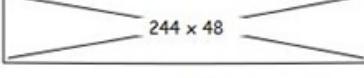
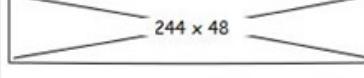
Promotion 3

Show on Website (Promotion)
Caption
Food Item Preview
 244 x 48 

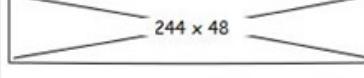
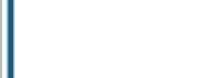
Promotion 4

Show on Website (Promotion)
Caption
Food Item Preview
 244 x 48 

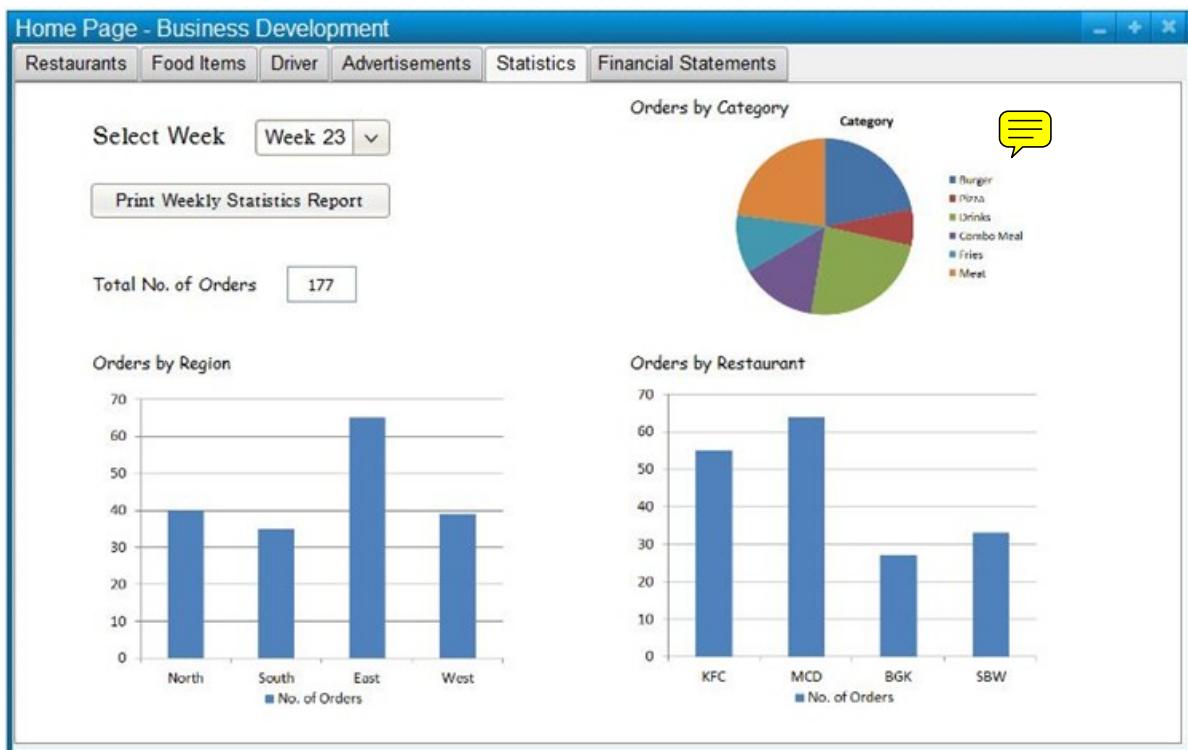
Promotion 5

Show on Website (Promotion)
Caption
Food Item Preview
 244 x 48 

Promotion 6

Show on Website (Promotion)
Caption
Food Item Preview
 244 x 48 

e. Delivery statistics for each week



f. Financial Statement report (only page accessible by accountant)

