

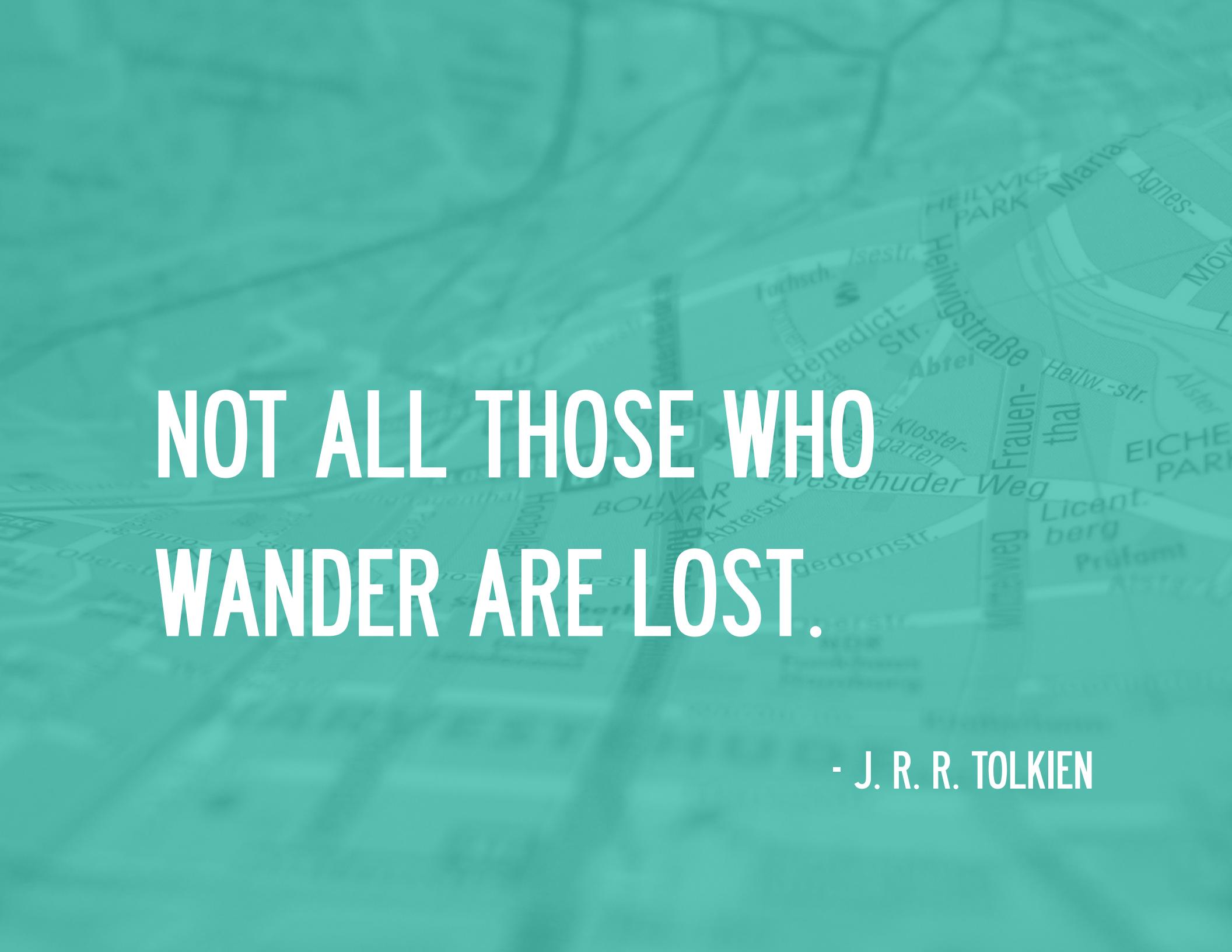
THE JOURNEY FOR INSIGHTS

with



WANDERLUST

To the travelers, for inspiring us to
look beyond what we may know.



**NOT ALL THOSE WHO
WANDER ARE LOST.**

- J. R. R. TOLKIEN

EXECUTIVE SUMMARY

Expedia has seen the rise of discovery-based websites like Pinterest and Groupon and wants to know: How can the sense of delight when someone discovers a new image or deal be applied to finding travel experiences? As Expedia looks ahead, they see new opportunities leveraging the addiction and joy of these experiences.

Focus Questions

1. Is there an opportunity to link discovery experiences with real-life travel experiences?
2. How can we quantify delight and habitual activity?
3. How can we encourage people to start planning travel earlier?



Our goal is to engage travelers through habitual discovery, delightful planning, and confident decision-making.

Our team's job is to find those opportunities, identify the best ones for Expedia, and craft a solution to allow consumers to discover new, incredible travel experiences. In addition, Expedia is interested in measuring users' delight empirically, to validate designs scientifically.

Our key research insights are summarized on the next page, along with our categories for visions. We found broad opportunity spaces in making travelers more confident during planning, providing people relevant novel information, and facilitating collaborative planning.

KEY INSIGHTS

Planning

Confident researching and organizing make travel planning more delightful and **less stressful**.

(p70)

Exploring

Exploration is more enjoyable when the content is **relevant**, but there is still a desire for **something novel**.

(p74)

Sharing

Experiences are better when they are **shared** with others, but **coordination** between people can be difficult.

(p78)



VISIONING

Planning

Help people plan their travel. Focus on managing all the information people need and encouraging people to book travel earlier.

(p100)

Exploring

Help people find new information and ideas to look at. Focus on making new and relevant knowledge easy to discover and use.

(p106)

Sharing

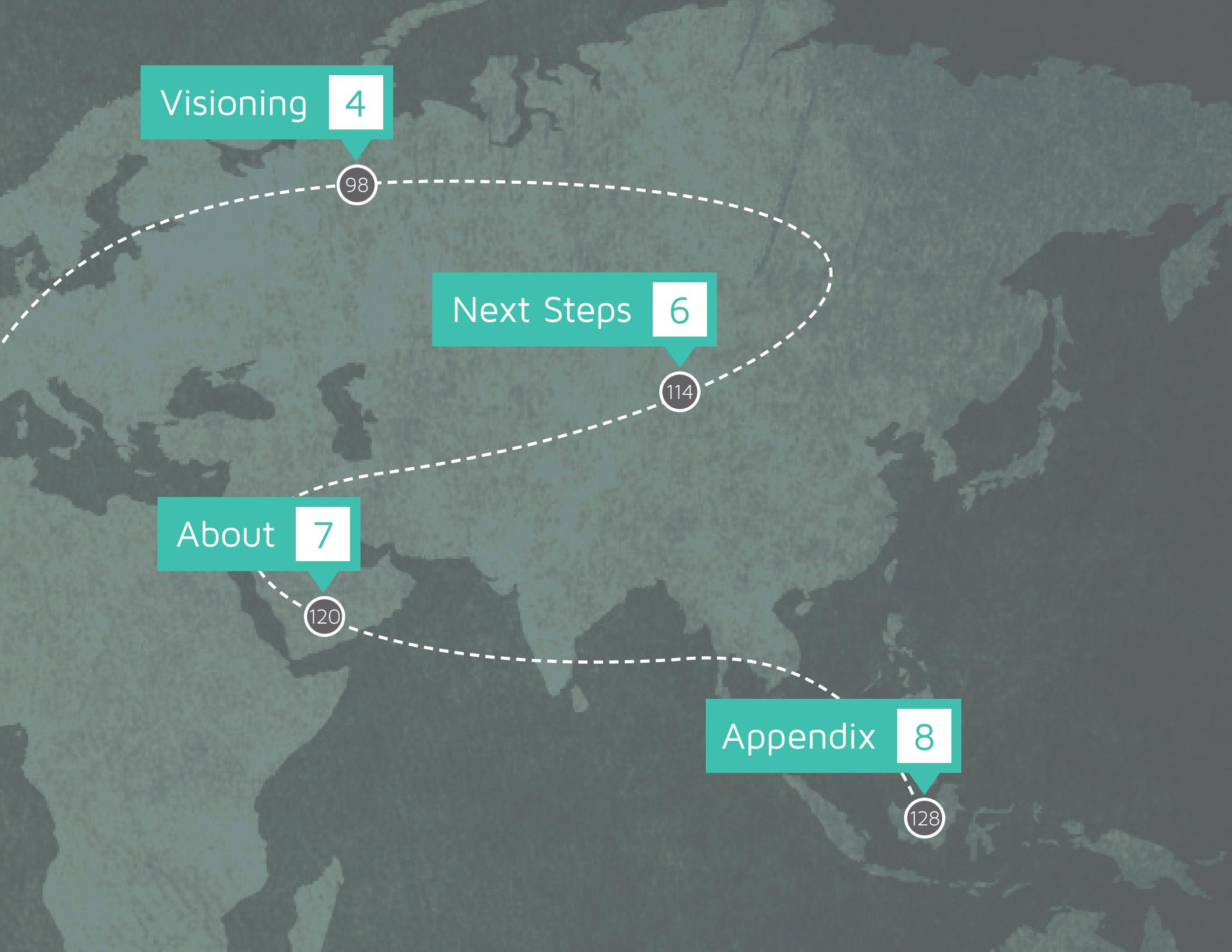
Help people share experiences and coordinate trips. Focus on making collaborative planning simple and providing advice to other travelers.

(p110)



ITINERARY





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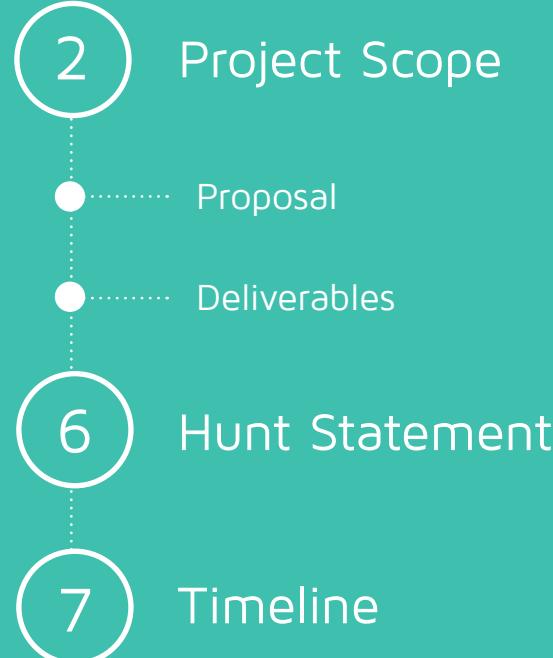
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INTRODUCTION

Get Lost,
Find Yourself.



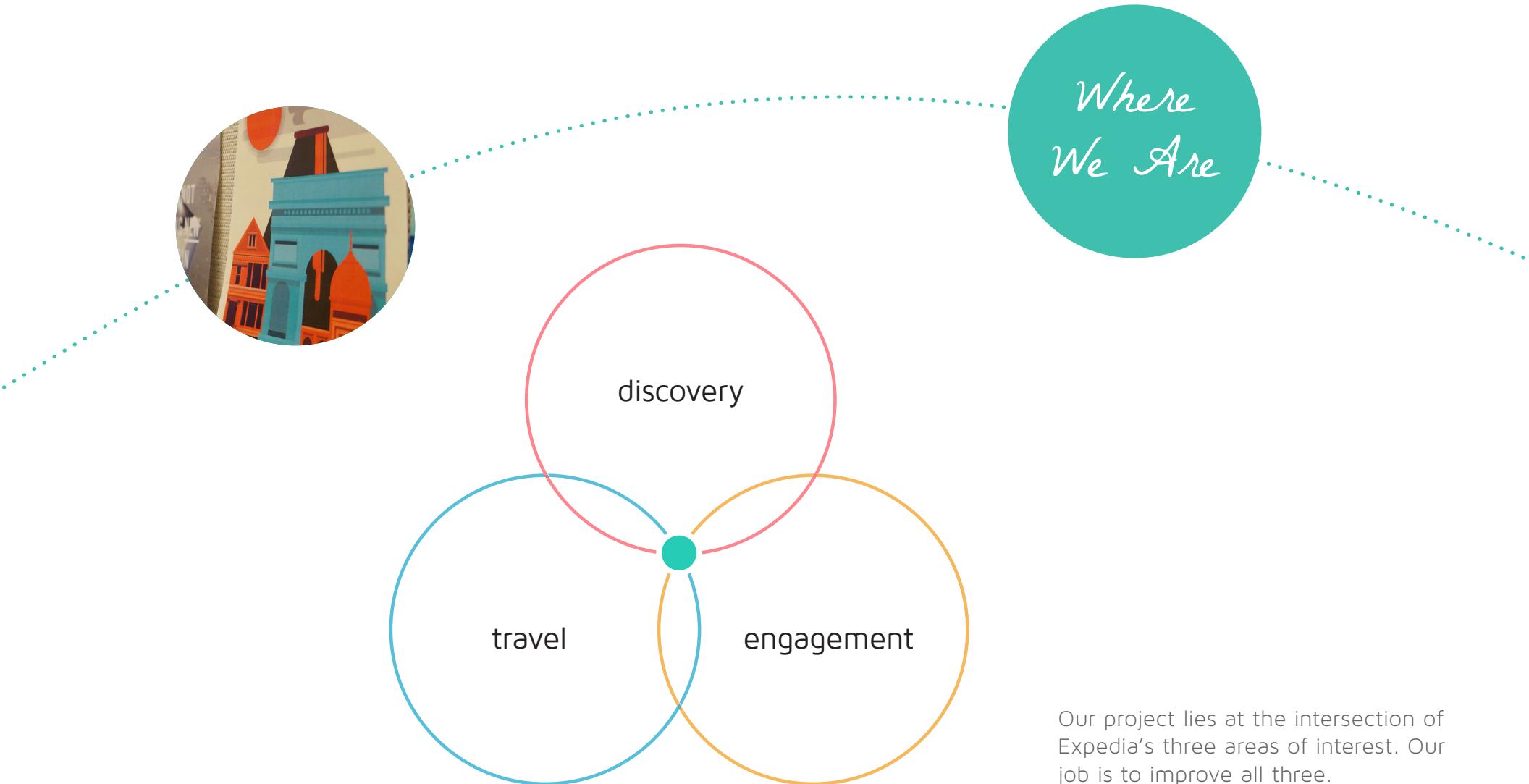
1





PROJECT SCOPE

Our project has its roots in three areas: travel, discovery, and engagement. During the research phase of our project, we conducted inquiries into all three of these areas to gain a deep understanding of the nature of these ideas and how they can overlap.





PROPOSAL

Client

Our client, Expedia, is the world's largest travel agency. For years, Expedia has been finding ways to allow people to book their travel more easily, quickly, and economically. Expedia now sees an opportunity to further help people book travel by finding an entirely new way to connect with travelers through discovery.

Within Expedia, our team is working with the Global Design and User Experience team.

Focus Questions

1. Is there an opportunity to link discovery experiences with real-life travel experiences?
2. How can we quantify delight and habitual activity?
3. How can we encourage people to start planning travel earlier?

DELIVERABLES

Spring

Opportunities for incorporating discovery experiences into travel

- Can the concepts of discovering and traveling be combined in a way that satisfies the needs and wants of travelers?
- What are those opportunities, and which are the most promising?

Test plan for measuring physiological joy reactions

- Can joy and delight be measured empirically using the human body?
- What are the options available for such measurements, and which are the best for Expedia's needs?

Summer

Working prototype of our proposed travel discovery service

- Visioning will lead to design of low fidelity prototypes.
- Prototypes will be tested and refined repeatedly.
- A high fidelity prototype will be produced from the results of our iterative testing and design.

Report on prototype and final specification

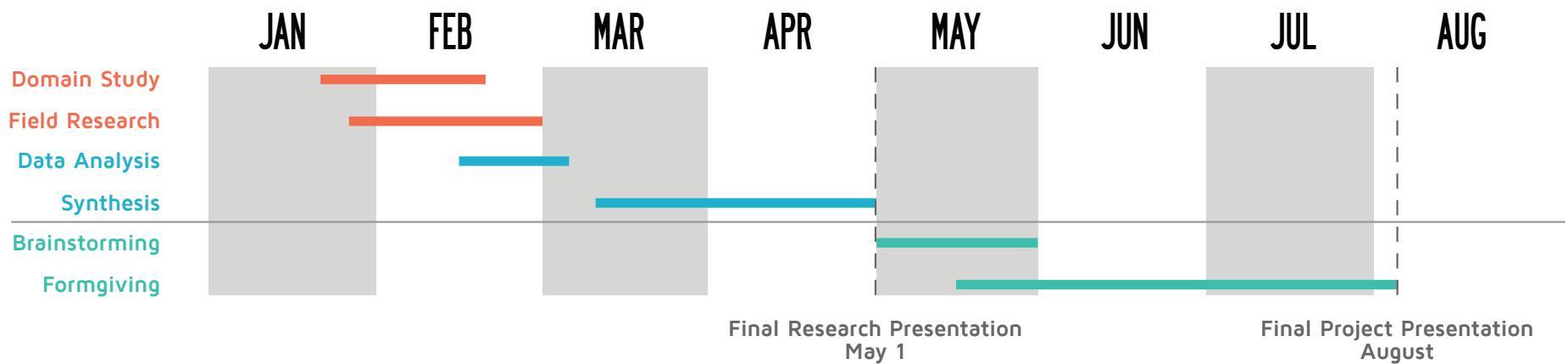
- A report detailing the testing process used to validate the final design will be produced.
- The details of the final design will be provided in a specification for Expedia to use when creating the service.

HUNT STATEMENT

To engage travelers through
habitual discovery, delightful
planning, and confident
decision-making.

TIMELINE

Research ▶ Analysis ▶ Design



Our semester began by conducting background research, which informed our field research. We spent the latter half of the semester analyzing and synthesizing that data, which led into our visions.

DOMAIN STUDIES



10

Competitive Analysis

 Travel Sites Discovery Sites

38

Physiological Research

 Methods Method Comparison



COMPETITIVE ANALYSIS

To establish an understanding of what others were doing right (and wrong) already, we examined existing travel and discovery websites that had something unique about them. We chose websites that facilitated discovery, so we did not examine Expedia, whose focus is not exploration. We evaluated five travel-related sites and six discovery sites on the basis of nine characteristics that we determined to be relevant to our project.



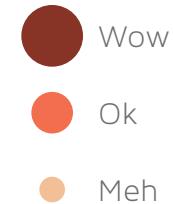
We chose characteristics that we felt applied to both travel sites and discovery sites and would be vital to designing an excellent travel discovery service. We used a three-tier rating scale for each characteristic based on our evaluation of its offerings.

Characteristics

- Interaction
- Ease of discovery
- Social
- Personalization
- Aesthetics
- Popularity
- Stickiness
- Marketing
- Scope



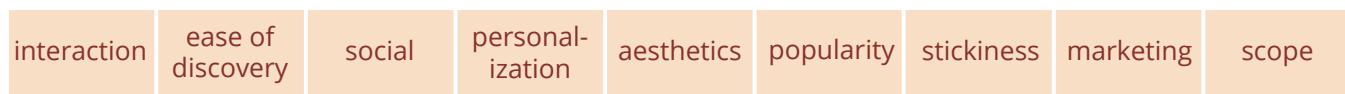
Rating Scale





TRAVEL SITES

● wow ● ok ● meh



MAIN TAKEAWAY

Summary

- Some of them are exclusively for discovery while others also provide hotel/flight booking facility. Trip Advisor is the only website that does it all.
- Some of them like TripAdvisor and Wanderfly explicitly ask a user to list out his/her interests while others like Gogobot and Trover show all popular destinations and rely on a user following people with similar interests.
- Gogobot is the only website of these five that also facilitates collaborative travel planning.
- Hipmunk, a new site in the hugely competitive and mature field of travel booking, emerged among the top winners thanks to its refreshing interaction and unique visualizations.

Opportunity Space

While we found aspects of different sites that were done well, we were unable to find a travel site that is successful across the board with the characteristics we feel are vital to the success of a travel discovery service. Personalization and collaborative planning are poorly utilized in many of the existing travel websites. There is a distinct opportunity to make an aesthetically pleasing, well-marketed, social, and easy-to-use travel discovery site to facilitate the travel planning process and make it more enjoyable.



GOGOBOT

Gogobot allows people to search for a particular travel destination and browse overviews, hotels, vacation rentals, things to do, and restaurants based on recommendations and reviews of other users. Travelers can view others' trips, post questions, follow people, and make recommendations based on their experiences.



Pros

1. Clean UI style
2. Facilitates collaborative planning
3. Facebook and Foursquare integration showing friends who have been to the same place
4. Curated travel guides

Cons

1. Poorly marketed
2. Only for hotels and destinations, no flights
3. No personalized suggestions

The screenshot shows the gogobot website interface for planning a trip to San Francisco. At the top, there's a search bar with 'Find Places or People ...' and a magnifying glass icon. Below the search bar are navigation links: Home, Destinations, Questions, and More. The main title is 'Going to San Francisco, California, USA'. Underneath it, it says 'San Francisco, California'. On the left, there's a box showing '473,528 people visited San Francisco' and '8 people in your network have been here.' with a list of names: Abhinav Tekumalla, Ying Wang, Kelsey Humphries, and 5 others. A green button says 'Get advice from your friends'. Below this is a section titled 'Popular in San Francisco, California' with a dropdown arrow. On the right, there's a map of San Francisco with various neighborhoods labeled like San Rafael, Greenbrae, Mill Valley, Sausalito, and Daly City. A blue marker is placed on the Golden Gate Bridge. A 'Trip Owners' section shows three profile pictures. At the bottom left, there's a 'My Trip Plan' section with a search bar and a list item for the 'Golden Gate Bridge' at Lincoln Boulevard & Doyle Drive, San Francisco, CA 94129. At the bottom right, there's a large blue button with a whisk icon and the text 'Whisk Me Away!'

