FURNITURE TRACKING APP ALTERNATIVES

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Human Computer Interaction Group Project Assignment 3, LZSCC241

GOALS OF THE DESIGN ALTERNATIVES

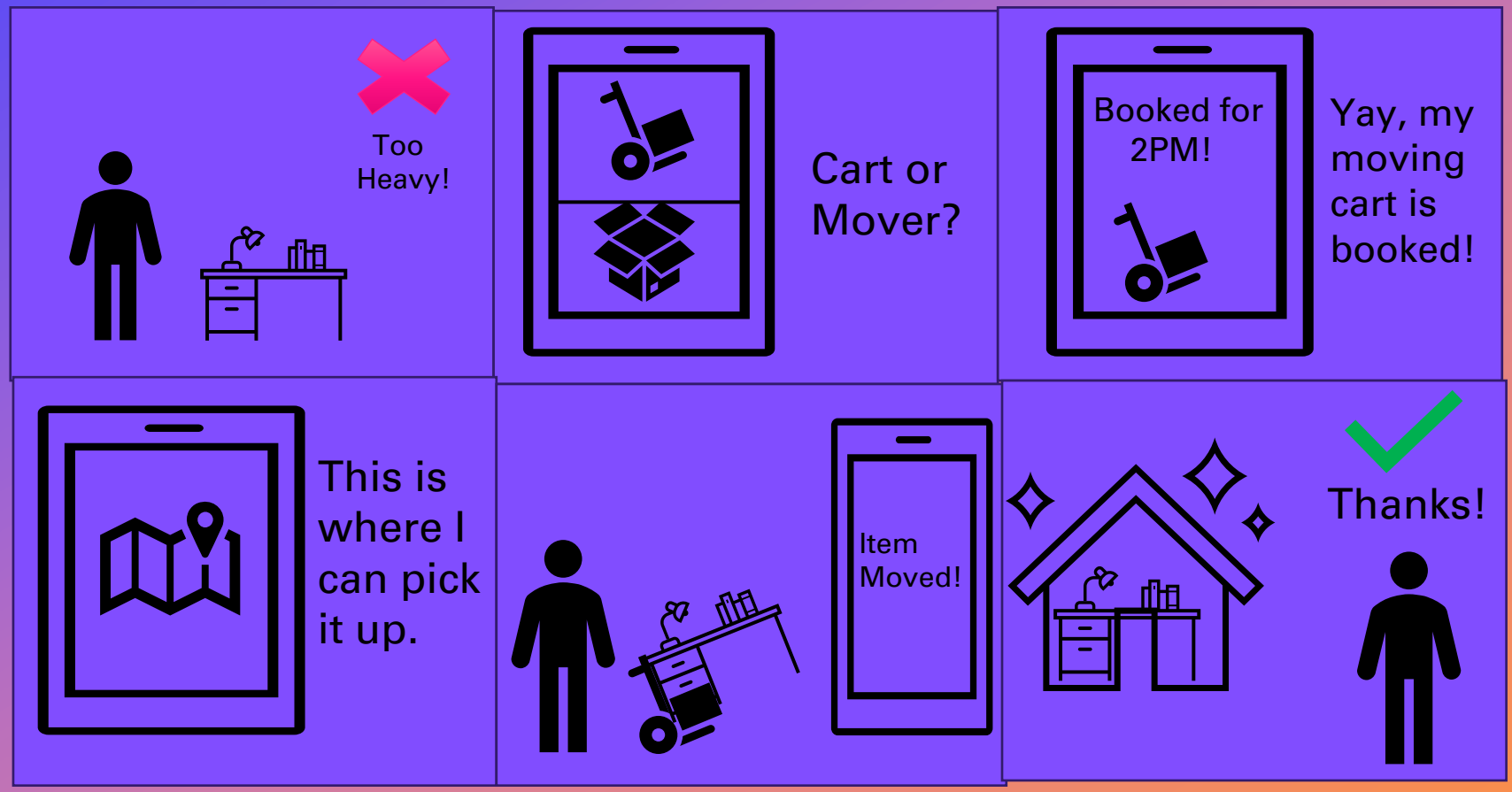
There is a total of three design goals that we aimed for when brainstorming the following alternatives:

1. Understanding the context and tasks of the application
2. Using prototyping techniques, develop alternative designs
3. Evaluate the design ideas

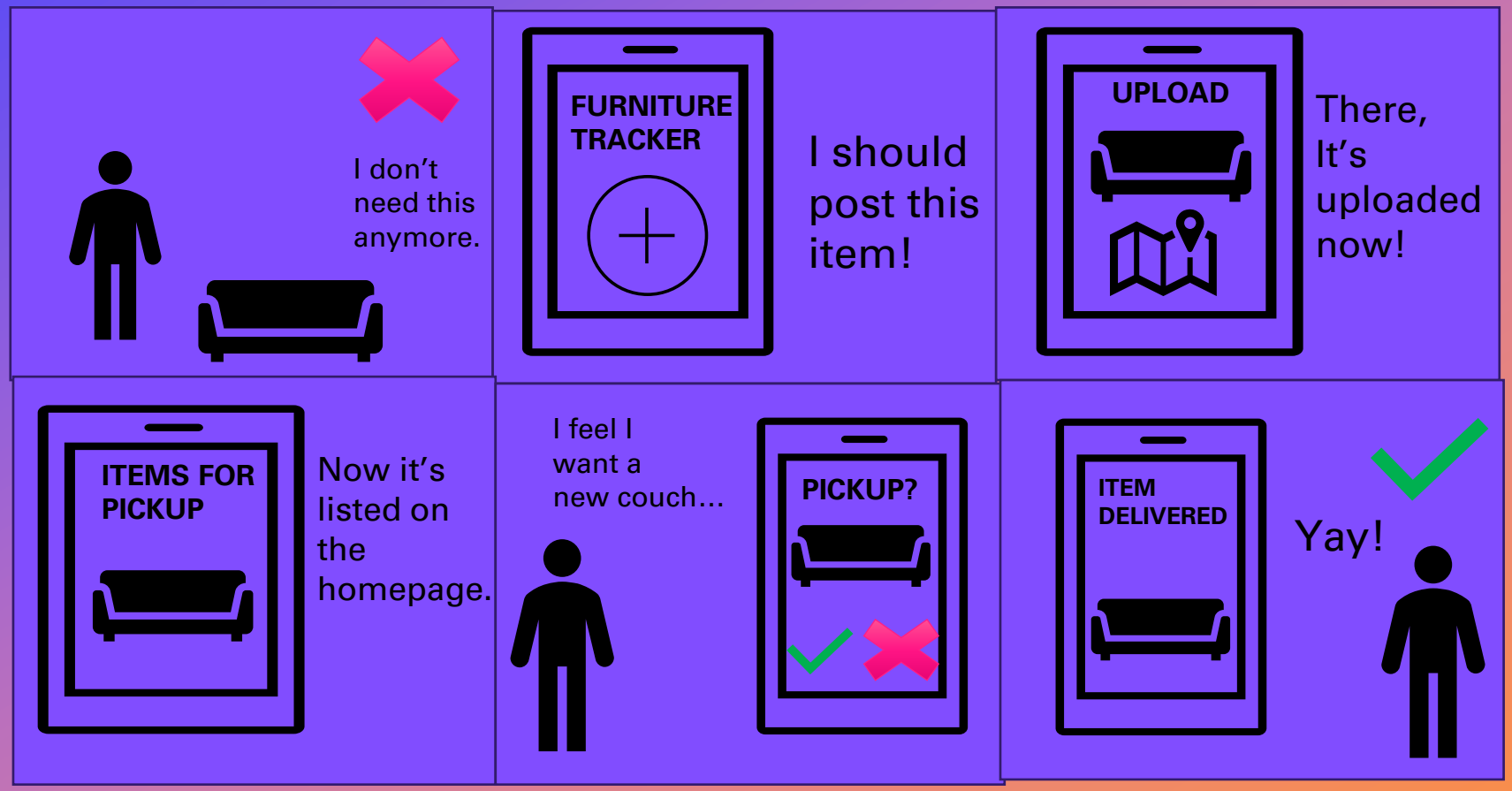
COMMON EXAMPLES OF USER SCENARIOS:

