

## Service Market-Place

### Purpose:

This is a market place for different Service providers to advertise their services with a proper tree hierarchy and additional features dynamically input by the market-place owner (i.e., root admin) together with associated service charge and service geographic coverage that in turn enables end customers to browse, search for a given service at a given location, compare (namely in terms of category, subcategory, price, distance), choose the appropriate service providers and buy a particular service – please consider replicating [www.spareroom.co.uk](http://www.spareroom.co.uk) .

This market place also facilitates end customers to post their customised job, expect appropriate service providers to provide quotes, find the best quote and assign the job to an appropriate service provider after a bidding process. Please follow [www.ratedpeople.com](http://www.ratedpeople.com) for this purpose. Once a job is assigned full payment is made to a root admin and when the service is fully provided, root admin will transfer the full payment to a respective service provider after deducting required commission.

In addition to connecting a service seeker to an appropriate service provider, it handles full handshake between those two parties until the service is fully provided by allowing each stakeholder to use respective dashboards to communicate. Cron job will remind each stakeholder to ensure that an action is taken on time.

### Design Requirements:

- MEAN Stack to be used.
- Although high-Level Specification is provided below, common practice that applies to any market place such as service OR product advertisements by service providers (e.g., Amazon and ebay market places), service comparison by end customers and full order management with automatic payment processing is assumed. If there is any contradiction with any existing market place, the contents of this document will overrule.
- Try to follow how it works namely in [www.spareroom.co.uk](http://www.spareroom.co.uk) and [www.ratedpeople.com](http://www.ratedpeople.com).
- Use of special online tools for service seekers (e.g., <http://modeling-languages.com/javascript-drawing-libraries-diagrams/>) to sketch their construction site show its layout.
- Cron jobs to ensure complete profiling, reminder notifications and other necessary house-keeping functions for root admin, sellers and customers (e.g., incomplete profile OR incomplete order notifications).
- **Notification and internal mailing system has to be implemented to notify different Stake holders of each transaction (e.g., posting of a job, bidding send, accepting a bid,...).**

### High-Level Specifications:

#### User Registration OR profile creation

- a) At least 3 different user types – Root Admin, Service providers, end customers (i.e., Service Seeker).

- Confirmation email to activate an account after registration is required.
- Password Strength has to be ensured – e.g., 8 character long alphanumeric that includes one OR more Special characters, lower-case and upper-case characters.
- b) Use of existing login credentials belonging to namely Facebook, Google and LinkedIn can be used for user registration and further login
- c) Billing address needs to be registered with appropriate online payment mechanism (e.g., credit card) – this could be used for locating (i.e., GPS positioning) a service provider OR end user namely for advertisement purposes and for enabling distance-based search.
- d) Use of CAPTCHA is important.

## 1. Root Admin dashboard

- a) Responsible for tree-based hierarchical categorisation, sub categorisation up to n-levels (where  $n > 3$ ). Please follow Amazon UK or ebay UK to figure out how categorisation is used
  - Please use 3 tabs as follows:

### Main Category

#### Add category

List View of added categories displayed in tabular way with edit and delete buttons

### 1<sup>st</sup> Level Subcategory

#### Add 1<sup>st</sup> Level subcategory

List View of added 1<sup>st</sup> Level subcategories displayed in tabular way with edit and delete buttons

### 2<sup>nd</sup> Level Subcategory

#### Add 2<sup>nd</sup> Level subcategory

List View of added 2<sup>nd</sup> Level subcategories displayed in tabular way with edit and delete buttons

Edit button will bring up a create page with populated values that a root admin can update and save.

- b) Responsible for dynamically adding as many features as required along with possible options while indicating whether these options have to be displayed in the form of radio buttons, multi-select tick-boxes or drop-down list
- c) Responsible for Approval of new food categories, sub-categories individually added or suggested by a service provider and an end customer
- d) Root Admin should have the facility to specify commission charged for using the market place for service providers.
- e) Root admin should have the facility to enable localised advertisement of selected products OR services offered by service providers for extra commission. Root admin should be able to set Monthly subscription fee for each Visibility that can be chosen by any service provider. Any Associated Payments have to be automatically

processed. Different Advertisement packages that are settable by a root admin along with respective price per package in terms of monthly subscription are:

- Localised Visibility (within 100m radius from a service provider)
  - Town-based Visibility (within a town where a service provider is located)
  - County- OR State-based Visibility (within a county OR State where a service provider is located)
  - Country-based Visibility (within a country where a service provider is located)
  - International Visibility (i.e., no geographical barrier)
- f) Listing down different types of registered users and remove them if required.
- Registered date
  - Last login details
- g) Follow complaints made by a stakeholder together with full details in terms of date, nature of complaint,
- Each entry full details of each complaint
  - List View of all complaints
- h) Root Admin needs to include paypal Account details and commission %
- This is for payments to be made by an end customer when a bid is accepted
- i) SMTP details to be input that would be used for sending emails

