



Jack E. Taylor

City Sleuth:
UX Case Study

Background



Following is a case study for a spec app I designed, illustrating my UX skills. To see my visual work for brands and editorial, visit jetpax.com.

City Sleuth is an urban scavenger hunt propelling participants toward hidden cultural treasures.

By gaming cultural exploration into a scavenger hunt, the curious would have a competitive reason to get off the couch, and onto the path less-followed.

Problem Statement

Hip urbanites want a means to find off-beat areas of their cities and the cities they visit because they would like to be more knowledgeable about unusual facts and rarely visited places. We will know this to be true when we see users trigger information at those locations.

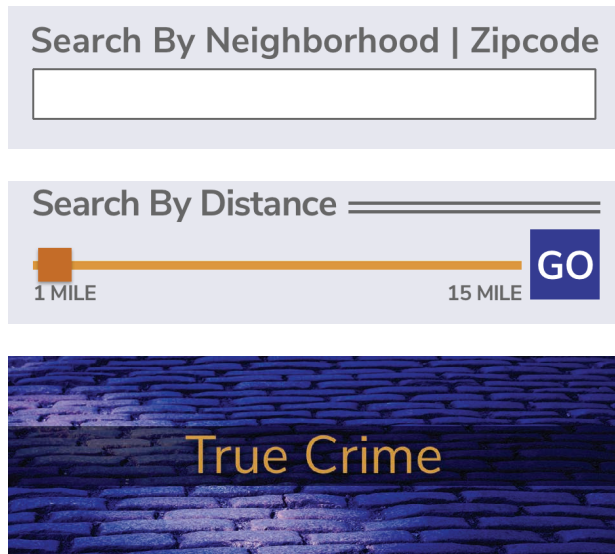
Product Solution

City Sleuth is a mobile, augmented reality app that invites users to tour different neighborhoods and collect site-specific information artifacts.

Features

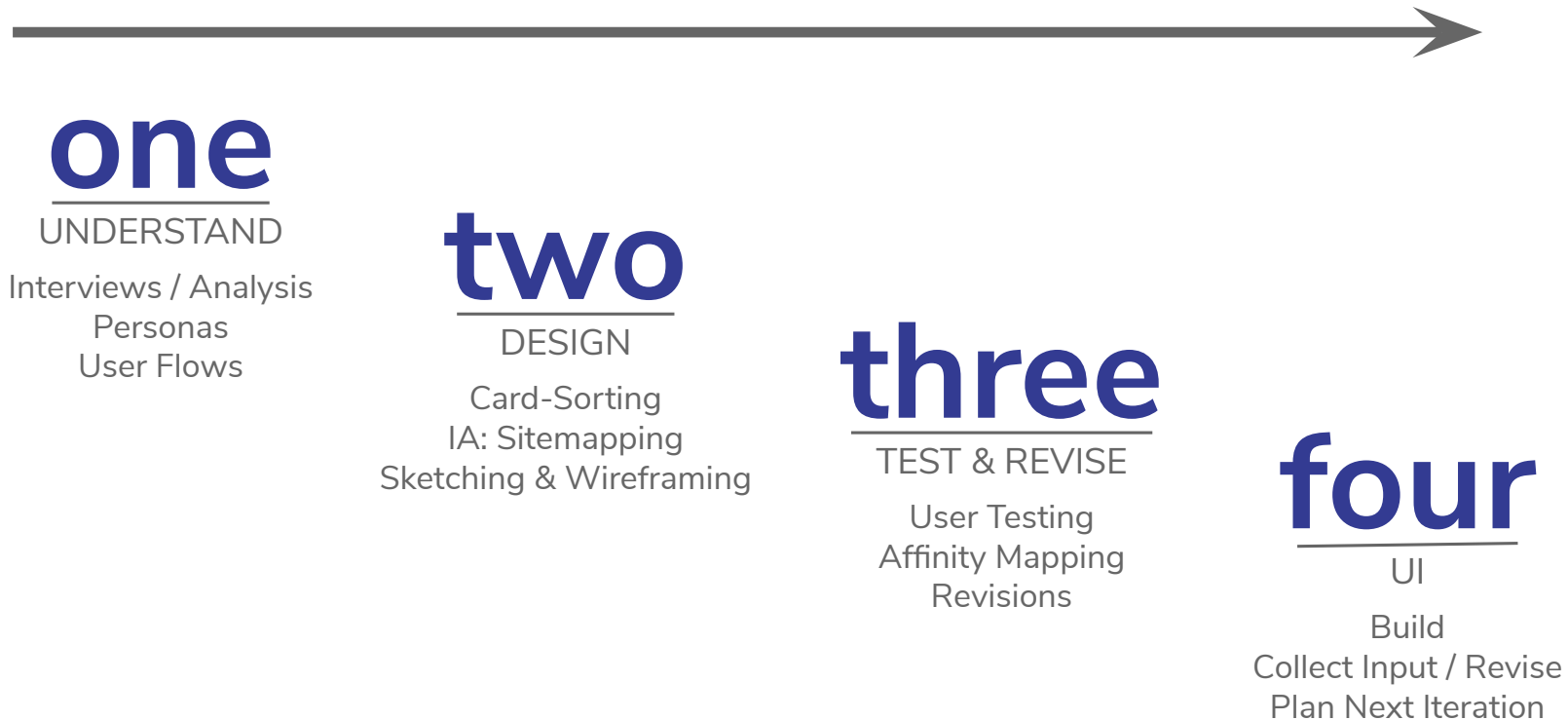
City Sleuths is an augmented reality scavenger huntin app featuring site-triggered audio, video and textual content.