1. Moving furniture into/out of dorm rooms at the beginning/end of the semester
2. Tracking what furniture is currently available inside a storage system for easy access
3. Borrowing moving items such as carts for easy access to move items, stored inside a supply area

STORYBOARD EXAMPLE (1)



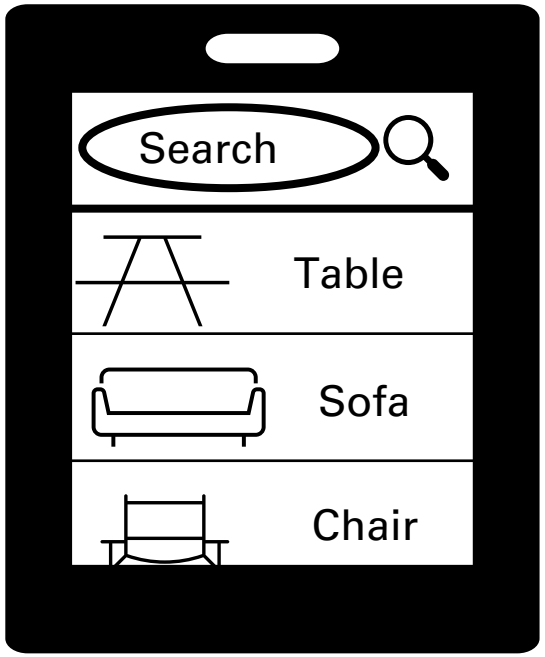
STORYBOARD EXAMPLE (2)



SUMMARY OF USER NEEDS:

1. An easy to use application where the user can post furniture, move said furniture using rental moving carts, and pick up furniture for student dorms.
2. The application should be easy to use, understand, and run optimally with minimal delay.
3. Security is a top priority. Addresses should be encrypted and private, furniture items should be only shown within the respective region the user is in, and private messages between the sender/receiver should be secure.

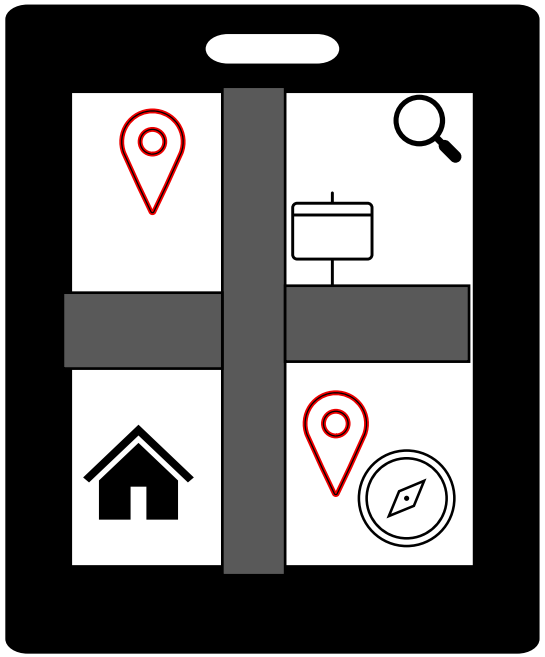
ALTERNATIVE 1
LIST-BASED APP



The idea behind a list-based app is to show all items in a scrollable list. Individual items can be searched for, and the design is relatively simple.

