

f2

## a new project

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## 0.1 Think-Aloud

In the think-aloud needfinding exercise, our participants will be read a script to set context, given a tasks, sub-tasks and a goal to accomplish, and a tool (interface) with which to complete their goal. The products being analyzed consist of Google Maps<sup>1</sup>, Furkot<sup>2</sup>, and RoadTripper<sup>3</sup>.

All of these interfaces will be mobile only. We will not focus on desktop because we expect our users to interact with the tool during their trip, which is more realistic to do with a mobile device. Of these three products, Furkot is the only one without a mobile app in the iOS app store. For this reason, we will use their website on a mobile browser.

We will plan to have 3-6 users participate in this exercise. Each user will step through this process using all three interfaces. Each participant will start with a different interface so that no one interface gets tested as the initial step through. This will attempt to mitigate the bias user's may have on the order of the interfaces being tested.

### 0.1.1 Needfinding Plan

the participant will be given the following instruction set as pretext to the needfinding exercise. The participant will also be instructed to articulate their though process as best they can along the way.

- You are panning a multi-day road-trip along the famous Route 66 highway in the United States. This will begin in Chicago, IL and end in Santa Monica, CA.
- You are expected to allocate no more than 7 days for this road trip.
- Your tasks will include
  - Find expected overall trip distance
  - Find expected overall trip time (driving only)
  - Find checkpoints (up to 7 nights maximum, with the last being Santa Monica) for sleeping along route.
  - Find five tourist attractions along route
  - Find (for brevity) one place to eat along route for each day of the trip

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<sup>1</sup><https://maps.google.com>

<sup>2</sup><https://www.furkot.com>

<sup>3</sup><https://www.roadtrippers.com>

- Your final goal will be to have a clear road trip itinerary documenting day-by-day what you'll be doing and where you'll need to be.

This script will be broken down by task. Before each task we will ask the user to pay attention to how easy it is to navigate the app to accomplish their task, how clear the operators are, reflect on if they were successful, if they got the result they intended, what could have been added/removed to make the task easier/possible, how the experience compares/contrasts with their expectations, etc.

### **0.1.2 Data Inventory**

the participant demographic will have to span the data inventory mapped out in the introduction. Both male and female participants, ages 16-56 (arbitrary ceiling here), and spanning multiple ethnicity's. We will also want to expose the app to individuals as well as groups. We anticipate planning a road-trip to be, at times, a collective effort. We will also want to form questioning to highlight design expectations between novice travelers and avid travelers.

### **0.1.3 Potential Bias**

some typical biases with think-aloud needfinding exercises is observer bias. Giving the user a script of intentional tasks to accomplish can distort their thinking. It may make the user more programmatic in how they approach the tool. However, we do this in order to isolate and control the variables of all the other goals/tasks a user may have when using this tool. We will also vet the script to ensure it does not coach the user on how to accomplish these tasks/sub-tasks. Recall bias can be a concern as well. In fact, think-aloud exercises are design to account for this, to prevent users from their inability to recall motives from an earlier exercise. Asking a user to articulate their thought process as they do something can cause them to act more consciously.

One other potential bias we may encounter during this exercise is an economic bias. Lower budget travel alternatives may be preferable for some/most participants (attractions that cost little to no money). If one of these tools only suggests attractions that are expensive, this could reflect as a negative user experience. One possible way to avoid this would be to allocate a budget to each participant (however, this would add a large amount of complexity).

## 1 APPENDIX 3: THINK-ALOUD RESULTS

All notes from think-aloud exercise are recorded in first person (simply recording their comments as they use the tool)

### 1.1 User 1 notes

- Home page
  - Homepage is very aesthetic, and the picture gives me a sense of a good road trip already
  - "Let's get started" is taking me (immediately) to what I need
- Maps page
  - "Your trip is not saved" suggests I can create an account and return to this (so I don't have to do it all at once)
  - Also, some friends and I could create a joint account and edit the same trip! I wonder if they can create their own account and I can share the trip with them?
  - The map looks and feels a little bit like Google Maps
  - "Scenic" map option seems to be paid for...
    - \* What are "waypoints"? (one perk of paid option)
    - \* Ah, trip collaboration, (answer to question from earlier)
    - \* Offline maps, live traffic would be useful, but I can just use Google Maps for that... (had to remind user that this is not for navigation, but trip planning only)
  - Bar on left gives me options for what I'm looking for, attractions, places to sleep, etc.
  - Clicking "get help" did nothing...
  - The route defaults to the I-5 option that I was told I couldn't take
  - But, the route seems draggable, so I can just move the route over to highway 1
  - I don't recognize the check points along the path, but it is nice how I get a time breakdown between them all.
- Route metrics
  - I think I've got the route figured out now.
  - The overall distance of the trip is 461 miles.
  - The over driving time of the trip is 9:39
- Finding accommodation

- The check points break down as
  - \* 1) 0:00 (San Fran)
  - \* 2) 1:12
  - \* 3) 2:06
  - \* 4) 0:57
  - \* 5) 3:02
  - \* 6) 2:23
- I'm still not sure why these are my "waypoints." It's also telling me I only get 1 "waypoint" left. Why's that?
- Since the half way point (time-wise) is between 4-5, I will find accommodation here. Clicking the bed icon seems to give me options. This is clear and intuitive since this icon could only mean that one thing
- I really like the dollar sign slide bar, easy to find cheap places to stay!
- Motel 6's are gross (HA!)
- We will stay at Treebones Resort (seems about half way), only two dollar signs (not really sure if that's cheap or not). Maybe some indication to what dollar amount that means would be nice...
- Clicked this and it took me to a different page... clicking add to trip. It says it has no availability for any dates I select... this is discouraging
- I'm out of free "waypoints"... looks like I can't add anything more in this tool (instructing them to use a pen and paper from here on out)
- Running out of "waypoints" makes it feel like they are nickle and dime-ing me.. kind of frustrating since it has not demonstrated enough value for me to want to pay for it. I can't actually complete the task with adding all my stops unless I pay for this service...
- Finding attractions
  - There are way too many attractions to sift through, feels overwhelming.
  - Reading through these attractions, a lot of these sound boring.. I don't care about most of these.
  - There's a small green number in the upper left of the image, 1-5 it seems
  - World's largest artichoke, HA! The surfing museum might be cool
  - The beaches filter is good, we will add the highest rated beach to our list
  - Cowell Ranch beach looks very cool too! We will stop there (1)

