CS 353 Database Systems

Project Proposal

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Introduction

As defined by our guidelines, our group was selected to create a database application for an online food delivery platform. The goal was the create a 3 way system with the customer, the restaurant and the courier being able to interact with the system in various ways.

Requirements

Functional Requirements

Any User

- Can register with an email and a password.
- Can set a profile name.
- Can change email and password.
- Can change their profile name.

Customers

- Can place an order for now or for a later date.
- Can cancel an order before it is delivered to the courier.
- Can tip the delivery personnel or the restaurant independently.
- Can review delivery personnel and restaurants independently.
- Can ask for a refund (?)
- Can search by food type and food name (?)
- Can search by the amount they are willing to pay
- Can list the most popular restaurants and foods.
- Can add restaurants to their favorites.
- Can use discount coupons issued by the restaurants
- Can add multiple delivery addresses.
- Can see the status of their order.
- Can choose how to pay for their order beforehand.
- Can see old orders
- Can see the scores and read the reviews of restaurants and couriers

Couriers

- Can choose the regions that they want to deliver food to.
- Can set the delivery fee for each region.
- Can set their working hours.
- Can set minimum tip(?).
- Can share his live location.
- Can decline to deliver an order.
- Can set the status of an order

Restaurant Owners

- Can add food items to the menu or remove the items from it.
- Can change the prices of the food items.
- Can comment on the customer reviews.
- Can start discounts on certain foods or menus.
- Can set opening and closing hours for the restaurant.
- Can set the status of an order.
- Can cancel an order.

Non-functional Requirements

Performance

Since there are many similar services available, our service must be running smoothly to attract the users. The response times for any type of user (customer, courier or restaurant owner) should not exceed 1 second.

Supportability

As a website, our service should support different screen resolutions so that users will not have any problems accessing the service.

Extensibility

Reliability

Security

Private information of users must be secured and shouldn’t be seen by the others. Some other information such as the addresses of the customers can only be seen by the couriers only during the delivery time.

Constraints

- React.js will be used for the website design.

Limitations

- Each user must have an email address and password to login to the website.
- User password must have at least 8 characters and contain at least one digit and one uppercase letter.
- Users can only rate and review the whole delivery process after the order is placed and delivered.
- Users cannot change their reviews once they have been submitted.
- Users cannot place orders from multiple restaurants in a single order.
- User reviews must be approved by the admins.
- Restaurant owners and couriers cannot see the information of users that post a review.

Project Proposal

The project proposal that you'll prepare should clearly and completely describe the application system that your team is proposing, and discuss why/how a database is going to be used as a part of the system. After this problem statement, you should define the requirements and limitations of your application system. You should next provide a conceptual design of the database using the E/R model. Recall that a typical E/R design may include strong and weak entities, binary/ternary relationships, aggregations, generalizations/specialization (e.g., IS-A relationship), cardinality constraints, keys and descriptive attributes, etc. As long as your application permits, we favor a large number and variety of entities, relationships, etc.

Of course, we don't want artificial entities etc. that are irrelevant to your project, but we believe, for most of the projects, there is enough room to add various things by using your creativity & imagination. So, try to have a reasonably rich database from the very beginning. Of course, you will have the chance of making corrections, extensions (and even deletions, sometimes) based on the TA feedbacks to your proposal and design reports, but it is important to think/brainstorm about the requirements of upcoming stages and start with a reasonable initial design. Finally, each project group should prepare a simple web page for the term project and publish their project proposal on this web page (in addition to submitting the printed proposal on its due date). Please don't forget to include your web page's address in the hardcopy proposals you submit. (Note that this web page is just to publish your reports and has nothing to do with the Web interface you will provide for your projects).