Home Page - Business Development

Restaurants Food Items Driver Advertisements Statistics Financial Statements

From 15/08/2013 To 18/08/2013

View Statement Print Statement

Calender Pop-Up Calender Pop-Up

| Week | Date of Transaction | Transaction ID | Order/Paymen... | Type | Amount | Balance |
|--------|---------------------|----------------|-----------------|-----------------------|--------|----------|
| Week33 | 15-08-2013 | TNX890372 | 150820130035 | Credit-CustomerOnline | 35.30 | 12784.20 |
| Week33 | 17-08-2013 | TNX890382 | 170820130075 | Credit-CustomerOnline | 57.30 | 13178.90 |
| Week33 | 17-08-2013 | TNX350338 | 170820131004 | Debit-RestaurantPay | 729.20 | 8763.10 |
| Week33 | 18-08-2013 | TNX839008 | 180820130140 | Credit-CashCOD | 456.80 | 9138.90 |

Restaurants Portal:

a. *Order Information*



Login Panel
You are logged in as: Admin [Logout](#)

| Order Information | | | | | | | |
|-------------------|---------------|---------------|----------|----------------------|------------|--------------|--------------|
| Order Number | Customer Name | Location Name | Status | Order Date | Order Type | Total Amount | View Details |
| 0001 | Ashwin | Clementi | Complete | 10/01/2013 1.30pm | Express | 30.00 SGD | |
| 0002 | Gabriel | Jurong | Pending | 11/01/2013 5.30pm | Regular | 50.00 SGD | |

b. *Order details*



Login Panel
You are logged in as: Admin [Logout](#)

| Order Information | | Order Details | | Confirm Delivery | | Payment History | |
|-------------------|---|---------------|--|----------------------------|--|-------------------------------|--|
| Order Details | | | | | | | |
| Order Number | : | | | | | | |
| Order Date | : | | | | | | |
| Customer Name | : | | | | | | |
| Store Name | : | | | | | | |
| EmailID | : | | | | | | |
| Phone | : | | | | | | |
| Order Type | : | | | | | | |
| Payment Method | : | | | | | | |
| Payment Status | : | | | | | | |
| Order Total | : | | | | | | |
| Order Status | : | | | | | | |
| | | | | Print Bill | | Print Barcode | |

c. Confirm delivery of food items from restaurant

The screenshot shows the 'Confirm Delivery' page of the WOW website. At the top right, there is a 'Login Panel' with the message 'You are logged in as: Admin' and a 'Logout' button. The main navigation menu includes 'Order Information', 'Order Details', 'Confirm Delivery' (which is highlighted in blue), and 'Payment History'. Below the menu, a large blue button says 'Confirm Delivery'. A message box contains the text 'All drivers please note: Update delivery status after order is complete'. The form area has two fields: 'Order Status' with a dropdown menu set to 'Complete' and a large empty text area for 'Comments'. At the bottom is a 'Update Status' button.

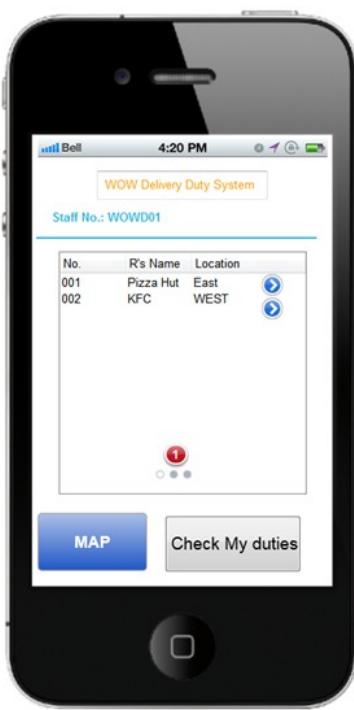
d. Payment history details

The screenshot shows the 'Payment History' page of the WOW website. At the top right, there is a 'Login Panel' with the message 'You are logged in as: Admin' and a 'Logout' button. The main navigation menu includes 'Order Information', 'Order History' (highlighted in blue), 'Confirm Delivery', and 'Payment History'. Below the menu, there are date selection fields ('From' and 'To') with dropdown menus showing '15/08/2013' and '18/08/2013'. There are also 'View Statement' and 'Print Statement' buttons, each with a 'Calender Pop-Up' link below it. The main content area displays a table of payment history:

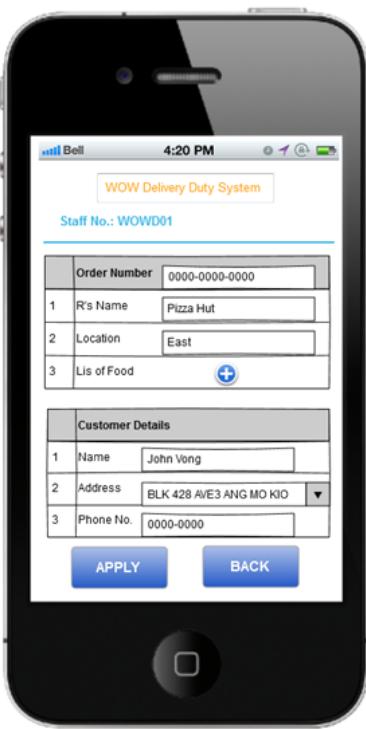
| Date of Payment | Transaction ID | Order Ref No. | Amount | Remarks |
|-----------------|----------------|---------------|--------|------------------|
| 15-08-2013 | TNX890372 | 150820130035 | 35.30 | Payment from WoW |
| 17-08-2013 | TNX890382 | 170820130075 | 57.30 | Payment from WoW |
| 17-08-2013 | TNX350338 | 170820131004 | 729.20 | Payment from WoW |
| 18-08-2013 | TNX839008 | 180820130140 | 456.80 | Payment from WoW |

Mobile Application Interface for Delivery Drivers

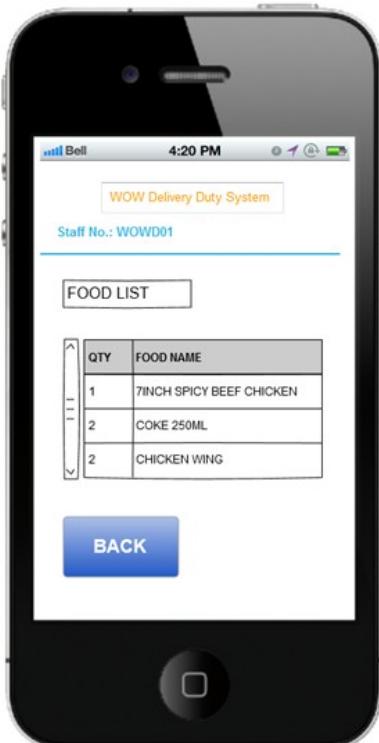
a. Show duty List



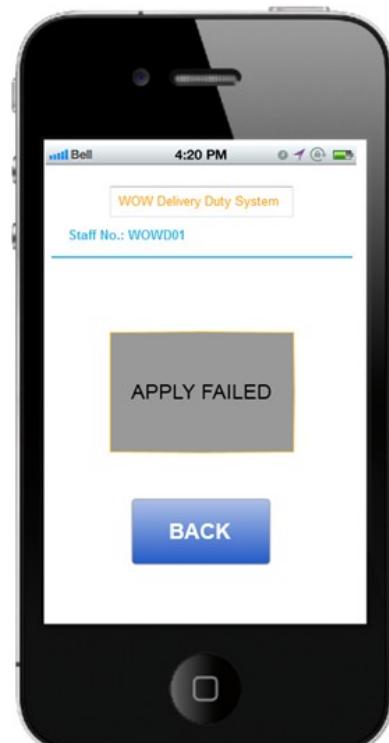
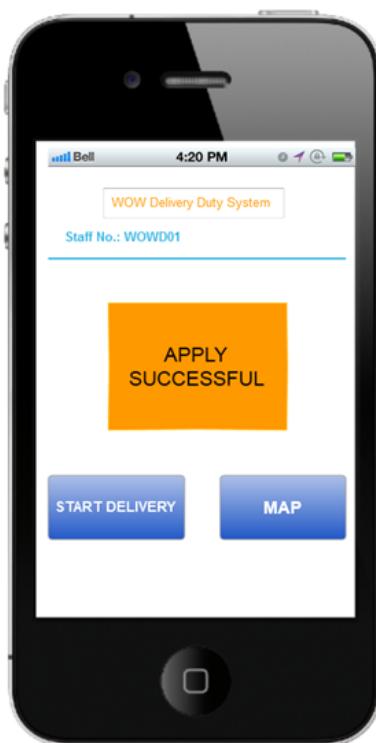
b. Check Duty details before apply



