**Waiter System**

**Project Description**

Nowadays, with the increasing demand for restaurants and cafes, the speed of serving, taking order and payment time is raising. Some businesses are seeking to produce suitable solutions for this issue. We chose to solve this problem as our mission and find a solution . Target group of the project are the restaurant and café owners and their customers. Main goal of the project is to speed up service in restaurants and cafes. In this way, businesses will be able to serve more customers in a short period of time. Also, it’s good for the customers.

At the enterance of the application, user can login as business (such as restaurant, café…) or customer. If users login as business, the user can see which order came from which table on this system easily. Then, he/she can serve customers in a short time. Sometimes customer will be a tourist who can not speak local language. In this situation , the language support of application comes into play and the customer orders product without any communication with waiters. It is good option for customers and businesses.

If we look at the customer side of the system, people will get rid of long waiting times of giving order in a restaurant. Customers will be able to communicate with the restaurant just by sitting at their tables. The users can also see the nearby restaurants which are using this system based on their locations, because the project is not for just one restaurant for this reason we plan to persuade many of restaurants all around the world to join us.

1. **Functional Requirements**
   1. **Member data and restaurant information must be stored**
      1. All members must enter personal information.
      2. All members must enter valid mail and password
      3. Passwords must contain at least one uppercase letter one, lowercase letter and minimum 8 characters long
      4. All user names must be unique
      5. All emails must be unique
      6. Credit cart must be valid
         1. All members must enter a valid credit card information for himself and restaurant
      7. All members must enter their restaurant’s information consist of address, contact information, photos, menus and type of restaurant (restaurant, café, bistro..)
      8. All member must identify restaurant’s rules and credit card obligatory
   2. **Members must be able to update the data about them and their stores**
      1. Members can insert, delete or update their menu, prices, table number, address, contact information.
      2. Member can update personal information, credit card information, language and currency preferences.
   3. **Users must sign up**
      1. They must enter valid mail and password
         1. Passwords must contain at least one uppercase letter one lowercase letter and minimum 8 characters long
      2. All user names must be unique
      3. All emails must be unique
      4. All users must enter a valid credit card information.
      5. All users should enter personal information consist of name, surname, city, language, birthday.
   4. **User must search a place to view information, menu, book or order.**
      1. Users can search a place by typing directly the name of the restaurant or by using filters
         1. Filters can be price range, nearby, category, tag filters.
      2. User should see menu and information about restaurant without making reservation or booking.
         1. Menu’s language must be translated to users preffered choice
         2. Menu’s prices must be changed to user preferred
      3. User should see whether restaurant has an available table for booking on specific date and time if user has selected date and time.
   5. **User should make booking and cancel booking**
      1. System should check that have user enter a valid credit card if restaurant has a credit card obligation.
      2. User should book a table from restaurant which has an available table according to user’s preferences (smoking allowed, garden, inside etc.) at specific date and time.
      3. User should cancel booking and booked table should be available for new customer.
      4. System should control restaurant’s rules while canceling
         1. System should check whether restaurant has a rule for late canceling fine
   6. **User should order item.**
      1. User must select table firstly if he/she has not make reservation.
      2. User should see menu.
         1. Menu’s language must be translated to user preferred
         2. Menu’s prices must be changed to user preferred
      3. User should add item to cart to order.
      4. User should send order request to restaurant.
   7. **User must select payment method.**
      1. User should pay with system’s payment method or select payment method which restaurant provided.
   8. **Business partner must control orders before confirm.**
      1. Restaurant worker should check that ordered items if there is a suspicious status.
      2. Restaurant must confirm order otherwise system should not go to payment step.
   9. **Restaurant should cancel order or send review order request to user**
      1. Restaurant should have an option to cancel some orders.
         1. Canceler must be identify a reason for canceling.
         2. There must have maximum order cancel limit for each restaurant.
      2. Restaurant should have an option to send review order request to user.
   10. **Restaurant must confirm the payment**
       1. When payment made by one of other options that restaurant provided, restaurant must confirm this payment.
       2. System must send confirmation message to user.
       3. If user done payment on the system, system should automatically send confirm message to user after withdraw the bill from user’s credit card.
   11. **GPS and internet connection must be allowed**
       1. System must established connection with GPS and internet.
       2. System should want to permission from user while the system installing.
   12. **Restaurant’s system must show instant order and message data** 
       1. Order and reservation information should be sync instantly
       2. Direct messages should be sync instantly
   13. **After internet disconnection, system must continue to work**
       1. User choices must be stored locally.
          1. Order items must be store locally before send for confirmation.
       2. When user internet has connected, process should be continue.
   14. **All payments must be commissioned**
       1. Each transaction shall be charged
          1. All payment methods and rule violations must be charged according to restaurant’s rules and system’s commission percentage.
       2. Charge percentage must be determined by system initially
          1. System should adjust commission rate for each restaurant.
             1. In certain period, commission rate should be change according to restaurant’s commission income.
             2. For contracted restaurants, commission rate must be set to negotiated rate.
2. **Non Functional Requirements**
   1. **Operational**
      1. **There should be interface for users, members, menus and reservation**
         1. System should have different interfaces for each operation.
         2. User and business owner’s interfaces should be different
            1. User should has an interface to search, book, order and payment.
            2. Business’ interface should be functional to organize works

