

Conceptual Sketch - Team CKQW

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Key Purpose and Social Needs:

The key purpose of this app is to update businesses' information in response to the COVID-19 situation, such as hours of operation, adjustment in services and prices. It also allows users to post comments about the businesses and share their experience. Due to the fast changes of COVID-19, many businesses have been changing their way of operation to better serve our community. This app would save our users time from searching for businesses that meet their needs, since it contains key information about the businesses, and users no longer need to call the businesses to ask about these information.

We will also provide a request platform which allows businesses to interact with each other, such as general supply requests or service requests. Among the customers, we'll also have a rating/review system to inform the customers about each other's feedback. For business and customer interaction, a Q&A service is provided that allows business to quickly respond to customers' questions on the webpage.

This way, both businesses and customers can reflect upon the concerns toward COVID-19, where businesses can make adjustments to address customers' needs and concerns. As a return, customers can help the local business through consumerism.

Key Concepts

Account(Both Business and Customer):

- Purpose: To create an account for businesses or customers.
- Structure: Users will create an unique username and password for their accounts which later can be used to login to their webpage.
User.account= [username:password]
- Action:
 - SignUp:create an account as an business or customer
 - ChangePassword:change the password of the account
 - SignIn:login to their account
 - SignOut:logout from their account
- Operational Principle:
 - Each business and customer can only have one account.
 - Business's account must match their certified business's name

Businesses

Authentication:

- Purpose: : To approve the validity of a business
- Structure: Each business is mapped to the result of the authentication
Business.auth=[business:{T,F}]
- Action:
 - Validate: Cross match the business registered to the provided list of certified business.
- Operational Principle:
 - A business must be validated to proceed to their profile page.
 - A unvalidated business will not appear in the map

Service Request:

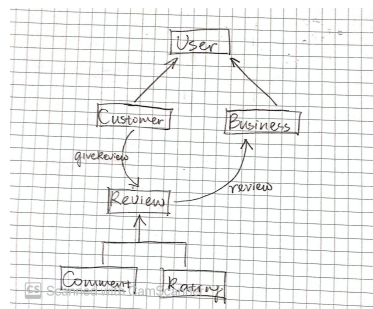
- Purpose: To provide a platform for businesses to check the availability of supplies and services which then purchase/sell to each other

- Structure: Each business is mapped to the service they request and accept
`business.request=[business:service]`
`business.accept=[business:service]`
- Action:
 - View: Display all services requested
 - Request:business can request a service on the general platform
 - Accept:business can accept a service on the general platform
 - Remove: business can remove a requested service on the general platform
- Operational Principle
 - A service that is accepted will not be available to view
 - Business can only remove their own request

Customers

Rating/Review System

- Purpose: allows customers to comment on the service they receive such that other customers can get a heads up on how good/bad a business is and businesses can improve their services based on customer feedback.
- Structure:



Constraints: Review = Comment + Rating

- Action:
 - giveReview: Customers can give review to businesses
 - viewReview: View all reviews a business gets
- Operational Principle: Any registered customer can give review

Q&A:

- Purpose: This allows communications between businesses and customers to allow clarification on concerns.
- Structure: In each business' profile page, there would be a Q&A section, where customers can upload questions and businesses/customers can answer the uploaded questions.
- Action:
 - AskQuestion: customers can upload questions.
 - AnswerQuestion: businesses and customers can both answer uploaded questions.
- Operational Principle: Only customers can post questions, but both businesses and customers can answer questions.

Map:

- Purpose: This is a map of Cambridge, on which we would show the location of businesses. This would help visualize the location of different businesses, and would give our users a visual information of how far each business is located from them.
- Structure: The map would be shown as an interactive map. Each business would be represented as a dot on the map, at the specific location of the business.
- Action: Users can zoom in and zoom out on the map to see more or less detail about the map. Users can also click on a dot on the map, which would open
- Operational Principle: All users can view the map, and can click on the businesses on the map to view more information. Only businesses can edit their own location on the map, and nobody can edit any information of other businesses

COVID:

- Purpose: This concept allows easy sharing and access to the most updated COVID-related operation status of businesses to make sure customers can pick where to go and be in a safe environment as they desire.
- Structure: Each business will have a COVID-related information profile, where a preview of such profile will be provided on the map. Inside the full profile page for each business, there will be a specific section devoted to the full COVID-related information, where customers can also leave reviews and give ratings on.
- Action:
 - Preview: show a shorter version of COVID related information of a business on the interactive map
 - Update: allow businesses to update their status on COVID-related properties
 - Add: allow businesses to add additional properties not provided in the default
 - Rate: users can rate on how satisfied they are towards each property of a business
 - Review: users can leave comments on each property
- Operational Principle
 - Only authenticated businesses can Update and Add. Only users can Rate and Review.

Why the project will involve interesting and substantive conceptual design work

One interesting and substantive conceptual design work that our app has is the map. The map is an interactive map of Cambridge, with dots on the map representing different businesses. The map is for visualizing the location of different businesses for our users, so that it helps users understand how far each business is located from them. Users can also click on the dots on the map to view detailed information of each business. This is interesting because it allows our users to interact more with the app, and provides good visualization to help users make better decisions. This idea is not very commonly used in many apps, and involves more design than CRUD.