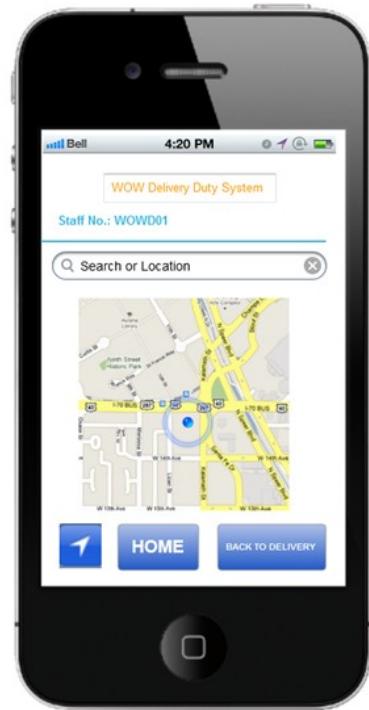
c. Check food list (before apply)



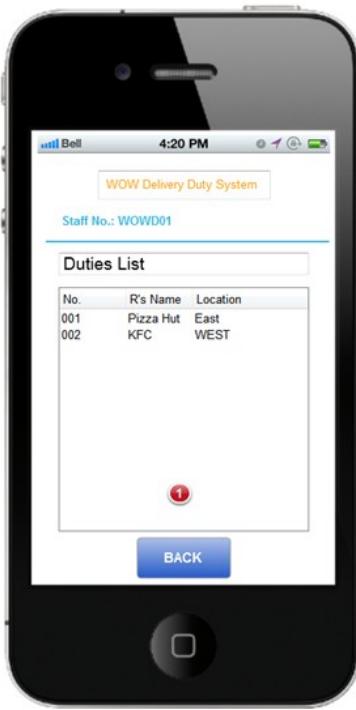
d. Apply Successful/Failed



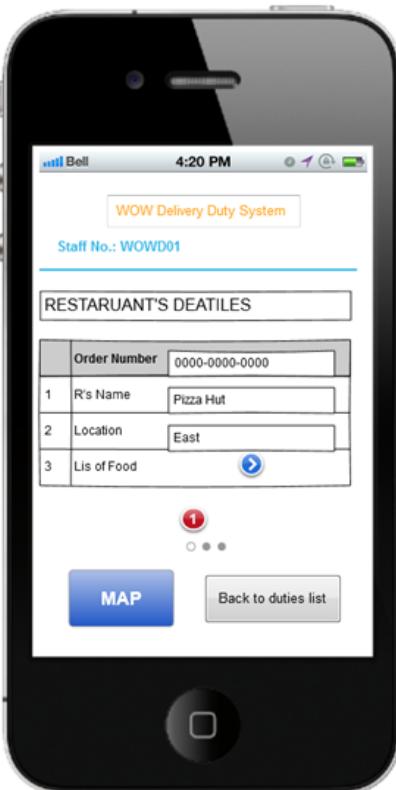
e. Check Map



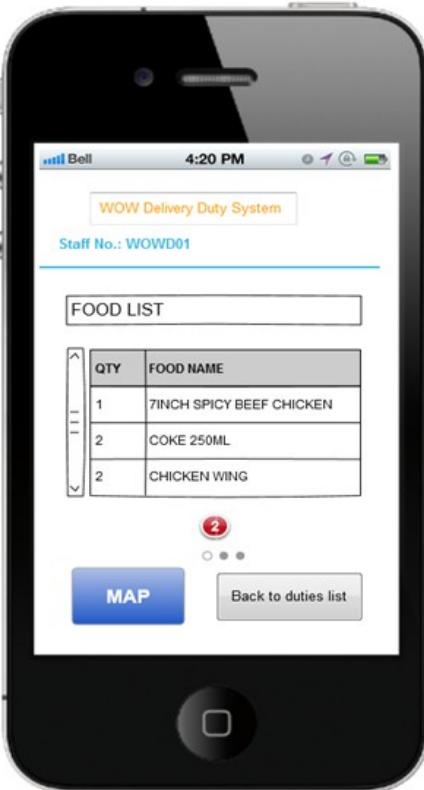
f. My Duties List



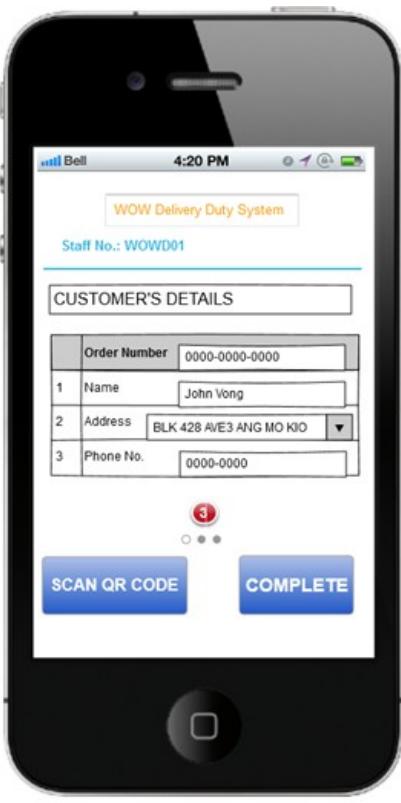
g. Check Restaurant details (Start Delivery)



h. Check Food List (Start Delivery)



i. Complete Delivery (after Scan Code)



j. Scan QR / Barcode



Horse Power Portal accessed by Agency:

a. Home Page (Order/Duties List)



28-08-2013

| Time of Delivery | Order Ref.No | Customer Address | Status | Mode of payment |
|------------------|--------------|------------------------|-----------|-----------------|
| 5:30pm | ... | 222 Pasir Panjang Road | completed | cash |
| 5:45pm | ... | 17 Pasir Panjang Road | pending | online |



b. Check duty details & confirm delivery



www.wow8.com
contact us:8888-8888

List of food

| item | Qty | Price |
|------|-----|-------|
| | | |

Total amount: \$0

Delivery address

Address:

Phone:

Change (Only for this time!)