Players can search for hunts by specific neighborhood, distance from one's current location, or content category.



Approach

The design followed the four-fold path of discovery, design and testing, modification, and iteration.



PHASE 1 | Understand The Player


I conducted four scripted, F2F interviews with potential scavenger hunters. Since the app would be created for urbanites with free time, a discretionary budget and a hunger for cultural experience, and given the potential for adult content, I selected college-educated subjects over 21, skewing toward their 20s and thirties. However, it would be ill-advised to rule out retirees with a zest for experience and learning. So, I included one over-50 man.



All of the interviewees liked to explore cities in general, and New York City in particular. They all regularly sought new, out-of-the-way locations for pop culture, as well as drinks and food. Though only two had ever conducted a scavenger hunt, all the participants were enthusiastic about one dedicated to history, music, and mystery. Though they would use it to socialize with friends, and possibly with other players, they would not use it as a way of meeting people.

Personas

After affinity mapping key findings, and cluster mapping emerging insights, I built three personas, which would ground the task analysis for user flows.



"Now that I'm finally here, I feel obligated to learn as much as I can about New York City."

About

- Born and raised in Oregon
- B.A. U/Oregon 2017
- Plans to get an MBA
- Thrilled to be in NYC
- Works as a junior market analyst for a retail corporation.
- Very active on social media
- Has two roommates
- Loves food, bars, fashion and shopping

Tercia Pazinni – 24 | Manhattanite

NEEDS & GOALS


- Tercia wants to be an expert New Yorker, and not just another transplant.
- She wants bragging rights about her knowledge of the city.
- Tercia needs a way to discover hidden information about her new home that will amaze her friends and increase her status as a New Yorker.
- She wants to go way off the beaten path w ith friends, but needs a mission.

BEHAVIORS

- Spends every free night and every weekend exploring what the city has to offer.
- Uses google, Gothamist, Localeur a find new locations, but is embarrass
- Uses the subway, buses and bikes

FRUSTRATIONS

- As a recent college graduate, she h the things she reads about: restaur theater, etc.
- She loves art, music and history, bu anyone to give her pointers for nev
- Her friends are undemanding abou as there's alcohol involved.



"This town will drive you insane, and then you find some really cool new reason to stay here."

About

- Born and raised in NYC.
- B.A. Design from RISD
- Senior ad agency art director
- Has love/hate relationship with NYC
- Married for 3 years.
- Loves art, bars, restaurants, theater, music and history.

