

# CS8803 – Special Topics | Mobile Apps & Services

## Ask – Project Problem Identification

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*In this assignment, we will describe our semester project – Ask. We will first start by describing the problem we are trying to solve and the approach we will use. Then, we will identify Use Cases and the related BMC. Finally, we will describe what we need to do as a learning prototype and the references and technology we will be using.*

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### 1. Problem Description – Ask

The problem that we are trying to tackle is based on two simple ideas:

- Why should I buy something that I would use only once (few times)? : as a consumer.
- Why can't I rent my inactive items to make some extra money? : as a provider.

First of all, without having quick access to a desired item, consumers don't have any other choice but to go out and buy a brand-new product or a second-hand one. In more than 50% of the cases, the items that had to be bought would not be used anymore after the first few occasions. This is even more real for mid-term travelers (exchange students for instance). In a new place, one will have to buy brand-new items and throw them away after one's stay, making it a costly and time consuming process.

On the other hand, the providers would be the ex-consumers of brand-new products who no longer have as much use for such items but still believe they may still have some value. Hence, they have provided the middle ground that new consumers can utilize instead of buying a new product. We can detect here a buying-throwing away cycle which varies per consumer type (travelers, students, locals, social class). The problem here is that providers are not aware of this constant cycle and thus cannot utilize the demand for their products. Ask will solve this problem.

#### Current existing solutions:

Craigslist / Facebook "Marketplace" / Facebook pages / Facebook group / Speaking to the neighbors / Selling on the street / Network of people in the same community / @todo

Shortcomings of Craigslist:

- there is no "official" Craigslist mobile app
- international, but not as many international users (<https://www.leboncoin.fr> is the French equivalent)
- only for 1 buy/sell transaction, once the item is bought/sold, the users never speak to each other again

Shortcomings of Facebook groups (i.e. Free & For Sale):

- multiple groups for an area (i.e. Cornell Buying and Selling)
- some groups are limited to a subset of the population (people with .edu emails / group for only GT students but not Emory students)
- not everyone is a member of these groups
- no way to filter by location
- if you move to a new area, you would need to research, search, and be added to another local group
- need a Facebook account to access

## 2. Approach Exploration - Ask

### a. Non-digital solution

For each neighborhood, use a listing written on a special place known by everyone (building entrance / shops ...). On these listings people would express their request for accessing an item and other people could see and help/sell by providing the actual item.

Problem : non-digital, not quick enough / hard to access information / need to move / no matching algorithm.

### b. Digital scheduling but in person meet up

Have a set time for the people interested to show up at a certain place so it's kind of like a pop up garage sale for everyone involved.

Weaknesses: transportation of items, scheduling 1 time (you could solve this by having a recurring event)

### c. Pay for a snapchat ad of your items within a 10 mile radius of yourself

Just for the laughs -

### d. A Tinder-like platform to sell & buy items.

Consumers would push request of one need they have. Providers would swap between choices and pick the one they could sell / rent. Smart matching algorithm, help reducing the time for getting items. Matching would be based on a location range / Machine Learning to match people with same interests.

## 3. Use Cases – Ask

### a. Consumers

For the consumer, they would use this application in order to have quick access to products that they need and don't want to buy at full price from a store. By looking for items in your area, the user will be able to meet new people and expand their network.