Delivery Method: Express

Confirm Delivery

c. Check Payment History



www.wow8.com
contact us:8888-8888

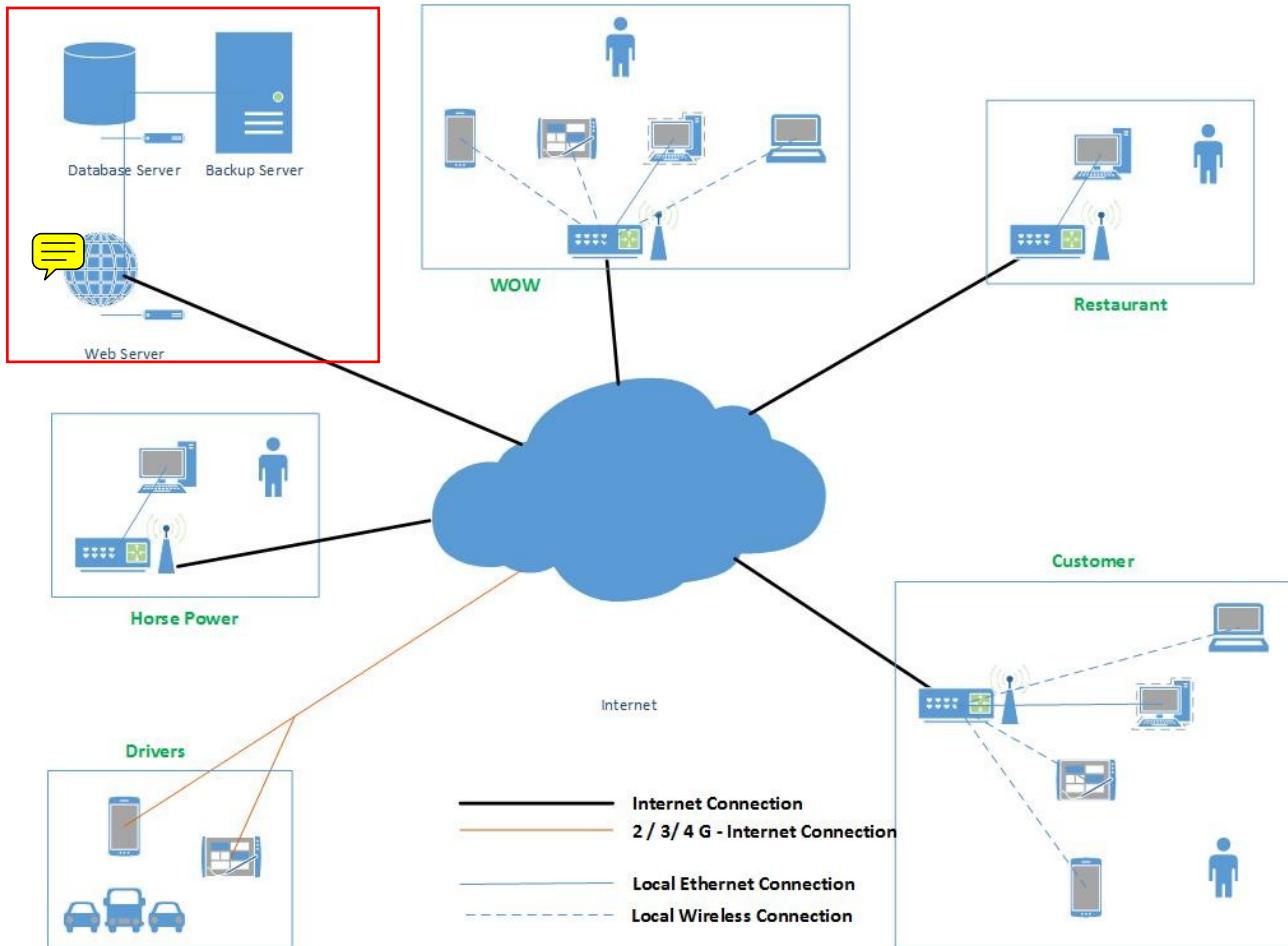
From 15/08/2013 To 18/08/2013

View Statement **Print Statement**

| Date of Payment | Transaction ID | Order Ref No. | Amount | Remarks |
|-----------------|----------------|---------------|--------|------------------|
| 15-08-2013 | TNX890372 | 150820130035 | 35.30 | Payment from WoW |
| 17-08-2013 | TNX890382 | 170820130075 | 57.30 | Payment from WoW |
| 17-08-2013 | TNX350338 | 170820131004 | 729.20 | Payment from WoW |
| 18-08-2013 | TNX839008 | 180820130140 | 456.80 | Payment from WoW |

Non – Functional Requirements:

System architecture:



The architecture consists of a web server to host website and a database server to store all data. W-o-W has one terminal for business development team, one terminal at each restaurant and website access to all customers. The mode of communication is primarily through the internet. The delivery drivers are able to access information and make delivery confirmation using their mobile application.

However, Horse Power agency is not given mobile access, but one terminal is available at the agency, through which we make communication of orders to the agency. This architecture is adopted due to cost effectiveness in the hardware infrastructure and to reduce maintenance costs for third party support.

Backup server is used to store data at the end of day, to improve hardware reliability.

System Requirements

System Requirements for App Server

| | |
|------------------------|---|
| OS | : Windows Server (32-Bit or 64-Bit), Linux |
| Web Server Application | : Apache 6+ |
| Hard disk | : 1 TB |
| Processor | : Intel Core i7 |
| Memory | : 8 GB |
| Input | : Keyboard, Mouse, LCD Monitor |
| Network | : Internet Connection |

System Requirements for Database Server

| | |
|----------------------------|---|
| OS | : Windows Server (32-Bit or 64-Bit), Linux |
| Hard disk | : 1 TB |
| Database Management System | : MySQL |
| Processor | : Intel Core i7 |
| Memory | : 8 GB |
| Input | : Keyboard, Mouse, LCD Monitor |
| Network | : 100 MB or Faster |

