

## README Documentation <3

# Trove: Treasure your memories

### Team members

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### Med-fi Prototype Figma file

<https://www.figma.com/file/QJiQjKnRpHhrkwobpfWwOX/Prototype?node-id=2%3A3>

## Target audience

Trove's main user base overlaps with BeReal & Snapchat users. The demographic would be 15-25 year olds, with a strong tendency to capture and share their memories with friends.

## Design Tools

Our team used Figma to create the med-fi prototype, since it allows users to both explore our graphical user interface, and navigate through our intended task flows. We also adopted figma plugins such as “-assetz” and “Iconify”, and “Finastra Design System” community template for inspiration.

## Operating Instructions

Users are allowed to interact with a predetermined set of buttons to navigate the application. Users can explore each task by following the instructions outlined below. There are also auxiliary flows that can be explored by clicking on multiple buttons.

In this section, we detail the hallmark features associated with each task, and describe how a user can interact with them. Additionally, for each task, we add a bulleted summary of all screens that a user can encounter during their exploration.

## Task 1: Scanning an object

- Home Screen.

Users can click on the bottom right camera button at any point in the flow to start scanning an object. It will automatically take you to the “scanning tips” page where it will give an outline of guidelines for scanning an object.

- Camera pre-scan screen

Screen suggests that the object which you are trying to scan needs to be at the center of the screen. Once the Trove computer vision algorithm has identified an object, the “scan” button in the bottom lower half will be initialized to become interactive.

- Camera scan screen

Users can repeatedly tap on the screen to simulate the experience of scanning an object, in this case the application is scanning a xbox controller.

Once the scan is complete, “complete” button will appear in the bottom section to be clicked by the user.

- Scanned object view screen

Users are able to get a preview of the scanned object. In hi-fi implementation, users will be able to drag to rotate the 3D object and view the 3D object in AR; however this is not implemented at this med-fi prototype.

Users can click on the “Retake scan” button to go through the scanning process again.

Users can click on the “Continue with entry” button to navigate to object details screen.

- Scanned object details screen

Users are not able to actively fill in the information on the text form fields but they can see which information is displayed.

Users can click on the “Finish” button to navigate to the final submission screen

- Scanned object final screen

Users are able to click on 3 buttons outlined on the bottom half of the screen. Each button has a descriptive name and does what it says it does.

## Task 2: Editing an entry in your Trove

### - Home Screen

Users can click on the treasure chest icon in the top right corner to access their Trove. The Trove contains all of the AR pieces that a user has either already discovered or created themselves.

### - My Trove Main Page

The AR entries shown are ones that the user either created themselves or where they have editor permissions. In the future, public AR pieces that the user has viewed will be accessed through the clock icon in the top right hand corner. Users are able to sort their entries by date, title of AR piece, creator name, or most recent edits. For example, in the prototype, click on the “By Title” FAB to sort the entries by title. Next, click on the first entry box (titled “Among Us Pals”) to open up the details for that entry.

### - Entry Detail Page

This page is an example of what the Details page for a typical AR piece would look like. The Details page includes the following:

- A blown-up picture of the AR piece in the real environment, along with a map icon. The map icon isn't functional, however, in the future, it will show the location of the AR piece on a map once pressed.
- A Description text box that allows you to write in a description for your AR piece.
- Information on the piece including who created it, the creation date, and the location where it was placed
- Number of likes, comments and views.
- An Entry Duration slider where you can change how long the AR piece will be visible
- Permission settings where you can change who can view and/or edit your AR piece.

In this prototype, the user can “edit” the description box and change the viewer permission settings in order to demonstrate what editing an entry would look like. First, tap on the description box. For the high-fidelity prototype, the user would be able to write in their own description, but for the medium-fi, the description will just change to some hard-coded text. Second, scroll down to “Viewing Access” and click on the “Private Button” in the toggle bar under it. This would mean that the AR piece is now only viewable to the user.

## Task 3: Navigating to nearby AR memory

### - Home screen

Users are able to view the map with nearby AR objects. In hi-fi prototype users will be able to zoom in and out of the map but this functionality is obviously limited and unnecessary at this stage.

Users can click on the “?” question mark icon which will prompt a description of the selected object.

Users can drag up on the slider to see additional information on comments and likes.

Users can click on the “navigate” button to start navigating.

### - Navigate screen

Users can tap on the screen to simulate the experience of navigating to a destination.

At any stage, users can click on the “finish” button to head back to the home page and stop navigation.

### - Caution page

During navigation, a caution page will pop-up to issue a warning message.

Users can click on the “I understand” button to continue navigation.

### - Navigation Arrived screen

Once the user is near the AR object, the “view button” on the left bottom corner will be initialized to be clicked on. Clicking on this will take the user to the view screen.

### - View screen

Users can tap on any part of the screen to view the actual AR object. The intermediary screens are placed to give instructions for viewing AR objects.

When viewing the AR object, user can click on the “Done” button to transition to end of navigation page

### - Navigation end screen

Users can view the memory they have unlocked and the progress they are making for badges and achievements.

Users can click on “See entry in Trove” to navigate to the Trove screen.

Users can click on “Back to Homepage” to navigate back to the home screen, with the new unlocked memory displayed on the map.

## Limitations

We summarize the main limitations of our med-fi prototype in the bulleted list below.

- Camera interface is simulated for both scanning and viewing AR objects.
- No profile section or friends section - not relevant in the 3 task flows
- No sharing functionality - no internet connection
- No social component - not relevant in the 3 task flows
- No viewing of public AR pieces that the user neither owns nor has editor access to - not relevant in the 3 task flows

## Wizard of OZ - So many thingz

### Scanning algorithm

Image-based 3D modeling is an extremely high-technical algorithm that Big Tech companies are currently trying to solve. There have been few releases of demo models but it remotely does not meet the consumer facing quality requirements and frankly takes too long to process the images. Hence, to simulate the experience we downloaded a 3D xbox controller model from online and drew an overlay over the image of the physical object.

### Navigation

During navigation the interface suggests some form of GPS, real-time tracking data that is reflected onto the screen. This is obviously not feasible for implementation at this point in the prototype as Figma doesn't support this function but also it would be extremely petty functionality to invest time into developing.

### Viewing algorithm

Viewing an AR object is a highly sophisticated algorithm that requires understanding of the physical environment around the user. The algorithm needs to identify feature points to identify a plane at which the AR object can position itself on. Furthermore, the algorithm needs to triangulate the camera's position in respect to the physical data for accurate representation of AR objects.

## Hard coded items - Pretty much everythingz

Given that Trove is a location & camera-based application, it is pretty obvious the extent to which the user interface had to be hard coded while working on figma prototype.

Down below are some of the main items that were hard coded to simulate the intended user experience.

## Map interface

- When navigating to a nearby undiscovered object during the task flow, the location and path taken is simulated and hard-coded.

## Decorating page

- Decorating AR objects will be hard coded because it is difficult to implement Augmented reality on figma.

## Submission details page

- Using figma it was extremely difficult to simulate entering of information on the figma layout hence the information on the details page after scanning an object was hardcoded.

## Trove page

- Because there are no users on the platform, no actual entries were made and even if there were other users, there is no way to extract information and sync the application interface.

## Likes & comments

- Same reason as for the Trove page.