Goal

- Design a service that allows people to quickly and easily exchange goods and services.
- Requests are made using natural language to further simplify the process.
- Handle location-based requests

Motivations and Objectives

- Motivations
  - To simplify the process of finding someone to help complete a task.
- Objectives
  - Requests need to be made location aware
  - Sorting of recommended requests
  - Improvements to parsing and recommendation algorithms
  - Support multiple data repositories

Research Challenges

- Acquiring and processing data for the parser
- Initial setup of CORS and authentication for communication between the frontend and backend
- Team Cooperation and Coordination
- Amazon Web Services setup and deployment
- Complex Queries to the Database

Methodology

- Parser
  - Parses natural language requests sentences into categories
  - Uses user data mined from reddit posts from various subreddits
  - Parser is built to be data-agnostic so that it can use other sources
  - Bag of words approach instead of neural network due to lack of data

- Performance
  - Frontend and backend hosted on separate servers to allow better scalability, and interactions between only when required
  - MongoDB used for storing data to allow a balance between data access speed and easy expandability
  - Frontend built using React to enable quick load times and responsiveness
  - Pretrained parser implemented for a memory speed tradeoff

Results

- Website Frontend / User Interface
  - General framework of website completed
  - Interfacing between backend and frontend
  - Progress Page can be made more advanced

- Backend
  - Rest API defined and implemented
  - Integration with database done
  - Integration with parser done

- Parser
  - Fully Functional and working
  - Improvements can be made to improve accuracy