System Requirements for Backup Server

| | |
|----------------------------|---|
| OS | : Windows Server (32-Bit or 64-Bit), Linux |
| Hard disk | : 1 TB |
| Web Server Application | : Apache 6+ |
| Database Management System | : MySQL |
| Processor | : Intel Core i7 |
| Memory | : 8 GB |
| Input | : Keyboard, Mouse, LCD Monitor |
| Network | : 100 MB or Faster |

System Requirements for Restaurants& HP Agency

| | |
|-----------|--|
| OS | : Windows or Mac or Ubuntu or etc.. |
| Browser | : IE 6+, Chrome, Mozilla Firefox, Safari |
| Processor | : Intel Dural Core 1.6 GHz |
| Memory | : 1 GB or More |
| Input | : Keyboard, Mouse, LCD Monitor |
| Network | : Internet Connection |
| Others | : Wireless Router, Barcode Printer |

Note : Restaurants can use any tablet or mobile device that can browse the website and print the barcode.

System Requirements for Drivers

| | |
|------------------|---|
| Mobile or Tablet | : Android or IOS |
| Network | : Internet Connection (2-G or 3-G or 4-G) |
| Tablet Software | : Tablet Delivery Package |

System Performance Requirements:

User Volume Table for the Wow System

| User Group | Country/Location/Count | Remarks |
|-----------------------|--|---|
| Customer | S'pore/ around the city /50 orders a day,(mostly during meal time)(Week day) In Weekend 100 orders a day. | Many customers use the systems every day and every time. |
| Phone Operator | S'pore/at wow office/1 | June, the phone operator, accept the phone call (from the customer that not use the online) and book to the restaurant at the office. |
| Restaurant | S'pore/around the city/10 | Restaurants need to use system every day and they accept the orders from system and reply confirm or reject to system. |
| Delivery Driver | S'pore/around the city/4 | Delivery Drivers need to use mobile system every day and get the order detail. |
| Online Payment System | Virtual/Third party | This is an online third party service that connects W-o-W system for online payment with particular bank websites. |
| Account | S'pore/at WOW office/1 | Peter, the accountant, is stationed at the office and sometimes need to access the data. |
| Horse Power Agency | S'pore/at Horse power Agency | Horse Power Agency need to use the system every day |
| Business Development | S'pore/at wow office | Business Development is stationed at the office and needs to access data and modify it. |

Business Txn Volume Table for Wow System

| Business Transaction | Business Criticality | No. of User | Transaction information | Concurrently Important Activities |
|------------------------------|-----------------------------|--------------------|---|--|
| Customer Login | Critical | Between 50 to 200 | Weekday-may be 100/day Weekends-may be 200/day | 50/hr |
| Search Items | Critical | Between 50 to 200 | Weekday-may be 100/day Weekends-may be 200/day | 50/hr |
| Add/Remove items in cart | Critical | Between 50 to 100 | Weekday-may be 50/day Weekends-may be 100/day | 25/hr |
| Book Order | Critical | Between 50 to 100 | Weekday-may be 50/day Weekends-may be 100/day | 25/hr |
| Select Payment method | Critical | Between 50 to 100 | Weekday-may be 50/day Weekends-may be 100/day | 25/hr |
| Booking Confirmation | Critical | Between 50 to 100 | Weekday-may be 50/day Weekends-may be 100/day | 25/hr |
| Customer Details | Moderate | Between 50 to 70 | Weekday-may be 40/day Weekends-may be 70/day | 25/hr |
| Receive Customer Call | Moderate | Between 10 to 30 | Weekday-may be 7/day Weekends-may be 25/day | 5/hr |
| View Financial Statement | Moderate | 3 | 2 per month per 1 staff | |
| Top List of Restaurant | Moderate | 3 | 1 per month per 1 staff | |
| Create/add Food Items | Moderate | 3 | 1 per week per 1 staff | |
| Create/Add driver profile | Moderate | 3 | 1 per month per 1 staff | |
| Modify/Delete Driver Profile | Moderate | 3 | 1 per month per 1 staff | |
| Display advertisements | Moderate | 3 | 1 per month per 1 | |