## **2. Service provider dashboard**

- a) Select the hierarchy and features defined by a root admin to indicate services provided:
- b) Each food provider indicates service region, service time, service days of a week, and hourly rate if required
- c) Appointment making facility while checking free time, day,...
- d) Seller profile creation while indicating address, opening times, services provided uploading of testimonial photos, accreditation certificates.
  - Also, includes customer reviews and ratings
- e) Full order management – to be explained later in detail
- f) A mechanism has to be in place for a food provider to advertise a given promotion OR on market place web site as described in Section 2(i) above.
- g) Restaurant needs to include paypal Account details
- h) Enabling communication between an end customer or root admin per order, making complaints against a customer per order

## **3. End customer dashboard**

- a) At Least 2 customer interfaces (GUI) for browsing and placing Orders

- i) Coarse-Granular Searching Interface 1: Just a Simple Search bar (one line as in Google front page) that takes for example food name (e.g., pizza), food category (e.g., Chinese) and the like. Just below this search bar, in the first half of page, a MAP VIEW of potential food providers (e.g., restaurants) that meet the search criteria will be shown while the Second half of page will list down each food provider (e.g., restaurant) in an order that can be sortable based namely on price, distance from current user location, food lead time, restaurant name (alphabetical order), take-away, dining-in, delivery options available, food category, sub-category, food type, whether it is a home-made OR restaurant-made and other relevant criteria listed in Section 2(a) – (e) above and in Table A.1.
  - If nothing is typed in the search bar, all restaurants in the neighbouring area has to be listed.
- ii) Fine-Granular Searching Interface 2: In the first half of the page a customer is given options to search minutely based on different criteria as listed in Section 2(a) – (e) above. For example, search criteria includes namely food category (e.g., Indian), food sub-category (North Indian), food serve time (break-fast, lunch, dinner), Occasional (e.g., Christmas), main ingredient (e.g., dairy), main nutrition (e.g., protein), Vegan, Vegetarian OR non-vegetarian type, price-range, takeaway/dining/delivery option, home-made OR restaurant-made, Special requirements such as Spice-level, religious requirements (e.g., halal)... and in the Second half of the page, the results should Appear – both in a map and listing down (like for Interface 1).
  - If no search criteria is used, all restaurants in the neighbouring area has to be listed.
  - Browse based on restaurant names need to be facilitated as shown in Figure 3.
- b) For all 2 interfaces of Section 4(a) above, once customer has selected a restaurant after relevant comparison based namely on price, food category and other criteria as listed in Section 2(a) – (e) above, placing an Order has to be Simple with a click of a button – both on a map marker and an order button that appear next to each result listing. When placing an Order, there should be a way for a customer to indicate how soon food needs to be prepared.
- c) Food Service comparison especially for Section 4 a.(ii) above and this facility supports a number of Search criteria – use of drop-down (multi-) selection is preferred in the first half of the page while the second half of the page lists down the results based on the search criteria chosen by an end customer together with a MAP VIEW. The results will refresh when a different search criterion is chosen. The search criteria for this comparison purposes will consist of at least the following:
  - i) Food main category (e.g., country of origin such as Chinese)
  - ii) Food Sub-category (e.g., Beijing Style). One or many sub-categories per main category can be selectable with a multi-select drop-down list.
  - iii) Food time of Serve (e.g., break-fast, lunch, diner, Other,...).
  - iv) Food type e.g., Vegetarian, Vegan, non-Vegetarian
  - v) Food main ingredient (e.g., dairy)
  - vi) Food main nutrition (e.g., protein)

- vii) Special Requirement
  - Allergy Requirements (e.g., nut-allergy, dairy-allergy, ...)
  - Spice-Level (e.g., mild, intermediate, hot)
  - Religious Requirements e.g., halal
  - Home-made VS restaurant-made
- viii) Distance of a food provider (e.g., restaurant) from a customer location
- ix) Price with courier cost
- x) Food processing time (i.e., lead-time) including the delivery, if any
- d) 4(c) has to be sortable namely based on food provider (e.g., restaurant) name, distance, price, customer ratings, and processing time
- e) Use of Google map to display the food providers that can meet the criteria chosen by an end customer has to be facilitated with respect to customer current location.
- f) Each result listing (i.e., row) of 4(a) will contain namely food provider name, price, distance, processing time, a button to visit the food provider web page (both internal and external), and a button to place an order.
- g) Placing of order with OR without price comparison should be facilitated.
- h) If a customer intends to reserve a table, this market place has to facilitate comparison based on food, location, price,... that is followed by table booking and order placement.
- i) Once an order is placed a customer is required to make the full payment to the Root Admin account while a given food provider (e.g., restaurant) is assigned the food order.
  - i) A relevant mechanism has to be in place for an end customer to indicate payment options (e.g., credit card, debit card, PayPal,...), enter payment details and make any payment
  - ii) The Root Admin and end customer are kept notified by a food provider (e.g., restaurant) regarding the Order Status (e.g., order is placed, currently in preparation, ready-to-serve, ready-to-dispatch, ready-for-collection, already food-consumed, food-dispatched, food-collected,...)
- j) Order Status notification
- k) Complaint procedure as described in Section 8.
- l) Review mechanism as described in Section 8.
- m) Bespoke customer required food making facility as in described in Section 11 below.