Key Features

1 Facilitates collaborative travel planning with friends by letting them create a list of places to visit.

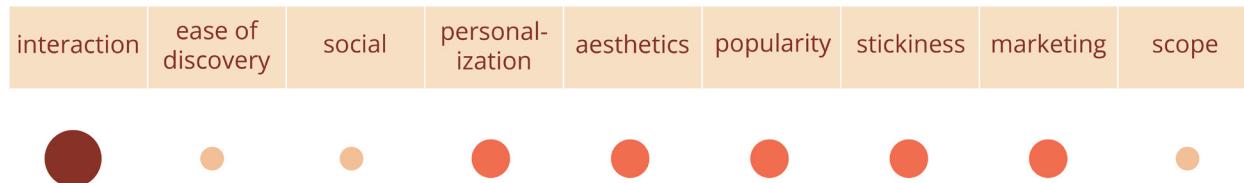
2 Destinations can be marked as "been here" or "want to go" which adds them to a virtual passport or wish list.

3 Has a "whisk me away" feature that shows you random destinations.



HIPMUNK

Hipmunk is a flight and hotel search aggregator whose self-proclaimed purpose is to "take the agony out of travel planning." Of all the travel sites, Hipmunk scored highest on interaction. Interactions are clean and enjoyable, and the unique sorting features make the process of finding flights much easier than on typical travel sites.

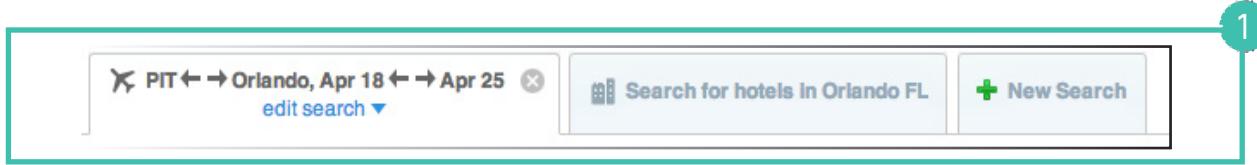


Pros

1. Creative flight visualization
2. Unique and useful filters such as 'agony,' 'ecstasy,' 'adventure,' 'romance,' 'family friendly,' etc.
3. Links flight and hotel services

Cons

1. No social interaction
2. Cannot book everything directly on the site



① Select Departure
PIT → Orlando, Thu, Apr 18

② Sort by: Agony

③ Filter by: Airlines, Stops, Enable Google Calendar, Only Nonstop

④

⑤

Key Features

- 1 Automatically recommends flight and hotel in the same destination.
- 2 Allows a user to sort flight results by "agony," a combination of lowest price, shortest length, and fewest layovers.
- 3 Filters and small widgets make finding a flight easier than on other websites.
- 4 Visualizes flight search results making it easier to parse information.
- 5 Allows users to sort hotel results by "ecstasy," a combination of price, amenities and reviews



TRIPADVISOR

TripAdvisor is the world's largest travel advice site. It combines reviews, flight and hotel search aggregation, and forums. While travel cannot be booked directly on the site, it links to many other sites where bookings can be made. It assists travelers in finding destinations, making bookings related to the trip, and finding things to do while traveling.



Pros

1. One stop website for everything related to travel
2. Large database of reviews and information
3. Rewards for contributors (badges, etc)

Cons

1. Poor aesthetics and cluttered UI
2. Overwhelming amount of information

Sharing On | Your TripAdvisor | Sign out |

hotel name, etc. **SEARCH**

Home | San Franc... | Hotels | Flights | Vacation Rentals | Restaurants | Things to Do | Best of 2013 | Your Friends | More | Write a Review

Incredible hotel pools

Home > United States > California (CA) > San Francisco Tourism

San Francisco Vacations

Travelers' Choice® 2012 Winner Destinations

Who cares about a little fog (okay, a lot of fog) when there's so much to do in San Francisco? By day, explore Fisherman's Wharf and the Aquarium of the Bay, ride a cable car, and stroll around the Presidio; by night, have a fabulous dinner (at a Michelin-starred restaurant or a tiny place in Chinatown), then hit some of... [more](#)

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San Francisco travel guides

3 days in San Francisco A collection of San Francisco highlights you can squeeze into 3

Friends' activity nearby

Fisherman's Wharf Nicole Willis rated this attraction

San Franc... | Hotels | Flights

- San Francisco Tourism
- San Francisco Hotels
- San Francisco Vacation Rentals
- Flights to San Francisco
- San Francisco Restaurants
- Things to Do in San Francisco
- San Francisco Travel Forum
- San Francisco Photos
- San Francisco Map
- San Francisco Travel Guide

Hotel Reviews (25,024) Photos (34,353) Forums (34,353)

Travelodge Central
"Hotel needs updating - but new General Manager got..." yesterday

Inspire your next adventure

Best hotels >	Best beaches >	Best destinations >
Favorite restaurants >	Best hotels for romance >	Best hotels for families >

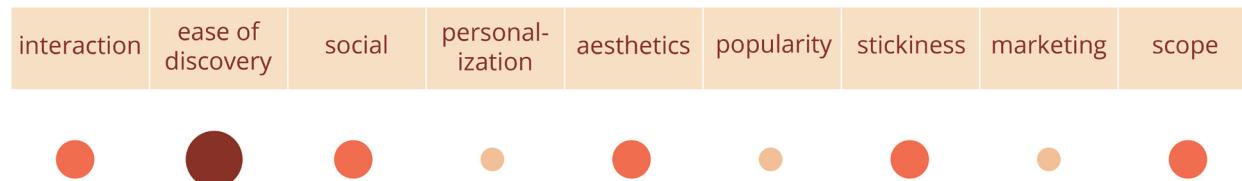
Key Features

- 1 Encompasses all travel-related services and activities.
- 2 Shows friends' activities in the area.
- 3 Has abundant data from customer reviews.
- 4 Allows for exploration of destinations based on different categories.



TROVER

Trover is all about people sharing their travel discoveries with others and exploring "hidden gems" around the world. The site is largely based on images taken and uploaded by travelers. People can view the most popular spots or search by locations. They can also make image-based lists of things they would like to do.



Pros

1. Aesthetically appealing UI
2. Filters destinations by distance
3. Easy to discover new places to go and new things to do
4. Eye-catching images make it enticing to browse

Cons

1. Poorly marketed
2. Cannot filter by interest
3. Not very personalized services

The screenshot shows the trover homepage with a search bar at the top. Below it is a main heading "Take an instant adventure" and a sub-instruction "Join savvy explorers who love to find and share hidden gems". A secondary search bar is present. The main content area displays a grid of travel photographs. At the top left of the grid, there are three tabs: "What's Hot" (highlighted with a green box and circled 1), "What's New", and "Featured Lists (the #treetrove challenge is on!)". To the right of the grid is a "Sort by latest" button. One specific photo in the grid has a callout box indicating its distance from Pittsburgh: "73.9 mi from Pittsburgh". At the bottom of the page, there is a section for app downloads with icons for the App Store and Google Play, and a reminder "Never stop exploring" with smartphone and tablet icons.

Key Features

- 1 Curated tabs of “what’s hot,” “what’s new,” and “featured list.”
- 2 A distance filter that sorts places from near to far from the visitor’s location.
- 3 Features a collection of high quality and attractive images.
- 4 App ads scattered among the eye-catching images.



WANDERFLY

Wanderfly is a site where people give and receive travel recommendations based on individual interests. Travelers can enter interests, a budget, number of nights, and region in order to receive a list of recommended travel destinations. Within each destination, are also lists of recommended spots from other travelers at that location. People can also follow friends and curators to see their recommendations.



Pros

1. Stylish and organized UI
2. Discovery capabilities with many useful filters
3. Allows customers to follow others with similar interests
4. Has a large travel scope

Cons

1. Poorly marketed
2. Distracting animation of interactive elements

The screenshot shows the wanderfly homepage. At the top, there's a search bar and navigation links for 'FOLLOW' and 'ACTIVITY'. A user profile icon 'MY90100' is visible. Below the search bar, a section titled 'I'M INTERESTED IN' displays popular tags: adventure, luxury, off the beaten path, budget, art, authentic, beach, culture, essential, family, food, nightlife, off the beaten path, romance, style, and trendy. There are filters for 'REGION' (Anywhere), 'SPEND' (\$3000), and 'FOR' 5 NIGHTS. Below these filters, a grid of travel destinations is shown with images and tags: Marrakesh (Morocco, adventure, budget), El Calafate (Argentina, adventure, budget), Cape Town (South Africa, adventure, budget), Qingdao (China, beach, culture, food), Curacao (Netherlands Antilles, adventure, budget), and Sydney (Australia, adventure, budget).

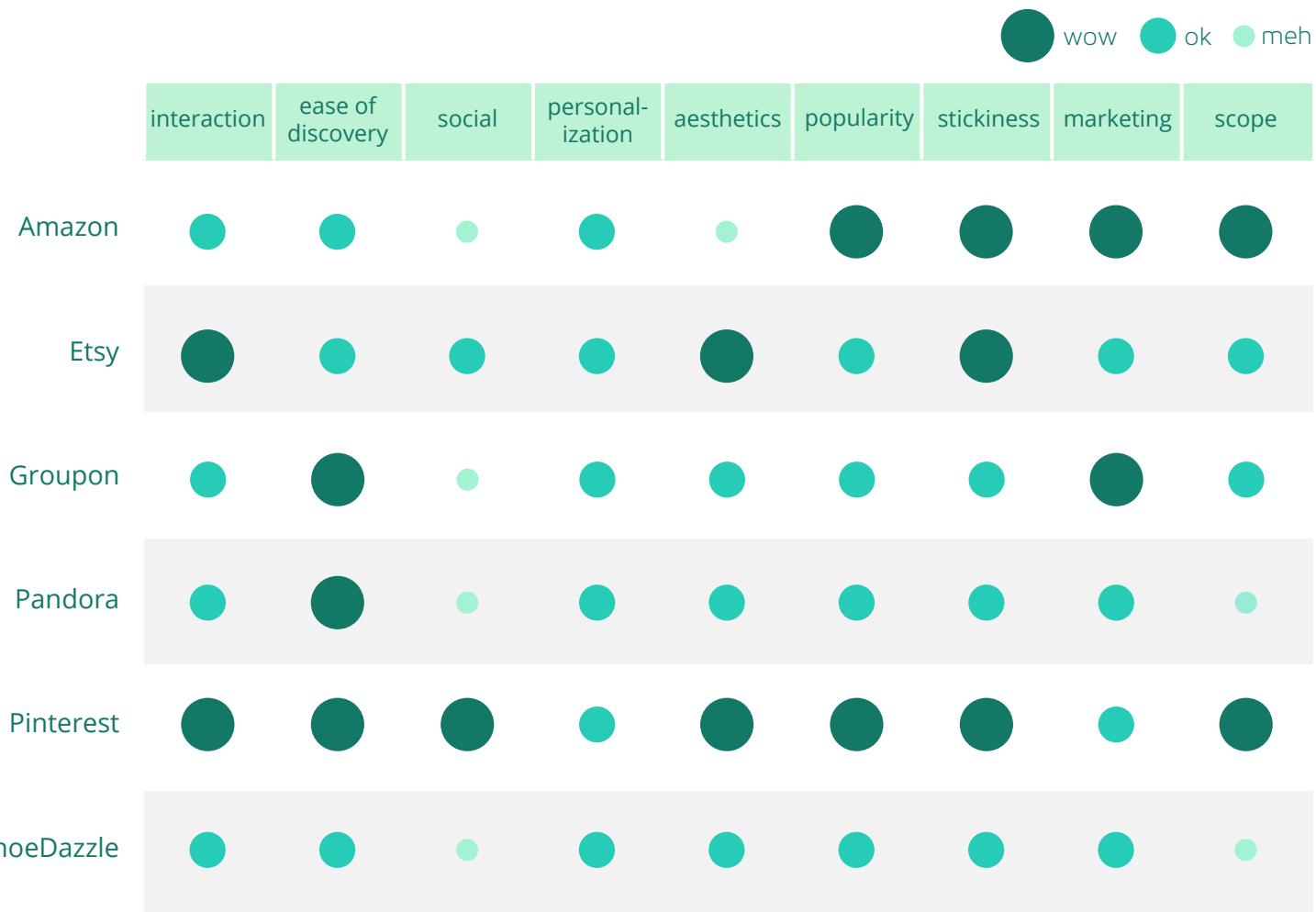
Key Features

- 1 Many well-presented filters for easy discovery.
- 2 Provides recommendations and tips from people who have been to a destination.
- 3 Allows customers to follow people to get travel advice.
- 4 Easy-to-access "RECO" button for customers to recommend spots to others.

This screenshot shows a feature titled 'WHOSE TRAVEL ADVICE DO YOU TRUST?'. It includes sections for 'FACEBOOK FRIENDS', 'GMAIL CONTACTS', and 'RECOMMENDED FOR YOU'. A search bar allows users to 'Find a person'. Below the search bar, a grid of profiles shows users like Natasha, Thea Kluge, Cezary Pietrzak, LocalGuiding, Christy Liu, Pravassa, anastasia, Steven Shalowitz, and COOL HUNTING, each with a 'FOLLOW' button. To the right, a detailed view of a recommendation for 'ITABONIAS SPIRIT' is shown. It includes a 'RECO' button, tags (luxury, secluded), a question 'Why are you recommending this? Any must-dos?', and a section for 'PIC' with three images. Buttons for 'Upload Image' and 'Use URL' are available, along with a 'RECOMMEND' button.



DISCOVERY SITES



MAIN TAKEAWAY

Summary

- Pinterest stands out as the most well-rounded discovery service, but can be overwhelming due to its large scope.
- Among the discovery websites, some, such as Shoedazzle and Etsy, focus on a particular category of products while others, like Amazon, Pinterest, Groupon and Pandora, serve everything in their domain.

Opportunity Space

A travel discovery site that incorporated the strengths of Pinterest, Amazon, and Etsy could allow for wide exploration while still retaining focus.



AMAZON

Amazon is an online retailer selling a multitude of different products. Customers can purchase directly from the site or from third party sellers (either stores or individuals). The site has a recommendation engine that provides suggestions based on the items the customer has viewed and similar items that other customers have purchased.



Pros

1. A large scope with a vast variety of products
2. Promoted items similar to ones viewed or purchased
3. Large number of reviews from customers
4. Well marketed

Cons

1. Cluttered UI, poor aesthetics
2. Very limited social interaction

The screenshot shows the top navigation bar of the Amazon website. On the left, there's a 'Shop by Department' button with a green circle containing the number '1'. To its right is a search bar labeled 'Search' with a dropdown menu open, also marked with '1'. The dropdown lists various product categories. Below the search bar, there's a promotional banner for 'Amazon Original Pilots' with the tagline 'You help decide which shows become series.' It features two speech bubbles: one grey one saying 'Watch the shows.' and one orange one saying 'Call the shots.'.

This screenshot shows the same Amazon homepage as above, but with a different focus. A green circle with '2' highlights the 'Wish List' button in the top navigation bar. Another green circle with '3' highlights a sidebar on the left side of the page. The sidebar contains sections for 'Related to Items You've Viewed', 'Recommended Based on Your Browsing History', 'Top Gifts for Mom', and 'What Other Customers Are Looking At Right Now'. The sidebar also includes links for 'Wish List' (5 items), 'Find a Wish List or Registry', 'Wish from Any Website', 'Add items to your List from anywhere', 'Wedding Registry', 'Baby Registry', 'Kids' Birthdays', and 'Friends & Family Gifting'.

Key Features

- 1 Facilitates product searching by departments or categories.
- 2 "Wish List" allows customers to save items of interest that they are not purchasing right away.
- 3 Provides various promotions on related products based on browsing history or season.



ETSY

Etsy is a shopping site where shop owners can sell handmade and vintage goods. Shoppers can browse goods in many categories, including art, jewelry, home goods, and clothing. Items can be purchased immediately or saved as favorites to return to later. There are "handpicked" items that have been curated by other customers. Additionally, there is a community aspect that allows sellers and purchasers to connect with one another.



Pros

1. Muted and artsy look
2. Easy interaction flow
3. Provides unique handmade and decorative products
4. Fosters a community between sellers and customers

Cons

1. Provides little personalization
2. Limited social interactions

The screenshot shows the Etsy mobile website interface with various features highlighted by numbered circles:

- 1**: Located at the top left, the Etsy logo is highlighted with a teal circle.
- 2**: A teal circle highlights the "Handpicked Items" section under the "Mother's Day Gifts / Cards" category.
- 3**: A teal circle highlights the "Handpicked Items" section under the "Art" category.
- 4**: A teal circle highlights the "People who purchased this item also bought..." section.
- 5**: A teal circle highlights the "Follow" button for shop owner Leah Bartholomew.

Key Features

- 1 Convenient menu: Activity, Conversations, and Favorites.
- 2 Seasonal items and gift inspirations.
- 3 "Handpicked Items" curated by other customers.
- 4 Suggestions for items other customers have bought.
- 5 "Follow" shop owners



GROUPON

Groupon is a daily deal site that offers users discounted gift certificates to restaurants, health spots, and various stores, in addition to travel packages and goods. The site sends a daily email containing deals that can be customized by providing deal preferences and location.



Pros

1. Clean and refreshing UI
2. Features daily deals with well-defined categories and filters
3. Emails personalized deals to shoppers every day
4. Endless scroll

Cons

1. Irrelevant deals could be overwhelming
2. Limited scope

The screenshot shows the Groupon homepage with a deal for "Mancini's Bread Company – Multiple Locations". The deal is for a "Pepperoni-Roll Sampler Platter (\$25 Value)" at a discounted price of \$12. The discount is 52% off the original value of \$25, resulting in a savings of \$13. The deal is described as "Best of 2012 Pittsburgh". There are sections for "In a Nutshell" and "The Fine Print". A sidebar on the right features "Getaways" travel deals selected by Expedia, including "Road Trip" deals for Niagara Falls, Lancaster Host Resort, Great Wolf Lodge Pocono Mountains, and JW Marriott Poconos.

Key Features

- 1 Product categories revolve around daily activities.
- 2 Rewards for referring friends.
- 3 Collaboration with Expedia on travel deals in "Getaways."
- 4 Limited deals for limited time.
- 5 Delivers daily emails to promote local deals.

The screenshot shows a Groupon email newsletter for Pittsburgh. The subject line is "Your Daily Pittsburgh Groupon" and it was sent on April 13 (1 day ago). The email features a deal for "Custom Photo Books" from Photobook America, which is an online deal. The deal offers an easy-to-use design program to transform photos into table-ready books, commemorating weddings and other events with a quick turnaround. The original price is \$100, but it is discounted to \$29. An image of several photo books is shown.



PANDORA

Pandora is a personalized radio exploration service. The site's Music Genome Project classifies songs based on a variety of characteristics such as melody, rhythm, and lyrics. Listeners can create a station based on a song, artist, or genre, and the site will play songs that are related to that selection.

