Taskr: Uber for Tasks

Part A

By: Chris Konstad, Pramono Wang, Roger Witkin, Guillaume Lam and Alejandro Rioja

https://github.com/chriskonstad/taskr

CS 130 Fall 2016
Oct 13th, 2016

INTRODUCTION

Taskr is an on-demand application that allows you to request tasks (like lawn mowing, bathroom cleaning, grocery shopping) with an interface similar to Uber. Request listings will be aggregated based on the location where individual requests are to be fulfilled, rather than on the poster's location. A user's rating will be visible on their profile which will also contain general user information and a history of the user's past requests.

The app itself will be based on the mobile application and we will set up a REST API to get the data and sync it to the mobile app.

The backend service must handle tasks, locations, money transfers, user accounts (including authentication), and user metadata, which is described on the *FEATURE DESCRIPTION AND REQUIREMENTS* section.

MOTIVATION

As college students we are always looking for ways to make extra money. At the same time, we are sometimes too busy with other activities and are unable to complete house chores or other tasks that we need done like groceries. Taskr bridges this gap by providing a platform where people can post and fulfill requests, thereby enabling a 2-way marketplace. We envision Taskr becoming a ubiquitous platform where users can find services for any task that they need done.

FEATURE DESCRIPTION AND REQUIREMENTS

- Login and Sign Up with Facebook
- Ability to add payment methods via PayPal/Stripe
- Users will be able to post, search for, and fulfill, requests made by other users.
- A payment system will be integrated into the application, which will allow request posters to directly pay request fulfillers.
- Users will be able to rate those that they have interacted with during requests (i.e. a request poster will be able to rate a request fulfiller and vice versa).
- Users will be able to get someone nearby to fulfill the request by having a geolocation feature.
- Clean UI that is easy to use and is attractive

USER STORIES

A user of our app might want to have a task handled in a remote city, such as buying a gift and delivering it to their friend when the store selling the item has no delivery option. In that case, the user would log in to our app and create a request. The request would include the area that it takes place in, what the fulfiller should buy, where it should be delivered, and the amount of money to be paid upon fulfillment. The money should be the cost of the item plus the amount

the requester is willing to pay for the delivery. Another user, one near the region the task is in, would log in to our app to look for tasks to complete. That user would see the open request, complete the request and mark it completed. Then, the requester would see that it was fulfilled, and they would mark it completed, transferring the money from their account to the account of the fulfiller.

In another use case, the requester could decide to cancel the task before it is completed. In that case, the task would be removed from the search screen and no fulfiller could either see it or complete it.

In a third use case, a requester could review the fulfiller, or vice versa. The user would log in to the app, look at their task history (for either requested or fulfilled tasks), select a task, and then review the other user's actions.

Non functional requirements

We required Taskr to be a real time app and available at all times. For our MVP, we will use Heroku as our backend that can be easily scaled toward the first 100,000 users and also we will optimize the vertical and horizontal scaling to obtain the efficiency yet scalable service for our users.

FEASIBILITY

Based on the research we have done on our application idea, we believe that Taskr can be fully developed by the end of this quarter. Our team has extensive professional development experience, and our skill sets complement each other really well.

One of the biggest technical challenges is how to process the payment from the user. This includes securing the payment and transfer it after the taskr has finished his job. To solve this problem, we will use the PayPal API or Stripe API which is free for applications with small transactions per month and this can be implemented in our app.

The other challenge that we are facing is the matching algorithm, we need to find users nearby yet should make the user time as efficient as possible as well. We have designed a strong algorithm to solve that problem.

For the backend cloud storage, we will use Heroku which is free for small applications. We will use SQLite for our development app and PostgreSQL for our production side. Our backend will we using Rails technology where it does have ORM (Active Record) to map the development app to the production side.

Following are user case diagrams that explain the basic functionality of the app.