Marshall Prezluki – 27 | Brooklynite

NEEDS & GOALS

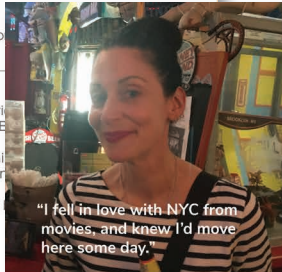
- Needs to spend more time living life outside of his ad agency office.
- Wants to be creatively inspired by new cultural insights.
- Needs to feed his insatiable curiosity.
- Wants to do fun new things with his wife.

BEHAVIORS

- Reads voraciously on the subway: history, art, mysteries and crime, and the "Weird Guides."
- After dinner, he and his wife frequently play Red Dead Redemption.
- Likes to paint and play the guitar o

FRUSTRATIONS

- Is bored with drinking beer with fri old bars, and getting thrills from XE
- Fears he spends too much time th and feels he's becoming trapped t
- Has many friends outside of work, with them.



"I fell in love with NYC from movies, and knew I'd move here some day."

About

- From Phoenix, AZ.
- B.S. in Computer Science - UCLA M.S. in C.S. from Columbia U.
- V.P. of I.T. - health care company
- Doesn't want to ever leave NYC.
- Married for 20 years.
- One kid: 16.
- Is an occasional gamer.
- Loves art, bars, restaurants, music and history.

Mary Ellen Chong – 55 | Brooklynite

NEEDS & GOALS

- Mary Ellen wants to spend more time with friends sharing new experiences.
- She needs to be continuously intellectually stimulated.
- She wants new destinations to explore in the city with husband and teenage son.
- Needs to feel she still has a finger on the cultural pulse.

BEHAVIORS

- As a technologist, is frequently a first-adopter of trends, discarding devices or software as they becomes obsolete.
- Will attend performances or visit exhibits by herself, but prefers to bring friends and/or family.
- Listens to podcasts on double-speed: technology, history, politics, culture, crime, comedy.

FRUSTRATIONS

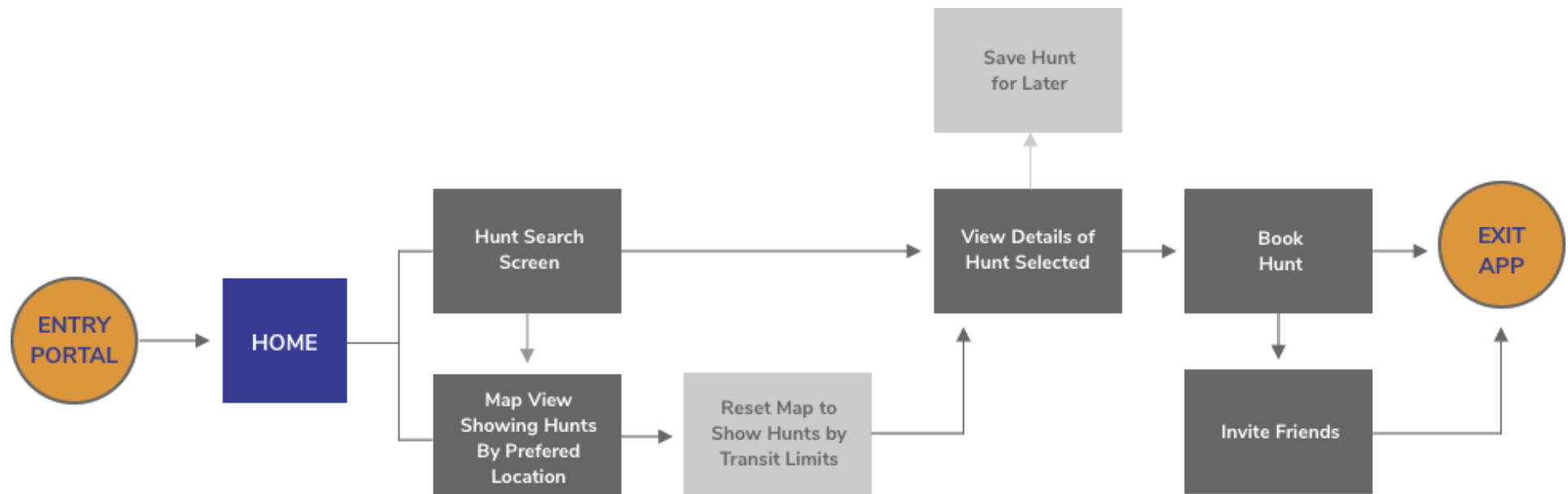
- New York is gentrifying so quickly that much of its cultural uniqueness is being lost and forgotten.
- Hates slow screen redraw, slow connections and poorly designed apps.
- Feels her friends are becoming sedentary, and wants to energize them for living here.

