Immagine che contiene logo

Descrizione generata automaticamente

Iqueue Project

UML Design

Software Engineering for Automation (2022-2023)

Immagine che contiene testo

Descrizione generata automaticamente

*UML Design* helps to create a class diagram of our Iqueue project. The goal of this section is to give a description of the main functionality of our app to ease the creation of the class diagram. The legend that we will follow to better characterize the UML is the same used during the exercise sessions, that is:

class

verb that hints to an attribute/attribute

operation (methods))

generalization

association/composition/aggregation

The main functionality of Iqueue app is:

Iqueue must be able to manage many users. A user can be of two types: a costumer or a shop owner.

Considering a shop owner: he signs in in the application as shop owner with username and password. He will receive a shop owner ID. The shop owner beholds one or more shop. Iqueue allows, given the shop owner ID, to insert the name, the location, the time schedule, and the special offers of the shop. In addition to that, the Shop Owner can insert their products/services and their prices and of course modify them in any occasion. At the end of this process the Iqueue app will show, through the GPS system, the map with the shop name, location, time schedule and special offer and its queue. Each shop has some products, which can be of two types: either a item or a service. The item will be characterized by the quantity present in the shop, instead the service by the availability. If in the shop arrives a costumer without the Iqueue app, the shop owner should manually increment/decrement the queue number.

Considering a costumer: he signs in in the application by its username and password. He will receive a customer ID. Then the Iqueue app allows the costumer to select a category from a specific menu of shop he/she wants to visit. The categories can be: bakeries, hair saloon, perfumeries, clothes. Once the costumer has selected the typology of shop the Iqueue app will show the map with the location of the shops and the costumer sees the queue they have in front of each one. The client selects the specific shop where he/she wants to go and from another menu it makes a booking: selects the time slot in which he/she will arrive. After that a QR code will be generated by the app for the costumer and containing the information of the queue and at the same time a notification will be sent to the shop owner by the Iqueue app. The queue is characterized by the number of people in queue and the estimated waiting time. In addition, it has a total counter which keeps track of the total number of costumers in the shop. Every time the customer buy a product in a specific shop he will receive reward points which can accumulate to get prizes. The Iqueue app also gives the possibility to the customer to oversees the products of the shop and to have a cart in which are present the special discounts and the wishing list of the products. It has also a purchase list in which are present the list of purchase products and the date of purchase. Each customer has a list of preferred shops, characterized by their name. Once the client arrives at the shop the shop owner will scan the QR code and the Iqueue app will remove the client from the queue of the shop.

We remember that every time a method is specified, to identify its location, we need to identify who execute the method (not who invokes it!).

Sono arrivato a primo UML TdE 2020, fino a R13 per quanto riguarda i requirements.

**General**

Vedere se gestire la position di del Customer e dello shop come in slide 21@esercitazione1 dove si utilizza region.

Fare funzioni shop owner registration e customer ?? In modo analogo per inserire informazioni negozio. (intendo che con un solo metodo si vanno a inserire tutte le informazioni necessarie).

Siccome gran parte degli attributi li mettiamo coi metodi, essi vanno definit come private???

VEDERE/CHIEDERE SE I METODI DI INSERIRE SHOP NAME ECC. VANNO SPECIFICATI NELLA CLASSE SHOP OWNER, IN QUANTO E’ LUI CHE FORNISCE QUESTE INFORMAZIONI.

Penasare se abbiamo self relation su qualcosa?

E’ meglio fare class diagram secondo interface come TdE Exams 2022 ?

Vedere TdE 2022 in fondo

Per fare preferred shop, vedere Tde 2021, slide 17

Vedere se realizzare gestione ID come TdE 2020, slide 5 (in caso sono già presenti le cose)

**Product**

Se un prodotto non è presente è individuato da zero nella sua quantity

**Customer**

Un cliente vede il numero di persone in coda con il metodo SeeQueue(in qr:QRCode): Integer

**ShopOwner**

**Iqueue**

Vedere se fare void o boolean per i methods

Nei metodi, si usano gli acronimi:

Idso: ID shop owner, Idc: ID customer, Ids: ID shop

Insert\_shop\_time: to: opening time, tc: closing time

DA QUI DA VEDERE

Booking: va messo ids per fargli mandare la notifica???? Secondo me no, perché c’è una funzione opportuna; è boolean in quanto dà se tutto è andato a buon fine

Insert Shop Discount: come trattiamo discount e spacial offer?? Sono la stessa cosa???

Come gestire special offer???

Insert Shop name: va passato anche il nome??

Insert\_product\_discount(in Ids:string, in Idp:string, v:real): string: v corrisponde al valore del discount; essa è specificata anche in shop, in quanto necessario per applicare poi il discount sul prodotto

**QRCode**

Per ora individuato come association class fra customer e queue; vedere se e cosa aggiungere

**Shop**

Vedere se ha senso mettere category, perché potrebbe essere che si sovrappone al concetto di generalization

Vedere se shop location okay come stringa

**Queue**

Vedere se in metodi queue va messo anche il QRcode come argomento

**Relazioni**

Beholds: vedere se fare direct association

Shop-product: assiumiamo che un prodotto è presente in un solo negozio?

GPS system direttamente connesso a Customer e non a user??

Verificare cardinalità visits

Counter va messo come subclass di queue oppure come composition???