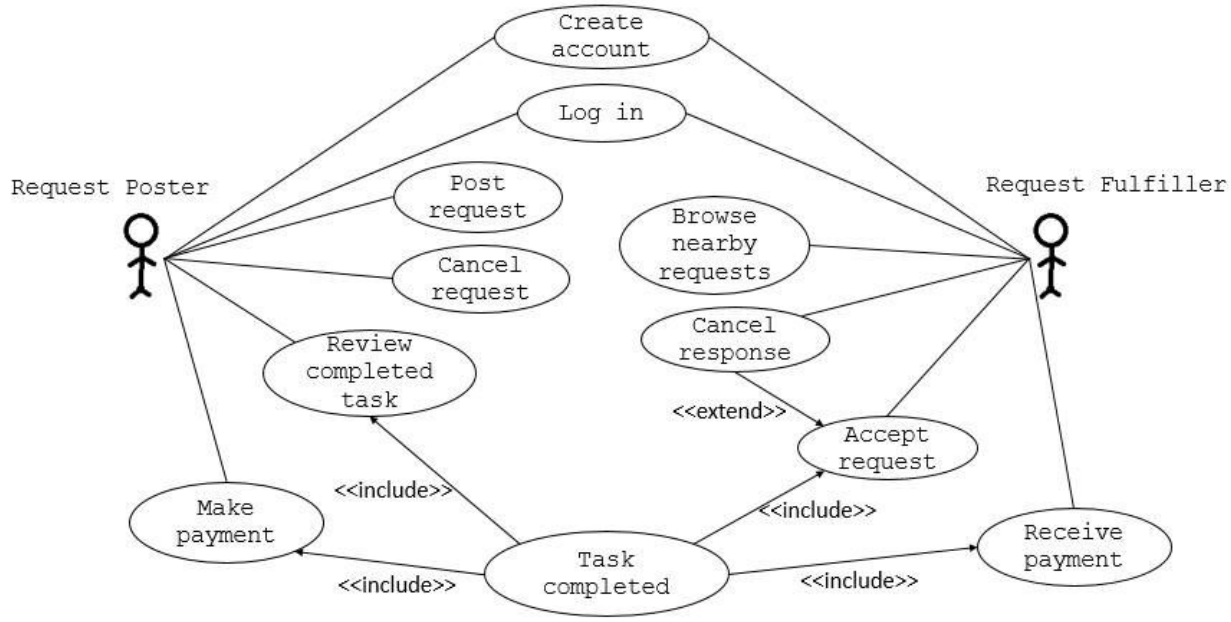

Figure 1: A use case diagram for Taskr.