User Flows

Generative and competitive research clearly established the fact that people prefer scavenger hunts as a social activity. While our players users wouldn't use City Sleuths as a medium to meet others, they would like to share the experience with friends and family. With the primary business demand to book hunts, two core functions are clear:

- Finding and booking a hunt
- Inviting friends to that hunt

The order in which these tasks are conducted seemed interchangeable, (and was verified by later interviews).



PHASE 2 | Design

Preliminary IA

Knowing the users needs and expectations in accomplishing core tasks, the app seemed simple to map. However, I needed to check my expectations with potential players. With an open card sort, I asked research subjects to organize functions according to their expectations. Without a common nomenclature, it was sometimes challenging to interpret and categorize creative naming conventions. Nonetheless, a similarity matrix emerged that suggested some modifications to the app structure.

Type of Hunt Preferred																			
100	Geographical Region of Hunt Preferred																		
80	80	Search for Hunts																	
80	80	100	Save a Hunt Search Result																
80	80	100	100	Book a Hunt															
60	60	60	60	60	About A Hunt														
60	60	60	60	60	100	About A Hunt Location													
40	40	40	40	40	80	80	FAQ about hunts												
40	40	60	60	60	40	40	60	Hunt Leaderboard											
20	20	40	40	40	20	20	20	60	Advertise With Us										
20	20	40	40	40	20	20	20	40	80	Live chat for help									
20	20	20	20	20	40	40	40	20	60	80	Phone number for help								
20	20	20	20	20	60	60	60	20	40	40	60	Corporate Contact Info							
40	40	20	20	20	40	40	40	20	60	60	60	60	Meet the Company Team						
40	40	20	20	20	20	20	20	20	20	20	20	20	40	Hunts You've Finished.					
40	40	20	20	20	20	20	20	20	20	20	20	20	40	100	Notes You've Saved From a Hunt				
40	40	20	20	20	20	20	20	20	20	20	20	20	40	80	80	Your Avatar			
40	40	20	20	20	20	20	20	20	20	20	20	20	40	80	80	100	Badges You've Earned		
40	40	20	20	20	20	20	40	40	20	20	20	20	40	80	80	60	Gallery of User Photos From Hunts		
20	20	40	40	40	20	20	20	60	80	60	40	40	40	20	20	20	20	Links to Social Media	
20	20	40	40	40	20	20	20	60	60	40	20	20	20	40	40	40	40	20	80
40	40	40	40	40	60	60	40	20	20	40	60	60	20	20	20	40	40	20	20

Strong groupings of hunt searching and saving, with hunt preferences.

Continued aggregation of hunt information in one area.

Help grouping seems to be indicate these functions are unique.