- Now I am scrolling past anything with less than 4.5 rating!
- We'll go to one of the vineyards near our destination for dinner night 1, August Ridge Vineyards (1)
- I wish there were filters for attractions
- I like the profile pages of the attractions, but why don't they just show Google reviews? I have to separately google everything. When I googled something with a 5.0 rating, the Google search result said it was permanently closed... I'm definitely not paying for this service
- Fly above all paragliding for the last attraction! (2)
- Santa Barbara brewing co is near here, we'll have that as our second planned meal (2)
- Emailed the link to myself to save it. I would also create an account so that it just saves to that and I can log in later for it

## 1.2 User 2 notes

All notes from think-aloud exercise are recorded in second person (simply recording their comments as they use the tool) He chooses the route from Los Angeles to Bixby Canyon Bridge

- Maps page
  - The Map page is clear. It shows different buttons of different functions. Although I have spent a little time to find what the button means, I finally found it on the left.
  - The route is clear when I set the start point and end point. But I do not know whether I can change the other route. For example, if I come back, I will go to different route to see different attractions.
- Route metrics
  - The time and distance is clear and easily understand.
  - The overall distance of the trip is 348 miles.
  - The over driving time of the trip is 07:07
- Finding accommodation
  - It is easy for me to look for the accommodation to stay in. The button is clear.
  - Adding the accommodation to trip is also important point for me to break down my trip.
  - Click the button of accommodation is cool. It could show a lot of

places to stay. However, it only shows the "\$\$". If I want to choose hotel, I am more likely to know the specific price. Even though I click the hotel, I do not get the price.

- Finding attractions
  - "No Free Waypoints Left" makes me noisy because I cannot add attractions.
  - Too many attractions to select. Whether it can provide some filter or rank.
  - The attraction can divide the time into different part. It is cool.
  - I do not know how long I should spend on each attraction. If I know it, I may arrange time better.
  - I do not know the category of the attraction.
- Finding food and drink
  - It is easy to understand the icon of eating.
  - I want to know the specific category of that restaurant because if I want to eat lunch, I will not want to go to the cafe.
  - Also, if I can know the average price of that restaurant, it will be better for me to select.
- If it can be downloaded as a pdf file, it will be better for me to save it. Or it can send a link to my email, it will ok for me.

### 1.3 User 3 notes

All notes from think-aloud exercise are recorded in first person (simply recording their comments as they use the tool or narrating their actions). *Side thoughts (third person) will be emphasized*

- Overall impression
  - art work on the site is confusing
  - "starting and ending" of trip being presented immediately on the page is useful and actionable
  - dismissed the "walk me" helper in bottom right corner - "I can do it myself"
  - I like the intellisense drop-down options (offloading cognitive process for destination spelling/discovery?). Make it so I don't have to type it all, too
- Map view

- Hover over icons are descriptive in the left side-bar. What are "Waypoints"?
- "Plus" is obviously some membership. Maybe "Waypoints" are some kind of currency/tips/tricks.
- Interesting they mention gas price. How do they know your car's gas mileage?
- It'd be cool if the dot on the path (as the mouse scrolls over the route line) would mention distance from starting point
- Finding accommodation
  - It's hard to gauge half way along the route to find accommodation
  - initial accommodation options found from beach attraction page
  - Hotel profile page should display reviews inline
  - Can I add this to my trip? Is this recording these as a part of my trip? Or should I be taking notes?
  - I'm confused on what to do once I find what I want to do. *Clicks "add to trip" once user found it*
  - *User is planning [mostly] everything in one town near accommodation*
  - I expect the click action on the left side bar to match the click action on the attraction in the map
  - Adding hotel(1)
- Finding attractions
  - *User will find attractions first and then plan everything else around that*
  - I like the ratings, and pictures/visuals in the left side bar. It provides good context
  - Adding beach to trip(1)
  - \*clicks image - opens a new window\*
  - Is this a new window? Oh, it's on top of the old window... The extra pictures and reviews here are helpful
  - checking hours, profile, parking info. Clicking nearby hotels in this view
  - User also adds Paramount Studios in Los Angeles
- Finding food and drink
  - Added a taco restaurant, then tried to remove it *user actually just toggled it off. User never figured out how to remove it from trip*
  - Added winery(1) in same town as accommodation
  - Looking half way down to Los Angeles for restaurant. Selecting "Crab



bucket" restaurant.

- *while looking for crab bucket, user shrugs off and scoffs at restaurant with 3.5 rating*
- I'm not going to choose a restaurant with a low rating. A filter here would be nice

- Saving/exporting trip

- Could sign in and save to account *user was instructed to skip this for sake of the exercise*
- Click "share trips" in upper right corner. Click email
- Opening email app (in computer, not browser) was confusing and jarring
- I expected another browser window to open with a "to" and "from" (email form). *The reaction in the UI for the click didn't match the severity of the action taken place*
- I expect to stay in the modal and on the same web page. I don't like being sent to another site. *User never found a non-logged in option for saving results, which was to copy the link*