**Location-based Facebook Chatbot**

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1. **Introduction**
   1. Project information
      * Project name: **Location-based Facebook Chat bot**
      * Project code: **LBFC**
      * Product type: **Facebook messenger bot + Web application**
      * Start date: **September 4th, 2017**
      * End date: **December 12th, 2017**
   2. Introduction

In this document, we will introduce the Location-based Facebook Chat bot solution, which helps customers shopping easier without any required app but Facebook messenger – an app that every Facebook user need to install. Besides, it can help shops admin manage products and other services such as promotions or coupons and orders.

* 1. Current situation

When a shop or a company want to promote their products and services, a mobile app is needed since a web page on smartphone can’t actually replace all the functions in a desktop web page better than a mobile app. However, many companies are now creating their own apps. This can make users feel uncomfortable since they have to install an app whenever they visit a new store, which can make their phones slow down.

* 1. Problem definition

Current problems:

* **Too many steps to install an app**: To install an app, users have to process a lot of steps to get app installed. On the other hand, more apps installed means less storage available on the phone. Therefore, people prefer less app but with same functionality.
* **Website for mobile can’t display all functions**: Because of the small screen, a website for mobile needs to reduce all details to leave more space for primary functions. This lead to lack of functionality. If the webpage decides not to reduce then the user experience will become badly.
  1. Proposed solution

Our solution is Location-based Facebook Chat bot. This bot will help customers explore shops just by chatting. From product information to promotion information and ordering, this bot can automatically do that without any click. Furthermore, it can detect customer location via Wi-Fi and recommend the services in the shop and surrounding stores. Customer can also get coupon or promotion from this bot.

* + 1. Feature functions
* **Auto-detect customer location:** When a customer visits a shop, connect to Wi-Fi or enter a code from his/her invoices, system automatically detects where the customer is and process to another functions based on the location.
* **Recommend products and promotions:** Based on the location, system will search for products of the current shop and surrounding shops, also the promotions.
* **Allow customers to order:** customers can order products in the current shop or nearby shops. System will return an order code for each customer to track their orders.
* **Real-time notifications:** notifications about services of the current shop and nearby shops will be send in real-time. When a shop update its services, users will be notified immediately.
* **Service management:** Staffs from all the shop associated with system can control the orders and services via one site only.
  + 1. Advantages
* **Simple to use:** customers don’t need to install any app to use this system. All customers need is to install Facebook messenger, which is really popular since it is another must-installed for Facebook user.
* **Customers don’t have to research for places:** information of shops are all included in the system, therefore users don’t have to search around to get information about services of shops nearby. Besides, the system is in real-time so customers don’t have to refresh anything and the bot will automatically advice new services.
* **Customers can get coupon on their own phone:** Usually customers have to come to a store to receive coupon. In this system, a coupon is presented as code and users only have to copy the code for the bot. Then, coupon can be used.
* + 1. Disadvantages
* **A bot can’t replace a human:** An AI bot can’t replace a human totally and it still need some supporters in case of strange behaviors from customers.
* **Some business won’t suit for all brands:** because the management site is created for all brands, it can’t meet some special requirements of some brands.
  1. Functional Requirements
     1. For guests
* Order:
  + See full list of menu of a shop
  + Create order
  + See full list of order detail
  + Cancel order
* Promotion and Coupons:
  + Get coupons and promotions
  + Apply coupons and promotions in order
  + See list of available coupons and promotions
* Search for nearby shops
  + 1. For shop staffs
* Manage products
  + Add product to inventory
  + Update product information
  + Get product information
  + Delete product
* Manage promotions
  + Add promotions
  + Get promotions information
  + Update promotions information
  + Delete promotion
  + Deactivate promotions
* Manage orders
  + Get all orders information in shop
  1. Roles and Responsibilities

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No. | Name | Role | Position | Contact |
| 1. | Tường Đức Khang | Developer | Leader | [khangtdse61752@fpt.edu.vn](mailto:khangtdse61752@fpt.edu.vn) |
| 2. | Thái Hoàng Duy Bảo | Developer | Member | baothdse |
| 3 | Nguyễn Văn Hùng | Developer | Member | hungnvse61305@fpt.edu.vn |
| 4. | Dương Hải Quang | Developer | Member | quangdhse61383@fpt.edu.vn |

1. **Software Project Management Plan**
   1. Problem definition
      1. Name of this project
      2. Problem abstract
      3. Project overview
         1. Current situation
         2. The proposed system
         3. Boundaries of the system
         4. Future plans
         5. Development environment
            1. Hardware requirement
            2. Software requirement
   2. Project organization
      1. Software process model
      2. Roles and responsibilities
      3. Tools and techniques
      4. Dependencies
   3. Project Management plan
      1. Tasks
         1. Initializing
         2. Planning
         3. Specifying requirements
         4. Designing database
         5. Create software design documents
         6. Implementing
         7. Testing
         8. Creating user’s manual
      2. Tasks sheet
      3. All meeting minutes
   4. Coding convention
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   1. User requirement specification
      1. Guest requirement
      2. User requirement
      3. Administrator requirement
   2. System requirement specification
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         1. User interface
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         3. Software interface
         4. Communication protocol
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   4. Conceptual program
3. **Software Design Description**
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   2. System architecture design
      1. Web application architecture description
   3. Component diagram
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      3. Interactive diagram
   5. User interface design
   6. Database design
      1. Entity relationship diagram
      2. Entity dictionary

|  |  |
| --- | --- |
| Entity name | Description |
| AspNetUsers | Storing user information. User can be admin or shop staffs, not guest. |
| AspNetUserClaims |  |
| AspNetUserLogins | Storing information of 3rd party login provider, such as Google, Facebook. |
| AspNetUserRoles | Mapping between users and roles |
| AspNetRoles | Storing roles |
| Campaign | Represent a promotion campaign |
| Combo | Represent a combo of products |
| ComboProductMap | Mapping between combo and product, tells which product is in which combo |
| Corporation | Represent a brand |
| Coupon | Storing coupons information |
| ImageLink | Storing image link for product, shop. |
| Order | Storing order |
| OrderDetail | Storing details of orders |
| Product | Represent a product |
| ProductCategory | Represent categories of products |
| ProductCatgoryMap | Mapping between products and products categories |
| Promotion | Represent a promotion |
| Shop | Represent a shop |
| ShopCategory | Represent a shop category |
| ShopCategoryMap | Mapping between shop and category |

* + - 1. AspNetUsers
      2. AspNetUserClaims
      3. AspNetUserLogins
      4. AspNetUserRoles
      5. AspNetRoles
      6. Campaign
      7. Combo
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      19. ShopCategory
      20. ShopCategoryMap
  1. Algorithms