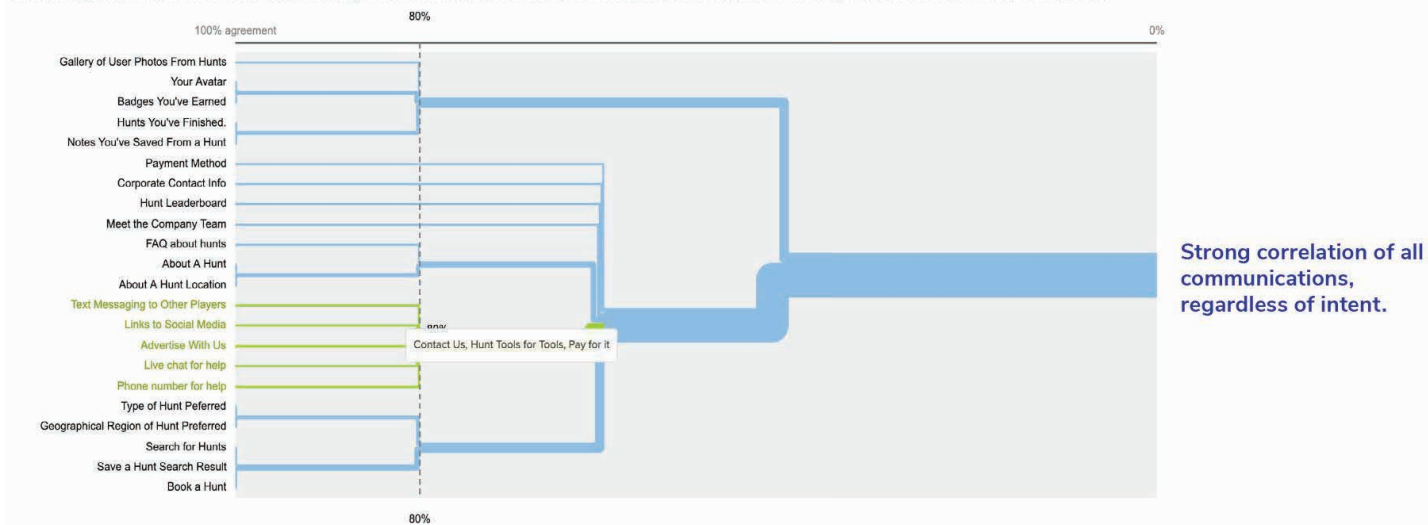
2nd strongest grouping: personal data.

Card Sorting (continued)

Knowing the users needs and expectations in accomplishing core tasks, the app seemed simple to map. Noting the grouping of hunting searching and preferences, I restructured the architecture to group these with search. Likewise, it was clear that communications with friends and other players was important.