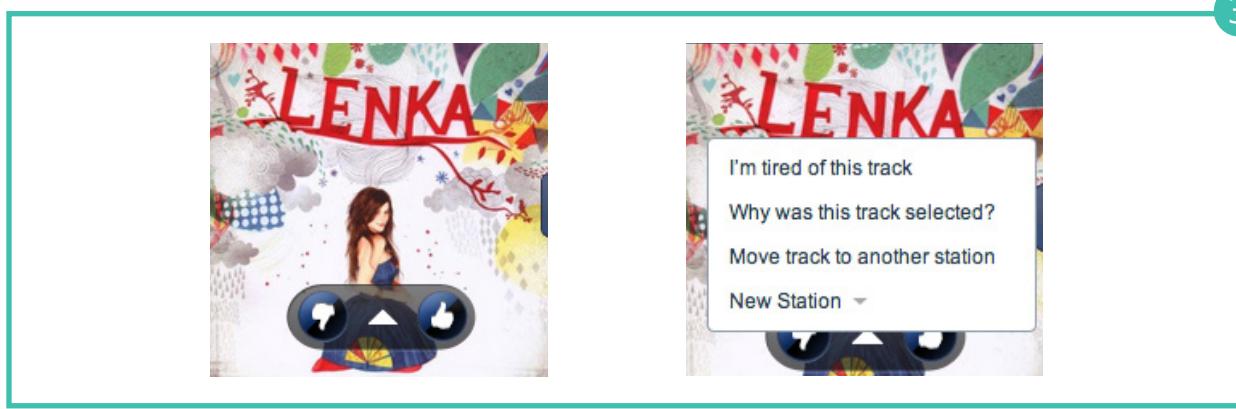
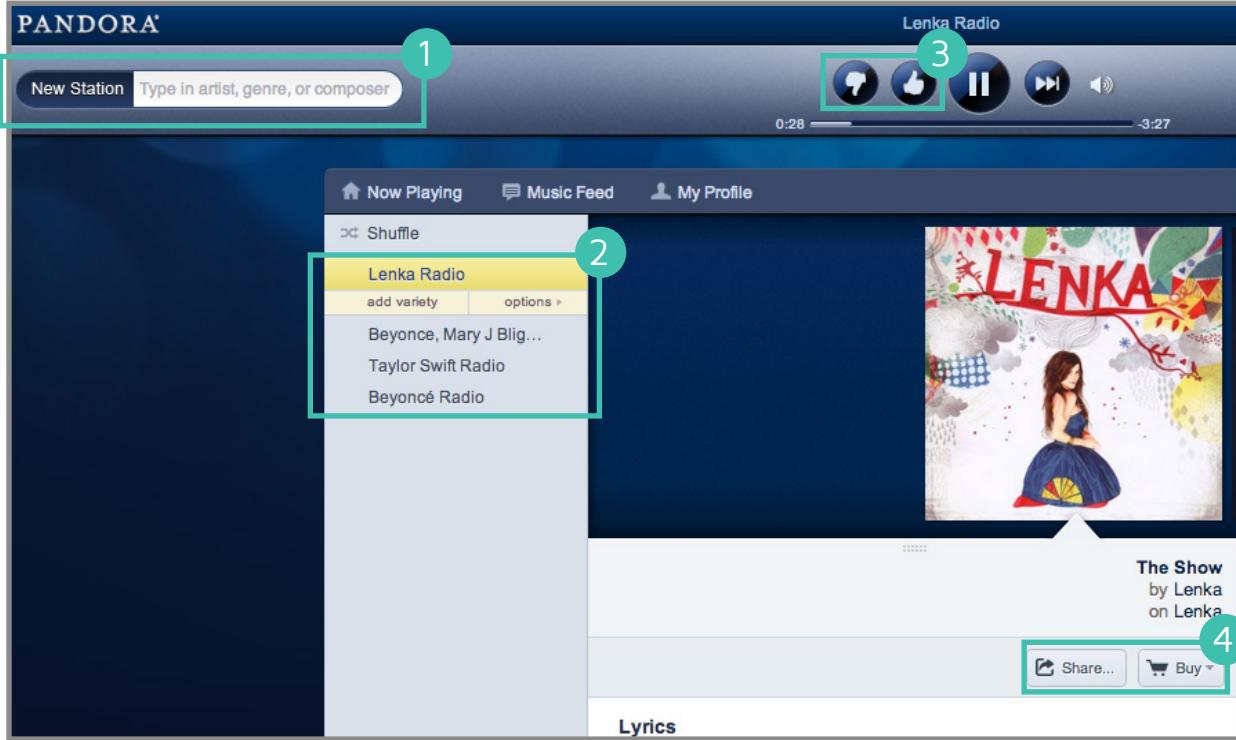


Pros

1. Clean and intuitive UI
2. Simple discovery
3. Requires minimum effort for personalization

Cons

1. Limited scope
2. Ads between songs can be annoying



Key Features

- 1 Searching by artist, genre, or composer creates a radio station featuring related music.
- 2 Station panel allows listeners to switch between different radio stations.
- 3 Personalization features like "thumbs up," "thumbs down," and "I'm tired of this track."
- 4 Lets users share or buy a song.



PINTEREST

Pinterest is an image-based collecting and organizing website based on the metaphor of pinning images to a corkboard. Users can have several Boards, which are collections of images, and they can “pin” new images from other sites to their Boards. They can also “repin” images from others’ Boards. On the homepage, users can view new pins from other users and Boards they are following.

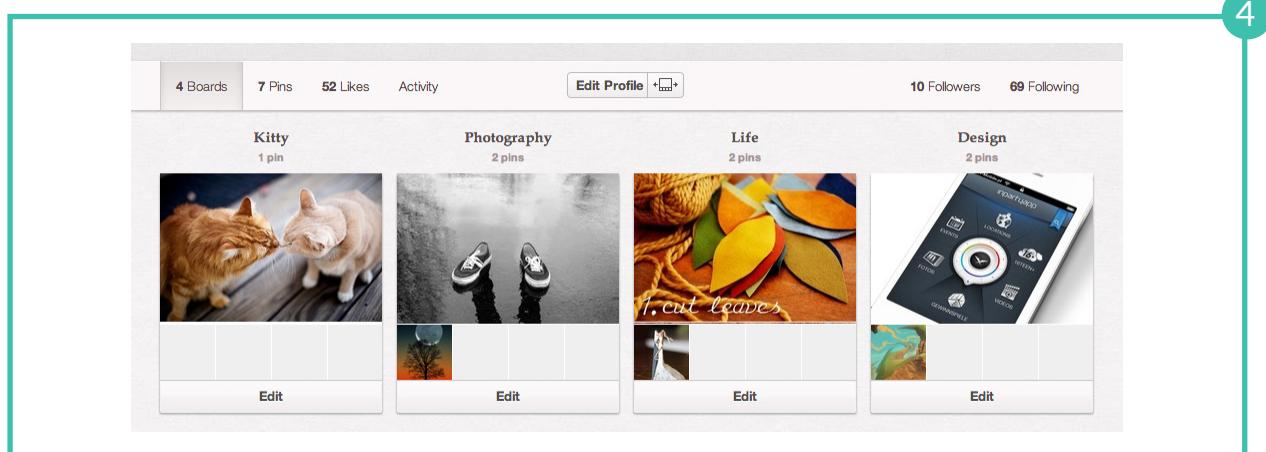
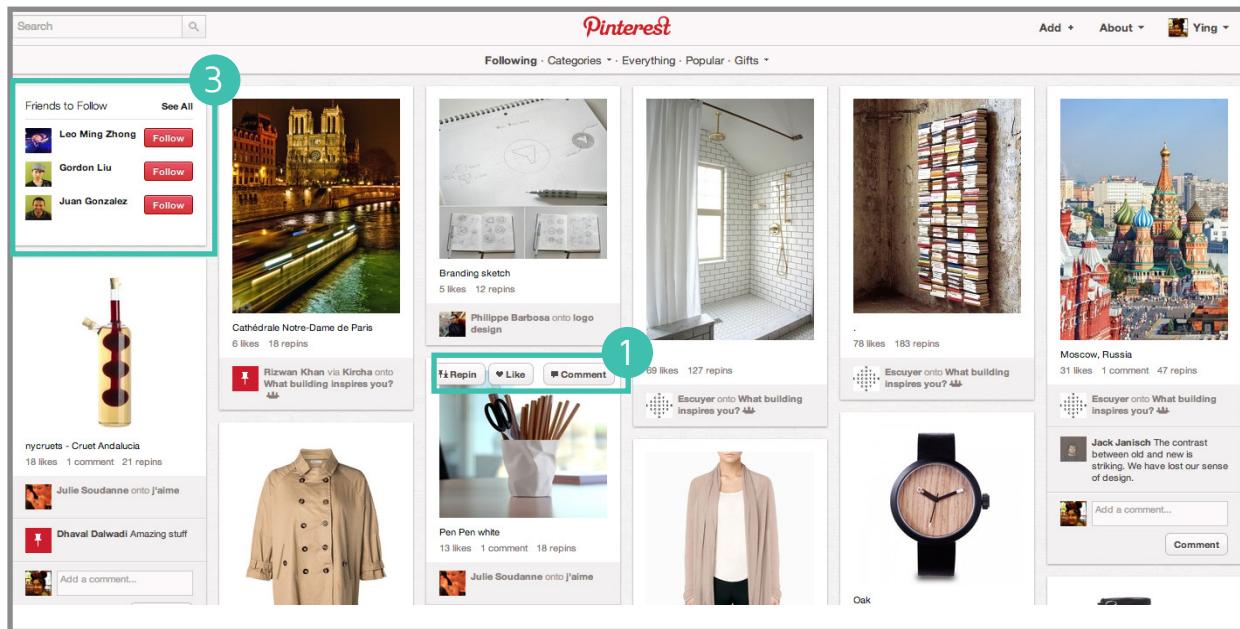
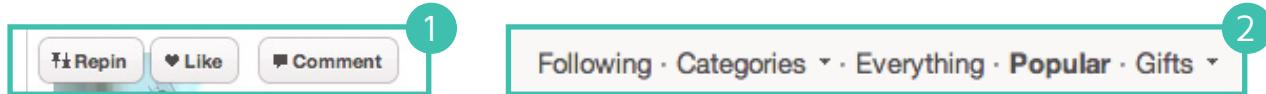


Pros

1. Aesthetically pleasing layout
2. Addictive endless scroll with attractive pictures
3. Easy discovery and intuitive interaction increase stickiness
4. Large scope

Cons

1. The concept feels confusing for some users
2. The scope seems too broad for some users



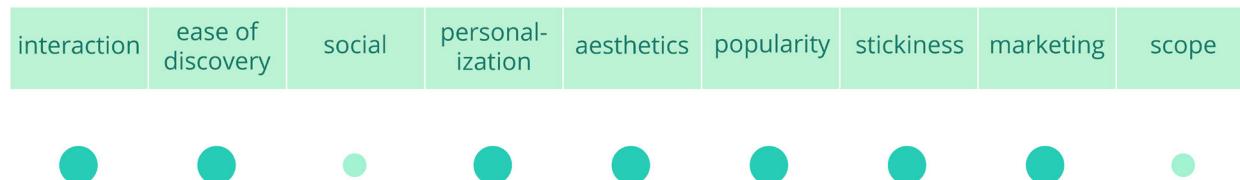
Key Features

- 1 Allows a user to “Repin,” “Like,” or “Comment” on a picture.
 - 2 Filters include “Following,” “Categories,” “Popular,” and “Gifts.”
 - 3 Recommends Facebook friends to follow.
 - 4 “Boards” as collections of “Pins.”



SHOEDAZZLE

ShoeDazzle is a curated fashion suggestion engine for women. Shoppers fill out a short quiz indicating what their fashion preferences are, and, based on that, the site provides monthly suggestions of clothes, shoes, and accessories. The service is intended to be highly personalized and make the woman feel special. Customers can also purchase suggested products directly from the site.



Pros

1. Modern and fashionable look
2. Seemingly personalized services
3. Personalized "My Showroom"

Cons

1. Poorly marketed
2. Limited scope

YOUR STYLISTS AWAITS 1.888.508.1888

INVITE FRIENDS MY ACCOUNT (\$0.00) CHECKOUT (0)

SHOP BY DAILY FIX MY SHOWROOM BOUTIQUES OUR SITE

FEATURED

NEW ARRIVALS Shoes (pink high-heeled shoe)

NEW ARRIVALS Handbags (white shoulder bag)

NEW ARRIVALS Accessories (gold necklace with blue stones)

SHOP ALL SHOES HANDBAGS ACCESSORIES SALE SEARCH ALL SHOES

NEW FOR SPRING!

Mid-April Arrivals Are Now in Your Showroom

SHOP NOW

THE DAILY FIX ▶ HINT: DARE TO GLARE

YOUR APRIL SHOWROOM

Meet Your Latest Personalized Spring Selection

Did we get your style right? GIVE FEEDBACK ▶



1

1

2

3

Key Features

- 1 Shopping categories with eye-catching images.
- 2 Product showcase based on seasonal promotions.
- 3 "My Showroom" as a collection of products curated to match the taste of each customer.

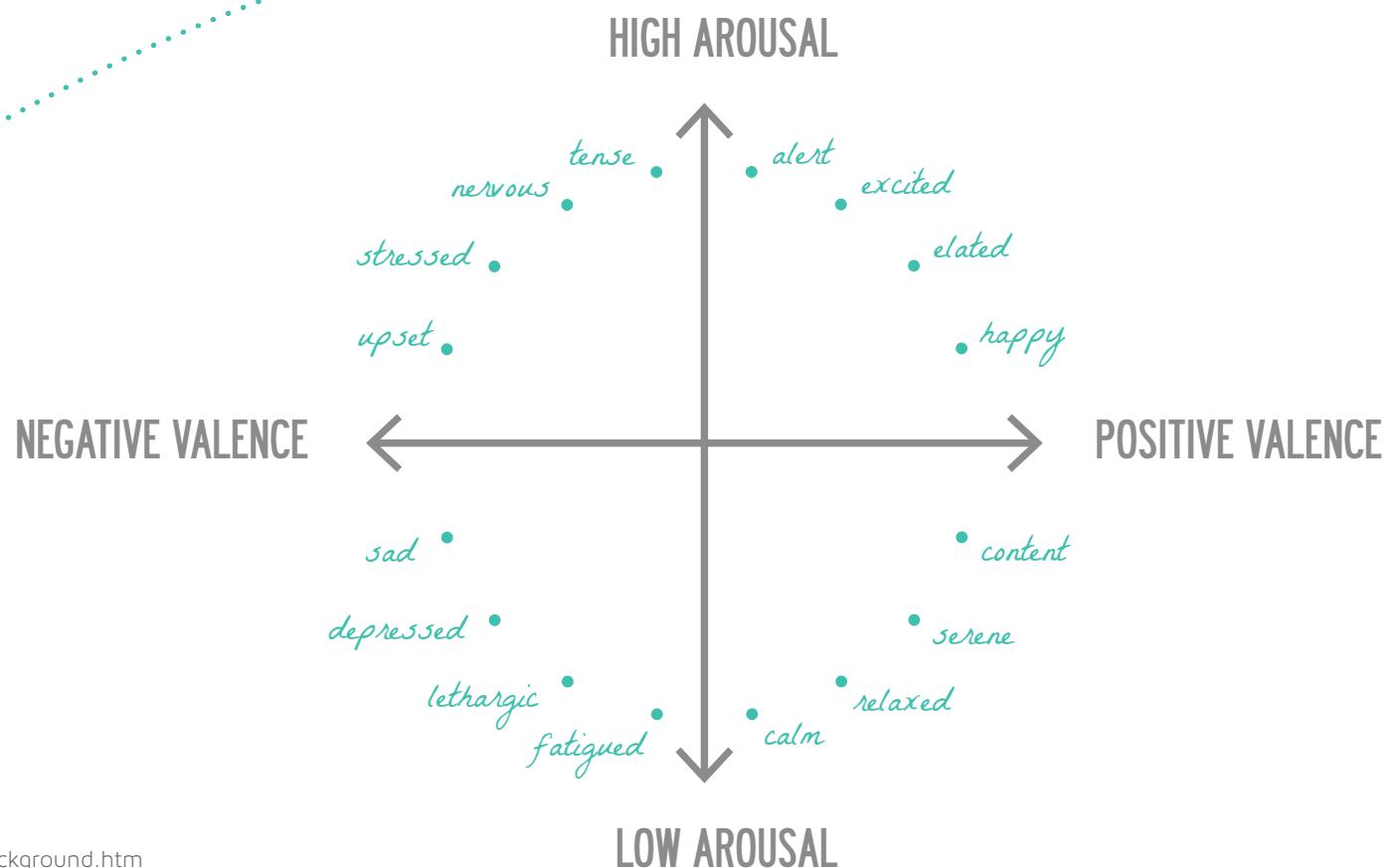


PHYSIOLOGICAL RESEARCH

In order to understand the current landscape of psychophysiological evaluation methods, we conducted a survey of academic literature. We explored several different experimental paradigms, including electromyography, electroencephalography, functional magnetic resonance imaging, galvanic skin response, computer vision, and electrocardiography. These methods were compared based on quality of results, feasibility of use for evaluating interfaces, and ease of experimental setup.

When trying to quantify emotion, the main challenge is measuring and comparing emotional states. Researchers typically define emotion as the combination of two dimensions:

- valence, whether the emotion is positive or negative
- arousal, how strong the emotion is



based on:
<http://mat.ucsb.edu/~ivana/200a/background.htm>



FACIAL EMG

Description

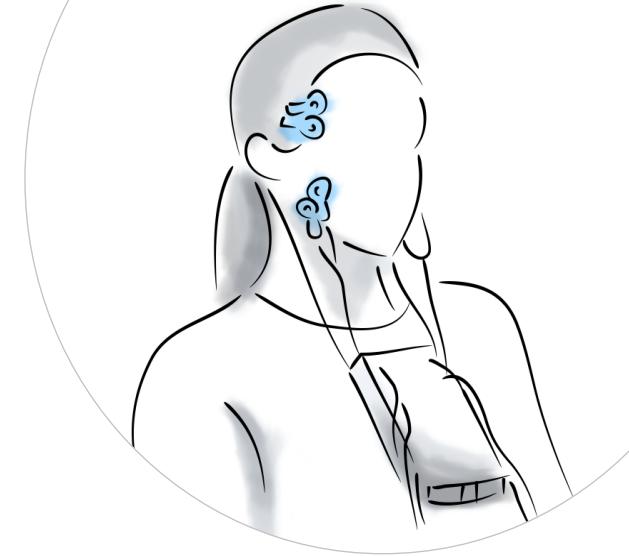
Facial electromyography (EMG) measures the electrical activity of small micro-expressions made by facial muscles in response to an emotion.

Facial EMG records two main valences, which are commonly associated with positive and negative responses. However, looking more closely at what these actually indicate, it might be more accurate to refer to the positive response as the release response and the negative response as a tension response. A small amount of tension shows that people are engaged with the product, as opposed to being relaxed and bored. Examining when the release and tension responses occur can give a good indication of how someone is feeling, and probing further with qualitative questions can help give the complete picture.

Sample Protocol

Facial EMG data records both arousal and valence of emotion.

Have the participant sit in front of the interface and connect electrodes to the corrugator supercilii and zygomaticus major muscles. Begin data collection, but wait a few minutes to give the participant the task in order to establish a baseline. Once the baseline calibration is complete, give the participant a task to complete using the interface. The researcher should keep an eye on the EMG readings as they occur and use any release or tension spikes to probe further into what the participant is thinking and feeling by asking questions about what has just happened. If the total experiment time will exceed 20 minutes, it is a good idea to take baseline readings every several minutes, to correct for any baseline drift.



Analysis of Feasibility

Facial EMG is easy to set up, unobtrusive, and able to be used in real time.

This method has several advantages, including being fast and easy to set up. Additionally, the experimental setup is less obtrusive than other methods, making it easier to collect data on realistic usage of an interface. The electrodes used in the experiment are relatively inexpensive, between 30–40 cents each. The main initial cost would be the EMG amplifier. Biopac, one of the more well-known companies for biological signal equipment, produces an EMG amplifier that currently sells for \$595.

This method provides enough information about a participant's feelings in order to probe further and possibly predict preferences. However, it can be hard to compare this type of data across subjects; it is easier to identify a change within a subject.

Another significant advantage of this method is that it is possible to view the raw results in real time and use them to guide probes into the participant's emotions.



EEG

Description

Electroencephalography (EEG) records the electrical activity of the scalp in order to examine brain activity.

Looking at Event Related Potentials (ERP) can help identify brain responses that result from thought or perception. These ERPs are EEG data which are linked to specific events, such as the participant clicking a button or navigating to a certain section.

Sample Protocol

EEG data can reveal cognitive activity at a certain point in time.

Set up the EEG cap on the participant, using a blunt needle to insert the electrogel into the electrodes. Take care that channels F3 and F4, which are the emotional control area, and Fz and Pz, which are the decision-making areas, have strong connections. Begin data collection and establish a baseline reading. Assign the participant a task using the interface, with event codes sent to the data collection based on where the participant is within the interface. After the conclusion of the experiment, the data can be filtered and ERPs can be extracted from the relevant channels in order to analyze the participant's cognitive response at different points during the task.



Analysis of Feasibility

EEG takes some time to set up and feels a bit unnatural for the participant, but it can be used to look at many different factors in thought or perception.

One drawback to this method is that it can be quite time-consuming to filter and analyze the data and it is not typically done in real time, ruling out the possibility of qualitative probes based on the EEG results.

Additionally, a complete system can be rather expensive, costing thousands of dollars and varying quite a bit depending on the quality of the company and the number of electrodes available. The setup and materials required for each individual participant is in the range of a few dollars. There are professors at Carnegie Mellon with these systems already in their labs and it may be possible to collaborate and receive use of these systems.

However, an advantage of this method, especially if recording with a full 64 electrode EEG cap, is that it may be possible to go back and examine other aspects of the brain response by analyzing different electrodes, which can be useful if the focus of the study changes. EEG data can be quite complex, which can allow for more nuanced results but can also make it harder to extract the relevant information.



FMRI

Description

Functional Magnetic Resonance Imaging (fMRI) looks at changes in blood flow in order to measure neural activity.

fMRI has been used in research to identify people's preferences of soda brands and sports cars. It has been found that increased blood flow can be correlated to desirability of a product. It is less common in the field of HCI, possibly because of experimental limitations or accessibility of other techniques.

Sample Protocol

Changes in blood flow recorded by fMRI can be mapped to certain emotions and cognitive activities.

Since the participant must remain motionless during an fMRI scan, the interaction possibilities are likely limited to pushing a button or simply passively viewing an interface. This makes it harder to study a person actually completing a task using the interface. A possible protocol could involve showing a subject two interfaces and having him push a button to indicate his preferred interface, while examining the decision-making areas of the brain.



Analysis of Feasibility

fMRI systems are expensive and require professional expertise, but can reveal changes in neural activity.