**n) Elastic Search**

#### **4. Use of common Online tool for Dining Layout creation and table-booking**

- a) Use of special browser-based online tools for restaurants (to create their site layout easily)

- The purpose is to enable each food provider to create table arrangements for easy table reservation, if dining-in option is offered
- b) For this purpose, an online browser-based tool (e.g., JavaScript-based, JQuery-based) has to be in place for food providers to simply create a dining-area site layout, maximum capacity, to create their site layout easily with seating arrangements such as table layouts, table locations, table shape such as Oval, circle, rectangular, and Square, number of chairs per table, indoor OR out-door, dimensions, minimum order for a table, whether smoking is allowed per table location, and whether alcohol is served OR allowed, hourly charge for table and the like.
  - This is very similar to flight check-in seat reservation – i.e., customers need to click tables and seats to reserve. This will enable end customers to reserve tables together with food and make them ready by the time they visit
- c) This Software should be common to any food provider (e.g., restaurant) that subscribes to the market place
- d) e.g., <http://modeling-languages.com/javascript-drawing-libraries-diagrams/>.

## 5. General front end Appearance

- a) Simple Links for the purpose of Sharing our Sites using Social Networking Sites is preferred
- b) Use icons as much as possible
- c) Responsive design – website will be visible on web, tablet and mobile and also in Landscape and portrait View (product designer Studio tool may not be responsive)
- d) Each food provider (e.g., restaurant) has a market-place Specific (e.g., Internal) Seller profile page in the market place for them to show their services with pictures, show testimonials accreditation received (a facility has to be in place for each food provider to upload associated images, name and description for this purpose) and to list down their food items they provide with proper categorisation as described in Section 2 (a) – (e) and Section 3. Further this page should contain customer reviews and ratings associated with an associated food provider as described in Section 8(a) below. The contents of this page is Visible to an end customer. In addition, a food provider can have its own external web site – the link can be provided in the internal page.
- e) Slideshow of subscribed and localised advertisements belonging to food providers (e.g., restaurants) to end customers based on Visibility criteria explained in 2(i) above.
  - i) Each Advertisement has an associated href link
- f) A link for people to share this web site using Facebook, LinkedIn,...
- g) Later: A crawler to contact each restaurant to subscribe...

## 6. Automated Order Management

- a) Ecommerce engine and payment API integration are thus necessary

- i) Full featured shopping cart functionality with comprehensive checkout process
- b) A mechanism has to be in place for a food provider (e.g., restaurant) which has been assigned with an order to update Order Status (e.g., order accepted, food preparation in progress, order dispatched,...)
- c) Money handling
  - i) When an end customer places the order, the Root Admin account will be credited with an amount equal to a sales transaction
  - ii) When the order is dispatched, the food provider (e.g., restaurant) account will be credited with an amount equal to the sales transaction minus commission
- d) Assigning orders to right available courier companies
  - i) Courier tracking has to be facilitated to end customers, sellers and root admin with an appropriate courier tracking API Integration
- e) Refunding has to be facilitated if the order is cancelled before food preparation OR cooking starts.

## **7. Customer Reviewing and Complaint procedure**

- a) After getting food service (e.g., dining-in, delivery, take-away) only any end customer can write reviews about a food provider (e.g., restaurant) which has been placed an order. Further, customers should be able to rate a food provider (e.g., restaurant) based on the following:
  - i) Quality of food (in terms of taste, hygiene, genera and table cleanness, table serving manners – rude, kind,...)
  - ii) Responsiveness (dispatch is well within the advertised processing time by a food provider (e.g., restaurant)) of a food provider (e.g., restaurant)
- b) Each customer who has placed an order can make a complaint about an order to a given food provider (e.g., restaurant) and if required take it further to the root admin if not resolved at the first instance. It has to be simple but comparable to that of an Amazon market place

## **8. Advertisement concept**

- a) Localised Advertisement of food providers (e.g., restaurants) OR independent chef to end customers as described in in Sections 2(i) and 3(j) above OR Section 11(e).
- b) Food providers such as restaurants, private chefs, family homes and the like can subscribe to a preferred advertisement type as described in Section 2(i) and the Root Admin can automatically collect the associated payment on a daily, weekly OR monthly basis.
- c) The root admin should be able to create different advertisement types and set price and payment period (whether daily, weekly OR monthly) to each type
- d) When subscribing there should be a mechanism for a food provider (e.g., restaurant) to select the appropriate advertisement type along with period while uploading and naming each advertisement content.

## **9. webRTC-based Interaction between both parties**

- a) Video call, Screen sharing and chat

<https://pure-tor-48201.herokuapp.com/>

username: Deepansh

password: Nagaria