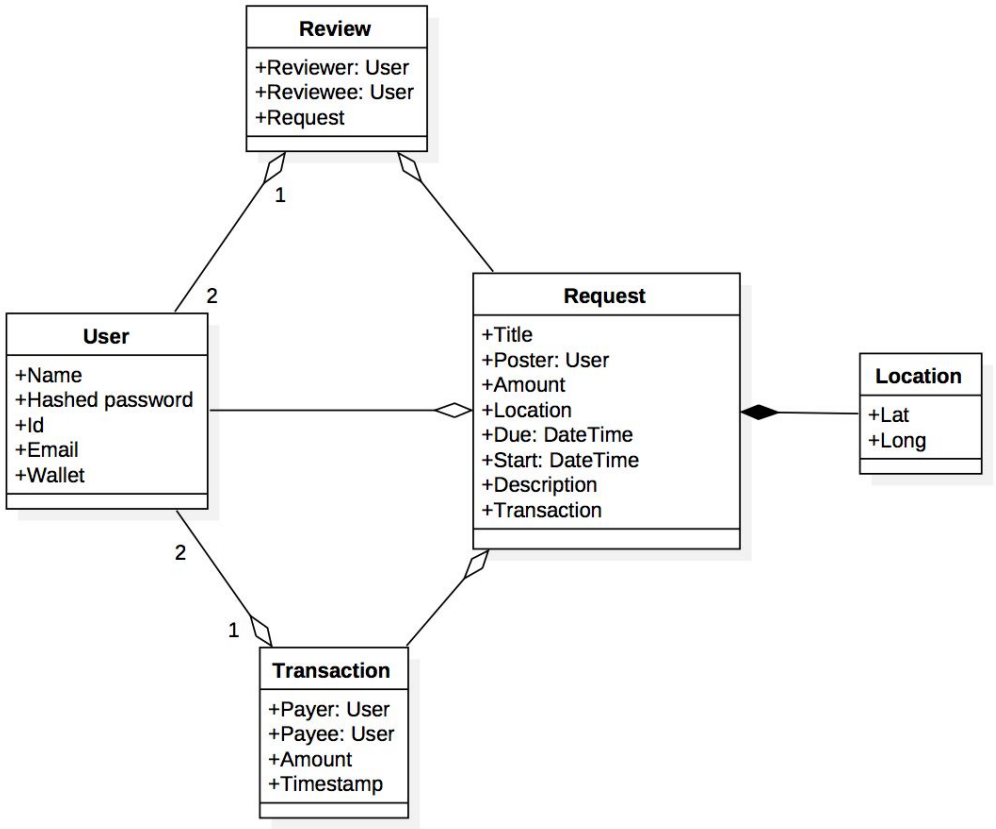

Figure 2: A class diagram for Taskr.

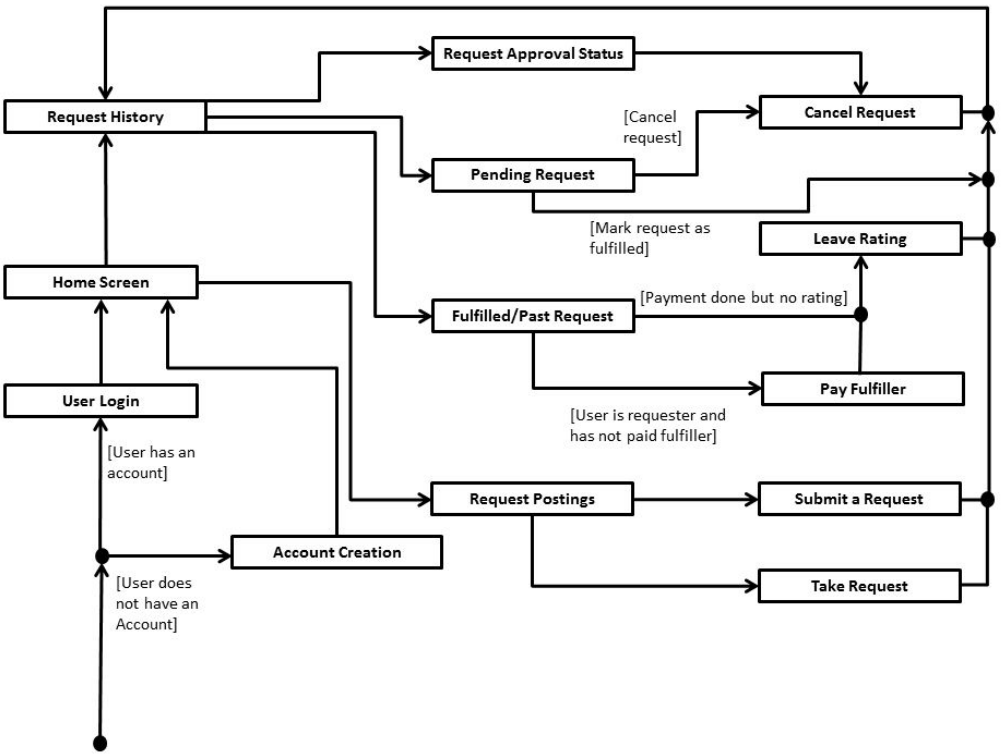

Figure 3: A state diagram for Taskr.