Purchasing an fMRI system can cost \$1-3 million. It may be possible to find an institution that rents out time on a machine, but this could still cost thousands of dollars per hour. The machine will require a trained technician to operate. Additionally, it is probably necessary to hire a radiologist to interpret the results, which adds to the cost. It will also be difficult and expensive to acquire subjects for this procedure.

It is not clear that the added expense and difficulty of fMRI will result in more useful results. In fact, it significantly limits the experimental protocol and is the most obtrusive of the methods presented here.



GALVANIC SKIN RESPONSE

Description

Galvanic Skin Response (GSR) measures the electrical activity of the skin in order to identify an increased response in the sympathetic nervous system.

GSR measures the electrical activity of the skin in order to identify an increased response in the sympathetic nervous system. It gives general levels of arousal or tension but must be used in conjunction with qualitative methods in order to determine which of these emotions the user is experiencing at a particular point in time.

Sample Protocol

GSR measures changes in emotion strength, but qualitative probes are necessary to determine valence.

Similar to the facial EMG protocol, the GSR sensor would be hooked up and attached to the participant. Data collection would begin with a baseline reading to establish normal skin conductance levels. The participant would be asked to interact with the interface, probably through a specified task. The researcher would monitor the data output and watch for any deviation from the baseline. The researcher could then probe further in real time to understand the emotions underlying this change in electrodermal activity.

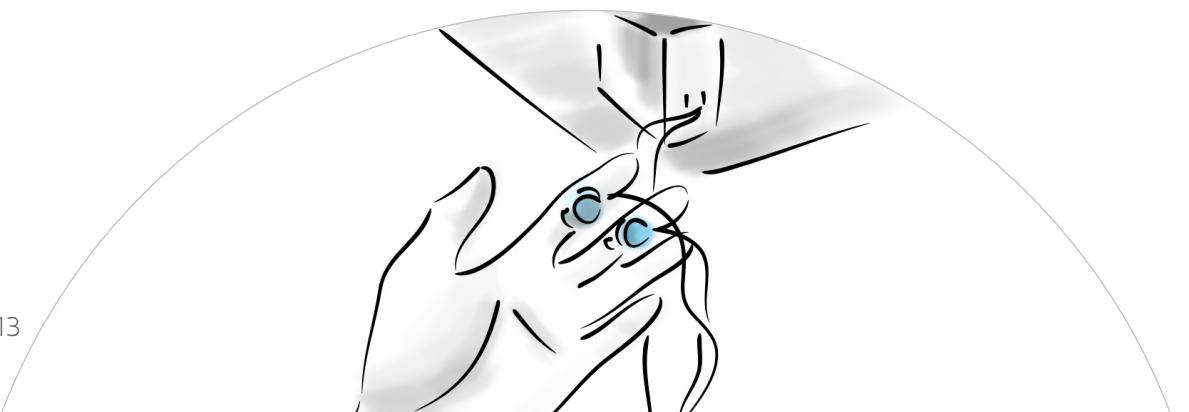
Analysis of Feasibility

GSR systems are inexpensive, easy to set up and can be analyzed in real time. However, the data interpretation is very dependent on qualitative probes.

A GSR sensor can cost around \$300, but could be reused for all participants. An advantage of this method is that the sensor is generally unobtrusive. However, it is worth noting that data from this method is somewhat limited and requires more probing than other methods to find out a participant's actual emotions.

GSR has been used previously in HCI research and has particular application in evaluating games, due to the fact that it is unobtrusive and easy to ignore while using an interface.

Although GSR is similar in feasibility to facial EMG, the depth of the data provided is not as great.





COMPUTER VISION

Description

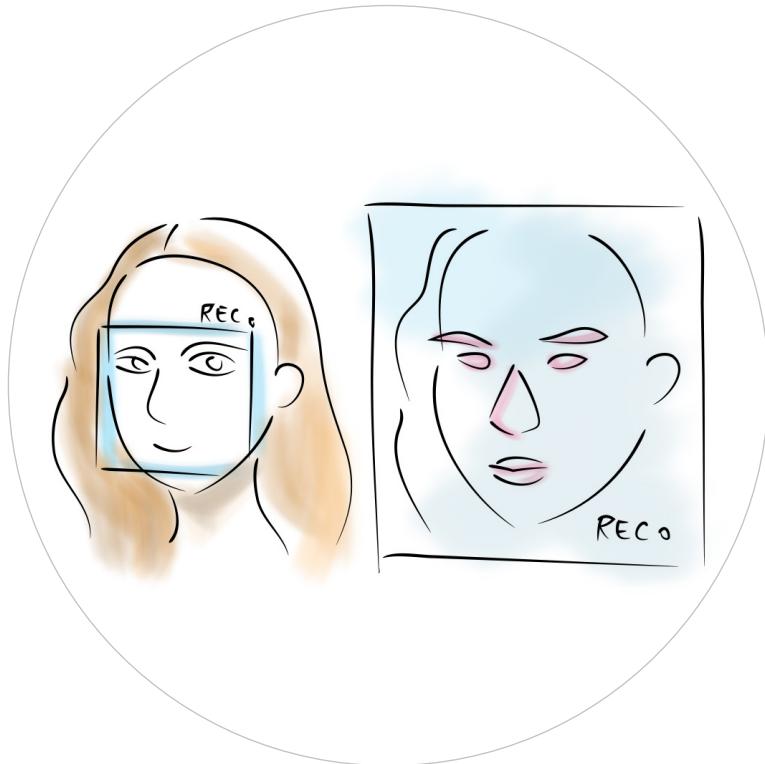
Computer vision uses a webcam and face reading software to determine emotional responses based on facial expressions.

There are several companies making software for emotion recognition using computer vision. One possible company is Affectiva, which is well regarded within the scientific community. It is an MIT Media Lab spinoff and is backed by the National Science Foundation. Other producers of computer vision software for these purposes include RealEyes and Noldus.

Sample Protocol

These systems usually classify the user's emotion into predetermined categories (happy, sad, surprised, frustrated, etc.) and also record valence and strength of emotion.

Calibrate the system and adjust the lighting as necessary. Ask the participant to complete a task using the interface and record video along with the data collection. The exact form of data collection and analysis will depend on the specific software package used.



Analysis of feasibility

Computer vision systems can be expensive, but have the advantage of being able to conduct experiments remotely.

One significant advantage of this method is that it is possible to complete studies from a distance and to test people outside a lab setting simply using a video feed from their webcams. It should be noted that lighting can influence the results and therefore a lab setting will provide the most reliable results, but nonetheless it is possible to complete these studies in other locations. The Noldus system is currently priced at \$7590.



METHOD COMPARISON

	Facial EMG	EEG	fMRI	GSR	Computer Vision
affordability	4	2	1	5	3
ease of setup	4	2	1	4	5
quality of data	3	4	5	1	2
total	11	8	7	10	10

Rated on a scale of 1–5, with 5 being the most desirable.

These five methods were compared and evaluated based on three main factors:

- Affordability, which ranged from millions of dollars for fMRI to several hundred dollars for the more affordable methods like GSR and facial EMG.
- Difficulty of setting up each method, which included participant preparation and equipment calibration.
- Quality of data, which accounts for how much neural activity is recorded by a particular method and whether additional probes are necessary.

This evaluation showed three methods to have the biggest potential: facial EMG, GSR, and computer vision. Although any of these three methods would be appropriate for our purposes, **our recommendation is facial EMG**, as it strikes a good balance of being relatively affordable, easy to setup, and provides information about both dimensions of emotional state.

A large, detailed statue of Ariel from Disney's The Little Mermaid. She is shown from the waist up, wearing her signature red mermaid tail and white flowing dress. Her arms are raised, and she has a joyful expression. The background is a clear blue sky. Overlaid on the lower half of the image is the text "FIELD RESEARCH" in a large, bold, teal sans-serif font.

FIELD RESEARCH

54

Research Overview

..... Journal Studies

..... Contextual Interviews

..... Guerrilla Interviews

..... Joy Visits

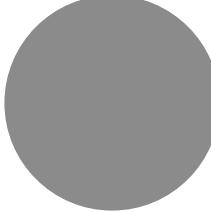
64

Synthesis



RESEARCH OVERVIEW

Once we had a thorough understanding of the problem space, we went out into the field to see how people discovered and traveled. We used four methods to uncover the ways people acted, which gave us thousands of data points to work with. We conducted journal studies, guerrilla interviews, contextual interviews, and joy visits. We chose these methods because they give us the broadest view of the ways that people find new content and plan their trips.



102
PARTICIPANTS

70
INTERVIEWS

32 JOURNALS



1,652 MILES
ORLANDO



3,845 MILES
LAS VEGAS

Our team spoke with 102 people
using four methods over the
course of two months.



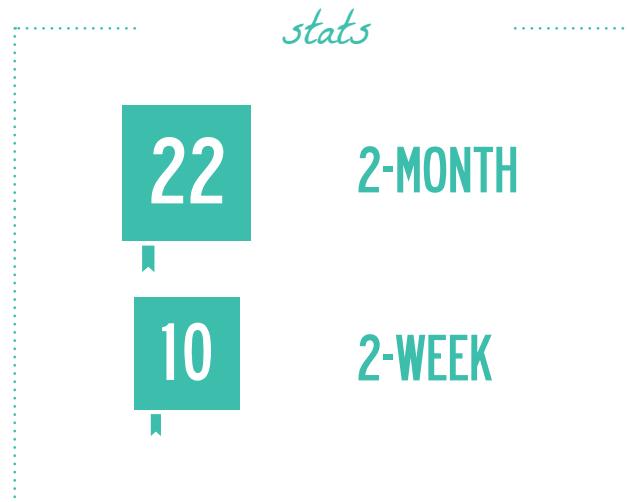
JOURNAL STUDIES

We asked people to fill out journals detailing their daily thoughts and actions regarding travel planning.

We created two participant groups: 10 participants filled out the journals for two weeks and 22 participants filled them out for two months.

We used journals to **investigate how people plan travel in their everyday lives** and to **get a sense of the planning process over time**. The journals were designed to lead the participants to think about their travel planning process within their daily lives.

A sample journal page can be found in the Appendix on page A2.







CONTEXTUAL INTERVIEWS

We traveled to people's homes and places of work to observe them using discovery websites. During the interviews, they used the websites as they normally would. We periodically asked questions to gain a deeper understanding of their usage.

We interviewed 14 participants using a variety of sites, such as Pinterest and Etsy, to gain a complete understanding of the process of discovery. Most participants used more than one such site.

We used interviews to **investigate the many ways in which people discover** new content. We focused our questions on how people found novel ideas and how they chose which ideas to explore further.

stats

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CONTEXTUAL
INTERVIEWS





GUERRILLA INTERVIEWS

We journeyed across the country to interview people who were in the midst of traveling. We talked to them while they were waiting in lines, at shows, and exploring.

Half of the team went to Las Vegas, focusing on spur-of-the-moment trips, and half of the team went to Disney World, focusing on carefully planned vacations.

We used guerrilla interviews to **investigate how people planned once they were traveling**, rather than the prior planning covered by the journals. We focused on how people spontaneously made plans and how people changed the plans they had already made.

stats



**GUERRILLA
INTERVIEWS**

TEXAS
HOLD'EM

CARIBBEAN
STUD





JOY VISITS

We visited people doing activities they are passionate about.

We talked to dancers, gamers, artists, musicians, and bikers and observed them doing what they loved. We asked what they loved about that activity, how they felt while doing it, and what brought them back to it over and over again.

We used these joy visits to **investigate what makes someone passionate about a certain activity and how that passion can lead a person to do that activity repeatedly**. Using this data, we aimed to understand the nature of joy and flow.

stats



JOY VISITS





SYNTHESIS

After we had collected our data, our team worked to find the overarching themes. We synthesized the information by creating an affinity diagram, in which data are grouped by similarity, and then placed into a hierarchy of trends. Our key insights from this synthesis are detailed in the next section.

In addition, we turned the journals into timelines, which document the daily travel activities of each participant. These were used to construct travel planning profiles, which show the trip planning strategies that people employ. The profiles are also explained further in the next section.



A woman with glasses and a bun hairstyle is seen from the side, pointing her right index finger towards a wall covered in numerous white and yellow sticky notes. She is wearing a white hoodie with a brown owl and crown print. The wall is a light color and has several other small photos and drawings pinned to it.

FINDINGS

A shareable package
that has all relevant
info I find for trips
I want to go on

had never seen
these services
before
but after I
have used it

4

68

Key Insights

..... Planning

..... Exploring

..... Sharing

82

Travel Planning Profiles

KEY INSIGHTS

Using the data that was gathered, we drew out key insights that will play into our final design. Small ideas were built into three broad insights.



KEY INSIGHT 1

Planning

Confident researching and organizing make travel planning more delightful and less stressful.

Insight Details

Some people are stressed by travel planning because they worry that they are not getting good deals.

Some people find planning and organizing to be a game that they can win.

Summary

Travel planning is considered by most people to be a stressful experience. They feel uncertain about whether they are making the right decisions or getting the best prices. This lack of confidence causes them to procrastinate and delay booking until the last minute. People don't want to feel like they paid more than someone else, so it's worth the risk to wait and see if they can get a better price. However, when people feel in control of their travel planning, they actually enjoy the process. They see it as a sort of strategy game and feel a sense of success when they organize and plan a trip. They want to book earlier because they are sure that they have gotten the best price and an amazing trip.

Business Opportunity

A travel planning site that helps travelers feel confident in their purchases is much more likely to have people enjoy using the site and return to it for their future trips.

Websites that are striving to do this include Kayak and Bing Travel, which tell travelers to buy or wait based on previous data along with the website's confidence level for the prediction.

EVIDENCE

Tarrah

"I love [travel planning]. Just seeing the different things, what you can do, trying to make the time, fitting out the schedules. I really enjoy that part."

Tarrah is a woman in her mid-30s who loves to travel to new places and explore the world.

She loves travel planning, especially the challenge of making everything fit together. The first thing she always does is buy a travel book and read reviews on TripAdvisor. Because of her thorough research, she feels like she is getting the best deal and is confident that her trip will be enjoyable.

For each trip, she makes a binder of all the research she has done and what she will do every day on the trip. She likes to have everything planned out when traveling so that she can make the most of her time.

Ginger

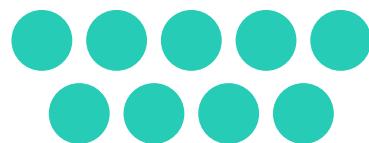
"A lot of times different [travel] websites are frustrating. It's too hard to notice the difference because there are so many different things listed in different ways."

Ginger is a woman in her early 30s. Most trips she takes are with her boyfriend.

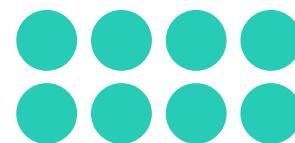
She is currently trying to plan a trip with her boyfriend to Las Vegas for New Year's. Last year, they went on the same trip but booked late. The price was very high and they are trying to avoid that this year by booking earlier.

Despite the fact that prices are lower than last year, she is still frustrated by their fluctuations. After two weeks she still hasn't found a price she is confident in, because she is getting so many inconsistent results from her research.

I plan things really far in advance.



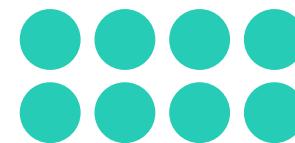
I feel frustrated by how complicated travel planning is.



I enjoy the challenge of travel planning.



I have trouble booking because I can't predict how prices will change.



 = 1 participant

KEY INSIGHT 2

Exploring

Exploration is more enjoyable
when the content is relevant,
but there is still a desire for
something novel.

Insight Details

People usually look at discovery sites with something in mind and are overwhelmed by extraneous or unfeasible ideas.

People look for novel things to get inspired, learn, and discover new interests.

Summary

When people discover, they like to filter the options to ones that are relevant to them and personalize the site to their preferences. Often people return to the same sites or same travel locations time and again because they feel comfortable with familiar things. It can be frustrating to see options that are not feasible. Although this is what people do the majority of the time, they occasionally like to see something entirely new and refreshing. This allows them to expand their interests and become inspired outside of what they already know. While they want the majority of content to be personalized and related to interests, at times, they want something radically different.

Business Opportunity

A site that allows its users to find new content without overwhelming them will help people quickly and easily find something they will love. This will encourage them to purchase from the site.

Examples of websites doing this well include Etsy, Amazon, and Wanderfly, which feature categories and subcategories to help users limit the amount of information they see at once.

EVIDENCE

Jordan

"Sometimes I think the gauge is too narrow, so it'll play a band and [then] it'll play a band that's exactly like it. And I'll be like 'This is kinda cool but it's kinda the same thing.'"

Jordan is a graduate student in his early 20s who regularly uses Pandora to listen to music.

He enjoys using Pandora because it plays music that is more tailored to his tastes. He doesn't care for modern popular music, so Pandora gives him better variety than local radio.

However, he also likes to discover new music and sometimes he feels like Pandora is too limited. He enjoys hearing music similar to what he already likes, but he would also like to have an option to hear something radically different.

Kristina

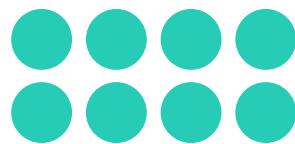
"I don't want to see ice cream or some[thing] that I don't want to eat. So this is all delicious stuff but all delicious stuff that I can eat without feeling guilty about it."

Kristina is in her early 20s and likes to use Punchfork to find new recipes for her and her mom to cook.

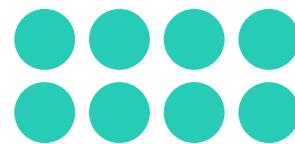
She thinks Punchfork does a great job of aggregating recipes, and she loves to find new foods. She gets to try new dishes, and she enjoys the variety of cuisines.

She is also on a strict diet and doesn't like to see foods that she can't eat. It frustrates her to see desserts and other things she shouldn't eat, and looking at them wastes her time. She wants to have more specific filters so that she can see the recipes she is interested in more easily.

I just want to find something new and different.



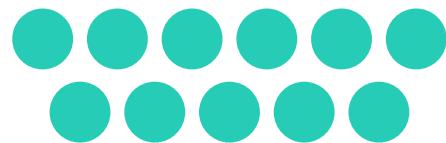
I want to be able to discover within a specific category.



I feel held back by a lack of variety.



I return to the same locations because it is easy and comfortable.



 = 1 participant

KEY INSIGHT 3

Sharing

Experiences are better when
they are shared with others,
but coordination between
people can be difficult.

Insight Details

People enjoy sharing with others because it can make others happy and enhance the sharer's reputation.

People spend a lot of time waiting for others while travel planning.

Summary

People like to share experiences and advice with their friends and family because it is enriching in several ways. They are able to make others happy by sharing experiences and providing suggestions their friends will like. The sharers also benefit from an enhanced reputation if they become known as people who share good recommendations. However, attempting to coordinate trips between many people can be extremely complicated and time-consuming. People spend a great deal of time waiting for others' schedules and budgets when planning travel. They also must communicate in order to make decisions and book travel.

Business Opportunity

People plan most trips by working with others, so a travel planning site that facilitates that process would satisfy an unmet need.

Examples of websites attempting to do this include Gogobot and Triporama, but none of them offer the complete set of features necessary for collaborative travel planning. Although Gogobot allows users to select places to visit and Triporama facilitates conversation, neither provides a complete collaborative service.

EVIDENCE

Jonathan

"I tend to think about travel more often when I end up being with people that I want to maybe take trips with. If it's just by myself, I don't really think about it as much."

Jonathan is a single attorney in his late 30s who prefers not to travel by himself.

Currently, he is planning a trip to Columbus and to Cleveland, both of which were suggested by other people. He is also thinking about going to California because his friends are going to a conference there, and he wants to see the state while spending time with his friends.

He rarely goes on a trip if no one will go with him, and his trip ideas are usually sparked by others. For him, travel is all about being with others.

Megan

"We're just trying to coordinate all that. Like when can we go, who has these dates, so there's been some back and forth. Like we'll start, everyone will get all hot on it, and then nothing happens."

Megan is a mom in her early 40s with two children. She enjoys traveling with her extended family, especially in the summer.

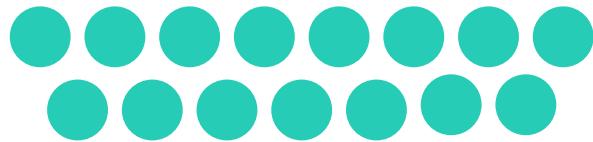
She has several trips in the works for the upcoming summer vacation. She is trying to plan a family trip to Florida, but is having a lot of trouble coordinating with her family. She has to get her children's schedules, wait for her husband to request time off, and get ahold of her mom to talk about places to stay.

She has so much trouble that eventually the trip is scrapped and turned into a girls' trip with one of her friends, with whom she now must coordinate instead.

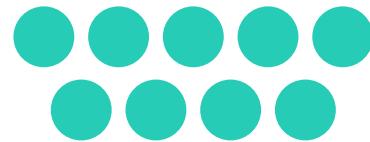


= 1 participant

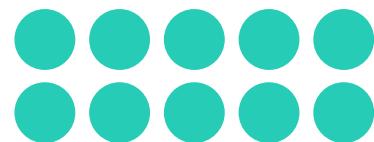
I am prompted to go somewhere if others will go with me.



I need to coordinate other people's schedules when planning travel.