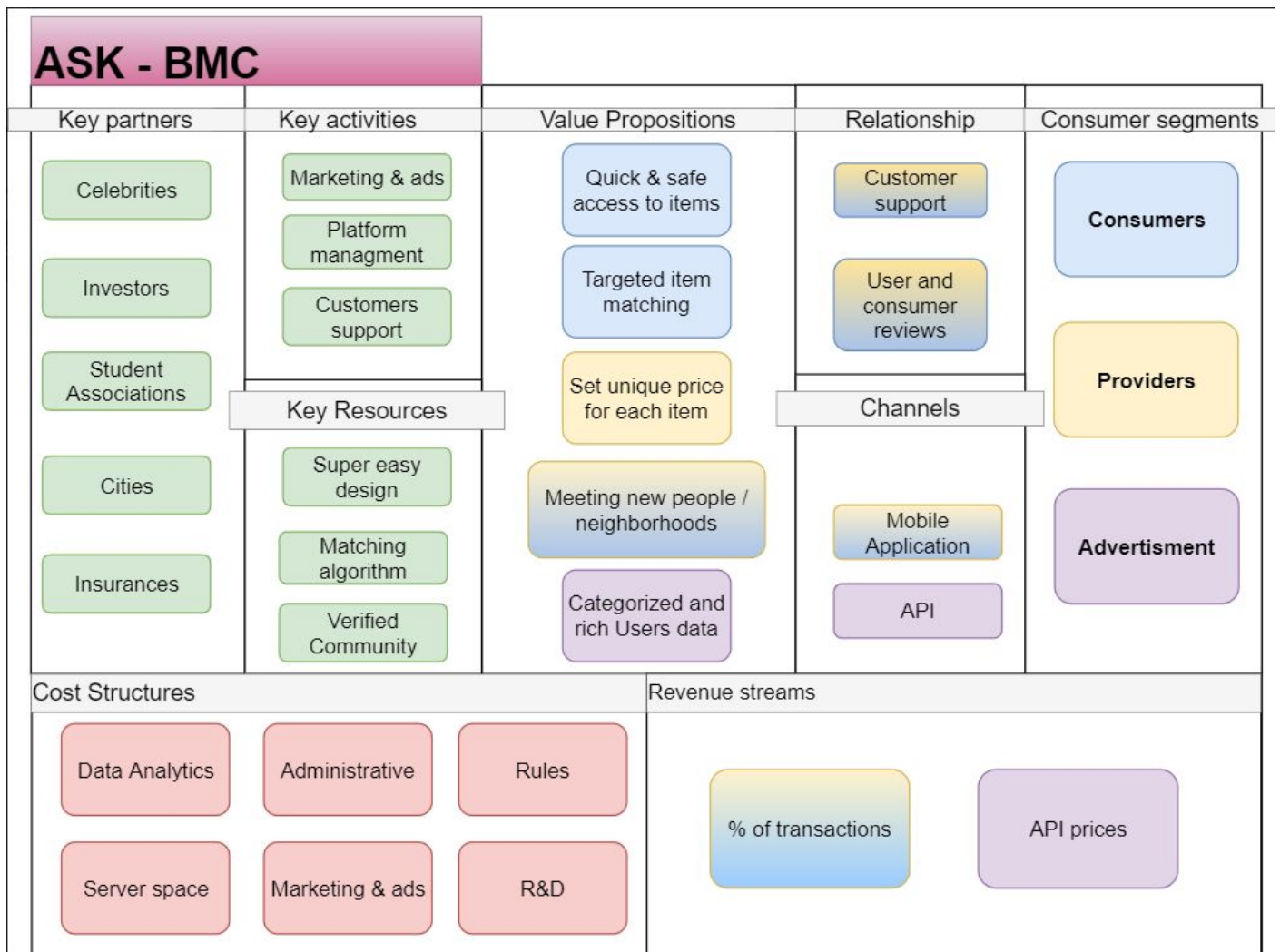
### b. Providers

As the provider, you would sign up to make some money off of items you bought. Doing this will allow you to make a profit by earning some money per user exchange so that you will essentially be able to refund the item. Also, renting to consumers will expand your network.

### c. Groups

As a group planning for a holiday party, fundraiser event, or any other circumstance, this app will allow groups to collect several items from one or multiple providers in an organized fashion. This will make renting an inflatable pool, decorations, and foldable tables simpler and more affordable.

#### 4. Business Model Canvas – Ask



Based on our BMC, we have three Consumer segments. The Consumers who use the app to get the desired product, the Providers who share products within the app, and also advertisers. The advertisers who are interested in our app to get the value of rich user data which could be categorized, leading to better data for the advertiser in other platforms. The Consumers interact with the value proposition of getting access to an item quickly and safely and Providers are able to set value to inactive items that they are ready to rent. This interaction between the Consumer and Provider will also have the value proposition of allowing users to meet new people or neighboring people.

## 5. Learning Prototype

### a. Goals:

One thing that we don't know about our app is how long a user will use our app and how likely they are to return to using our app. For instance, how frequently would users be looking for an item. Every day, once per week, only one item total? Another thing that we don't necessarily know about our app is how much users are willing to pay for a product and how long they would like to borrow it.

### b. Approach:

The information that we would need to collect from our users are:

- The users' role: will the user be a provider, consumer, or both?
- Each users' interests: what items are they looking for.
- Classify typical users categories - interests : so we can start by focusing on them.
- Classify typical items categories sold
- Is the user trying to make a profit: this would determine a price negotiation system.
- How would the user like to pick up and return the item: range based searches.
- How much would someone be ready to pay / category

These features would need to be customized for each user so that we can provide the simplest method of lending and returning items specific to every need. With these features, we would need to collect user information to optimize matching. We will do this by creating a settings tab and user profile where the user can join as a consumer, provider, or both. This will then determine if the user can upload their items they want to lend or are looking for items. The users will also be able to set their own price ranges for all items or categories of items to make the transaction as affordable as possible. For convenience, the user will be able to set pickup/drop off locations or use range based searches for product-consumer matching.

## 6. References & Technologies

### a. References

Tinder-like design. Facebook group. Uber-like design (for visualizing offer/demand on a map). Simple template design.

### b. Technologies

Front-end: An Android mobile application for the front-end. Android provides great developer community and is easy to set up and test directly. Prototyping platform for design and test.

Back-end: A NodeJs server running on an online server : Heroku for instance. RESTFul API. PostGres DataBase (consistent with Heroku).

Visualizer: An eventual web application to visualize on a map the users and requests. Help for testing and implementation. Machine Learning tests as well.

APIs: Venmo or any other money transfer api which would be responsible for handling payment transactions between the provider and consumer. Maybe a Google Maps API which could be used in such a way that it connects providers and consumers who are close by.

Other ideas:

- review consumers and providers with star ranking
  - similar to AirBnB and Uber style
- some kind of insurance policy if an item is damaged
- Android, IOS, web platforms
- easy and safe pickup locations for consumer and provider
- pricing
  - \$
  - food
- user searching
  - price based
  - location based
- how long will you be able to rent the item