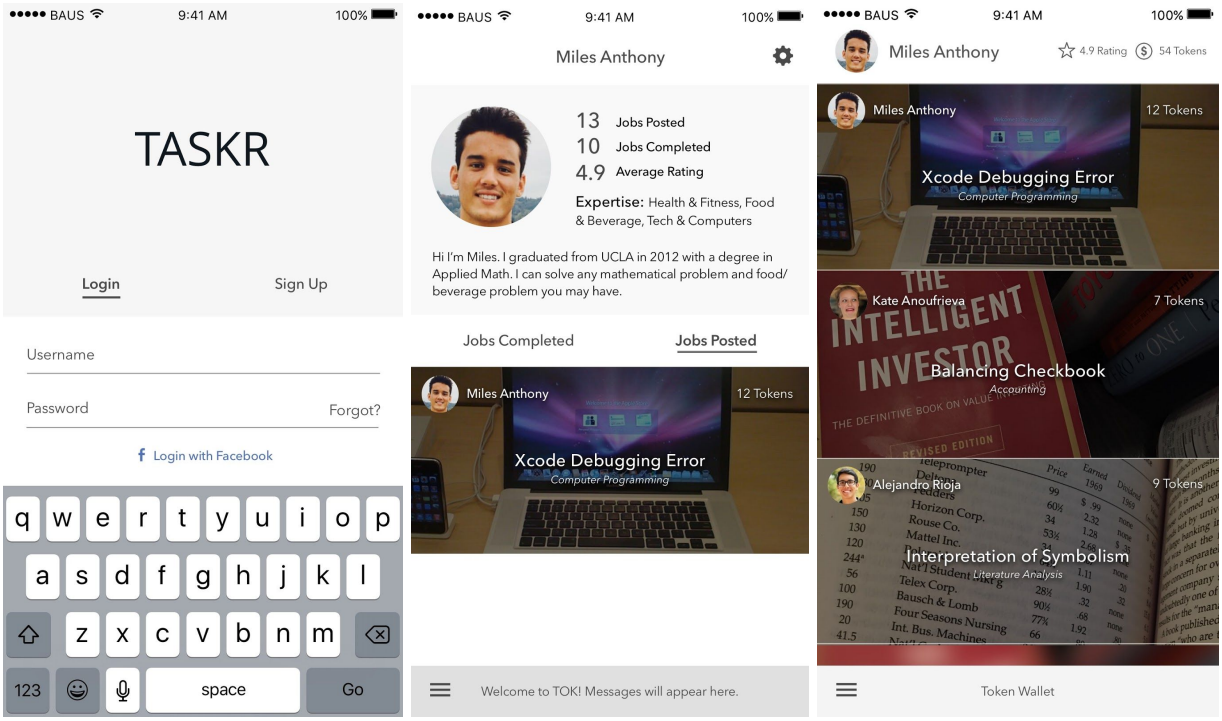

Figure 4: Mockups to show functionality.

CAPABILITY

Each of our team members has various relevant experience that enables successful implementation and full stack development of the product.

Chris Konstad has experience with backend and mobile client development, having interned at Bloomberg and Facebook.
Pramono has experience with application development, having interned at Social Native, Coding School.
Roger Witkin has experience with Salesforce front end and back end technology, having interned at American Express.
Guillaume Lam has experience with full-stack web development and database design, previously interning at Laserfiche and Arkaive Inc.
Alejandro Rioja has experience with product management running his company Flux Chargers. He has also interned at Shopzilla and BlackRock. He will be creating the UI designs for the application.

We are using Slack and Trello for project management and git for source control. With our diverse and complementary skills, we believe Taskr will be a sleek and professional iOS experience.

CONCLUSION

In this report, we have described the motivation behind our project. We want to bridge the gap between people who need help and people who want to make money. It is crucial to know that a lot of people need help for something that they do not have time to do and willing to pay another person to do it. We believe that this app is a product market fit that can solve a lot of people's problem in the market. During the research for our project, we believe that this project is such an interesting project not only for the class project but also as a real project that has a big potential, therefore by assessing each of our teams members skills and resources, we believe that our project can be finished during the course timeframe. After receiving the approval, our team will start working on the project proposal.