If I like a place, I bring my friends back there.



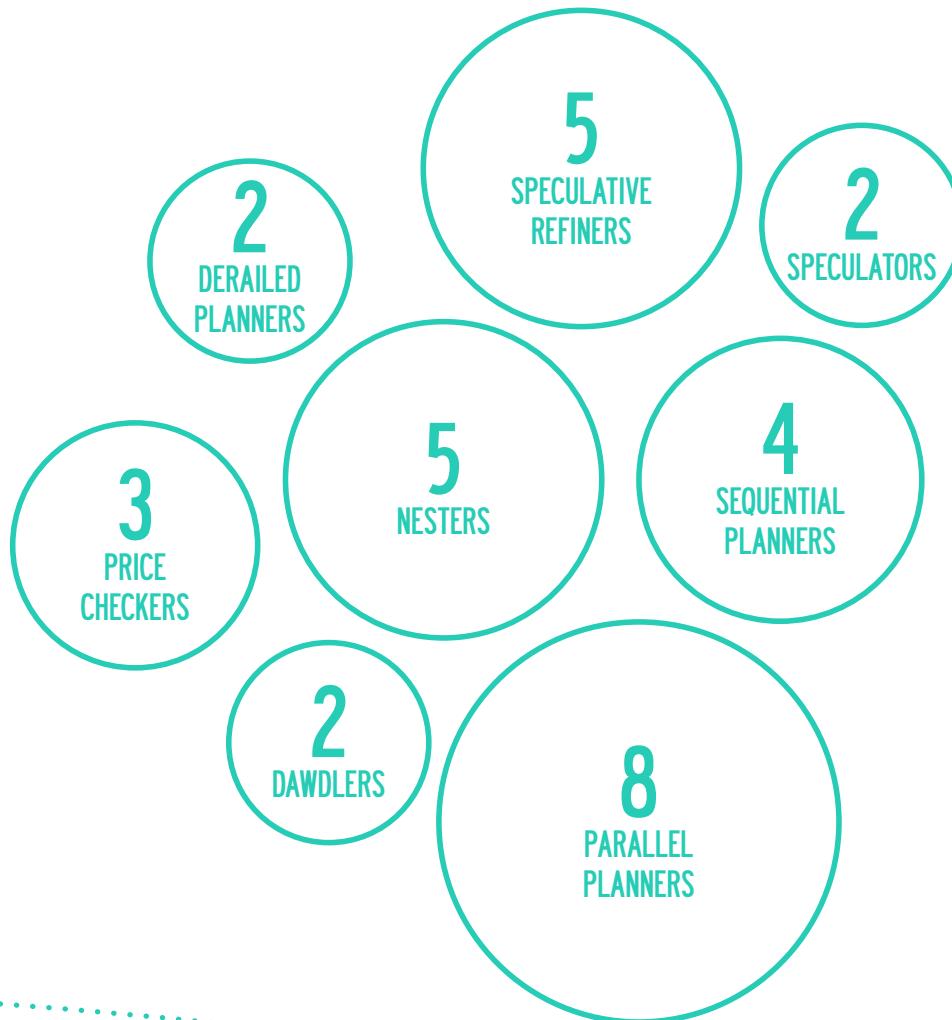
I need to confirm my travel plans with others before I book.





TRAVEL PLANNING PROFILES

In addition to the key insights, we thoroughly investigated our journal responses to look at the ways in which people plan travel. From that data, we distilled travel planning profiles, which are based on common trip planning strategies that people employ. We put special focus on the various ways people divide planning into phases and the ways in which people plan multiple trips simultaneously.



We divided our 32 participants into eight travel profiles, with one outlier. Six of these profiles are detailed starting on the next page. Nesters and derailed planners can be found in the Appendix on page a5.

PLANNING STAGES

These are the five stages found in the travel planning process. People in all profiles go through these stages, but the order and time spent on each is variable.

SPECULATING

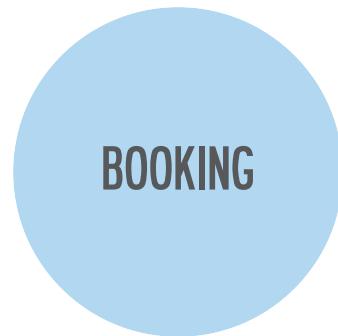
In this phase of travel planning, the trip is just an idea. Travel ideas are very loosely formed and it is not certain whether actions will be taken to actually plan the trip.

REFINING

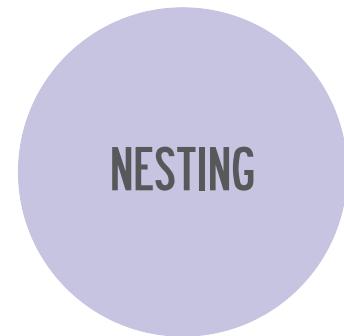
This is the phase where the person begins to work out the logistics of their trip. For most people, this involves talking to others who will be traveling with them and setting specific dates for the trip. Typically, this phase includes a lot of coordinating with other people.



Once this phase is reached, the trip is being actively planned. The person is looking up flights, hotels, or other information and comparing prices, amenities, and rewards. Currently, this is the phase where people would begin consulting travel sites such as Expedia.



This is the point in the process where the person commits to the trip in some way, typically by purchasing a flight or reserving a hotel.



During this phase, the person gathers information and resources they will need for their trip. This could involve looking up activities to do while traveling, asking others for recommendations, or organizing information such as confirmation numbers and itineraries.



PRICE CHECKERS

Price checkers compare costs of flights, cars, and hotels before researching other aspects of their trips. They spend significantly more time in the investigating stage than any other stage.

Meet Jennifer

Jennifer is frustrated that she can't find a good price on airfare to Florida.

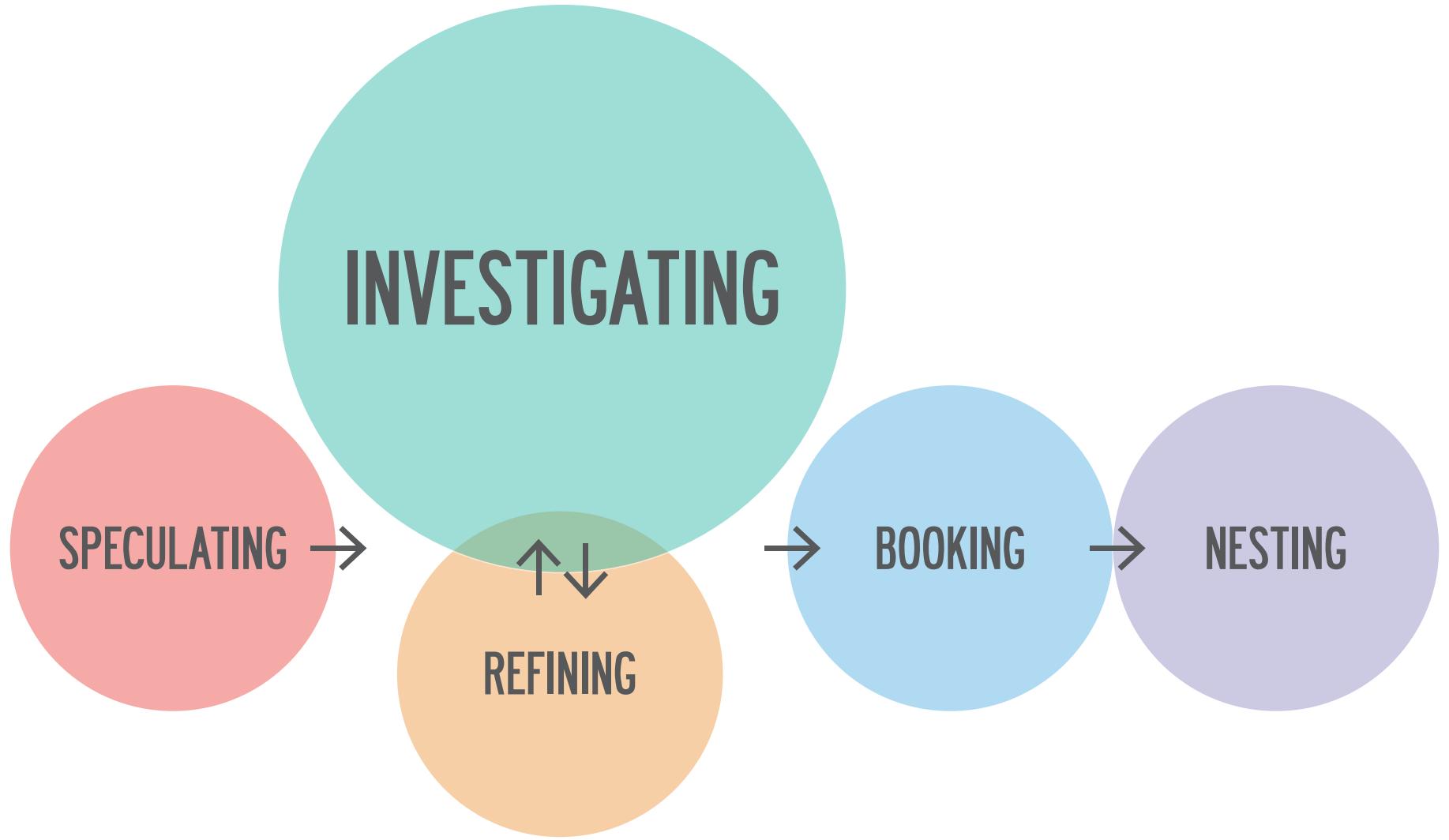
She is planning a summer trip to Florida with her family. Over a period of several weeks she rechecks the prices many times. She expresses frustration at how often the prices change, and feels like she doesn't know if she is getting a good deal. She finally books tickets over two weeks later because she notices that the prices are the same on several sites. This consistency gave her confidence that she was getting a good price on the tickets.

Summary

Out of the 32 participants, 3 are price checkers. They range in age and income, and most of the travel they plan is with family or friends.

Business Value

Making travelers more confident that they are finding the best prices will allow them to be book earlier and move on in their travel planning process sooner.





PARALLEL PLANNERS

Parallel planners are in different stages of planning multiple trips simultaneously. They usually only plan one trip per day, which leads to inefficiencies and delays in working on any given trip.

Meet David

David is taking a long time to book because he is juggling many different trips.

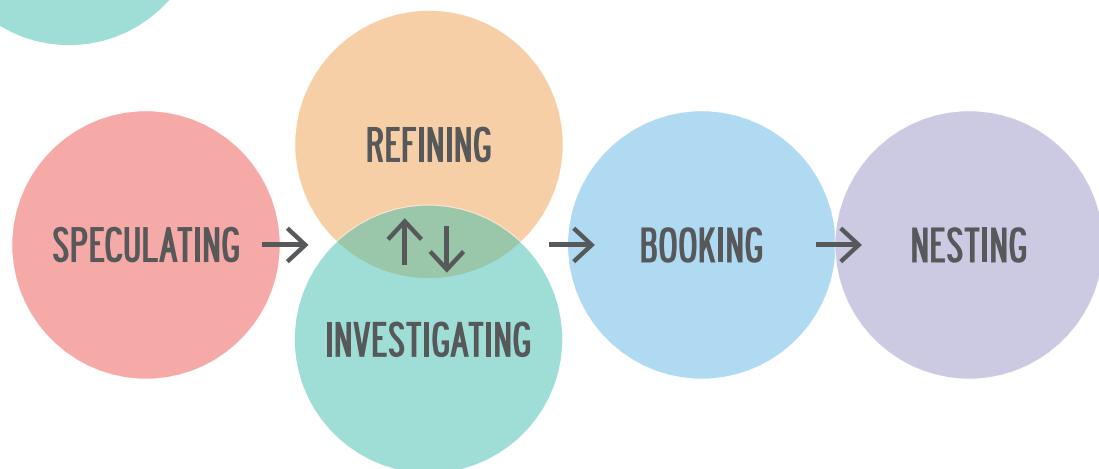
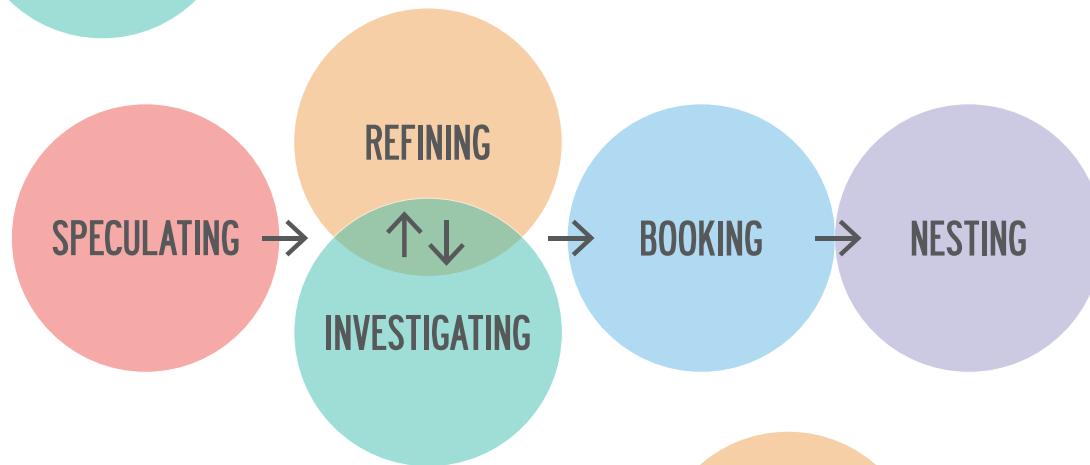
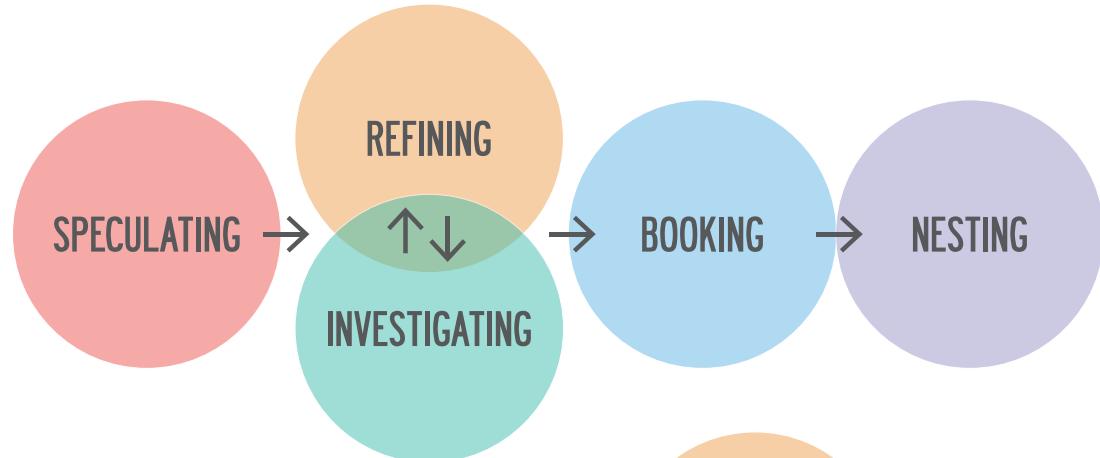
He is planning a family trip to Florida and is trying to calculate costs of driving as well as plan activities to do while there. He is interrupted regularly by planning for other trips that are happening sooner. He has to coordinate with others and check prices so he can book tickets to go to an NBA game and a NASCAR race, and check prices for another trip to Florida for his wife. After six weeks, he is still working on the Florida trip because he has been interrupted so many times by other planning tasks.

Summary

Out of the 32 participants, 8 are parallel planners. They range in age and income, and their travel varies from business trips to summer family vacations to trips with friends.

Business Value

Allowing travelers to keep their trips organized and making research simpler could facilitate working on multiple trips in one day. This in turn would make the planning process faster and allow for earlier booking.





SPECULATIVE REFINERS

Speculative refiners generally have several potential trips in mind at once. But their planning is delayed by looking at dates, coordinating with others, and waiting for people to get back to them.

Meet Noreen

Noreen has to wait to hear back from family before she can make any plans.

She is trying to plan trips to Hershey Park, Florida and a campground for her family this summer. Her planning is initially held up by waiting for her siblings and parents to get back to her with dates and details. A great deal of time is spent waiting for information from other people. Once she gets the information, her planning and booking are further delayed by the fact that she doesn't have her children's sports schedules. She spends the majority of her time in the refining stage of planning.

Summary

Out of the 32 participants, 5 are speculative refiners. They are all leisure travelers and are usually trying to coordinate with extended family or friends.

Business Value

There is an opportunity to speed up and facilitate the process of refining, especially coordinating with others. This will allow people to determine the basics of their trips earlier and then move on to actual research and booking.





DAWDLERS

Dawdlers spend many weeks speculating, refining, and investigating, but make little actual progress on planning their trips. Much of their time is spent trying to coordinate with others and figuring out which trip would be feasible for them.

Meet Jason

Jason is trying to coordinate with family to choose a location for their summer trip.

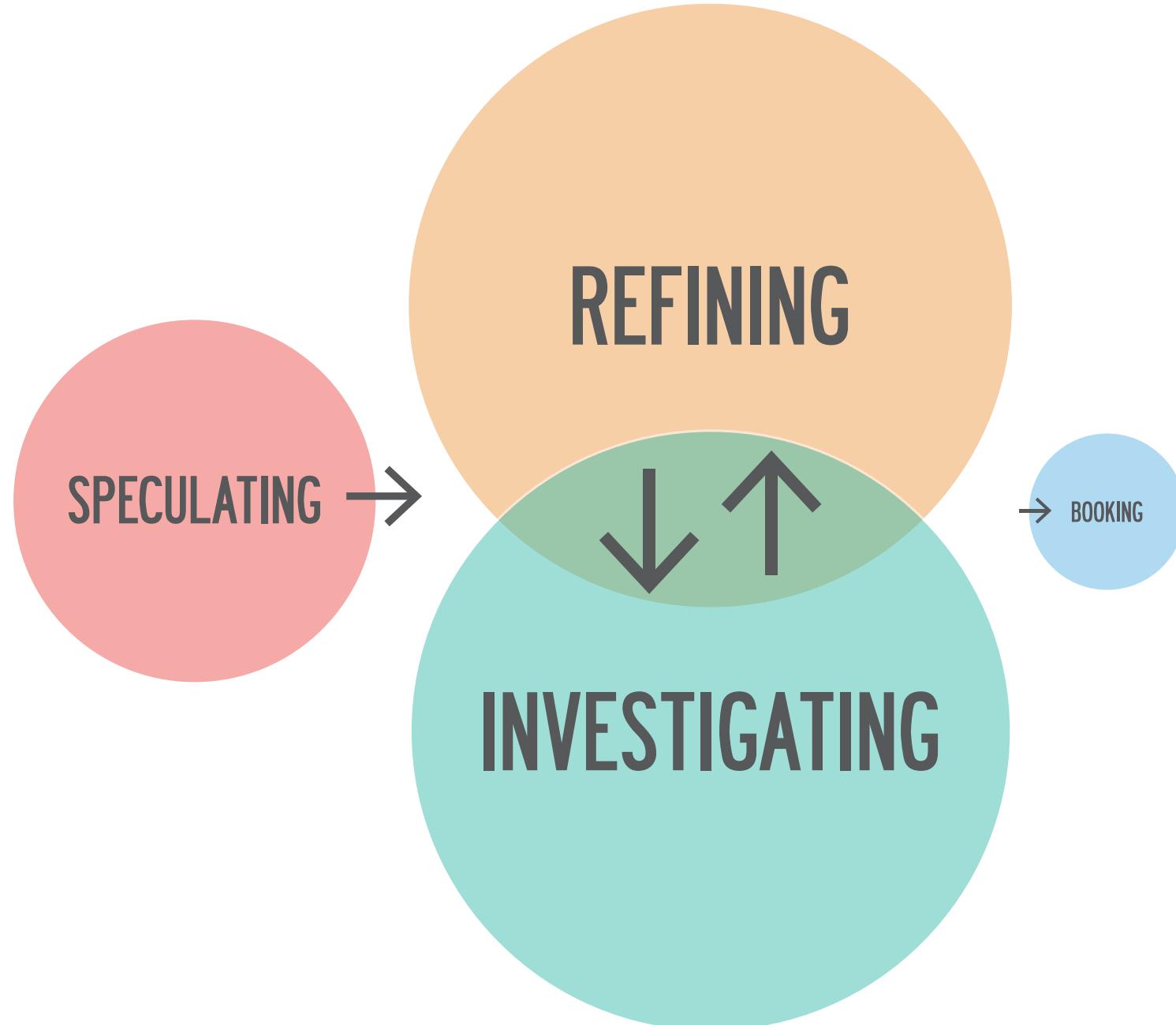
He has several potential locations for summer trips, but is having trouble deciding between them. He will be traveling with his parents, so he needs to coordinate his planning with them. Once in a while he checks prices, and he frequently thinks about schedules and locations. He often expresses that he feels he has made progress but even after six weeks he still has not decided on a place to go.

Summary

Out of the 32 participants, 2 are dawdlers. They both are trying to decide where to travel with other family members, so coordination contributes to their delay.

Business Value

Facilitating the coordination and decision process will allow people to save time and move into concrete planning and booking much sooner than they currently do.