| | | | | |
|----------------------------------|----------|-------------------|---|-------|
| on home page | | | staff | |
| Create/Delete new food category | Moderate | 3 | 1 per week per 1 staff | |
| Search Results | Critical | 3 | 1 per week per 1 staff | |
| Modify/Delete Restaurant Profile | Moderate | 3 | 1 per month per 1 staff | |
| Create/Add Restaurant Profile | Moderate | 3 | 1 per month per 1 staff | |
| Generate Delivery Status Report | Moderate | 3 | 1 per week per 1 staff | |
| Receive Orders | Critical | Between 50 to 100 | Weekday-may be 50/day Weekends-may be 100/day | 25/hr |
| Confirm Order Despatch | Critical | Between 50 to 100 | Weekday-may be 50/day Weekends-may be 100/day | 25/hr |
| Receive Payment from WoW | Moderate | 1 | 1 per week per 1 staff to 10 restaurant | |
| Show Duty List | Critical | 4 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | 4/hr |
| Apply Duty | Critical | 4 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | 4/hr |
| Start Delivery | Critical | 4 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | |
| Check Map | Moderate | 4 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | |

| | | | | |
|-----------------------------|----------|---|---|-------|
| Send Online Payment Details | Critical | 1 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | 25/hr |
| Payment Confirmation | Critical | 1 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | 25/hr |
| Send Delivery List | Critical | 1 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | 25/hr |
| Get Delivery Confirmation | Moderate | 1 | Weekday-may be 50/day duty list or weekends-may be 100/days duty list | 25/hr |
| Payment to Horse Power | Moderate | 1 | 1 per week | |

Data Volume Table

| Business Entity Class | Source Document | Retention period | Target Volume |
|-----------------------|-------------------|---------------------|---------------------|
| Customer | Customer Profiles | As long as possible | As much as possible |
| Order | Order file | 1 month | 1 day = 200 orders |
| Order Detail | Order file | 1 month | 1 day =200 orders |
| Restaurant | Restaurant file | As long as possible | 10 restaurants |
| Driver | Driver Profiles | As long as possible | 4 drivers |
| Menu Item | Restaurant file | As long as possible | As much as possible |
| Category | Restaurant file | As long as possible | As much as possible |

Security Requirements:

Security Requirement [c:Create,u:Update,r:Read,d:Delete]

| User Role Data(Entity class) | Customer | Phone Operator | Restaurant | Delivery Driver | Online payment system | Account | Horse Power Agency | Business Development |
|---------------------------------|----------|----------------|------------|-----------------|-----------------------|---------|--------------------|----------------------|
| Customer | C,u,r,d | C,u,r,d | R | R | R | | R | r |
| Order | C,u,r,d | C,u,r,d | R | R | R | R | R | R |
| Order Detail | C,u,r,d | C,u,r,d | R | R | R | R | R | R |
| Restaurant | R | R | | | R | R | R | C,u,r,d |
| Driver | | | R | R,u | | r | r | C,u,r,d |
| Menu Item | R | R | R | | | | | C,u,r,d |
| Category | R | R | R | | | | | C,u,r,d |

Security Requirement from use case point of view

| | | | | | | | | |
|---------------------------------|--|--|--------------|--------------|--|---|--|--------------|
| Create/Add Restaurant Profile | | | | | | | | *(main user) |
| Generate Delivery Status Report | | | | | | * | | *(main user) |
| Receive Orders | | | *(main user) | | | | | |
| Confirm Order Despatch | | | *(main user) | | | | | |
| Receive Payment from WoW | | | *(main user) | | | | | |
| Show Duty List | | | | *(main user) | | | | |
| Apply Duty | | | | *(main user) | | | | |
| Start Delivery | | | | *(main user) | | | | |
| Check Map | | | | *(main user) | | | | |

Performance Requirement for WOW System

- Response Time for each screen/window

❖ Week day

- ✓ Normal period - 2 sec/screen
- ✓ Peak period – 4 sec/screen



❖ Weekend day

- ✓ Normal period – 4 sec/screen
- ✓ Peak period – 8 sec/screen

Reliability Requirements

- Operation Time
 - Online User- 24 hours a day, 7 days a week.
 - Not more than 10 minutes down time.
 - Not more than 1 time a month.
- Hardware failure(servers, network)
 - Recovery duration – not more than half an hour.
 - Data concurrency – not more than a day old.