

# TroveSpace

## Product Backlog

Team 13 | <https://github.com/baker323/TroveSpace>

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### Problem Statement

People love collecting all sorts of things. From common things like coins and stamps to AOL CDs and banana stickers, almost everybody has something that they like to collect. However, over time, many people find their collections get disorganized which makes it hard to keep track of what they do and do not have. There are dedicated websites for collecting records, baseball cards, and many other popular items. However, there currently isn't any good software for people to manage and catalog their niche collections.

### Background Information

Our target users will be collectors who would like to catalog their items and interact with other collectors. In particular, people who collect less common items or would like to catalog multiple collections in one place. Currently there are two types of applications in this field. The first is websites for specific collections such as records, video games, or baseball cards. The problem with these sites is that they don't cover all types of collections. Therefore, if there is not a dedicated site for what you collect, then you have to use the second type of application: general cataloging software. However, the problem with the existing general cataloging software is that they are all in the form of native applications that are very outdated and unintuitive. Our site will be different from other similar systems because we will not focus on specific items such as records, video games, or baseball cards. We will also have a modern, intuitive web based UI and allow users to share their collections with their fellow collectors.

### Requirements

#### Functional

ID	Function Requirement	Hours
1	As a user, I would like to open the application from Chrome Desktop web browser (initial setup for frontend and backend)	15

2	As a user, I would like to create an account in the application	10
3	As a user, I would like to login to my account	5
4	As a user, I would like to logout of my account	5
5	As a user, I would like to change my account password	10
6	As a user, I would like to delete my account	5
7	As a user, I would like to have multiple distinct collections	25
8	As a user, I would like to be able to track duplicate items in a single entry	10
9	As a user, I would like to search for items that already exist in the TroveSpace database	30
10	As a user, I would like to add items that do not exist in the TroveSpace database	30
11	As a user, I would like to add items that already exist to one or more of my collections	10
12	As a user, I would like to add items that already exist in the database to my wishlist	5
13	As a user, I would like to vote on whether or not an item should be marked as a duplicate	20
14	As a user, I would like to edit items that already exist in the TroveSpace database	25
15	As a user, I would like to be notified when an item in my collection is edited by another user	15
16	As a user, I would like to vote on whether or not changes made to an item are accurate	10
17	As a user, I would like to be able to see the edit history of an item (time permitting)	30

18	As a user, I would like to see the number of people who have a specific item in their collection	15
19	As a user, I would like to see the number of people who have a specific item in their wishlist	10
20	As a user, I would like to create a new folder for items in a specific category	10
21	As a user, I would like to add an item that is in my collection to a folder	10
22	As a user, I would like to search for items in a specific Trove (a Trove is a category for items, for example: baseball cards, stamps, coins, etc)	15
23	As a user, I would like to create a new Trove	20
24	As a user, I would like to name the fields in a Trove	10
25	As a user, I would like to view another user's collection	15
26	As a user, I would like to view another user's wishlist	10
27	As a user, I would like to rate items on a 5 star scale	15
28	As a user, I would like to comment on items	15
29	As a user, I would like to offer trades/purchases to other users (if time permits)	25
30	As a user, I would like to rate trades/purchases with other users (if time permits)	20
31	As a user, I would like to have items removed from my wishlist automatically when I add them to my collection	20
32	As a user, I would like to see a list of all users who own a specific item	15
33	As a user, I would like to follow a Trove to see when new items are added	20

34	As a user, I would like to add friends (if time permits)	20
35	As a user, I would like to be notified when my friends add a new item to their collection (if time permits)	15
36	As a user, I would like to be notified when my friends add a new item to their wishlist (if time permits)	10
37	As a user, I would like to search for items within one of my Troves	15
38	As a user, I would like to see the date an item was added to my collection	5
39	As a user, I would like to see the date an item was added to my wishlist	5
40	As a user, I would like to upload an image when creating an item	20
41	As a user, I would like to add details about my item based on the item's Trove	15
42	As a user, I would like to request for a Trove to be removed	5
43	As a user, I would like to mark items in my collection as "for sale" (if time permits)	10
44	As a user, I would like to be able to see all "for sale" listings of a specific item (if time permits)	15

### Non-Functional

- Application will be adequately responsive and easy to use.
- Application will be fully functional on Chrome (and Firefox if time permits).
- Application will be intuitive to use.
- Application will have a visually appealing UI.
- Application will store the user data safely and securely on Firebase.
- Application will securely transmit data to and from Firebase.
- Application will resize page content based on window size.
- Application will have cleanly organized and well-commented code.
- Application will be maintainable and testable.
- Application will produce useful error messages when required.

Further explanation on topics such as Usability, Security and Scalability as follows:

### **Usability**

TroveSpace will function on any system with the latest version of Chrome (and Firefox if time permits). The application will be made with the latest version of Bootstrap and AngularJS. The app will be intuitive and easy to use. The user will not have to go through complex processes to complete simple tasks. Furthermore, we will use Firebase for our backend. This will make the transfer of data fast and secure. Finally, we want our UI to be scalable so that resizing the window will not be a detriment to usability.

### **Security**

Angular:

- Dynamic HTML is not produced on server side
- Sandbox removal in the latest version because through Sandbox it was possible to access arbitrary JavaScript code if one could control the AngularJS templates or expressions of applications.
- HTTP Request:
  - Cross site request forgery - Protection from XSRF is provided by using the double-submit cookie defense pattern
  - JSON Hijacking protection - Protection from JSON Hijacking is provided if the server prefixes all JSON requests with following string `" ) ] } ' , \n "`. AngularJS will automatically strip the prefix before processing it as JSON

Firebase:

- Firebase Realtime Database Rules determine who has read and write access to your database, how your data is structured, and what indexes exist. These rules live on the Firebase servers and are enforced automatically at all times. Every read and write request will only be completed if your rules allow it. By default, your rules are set to allow only authenticated users full read and write access to your database. This is to protect your database from abuse until you have time to customize your rules or set up authentication.

### **Scalability**

The system should be able to handle 100 users simultaneously as the Free plan of Firebase only allows that many. Even though the amount of users is only 100, the front end framework will still work efficiently. AngularJS with bindings would still function under the 200ms mark with many users. We will make sure that the code is efficient and optimized.