SPECULATORS

Speculators are actively planning one or two confirmed upcoming trips, while also simultaneously speculating about many other potential trips. Their speculation appears to make other stages of planning quicker and more enjoyable.

Meet Bryce

Bryce is an avid traveler who is constantly dreaming up new vacations.

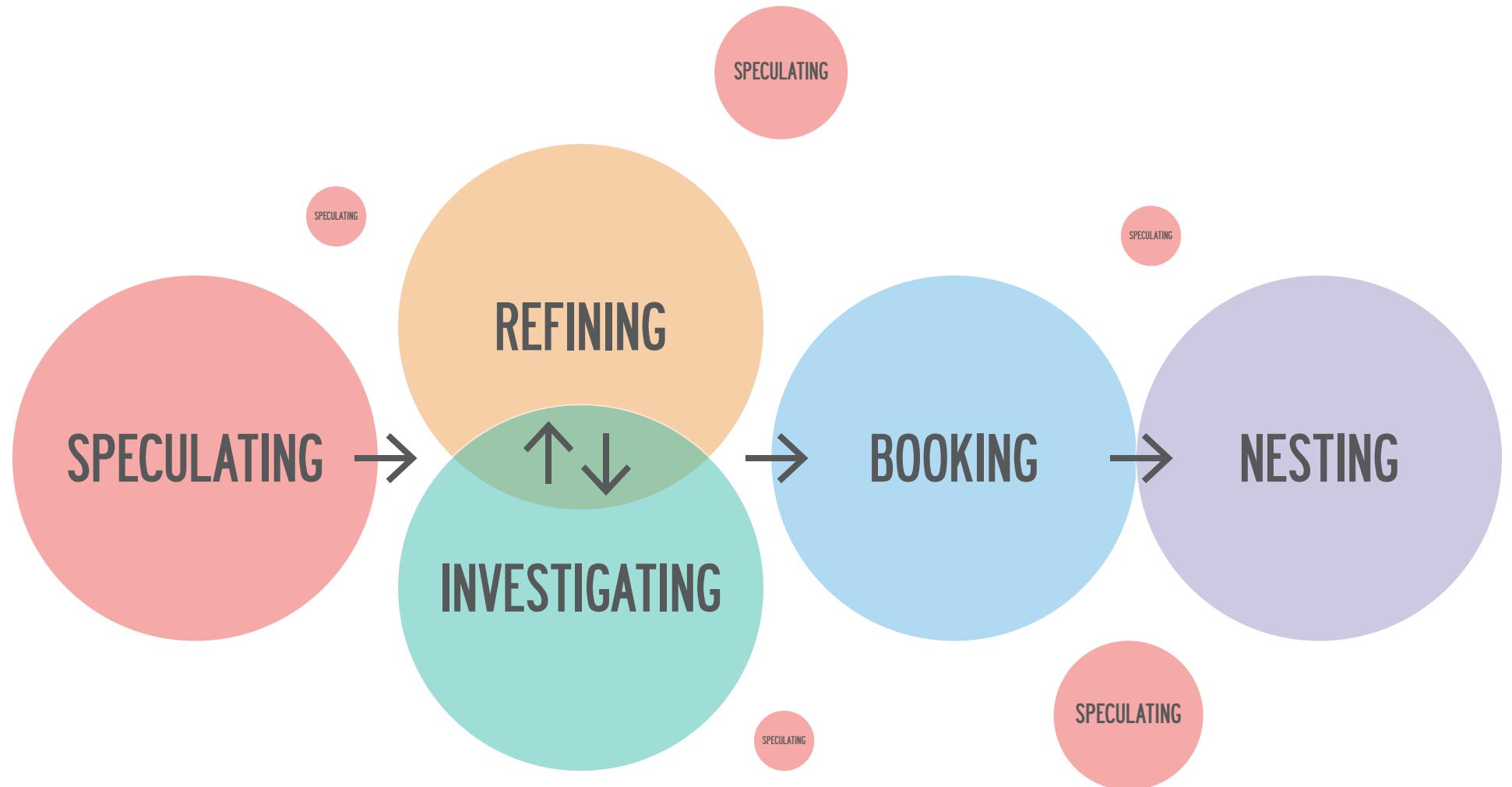
He is nesting for upcoming trips to D.C., Las Vegas, and Bear Creek. However, he spends a great deal of time thinking about and speculatively researching trips that are sparked by conversations, shows, or blog posts. He loves the entire process of travel planning, and his frequent speculation allows him to move quickly once he begins researching and booking.

Summary

Out of the 32 participants, 2 are speculators. Both of them were speculating about potential personal leisure trips, either alone or with friends.

Business Value

The speculators have discovered an aspect of the planning process that makes it fun. Applying this aspect to other travel planners will make the process more enjoyable.





SEQUENTIAL PLANNERS

Sequential planners move through the stages of planning very quickly. Stages are usually completed consecutively and the planners spend little time in the refining stage figuring out where and when they are going.

Meet Hayden

Hayden quickly and easily books a business trip to Texas.

He found out one day that he had to go on a business trip to Texas. That night he talked to his wife about it, and the very next day he looked for and booked a flight. A couple days later he researched prices of hotels at his destination. Shortly after that, he booked his hotel and moved into nesting by starting a packing list for his trip.

Summary

Out of the 32 participants, 4 are sequential planners. Most of them are planning business trips, often by themselves, so they do not need to figure out dates or locations for their trips.

Business Value

Making the refining stage as easy for other travelers as it is for sequential planners will allow them to move on to other stages sooner and plan more quickly and easily.



VISIONING

learns kinds
of trips you
go in &

suggests some
stops

5



PLANNING

These four visions are intended to help people plan their travel. They focus on managing all the information people need and encouraging them to book travel earlier. The data which support this vision are found in our first key insight (see page 70).



EARLY BOOKING REWARD



Jim is trying to plan his family's summer trip to California but is overwhelmed by how many things he has to do.

- Booking Agenda
- | | |
|--------------------------------------------------|--------|
| <input type="checkbox"/> | Mar 10 |
| <input type="checkbox"/> | Mar 17 |
| <input type="checkbox"/> | Mar 18 |
| <input checked="" type="checkbox"/> Activity × 3 | May 20 |

To start the process, he makes a list of all the travel booking he needs to do before the trip is planned and sets deadlines to help him keep on track.



The next week, he books a flight two days before the deadline, and he is rewarded by a virtual celebration.



TRIP COST COMPARISON



	Place A	Place B	Place C
Flight	\$\$\$\$	\$\$\$	\$
Accommodation	\$\$	\$	\$\$
Food	\$	\$\$	\$\$\$
Transportation	\$\$	\$	\$\$\$
Total	✓	☆	✗

She puts her options into a cost-comparison tool in which she can quickly see the overall expenses and hidden costs all added together.



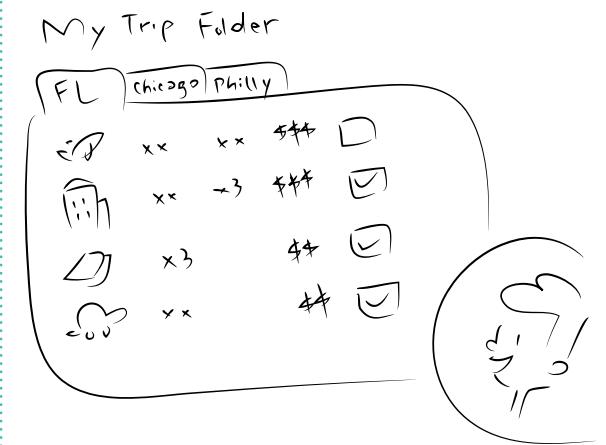
MULTIPLE TRIP ORGANIZER



Bob is planning several different trips: a trip to Florida with his family this summer, a business trip to Chicago next month, and a weekend trip to visit family in Philadelphia.



He is still searching for flights for the trip to Florida, he needs to book a rental car for Chicago, and he is looking for fun things to do in Philly.



First, he looks for a flight to Florida, and then switches to his Chicago trip. He is able to keep track of three trips more easily and not get confused.



TRAVEL RESEARCH TRACKER



Lisa is checking on her flight to NYC again. She sees the price is \$450 but can't remember what price she saw last time.

She looks at the price history tool and sadly realizes that the price has already been rising.

Without hesitation, she books her flight immediately. Even though she didn't get the best price, she's glad that she's not losing more money.

EXPLORING

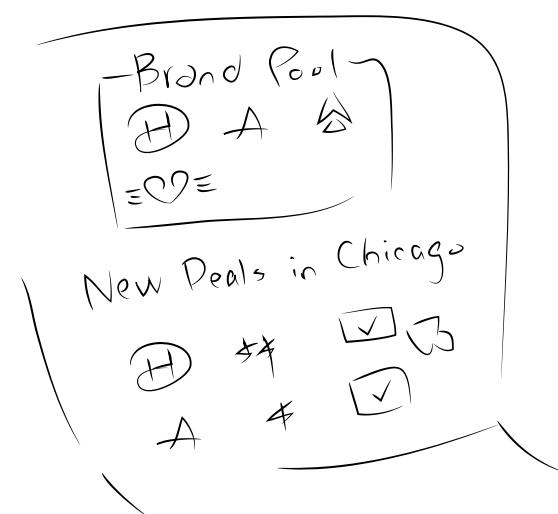
These three visions help people find new information and ideas. They focus on making new and relevant knowledge easy to discover and use. The data which support this vision are found in our second key insight (see page 74).



BRAND POOL



Maria has been trying for a few days to book the hotel for her Chicago trip in three weeks, but she has been very busy lately. She is getting stressed.



She gets an email from her Brand Pool showing deals from hotels in Chicago based on her preferences.



She sees a deal that fits in her budget and buys it.

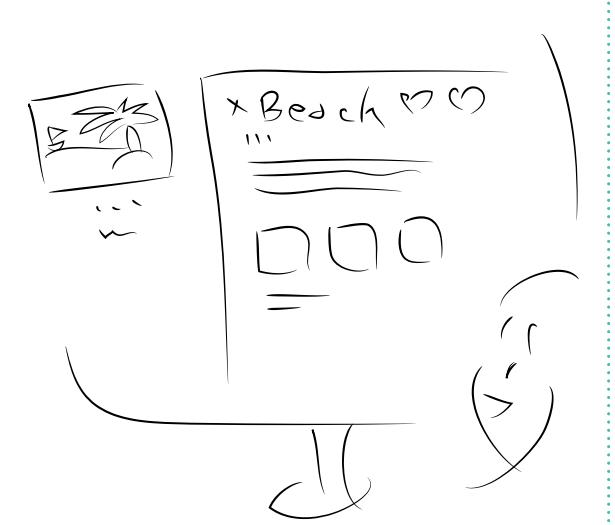
SIMILAR PROFILE



Jane has been looking at travel destinations nearby. She can't decide where to go for her family's summer vacation in a few months.



She looks at a list of family-friendly places and sees that they have been liked by people with similar travel interests and demographics as her family's.



She clicks on an image of Newport Beach and looks at why people liked it. She gets excited seeing that the trip would be good for her family.



REWARD-BASED TRIP ADVICE



Mike has been thinking about taking a trip for Christmas, but his budget has been a bit tight recently.



He looks at trips that his rewards points will cover. He sees that he has 8000 rewards points, so he can fly to New York City or Las Vegas for free.



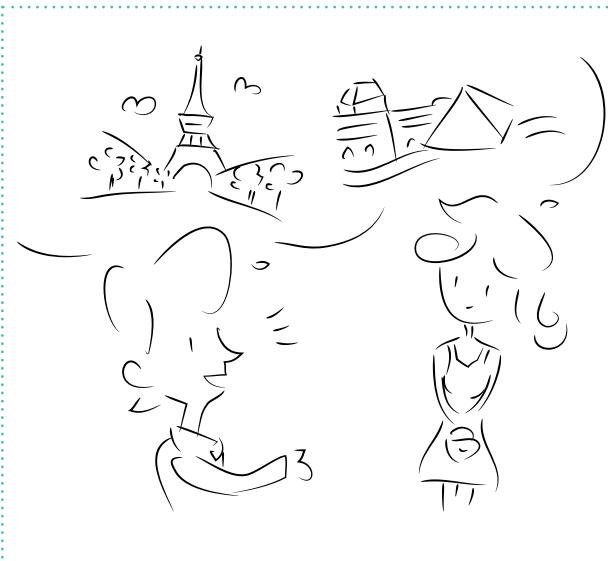
He books a flight to New York City immediately so that he can use his travel money for hotels only. He's so excited!

SHARING

These three visions help people share experiences and coordinate trips. They focus on making collaborative planning simple and providing advice to other travelers. The data which support this vision are found in our third key insight (see page 78).



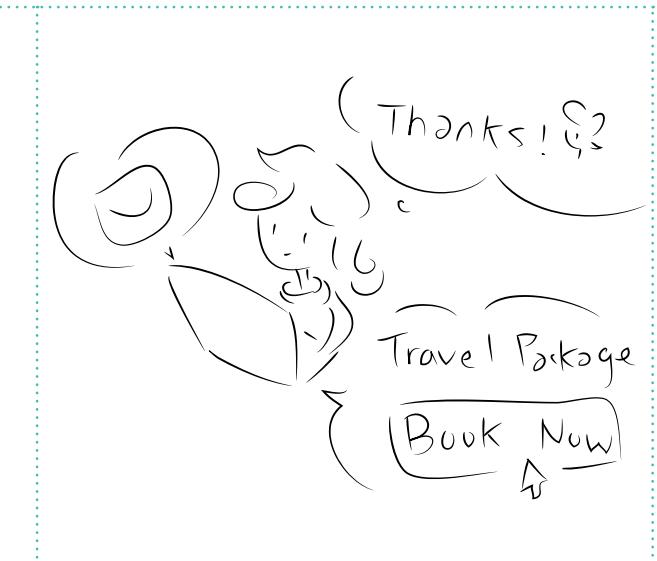
TRAVEL PLAN PACKAGE



Kevin knows that his friend Beth has always wanted to go to Paris, so he invites her to go with him on his summer vacation. Of course, Beth says yes.



To save Beth the effort of planning, Kevin finds out all the booking info needed and sends it as a package to Beth.



Beth receives the package and clicks on Book Now to get all the same things as Kevin. All the booking is done for them through Expedia.

GIVE ADVICE & EARN REWARDS



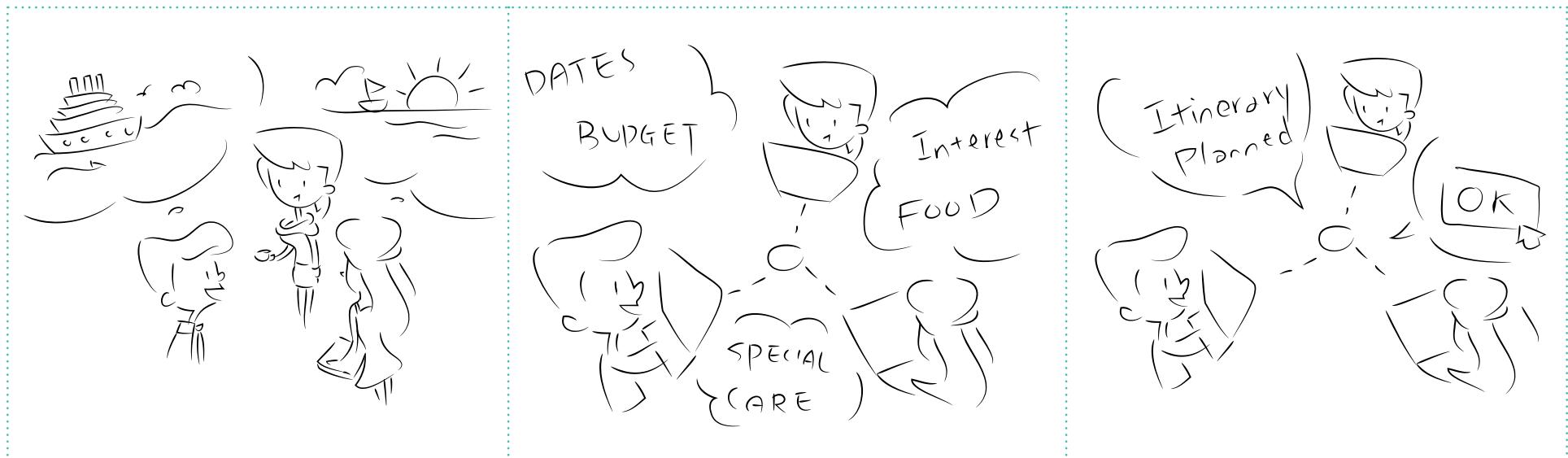
Bill has been planning a trip to Las Vegas for a couple weeks. He's booked his flight, but he can't decide which hotel to stay in because there are so many.

He asks Scott, an expert travel planner, for help. Scott finds the best hotel based on Bill's preferences.

Bill has a great vacation, and Scott earns rewards points and increases his expertise level.



COLLABORATIVE TRAVEL PLANNING



Three friends, John, Michelle, and Kelly, are at a coffee shop when they start talking about going on a cruise together this Christmas.

After they come back home, each of them puts in their available dates, budgets, places of interest, and special requirements for the trip, using their collaborative travel planning tool.

When they have free time over the next week, they each work a little bit on the plan. Together, they finish the plan in a week and book the whole trip in no time.

The image is a collage consisting of two photographs. The top photograph shows the lower halves of four people's legs standing on a red brick sidewalk. The bottom photograph shows the same four pairs of legs walking away from the camera on the same brick sidewalk. A metal drain cover is visible on the ground between the two photographs. Overlaid on the right side of the bottom photograph is the text "NEXT STEPS" in a large, bold, teal font.

NEXT STEPS

6

NEXT STEPS 

116

Next Steps

118

Timeline

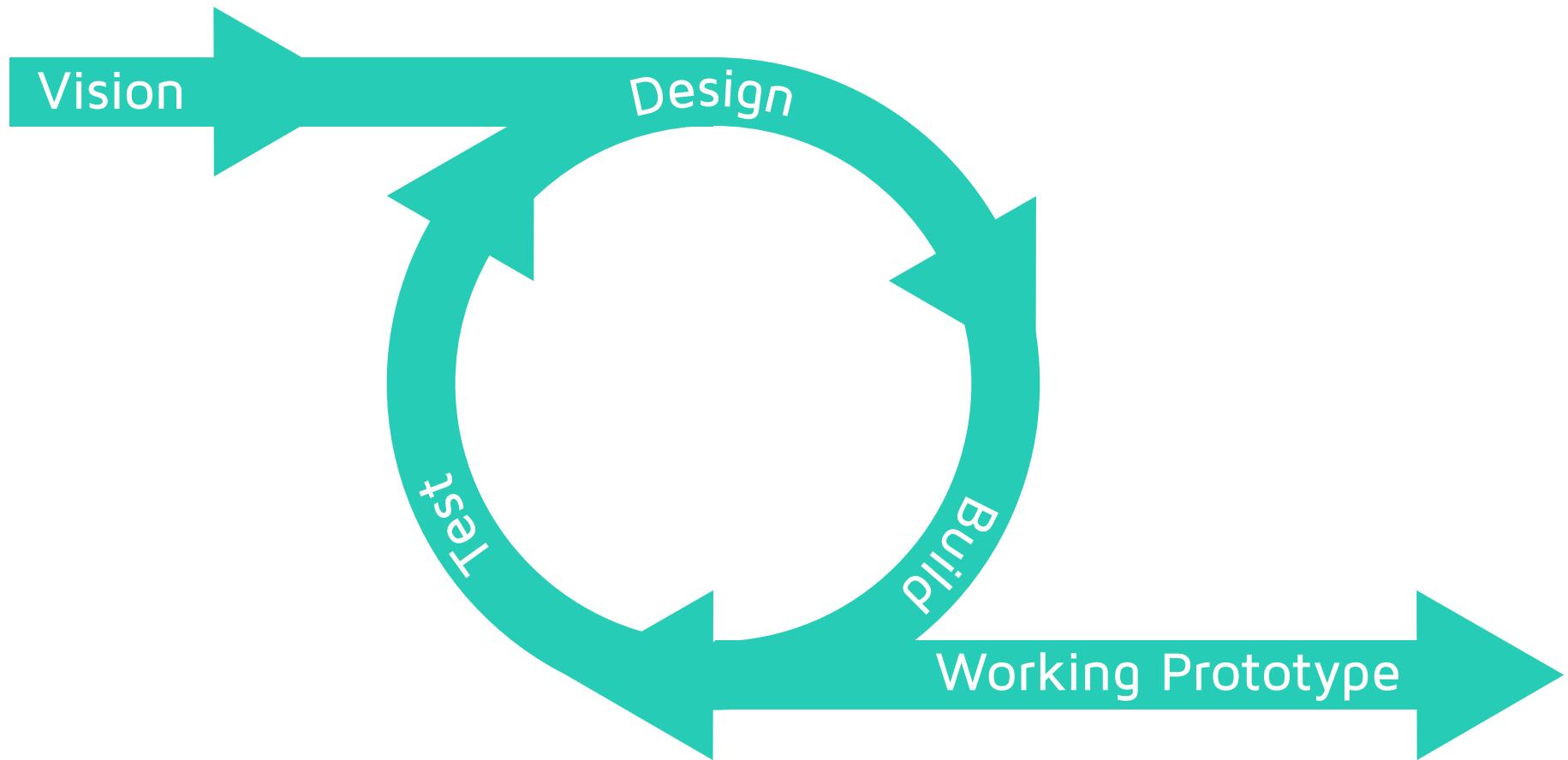
NEXT STEPS

The end of the spring semester marks the end of our research phase and the beginning of the design phase. Understanding the needs of people and the solution space within travel, discovery, and joy, our next step is to create solutions that satisfy the needs of our users and of our client.