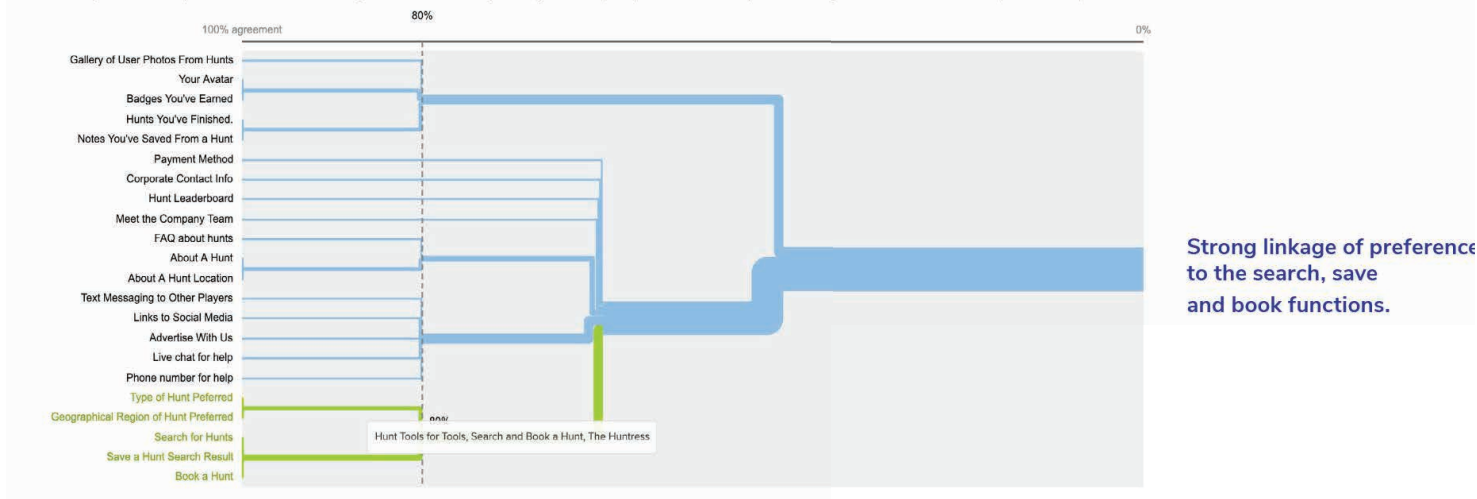
Best merge method

The best merge method often performs better than the actual agreement method when your study has fewer participants. It makes assumptions about larger clusters based on individual pair relationships.