- **Advantages:**
- Simple and Efficient
- Easy to operate/minimal slowdown
- Addresses are relatively hidden

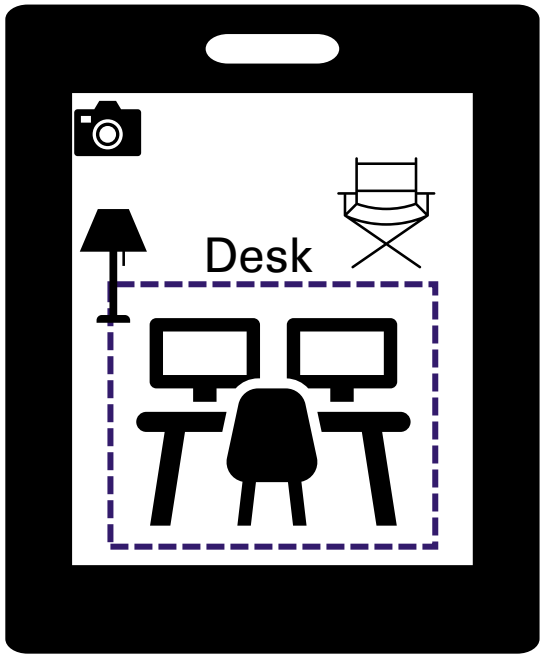
ALTERNATIVE 2
MAP-BASED APP



A map-based approach can show more detailed location of items, help with navigation, and make finding specific items far easier.

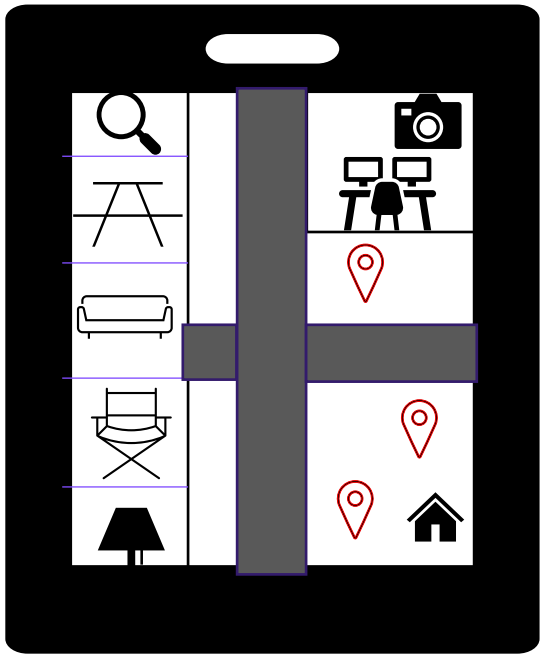
- **Advantages:**
- More detailed information on what items are nearby, leading to easier wayfinding
- More processing power is required on the device, however the visual style makes the additional power worthwhile
- Locations can only be approximate and only furniture would be shown, making the service very secure.

ALTERNATIVE 3
AR SCANNER



An AR scanner technology can be used to “save” pieces of furniture, such as posting accurate photos of the item or finding similar furniture to what you already have.

- **Advantages:**
- Finding the exact furniture you need is far easier, and you could see how the furniture would fit in your room
- Higher processing usage/potential AI needed, however more accurate searches/results
- Information would be stored only on the device, no need to send it to a server



Combining all the previous alternatives into one application is a bad idea. This causes clutter and makes it difficult for the user to find what they want.

- **Disadvantages:**
- Cluttered, squished and hard to understand as well as find what you're looking for
- Performance suffers with all three applications needing to be loaded at the same time
- Tons of data being shown to the user at once is harder to encrypt and weakens the security of the device.