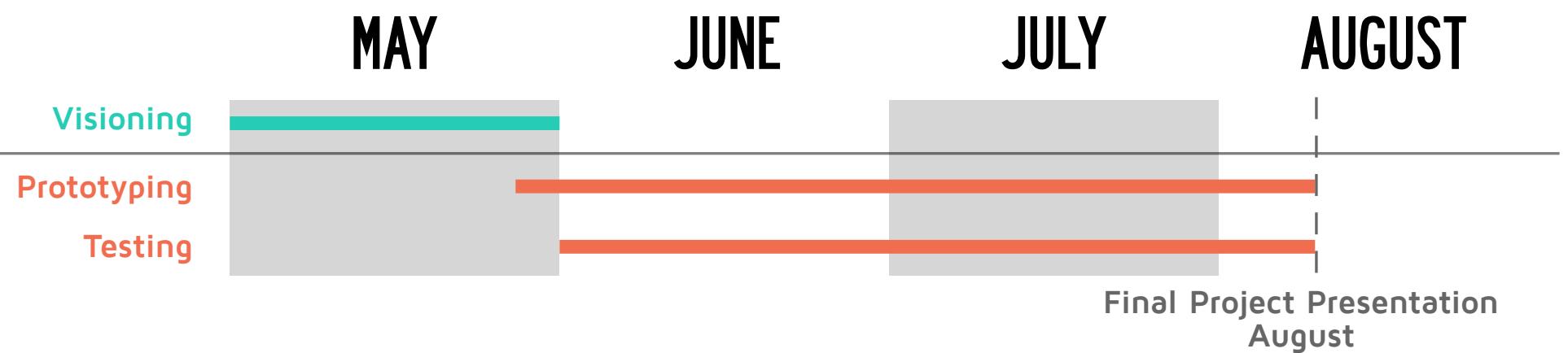
We will use the findings we have gained from our research to design iteratively, stepping up from lower fidelity to higher fidelity. At each step of the process, we will test with potential users, using methods like think-alouds and cardsorting, to validate our designs and improve our solution.

By the end of the summer, we will have crafted a fully interactive prototype that engages travelers through habitual discovery, delightful planning and confident decision-making.

NEXT STEPS



TIMELINE



NEXT STEPS





ABOUT



7

122

Our Team

126

Our Program

OUR TEAM

Our intrepid travelers come from all over the world and from a variety of backgrounds. We are all Master's students in the Human-Computer Interaction Institute at Carnegie Mellon University. Our team has advisory support from faculty at CMU and working professionals in the field.





OUR TEAM

124



DEBRA GLADWIN

User Researcher

Debra studied psychology at Franklin & Marshall College before coming to CMU. She spent one of her semesters studying abroad in Sydney and exploring Australia, and two weeks teaching photography to 8th grade students in Ghana. Although she enjoys visiting her tropical hometown in Florida, she thinks seasons are pretty rad and has lived in Pennsylvania for 5 years. She is excited to one day work someplace where she can design first-rate experiences on a strong foundation of user research.



MICHAEL HELMBRECHT

Project Lead

Michael has lived around the USA and has explored most of the parts he hasn't lived in. He's passionate about finding new experiences in cities all over the world. Before coming to CMU, he studied electrical engineering at Mississippi State University, where he decided that engineering tools weren't beautiful enough to work on for 40 years. He comes from a job making interfaces for NASA planning tools, and looks forward to joining a small startup and designing enthralling experiences that empower people.



KELSEY HUMPHRIES

UX Designer

Kelsey studied biomedical engineering at Johns Hopkins in a former life, where she studied Spanish culture in Madrid and helped with brain-computer interface research in China for a summer. When she got back to the States, she joined the MHCI program at CMU. She's excited about the whole design process, but especially designing for enjoyable user experiences. She's visited four continents so far, and is looking forward to checking the other three off her list.



NISHITA MUHNOT

Interaction Architect

Nishita has lived in several cities in India and moved 9 times. She spent a great part of her childhood on the beautiful island of Mauritius off the coast of South Africa. Prior to coming to CMU, she studied engineering in Information Science and worked for a multinational company as well as a startup. She believes in efficient and clean interfaces and wants to be an interaction designer after the MHCI program. She also loves traveling and dreams of going to all the continents of the world.



YING WANG

Visual Designer

Ying majored in telecommunications engineering in undergrad, and is enjoying her transition into a visual and interaction designer. She loves that she gets to be creative every day in the MHCI program. She can always be seen sketching out cool ideas or creating adorable characters. She can't resist cute animals and will make a non-human noise when she sees them. She loves the sea and has traveled to five seashore cities along the eastern coast of China.

OUR PROGRAM

The Carnegie Mellon Human-Computer Interaction Institute is an interdisciplinary community of students and faculty dedicated to research and education in topics related to computer technology in support of human activity and society. The Master's program is a rigorous 12-month curriculum in which students complete coursework in programming, design, psychology, HCI methods, and electives that allow them to personalize their educational experience. During their second and third semesters,

the students participate in a substantial Capstone Project with an industry sponsor.

The Capstone Project course curriculum is structured to cover the end-to-end process of a research and development product cycle, while working closely with an industry sponsor on new ideas that may work with their existing human-to-machine technology. The goal of this 32-week course is to give each student the opportunity for a "real-life" industry project, similar to an actual

experience in a research/design/development setting.

Company sponsors benefit from the innovative ideas produced by the students, to fix existing systems or reach into new markets. Some companies also use this project as a recruiting tool, offering industry positions to the top producers in their project team.



Contact

For questions about the content, or to learn
how to sponsor a project, please contact:

Jenna Date, Associate Teaching Professor
jdate@cs.cmu.edu
412 268 5572
Human-Computer Interaction Institute
Carnegie Mellon University
Pittsburgh, PA

A vibrant collage of various colored pencils and markers. The top half features a row of sharpened colored pencils in a variety of colors including orange, green, blue, red, yellow, and purple. Below this, a cluster of markers and pens is visible, including a prominent yellow marker and several pens in red, blue, and black. The background is a soft, out-of-focus blend of pastel colors.

APPENDIX

A2

Journal Studies



Sample Page



Example Journal Timeline



More Travel Profiles

A6

Quotes

JOURNAL STUDIES

The facing page is the spread that journal participants filled out each day. We provided questions to prompt participants' thoughts, and asked them to write as much as they felt comfortable writing. We designed the page to give us a snapshot of their daily lives, both in normal events and in travel planning. We have also included a example of the journal timeline we created to consolidate data collected from each participant.



What did you do today?
Was it a normal day?
Did you do anything unusual?



Did you think about travel today?
What travel things did you think about?



circle one: ☺ ☻ ☹

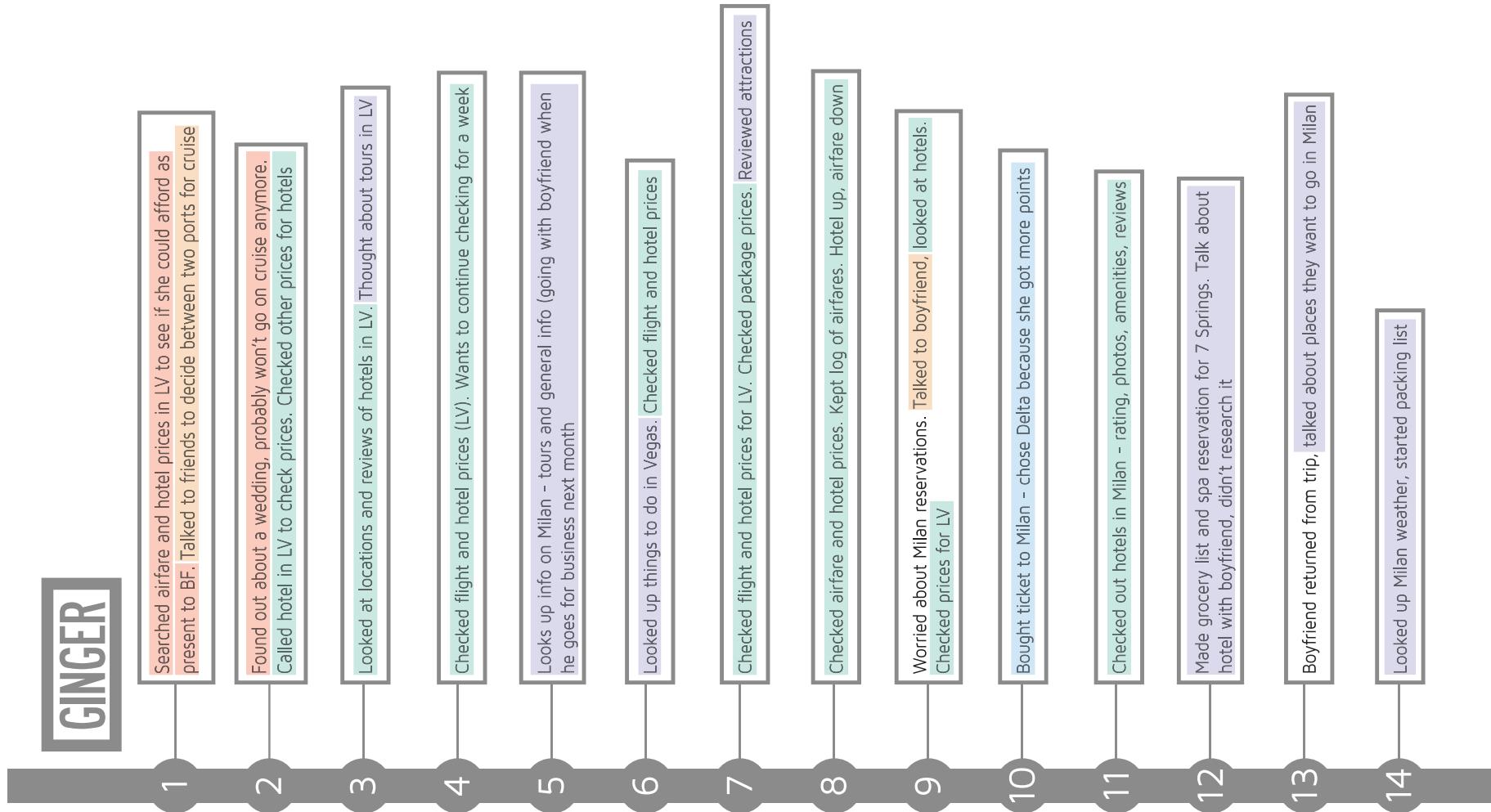
How are you feeling?
How are you feeling about traveling?



Are you doing any travel planning?
Did you look anything up online?
Did you talk to anyone?
Are you doing any organizing?
Did you write anything down?

GINGER

EXAMPLE JOURNAL TIMELINE



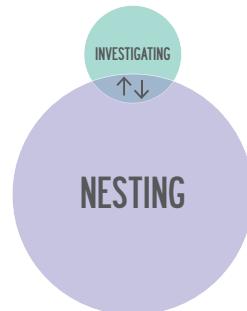


MORE TRAVEL PROFILES

These two profiles were not considered to be useful to our study. Descriptions of them are outlined here only for reference. Also, one participant was an outlier because his only planning was for a school trip that was handled largely by an agency, so his data has not been included.

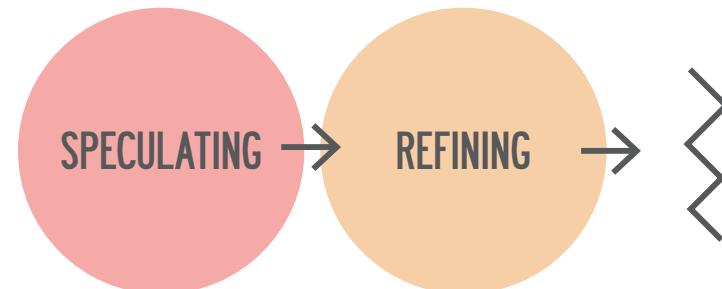
Nesters

Nesters put a lot of effort into preparing for their trips and gathering things that they will need. They like to look at activities to do, go shopping, and talk with others about their trip. While this behavior is notable, we only got to see the travel planning process with these five participants after they had completed the other stages. Since we do not know how their nesting behavior compares to the rest of their planning behaviors, we cannot make strong conclusions about them.



Derailed Planners

The two people in the Life Happens group had large life events happen that prevented them from planning travel. One woman had several people close to her pass away, and the other man became unemployed. We feel there is little we could do to influence these people's travel planning behavior, since their inaction was due to life events outside of their control.



QUOTES

The following quotes are all from our research. They have been grouped into topics per our affinity diagram. They are attributed to the person by name and by type of research.





Participant Key

- Journal Studies
 - 2M - 2-month participant
 - 2W - 2-week participant
 - Contextual Interviews
 - CI - contextual interview
 - Guerrilla Interviews
 - FL - Florida trip
 - LV - Las Vegas trip
 - Joy Visits
 - JV - joy visit

DISCOVERY

I get excited about exploration.

"[The addictive part] is the hunt. It's like an Easter egg hunt. Many of us have an interest in collecting stamps, shoes, etc. I think there is something about that. **It's the hunt for the right thing.**"—Terry [CI, Pinterest]

"I love [travel] because I constantly realize I'm wrong about things and I love being, I love not hearing English. **I love rediscovering things for like the first time.** I love finding better ways to do things."—Bryce [2M]

"I think it's important for websites to **send emails to encourage you to look more.**"—Laura [CI]

I use websites to discover.

"Google Earth lets me **see things from my own eyes rather than someone else's.**"—Terry [CI]

"Sometimes I'll just research on Google and sometimes things would come up through about.com and will have like a list of interesting vacations. I think **I searched for unusual vacation places, just to see if there was something out there that was different** and still had the same kind of qualities, and I also searched for vacations within such and such a radius of Pittsburgh."—Jason [2M]



DISCOVERY

Discovery is about finding new things for me.

"I do like how [the featured deals list] changes more frequently than the goods. **It excites me everyday.** We all get notifications at the same time at work and we're like, 'Oh this seems like a good deal!' We talked about Bossa Nova for 10-15 minutes, which we probably shouldn't be doing." –Angela [CI, Groupon]

"On the way back we went through Punxsutawney and ran into the Punxsutawney Phil Fair, so it was like a street festival. **That was kinda fun to find as just a random thing,** so that made me appreciate it more." –Tarrah [2M]

"We have been coming to Disney for the past 8 years because it's a fun, friendly and warm place. **We find something new every time.** We like finding hidden Mickeys in the rides and find the place truly magical. It's not just for kids; there is something for everyone." –Bill and Katy [FL]

"So when I have a live stream, going through it, not only am I looking for my stuff, I go like, 'Oh, I never knew that painter existed,' and then I might click on it and just go to their board and read. So my husband and I both sit down on our iPads at night and read Pinterest because we are becoming aware of fashion designers we didn't know about, we are becoming aware of artists we didn't know about. So it's a little like reading a newspaper in a way. You can use it like that. **You can use it to learn from.**" –Terry [CI, Pinterest]

"Originally, I started using it for kids' parties to get ideas, and stuff like that, and then when more and more people started joining and sharing their ideas and everything, **it kind of evolved into other things, recipes and everything else.**" –Laura [CI, Pinterest]

CONTENT

I am attracted by a wide variety of content.

"Price and variety attract me to Amazon."—Keith [CI]

"We like Vegas because there's stuff to do 24/7 and you're always entertained."—Sacramento couple [LV]

"I just like how different the stuff is [on Etsy]. It's not typical things you'll see at the retail store. It's a great place to find gifts for your friends, too. Wouldn't say all the time that they are the best deals, but sometimes you are more willing to spend money because it's so unique."—Angela [CI]

"Sometimes I think the gauge is too narrow, so it'll play a band and it'll play a band that's exactly like it. And I'll be like this is kinda cool but it's kinda the same thing. So there's no like random button, that'll be like 'Yo, here's some crazy shit.' It's kinda like, 'Hey, you like this so here's something...like, you like chocolate cake, here's some chocolate cake with sprinkles on it.' It's not like 'Here's a sausage.'"—Jordan [CI, Pandora]



I am not satisfied with the quality of content.

"I know there's Groupon Goods. I often don't, just because it's....I just find it...uh...I don't know. **They're just trying to peddle cheap crap.** I'm looking for things to do, places to go, food to eat, that sort of thing. That's why I would go to these sites."—Mark [CI]

"Checked email today. Southwest is always sending 'special deals'. **Nothing different than what I have already seen.**"—Denise [2M]

"(On why she didn't buy a particular deal she seemed interested in) I just didn't decide yet. It was for a certain tapas only. And I **had a bad experience with their happy hours**, but I still might get it."—Angela [CI]

"Pinterest used to be about astonishingly pleasing things, **not anymore.**"—Allison [CI]

RESEARCH AND ORGANIZE

I need to do lots of research to be sure that I am making the best decision.

"I probably **over-research or overanalyze every little thing** on Amazon. Even at the supermarket, like two cans of soup, it will take me five minutes to decide which one's better. That's just the way I work. So I **often have to get peer reviews** that would show that yeah, this is going to be a good lens, or yeah, this is going to be a good can of soup or something. **I need that reassurance from other people.**"—Mark [CI]

"I like looking, and if I find something that I want I'll start googling it and try and chop it to the best price I can get, period. I get a little goofy with it sometimes...**I try and look at every different way to see if it's really worth it.**"—Patrick [CI, Groupon]

"Sometimes I'll look to see what a travel website has listed and then see if I can circumvent the travel website by going to the actual airline that's offering and see if I can **maybe get it a little cheaper that way but it typically works out to be about the same.**"—Chris [2M]



"When time permits, I will also contact vendors listed on the comparative websites directly to **match or exceed their posted offers.**"—Tim [2W]

"As I went and looked back at things, **what struck me is the amount of time I spent researching.** If I added it all up, it was like 20 hours of searching for this Easter trip which I still haven't booked because it is very hard to find family-friendly information."—Angie [2M]

"I get mad if I wait too long but **I'm also wary of wasting money**, so it's a double-edged sword."—Angela [CI]

"Six months ago, we booked the race and the hotel and everything. But we booked the flight about two months ago because **my wife thought we would get a better deal then.**"—Marshall [FL]

"We talked about me maybe rebooking my rental car if **I see that it goes down in price.**"—Heather [2M]

"If I'm shopping or if I'm looking for a deal on something, **I'll have multiple tabs open.** That way I can just flop back and forward to look to **see where I can find the best price on it. I'm not paying retail.**"—Patrick [CI]

RESEARCH AND ORGANIZE

I save content for future reference.

"Created a spreadsheet detailing today's best deals, including the resort name, price, travel times, review/ratings."—Ryan [2M]

I want something that doesn't require a lot of input from me.

"I don't enjoy actively categorizing. I don't want to create a board and put things on this board. That is not fun for me. I want to browse. When I'm chilling on the Internet I don't wanna think about i have to categorize these things and make sure my boards are neat."—Kristina [CI]

"It saves a tremendous amount of time because you're on one site and you're getting the reactions of other parents and how it worked for them, so I was appreciative of that."—Laura [CI, Pinterest]



MOTIVATIONS FOR TRAVEL

I travel to pursue my interests.

"I think probably the idea of New Zealand that got into my mind, was probably the landscape photography that I've seen on the different photo sites. I'm like 'Wow, I would love to go there!' And it just so happened that I was at a social gathering talking to my friends and I was like 'I really want to go to New Zealand' and I had a friend that was into Lord of the Rings said 'Get out! I would love to go there as well, because that's where everything happens.' I'm not as much into Lord of the Rings, but I'm like, I'll go with it, that's fine with me. And just like that we started planning our trip."—Mark [CI]

"Started thinking about possibly traveling to the NCAA tournament second round to see Pitt play."—John [2M]

I travel for family bonding and socializing.

"Most of the time, if we're traveling, that's pretty much it [going to see family]. We don't go away that much, so if we're taking time off work it would have to be for something like that"—Sharon [2M]

"Now my sister moved to North Carolina so we do a lot of North Carolina and Florida all the time."—Laura [CI]

"Disney is for the grandkids, but Vegas is for me and my husband."—Grandma [LV]

"If I'm traveling with my fiancée, I like to go see some new places, new things, just do something different, get away. Sometimes when I'm going with friends it's just to have a blast, so it's a bit different."—Ryan [2M]

MOTIVATIONS FOR TRAVEL

I like to escape my routine.

"You know, [on vacation] **you get to live the way you want to live**. It's a week where you don't have to cook anything for dinner, you don't have to do anything. It's about you. You definitely live better than you normally do"–Ginger [2W]

"I really do like [travel]. It's a little getaway, I enjoy it. Even if it's for work, you know, **you get to escape your set reality for a little bit**, so it's nice."–Greg [2W]

"I thought about how **in a few short hours you can be somewhere else**, a different climate, a different look altogether."–Jennifer [2M]

"Happy today despite the grey weather—I am looking forward to my trip to Florida especially during all of this dreary weather! **Looking forward to seeing the sunshine!**"–Eileen [2W]

I like to fantasize and escape my problems.