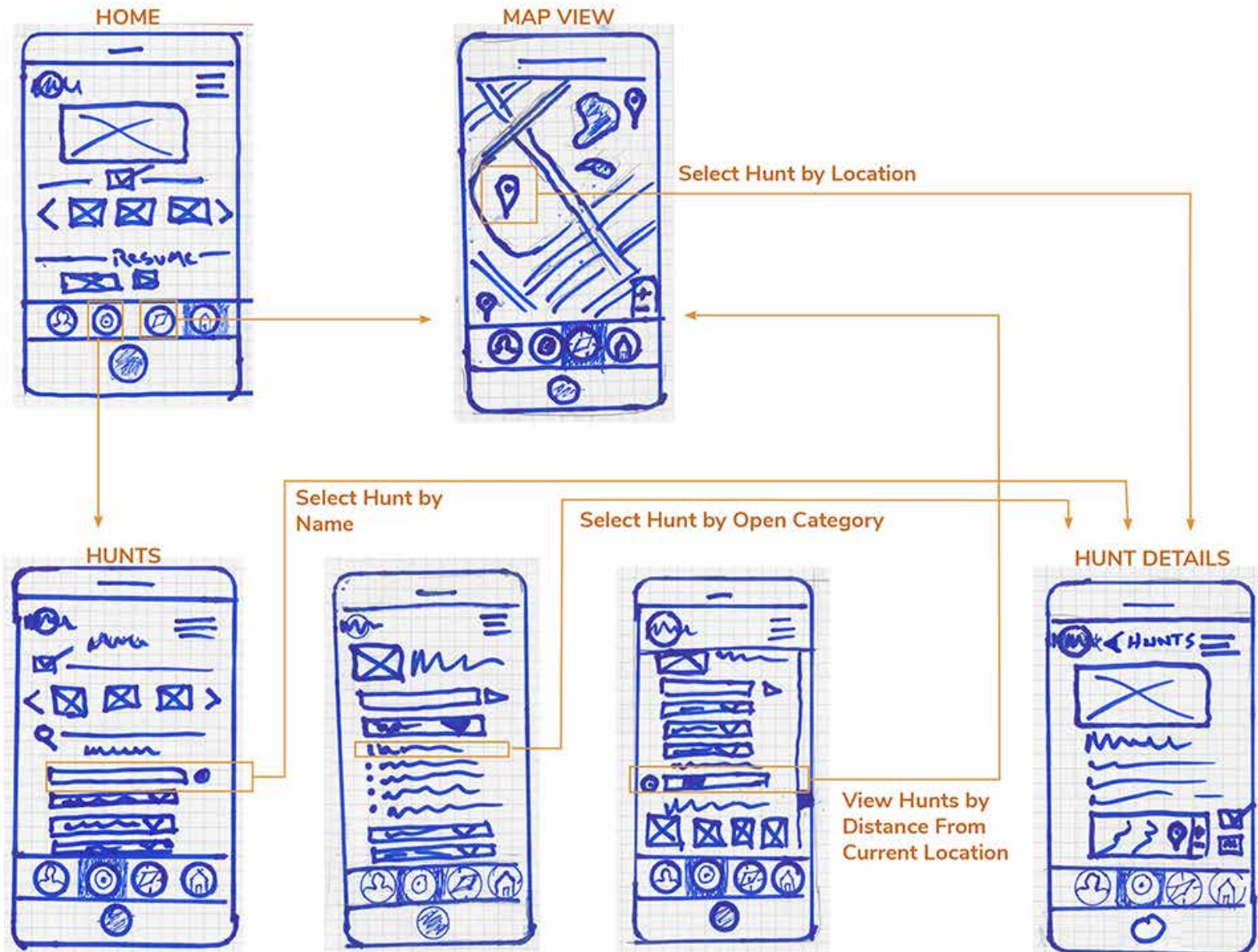
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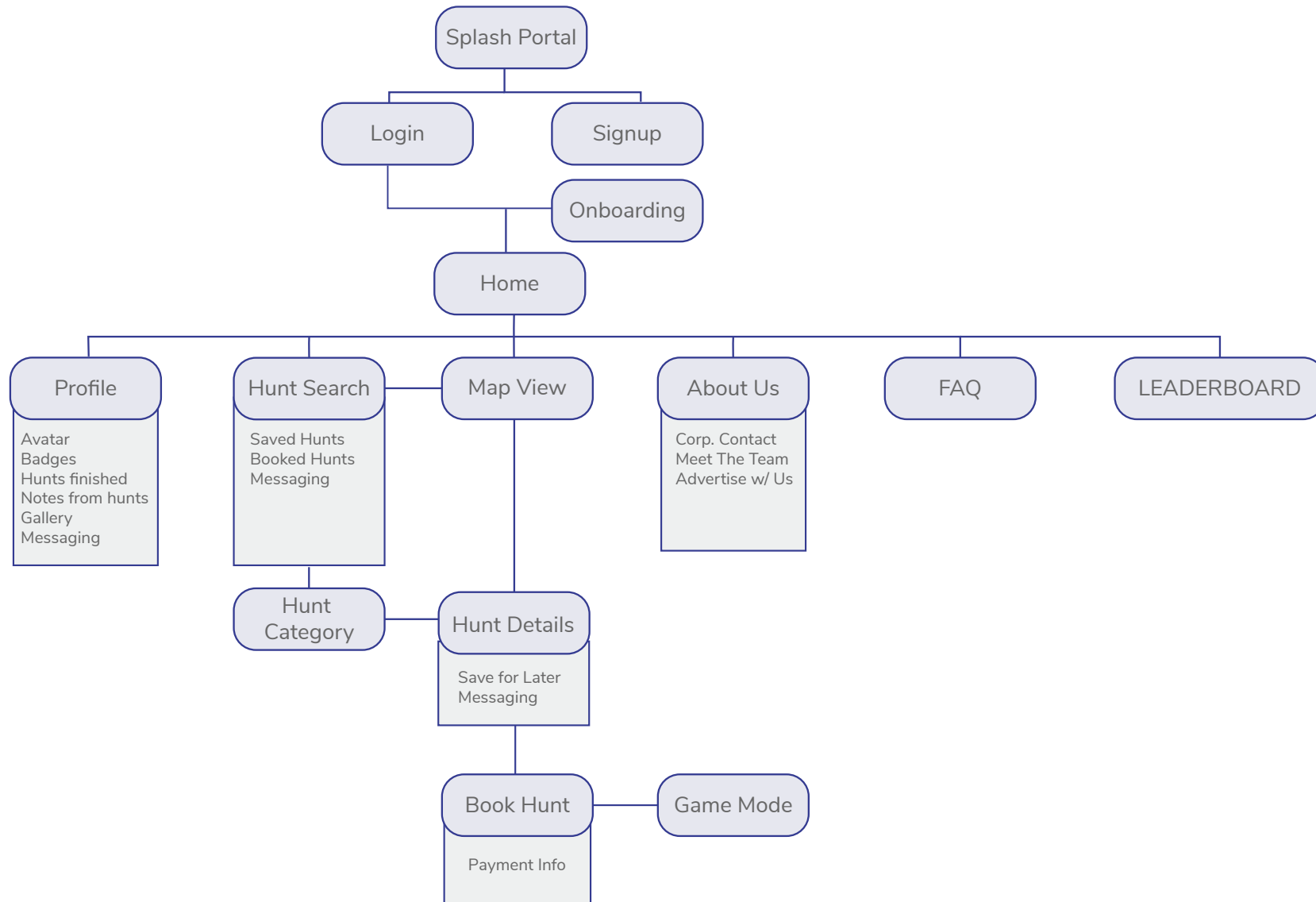
Wireframes and Prototyping

Paper sketching was my foundation for fleshing out core functions.