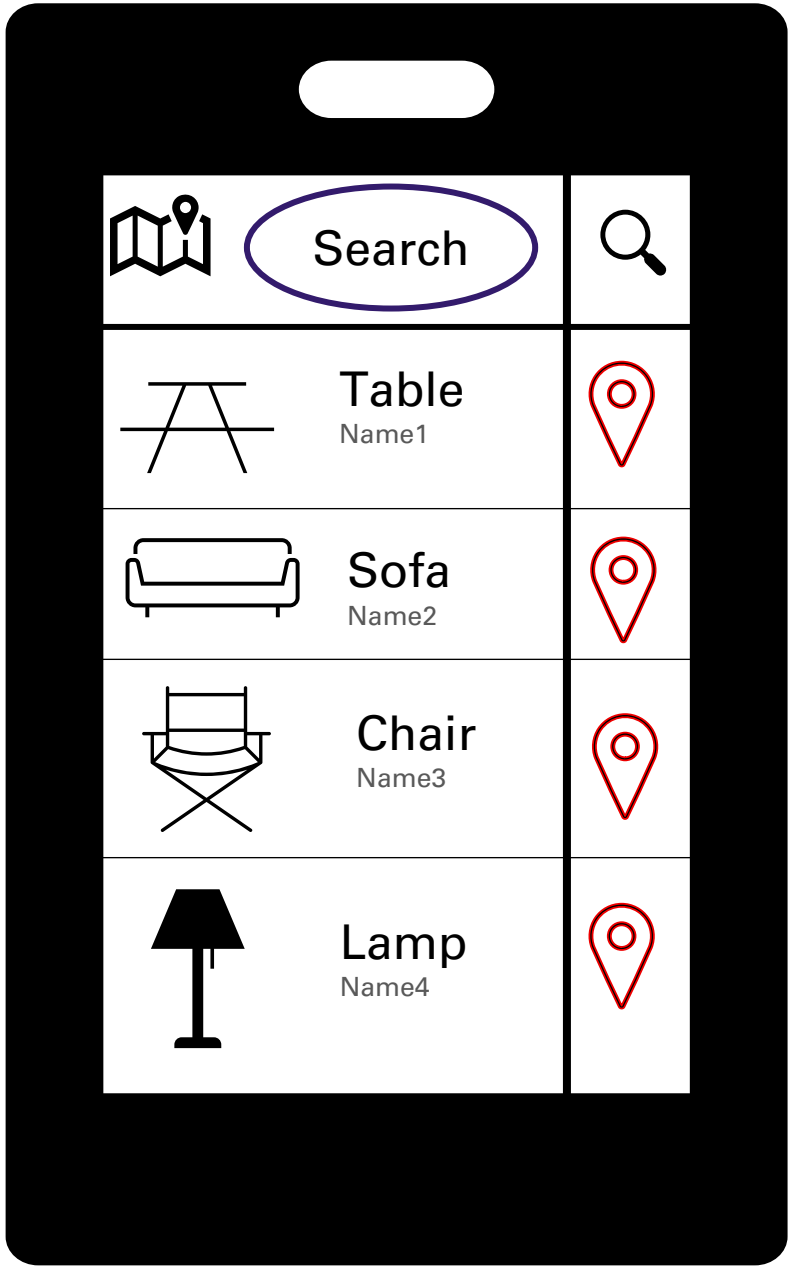
ALTERNATIVE 4 ALL IN ONE (BAD DESIGN)

FORMAL EVALUATION

To figure out which alternative was the most preferred among my team, I asked them which alternative they thought was the best one.

Here was the results:

Alternatives	Strengths	Weaknesses	Perferred
List-Based	- All furniture items visible and easy to select from	- Exact location of item not available to user	✅ Perferred Alternative
Map-Based	- Finding locations of furniture is simple and straightforward	- Only can show a few items at a time, more limited	👍 Partially preferred as an option on the homepage
AR-Scanner	- Allows the user to put furniture in their space, making it clear how it would fit	- Takes up lots of processing power and very limited	❌ Not preferred. Determined too unnecessary.
All in One	- Everything is accessible to access	- Way too much clutter and difficult to follow	❌ Not preferred. Way too cluttered and hard to follow.



FINAL DESIGN

The final design takes the basic structure of Alternative 1 and modifies it to allow support for a map:

- Basic list structure is kept
- Additional map icon on the sides which when tapped, showcases where the object is located
- Dedicated “map” icon pulls up the map, being a separate button to the list page

Improvements:

- **Simple, easy access to all areas of the app**
- **Clear, concise to the user the moment they enter the app**
- **Simple to navigate and understand**
- **Uses relatively low processing power, available for many users**

THANK YOU

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