In business version, user should see all actions on same page.

* + 1. **User and restaurant’s workers should be interact with each other via internal messenger**
       1. There should be messenger in the system
          1. Messenger should use Google Translate API to translations
          2. Messenger should translate language depend on users preference.
    2. **Reservation system should be integrated with other systems**
       1. Different reservation system’s APIs should integrate on system.
          1. Marketed countries’ reservation system APIs should integrate on system.
          2. In booking session, system should check other systems then show available tables to user on selected date and time
    3. **System must be running on the web browser and mobile devices**
       1. System should be run on all platforms.
    4. **Discounts will be notified**
       1. Discounts on the near restaurants should be notified
          1. For this feature, user must be give permission to discount notifications.
    5. **System should control Credit card validation**
       1. System should control all user’s and business owner’s credit card validity once a month.
       2. Not validated cards should not accepted by system.
       3. System should control credit card validation before booking if restaurant has a credit card obligation
       4. System should control before send order to confirmation
          1. Credit card information should not update between order confirmation and payment sessions.
  1. **Performance**
     1. The system should be available for use 24 hours per day, 365 per year.
     2. Devices will be synchronized instantly.
        1. Data on the both web and mobile app must show the same data.
        2. System should refresh data on screen in a minute on business side processes
     3. There should be server in all region.
  2. **Security**
     1. User data must be encrypted
        1. All passwords must be stored as hashed.
     2. Database must be stored on the cloud.
        1. For security reasons, database must be stored on cloud.
        2. Only authorized people allowed to see all data on database tables.
     3. Member and user rights must be protected with daily database backups
        1. The system must take back up of user information, payment, debt and history tables daily.
  3. **Cultural**
     1. Contents will be in English in original
        1. The system should run in English if user do not prefer translate to other languages
        2. The system should translate template language from English.
     2. Users will be able to see prices on their national currency with instant exchange
        1. For foreigner users system will show prices according to user preference
     3. Messages should be translated before showed.
        1. Before show the massage on receiver page, message will be translated with Google Translate API according to receiver’s language choice

**Scenario**

To make businesses to join the system, advertisements and marketing strategies will be used. To join, they must provide all the personal and the commercial information to the system. Updating and changing these informations, will be their own responsibility. Due to these informations, if a problem occurs, the business will be suspended from the system till they correct it. If they are member of other similar systems, they must give their names for entegration with those systems.

On customer side, their joining process will be done with their personal information and credit card info. If they don’t provide a valid credit card information or no credit card details at all, they won’t be able to give order in the businesses which uses credit card information as precaution. Customers will be able to add and change their card details any time.

Customers will be able to sort businesses with filters such as location, category, keyword, nearby. Before they visit, they can see the menu, photographs, comments and rate of the place to make a decision. Menu and prices will be translated/exchanged automatically based on customers preferences.

Customers can book and communicate with business before they arrive. They can give order within the system before and after arrive. They can give order for a desired time to let the order ready when they arrive. After the order has taken, business will send an approval message. This message will contain confirmation information and the time when the order will be ready. Menu will be translated to preferred language.  Before the payment, customers will be able to add new orders. Deletions and changes can only be done with business’ permission.

Payment can be done with credit card within the system and other methods, such as cash, which the business allows. After a payment done within the system, the money will be transferred to system’s account, then a commission will be cut. Remaining amount will be transferred to the business’ account. If a customer pays with cash, the commission will be cut business’ credit card.

After every successful order, a successful payment must be approved by business. Business must approve this payment with its type such as credit card, cash. If order was successful and payment doesn’t, system will consider this as fraud and if a complaint occurs, after investigation, the amount will be taken from the fraudulent side.

For a case of investigation, all the reservations, orders, payments will be kept in the data center. In the light of this data, system will offer specific recommendations to users.