"It sounds weird, I really like [the journal]. **I think about travel like a lot, like a crazy amount**. So yeah, it's actually kinda nice to have a little daily review of it"–Bryce [2M]

"**I am surprised by the amount I have thought about getting away.** I didn't realize I thought about it this often."–Eileen [2W]

"I have [looked at Groupon Getaways]. I haven't purchased any of those, but that does often give me ideas for places that I would like to travel to. **Gets me in the vacation mindset.**"–Mark [CI]

*My daily life makes me think about travel.*

"I've noticed too that **this weather makes me think about travel a lot.**"—Heather [2M]

"Its raining pretty hard and it just paints such a gloomy picture. Definitely has me **wishing/thinking about a summer vacation somewhere.**"—Marita [2W]

"**However I'm feeling and however I'm feeling about travel are normally the same thing.**"—Dan [2M]

"Received tax return today, so I feel really good about traveling."—David [2M]

Consumerism makes me think about travel.

"I **went shopping** with a friend, and all the spring stuff is out, and it just makes you **think about going to the beach.**"—Heather [2M]

"Will watch Amazing Race tonight to **visit places virtually.**"—Eileen [2W]

Other people make me think about travel.

"I noticed that every time I'm triggered to think **about it or plan something** it's because I'm out with friends."—Heather [2M]

"Thought about traveling somewhere nice after **seeing friends on Facebook on spring break vacations.**"—John [2M]

MOTIVATIONS FOR TRAVEL

Traveling makes me think about other trips.

"I enjoyed this more than I thought I would. You know it was one of those things where I was just like this is different, but at the end of the day, I actually, I really enjoyed it. I actually went to bed a little bit earlier than I normally would just to make sure I sat down and reflected on the day, reflected on the travel and everything like that. At first it was kinda funny, some of the questions "How are you feeling about travel?" but then at the end of the day, **there's frustration there, there's things you don't think about.**"–Greg [2W]

"Maybe it's just because of this, like **how many commercials** either on the radio or television, and emails that **are travel-related that I seem to now suddenly be aware of**. So I don't know if it's just that my mind is now thinking more about travel or what."–Megan [2M]

"Being around the airport, saw the departure board and **thought about all the trips I made.**"–John [2M]

"Some days when it's work, I don't even think about this [travel] at all. **I think [filling out the journal] helps with my travel planning** because I think 'Oh, I need to talk to the lady [realtor] in New Jersey'"–Sharon [2M]



FACTORS IN TRAVEL PLANNING

Price takes precedence for me when travel planning.

"What I did yesterday was get my taxes together because that's gonna be big, **depends on what we get where we're going and how long we're going.**" – Denise [2M]

"I could be enticed to **go anywhere if the price is right.**" – Megan [2M]

"I use Groupon when I am traveling to **find deals in that area.**" – Mark [CI]

"Just thought about **price of gas and whether it is better to fly or drive** for vacation." – Angie [2W]

"I was trying to find a way to **find cheap flights** [on Expedia] without picking a specific date." – Sharon [2M]

I like to feel in control of my travel planning.

"Thought about making a mini binder with Las Vegas info to **take with us as a reference for our trip.**" – Ginger [2W]

"I would have to say the most recent trip to Disney World and it was because **I planned basically every second of every day.** That allowed us to do everything we wanted to do. We had a lot going on and I was able to fit in so much stuff because **I did a lot of research and planning.**" – Jennifer [2M]

"When we went to Austria, I had a binder - every day we were doing something, **I knew exactly what we were gonna do.**" – Tarrah [2M]

"We did **write down pros, cons** (of the three places to stay on vacation)" – Sharon [2M]

FACTORS IN TRAVEL PLANNING

I put off travel planning.

"I did see that Southwest had reduced fares, but I missed the cutoff, it was the \$49 fare. **I'm trying to wait and see**, because sometimes they come around again before the May/June timeframe."—Heather [2M]

"Interesting to see the prices change. **It seems like a scam, that prices vary from day to day** and differ slightly from website to website. I do keep a list of prices written down, just to see."—Jennifer [2M]

"For flights, it really depends. I might start looking a few months ahead, but **sometimes I find that I get better rates when it's closer**. So I'll look and if I don't see any good deals I'll just wait."—Jonathan [2M]

"I could never plan a vacation a whole year in advance. I don't know what I would do with myself. **I could never lock it in that far [in advance]**. I might have an idea that we're gonna go somewhere in this month, but to actually commit to that and buy the tickets and be done a year in advance, I don't know that I've ever done that in my life."—Megan [2M]

"I could [plan my summer trip] any time, **I just haven't**."—Amanda [2M]



I want to minimize the amount of travel planning I do.

"I would say the best vacation I've ever been on was probably to Bahamas, through a cruise. And it was just because cruises have something for everybody. And **everything is included, so you don't have to worry about any extras**. Pretty much everything anyway."—Jason [2M]

"I saw a friend at the party that just got back from Italy. Traveling like that is so nice. I was thinking about how easy a 'tour trip' would be. **It's all planned for you, you're just along for the ride.**"—Jennifer [2M]

"Business trips are a lot easier. **It's black and white, it's here, here, and here.**"—Jeff [2W]

"We usually **use a travel agent for Disney**. She can get us usually better accommodations and restaurants reservations, so we like to go through her for that."—Hayden [2W]

Factors outside my control affect my travel planning.

"Our big thing isn't going to be as big as that. Although, **that might depend on the tax refund we get.**"—Jennifer [2M]

"Until I get my income tax check, there's not going to be much big travel planning occurring."—Denise [2M]

"I wanted to wait until [my boyfriend] got back before we pull the trigger."—Ginger [2W]

"It just made me research more [because **people kept changing my plans**]. Every day for the most part, I was always looking for something."—Tim [2W]

FACTORS IN TRAVEL PLANNING

I enjoy strategizing and maximizing rewards.

"I love [planning]. Just seeing the different things, what you can do, trying to make the time, fitting out the schedules. **I really enjoy that part.**" –Tarrah [2M]

"So the success, it kind of feeds back and forwards yourself so that **if you're successful at something you would want to do it more**, which makes you better at it." –Beth [CI]

"One of the big reasons, I'm a gold member of the Hilton so **there's a lot of perks associated with staying at those hotels**, they upgrade my room and I have access to the concierge room. I just went to Hilton, began there, looked at what the prices were. I still look at prices and convenience, but I tend to go with Hilton." –Jim [2M]

I have a travel planning process.

"Sometimes we have our dog with us and so we have to **specifically look for hotels that allow dogs**, which TripAdvisor is really useful for." –Jenny and David [FL]

"A friend did text that she wants to plan a girl's trip to Miami, which I am all for. But I want to make sure the beau and I have **our own trip date set first**. Then I really started thinking about this Kansas city wedding and whether that should come after my beau and my trip, **in regards to priority.**"

*I value spontaneity and instant gratification.*

"I'm a pretty diehard Lonely Planet person. I don't really use their book ahead of time. **I usually don't like to plan a whole lot of stuff on a trip**, like I'll maybe plan one thing I want to do a day."—Bryce [2M]

"With two little kids, you can't [plan]. **You can plan all you want and it's just not gonna make a difference.**"—Dara [2M]

"Some trips you need to know where you're staying, but for general relaxing trips **I'm fine being surprised.**"—Sharon [2M]

"It was one of those things where I went and said 'I'm gonna do this one time, spend what you want, **do what you want, worry about it afterwards.**' I should have worried a little bit about it while I was there. It was a \$5000 trip for a week."—Chris [2M]

Travel planning is confusing.

"I began to look at online travel bookings today but **I'm confused as to what site may be best**. Put it off to ask my husband if his company had a corporate discount with one of the rental car companies."—Eileen [2W]

"This one night I just kinda **checked every website**. I was literally on the computer all night. Then I go back to check Southwest's price...and it was cheapest and I was like why didn't I do this in the first place. **It was very frustrating.**"—Heather [2M]

"The Disney site has a day pass at \$89. Travelocity has a day pass at \$99. **Not sure what the difference is.**"—Jennifer [2M]

"A lot of times [travel] **websites are frustrating**. When I am looking at prices, it opens up multiple browsers and the world turning and nothing is happening and you are just waiting."—Ginger [2W]

FACTORS IN TRAVEL PLANNING

My travel planning revolves around other people.

"So we're trying to coordinate that because it'll be my family and then my sister's family and probably my mom, and it's her place, so **we're just trying to coordinate all that**. Like when can we go, who has these dates, so there's been some back and forth. Like we'll start, everyone will get all hot on it, and then nothing happens."—Megan [2M]

"But really, I'm waiting for the kids' baseball and softball schedules to come out so we can coordinate things with that. So we are still kinda in the talking part of planning"—Noreen [2M]

"I reminded my mom that she needed to book her flight for our Houston trip so I forwarded her my flight itinerary so she could book the same flight"—Heather [2M]

"Looked at Carnival and Royal Caribbean prices on cruise websites. **Too bad can't take kids out of school- prices are really good now...** Still thinking about a cruise and when I could fit it in."—Amanda [2M]

"My wife and I, we used to travel a lot before my kids were born. Things have slowed down a little bit. My son is 7, so he is starting to get involved in different extracurricular things. You don't want to sign him up for something and take him out on a vacation. **It ties you down, but we travel when we can.**"—Aaron [2M]

"Vacations definitely revolve around the kids."—Denise [2M]

*My travel planning revolves around other people.*

"My husband asks me that, why do we keep going back [to Disneyworld]? I don't know, it's just so...to see the kids faces every time, just **the experience for them is just wonderful.**"—Noreen [2M]

"We did take one trip last year to San Francisco where we don't know anybody, we just wanted to go there. My daughter read about Alcatraz and some other things and we said "where do we want to go?" and she said "let's go to San Francisco and see Alcatraz," so **sometimes they dictate where we go as well,** which is fine."—Dan [2M]

I feel more comfortable knowing what I can do on my trip.

"[Ireland was the best trip I ever went on because] We have friends who live there, and they're from Ireland, so we got to stay with them and **really see non-touristy things about Ireland so it was nice.**"—Hayden [2W]

"I want to do the touristy things but I **wanna know the cool local stuff too.**"—Tarrah [2M]

"**Used Google Earth to look at locations of hotels** on and off Las Vegas strip. Reviewed hotel reviews (used link off of Google Earth which directed me to hotel info and reviews)"—Ginger [2W]

PURSUING DEALS

I feel better about spending money when I know I can change my mind.

"The **one thing** I don't like about [Hotwire] is you **can't cancel it, you can't change it**, and you don't really know where you're staying necessarily until right before you go. But that's fine with me."—Sharon [2M]

"What I like about Groupon is how **the value that you paid never goes away** so that's nice because even if you forget to use one, you still have that money."—Angela [CI]

I'm afraid of wasting money.

"It's very fulfilling even just for grocery shopping, and if you use Coupon and you notice on that receipt it says, "You have saved this much money today". And you would think, **I would have wasted that money** paying full prices that I really wouldn't have to pay for. Yeah, it kind of leads you towards your buying habits."—Keith [CI]

"Yeah, **the worst feeling** is I feel like a sucker. For every hotel and flight everyone pays a different price, there's usually not a standard set price and **I don't wanna be the guy who pays the most** and I always want to pay less. So in that mind I'm always trying to find the best deal."—Dan [CI, Groupon]

"It's about the deals. **It's about the money in your pocket is better than somebody else's.**"—Keith [CI]



I will try something if I think it's a good deal.

"I received a **\$50 gift card** from my boss, so that **prompts me to go to Amazon** more frequently."—Keith [CI]

"And then I'll get this email that says **flights are on sale, and that will send me down a path** looking at just maybe more random, both the trips we're thinking of taking, and then something random, like oh maybe we should go to Las Vegas."—Megan [2M]

"Yeah, [I'm] sort of [addicted to Groupon]. Not as bad as my addiction to Twitter but it's close. It's funny, when Twitter started I hated it, now I love it. **The deals get me addicted.** You save a lot of money. You buy stuff that you never thought you'll buy and you can try things without spending the full price and test it out to see if I like it. But if I do like it, I'm going to go back and buy it for full price."—Angela [CI]

SHARING WITH OTHERS

I feel my experience is enhanced sharing with others.

"It's like **creating your online identity** I guess. I like decorating, I like making things my own, and maybe this is my '**I'm making the Internet mine.**'"—Allison [CI, Pinterest]

"Sometimes I go to live feed and I'll see an image that I'll just think 'Wow, that is so what I would collect!' and I'll pull it up and click on the person who put it up and that's how I have discovered these other people who are doing exactly the same thing that I am doing. They are not using it as a bulletin board, **they are curating experiences for other people**. And I have tapped into a whole little community of those folks."—Terry [CI, Pinterest]

"Everyone seems to share everything about their life on social media anyway, **so why not share a deal and if your friends buy it, it's free.**"—Angela [CI]

"To some extent, **it feels like coming home, you find this community of people** who you just adore and who all adore you, and this thing that you love doing and love preserving."—Paul [JV]



I tell others when I like something.

"I know my best friend likes massage and they have a lot of massage on there. I let her know when there's a massage on there so she can buy it."—April [CI]

"I'll see something on [Groupon] and I'll say, 'Why don't you guys jump on and get one?'"—Richard [CI]

"A friend went to Punta Cana and loved it so much that she took her friends back with her another time."—April [CI]

"My friend got married last year, and one of the gifts I got for her was a hanger and it had Mrs. Berth written on it. It was nice when they took photos of her dress on it. Now everyone loves that and it has sort of turned into my little gift I give but originally found that on Etsy, so it's really neat."—Angela [CI]

I talk to people about activities I do.

"So, I count this as my first real trip to Disney. I can't wait. I've always wanted to go and I talked to people at work, I have friends at work that they go every year. There's a guy who retired, he and his wife go every year, sometimes twice a year, you know. So he was talking to us about it. Gets you real excited when you have somebody else who's really excited about something."—Dara [2M]

INFLUENCED BY OTHER PEOPLE

I am influenced by relevant recommendations.

"I do often look at the number of stars and the reviews **to see how people liked what I'm buying**, I do that a lot. That's one of the main reasons I love Amazon."—April [CI]

"(On reviews) I typically will not go below 95%, I give them 5% leeway for the mean people, but I will not go lower than 95%. It also depends on the number of reviews, if there are only 3 reviews and they're at 95% I won't buy."—Lara [CI]

"First thing I do is **always buy a guidebook**."—Tarrah [2M]

"[I decided which beaches to go to based on] **recommendations of friends**, also online. Another reason I like those sites is it was kinda like 'Well, here's your hotel, here's everything about the hotel, but there's some other stuff here.' It gave you a little bit more of what's going on, you know. It's great that you have the mini bar, and everything in the room, but if you're not going to sit in the room, who cares."—Greg [2W]



I refer to real people for travel plans.

"Either word of mouth or friends that have stayed in different areas or family members. So there's really no rhyme or reason to the places we pick, whenever we go somewhere."—Patrick [CI]

"Well, obviously, I talk to the wife and we figure out when we want to go and then we do some research on the Internet, talk to some people, **see if others have been there before, what they recommend**. My wife, Laurie, she's big on those unsolicited referrals. Where **people chime in whether they like the restaurant or like the place where they stayed**. So she'll do some research on that on the Internet."—Aaron [2M]

I value recommendations from people I know and it affects my behavior.

"They have getaways and stuff on here and I've looked at a lot of them but I've never bought one. And as much as anything it's probably because I'm **skeptical of buying one through them**. Because I **don't know anyone who's ever done it**."—Richard [CI]

"If a friend gives me advice, **it weighs more than anything else on the Internet**."—Angie [2M]

"You hear about [a new site] and everyone else is doing it, **so you don't want to miss out on something**."—Angela [CI]

LIMITING CHOICES

I am overwhelmed by lots of information.

"Sometimes the problem is that I end up wanting too many, it ends up that I want too many things and I **can't decide which one's the most important**, and then none of them are really important."—Allison [CI]

"Sometimes **it's too much information**. It's **information overload**. You get bored after the first five things you've looked at."—Ginger [2W]

"It's my go-to resource, especially now, because prior to Pinterest, I used to Google things, but **this filters through it a lot better** than Google does, for specific things that are important to me. I still have to Google things from time to time, but for his birthday party I didn't have to go to Google and search. I was able to get enough from this, and I felt confident in it."—Laura [CI]

I find the service more useful when I can personalize it.

"Both [Hotels.com and CheapHotels] had a chat box, which I use a lot in almost any kind of interaction I use. It's nice to not have to call and sit on hold and just being able to get that and even sometimes if it's just automated, I know it's really not a real person on the other end, **just being able to get to the answer a little bit quicker.**"—Greg [2W]

"They're still something like **personal service** that I think the Internet just kind of loses."—Kathy [CI]

"On Groupon you saw I signed up for my preferences, so they send me things almost always I'm pretty interested in."—April [CI]

"I like the one day delay to update 'My Showroom' in ShoeDazzle because **it feels like the staff is really personalizing**"—Angela [CI]



I have something specific in mind while browsing.

"I like Travelocity best – they were the only ones (besides Expedia or car sites) **that had a “green car” option under styles**. I was surprised that no one else had that. They also had “airport” or “near address” option that gave me much more flexibility as I live near an airport but have off-site options as well." – Jennifer [2M]

"If I type in like a **certain genre if it could play that rather than a specific band, that would be cool**. Like you could be really specific. Like not just I want classical rock, but I want classical rock with this and this and this and somehow be able to quantify the scientific aspects of music, like that would be cool." – Jordan [CI, Pandora]

I'm more comfortable with things I already know.

"I tend to go to the same places, there's like ten places I go so you get in a habit." – Jim [2W]

"And you get this cycle and **the state of flow happens when that cycle kind of collapses to a point and there's no longer somebody initiating and somebody else innovating**, but it's like an Ouija board, you're both following what the music is telling you to do. You're both there, and you're both dancing, you're both dancing independently, and you can hear the music and you're both like 'This is what's going to happen next,' and it's just this absolute certainty and you both know, and then it happens, perfectly in sync, and you just go nuts and it's ridiculous and you start to lose track of who's leading and who's following and it's just you both moving in unison to the music." – Paul [JV]

ASPECTS I DON'T CARE ABOUT

I don't value a social experience.

"That's what I **don't like**. I'll be at work and I'll search for something. And then I'll be at a completely different website, and **it'll also pop out and people can look** at my computer and say, 'Dan must have been searching for this.'"—Dan [CI]

"I am, I know, of a generation. **I don't need people to see what my favorite kitchens look like** in anticipation of a kitchen remodel."—Terry [CI]

"Actually, I don't post things on Facebook. So I fear if I click it, it'll say 'Dan has clicked this'. **And I don't want that to happen**. So I don't use Pinterest."—Dan [CI]

"But you can block them all, isn't it nice? My sister posts constantly. "Going to bathroom." Done. I'm done. **So every time I can, I'll block it. I don't want to see who likes Adidas, or Nike."**—Kathy [CI]

"I am not necessarily wanting to share tips and techniques. But a lot of people on Pinterest are. **I don't feel the need to share that kind of stuff.**"—Terry [CI]

"I don't really understand the whole following thing, but I'll get all the time through Facebook so-and-so is following you on Pinterest and I don't understand why because **I don't get why people are using it in that way**. I guess it's that they like this recipe so someone else can use but I don't completely get that aspect of Pinterest yet."—Laura [CI]



USER INTERFACE

I remain engaged because of good interface.

"Infinite scroll on Pinterest is dangerous—sucks you in."—Allison [CI]

"I like [endless scrolling]. I am not a fan of the multipage click. Bugs the hell out of me. I will always set the option to view all so that I can scroll...Um, and look at that, it's like the chronology of how I spent a couple of weeks of my time. **You chop that up into pages and you are going to lose something.** You are going to relegate it to the same sea of endless Internet pages that are out there."—Terry [CI]

"I click on **pictures that stand out to me.**"—Mark [CI, Groupon]

Sometimes the interface does not match my mental model.

"**It's too hard to notice the differences** because there are so many different things listed in different ways."—Ginger [2W]

"It used to be extremely easy. Now they have a thing where they're offering more things to customers, but **it's a little more complicated.**"—Heather [2M]

"I'm afraid of pressing the 'I'm tired of this track' button because **I don't know what it does.**"—Jordan [CI]

"I think that's why I like [Punchfork] so much. It's a site for this specific purpose and it does it so well. I don't need to look at other websites anymore because this works so well. I have no interest in Pinterest. **It does too many things. I don't get it.**"—Kristina [CI]



USER INTERFACE

I want to take control of my interaction with the website.

"So I wish there were a way to somehow know, like doubly filter, like poetry, I mean real poetry, not like acrostic poems and not visual poetry, not what I need."—Allison [CI]

"I think **the next logical thing for the interface to do would be to let you check boxes**. I think the categories are rather simplistic. Like eBay or the local real estate search. Filters. I would like to turn food off. Can I just not see any food?"—Terry [CI]

"I don't like the chronological order of Pinterest. Wish I could rearrange them."—Terry [CI]

"I like that Pinterest **organizes and categorizes information**."—Justin [CI]

"I would like more specific pages on Groupon like fine dining."—Richard [CI]