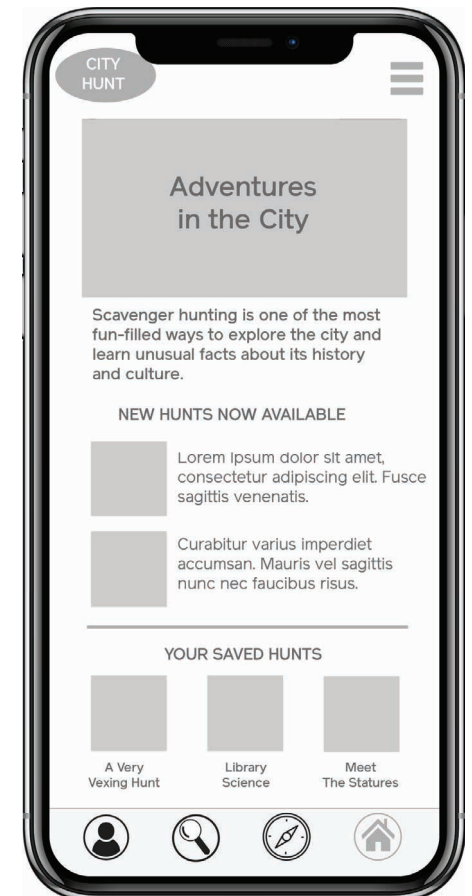
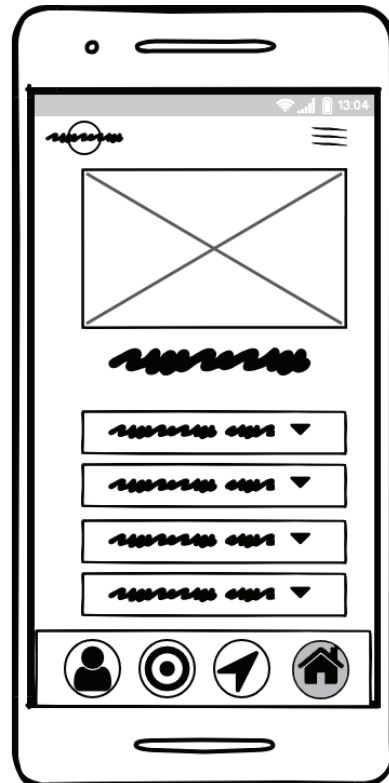
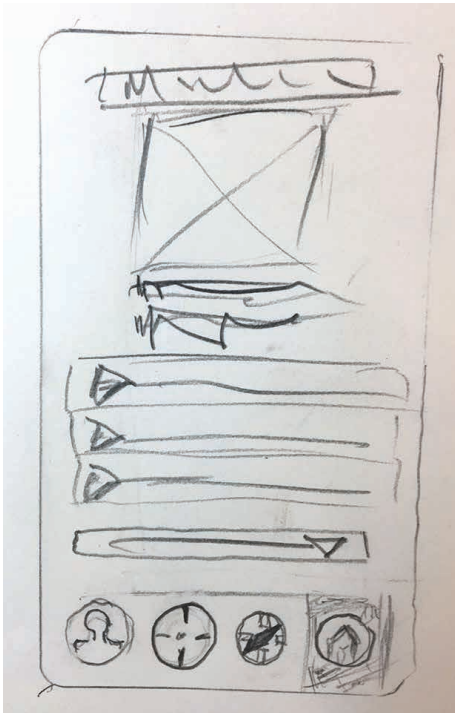


Wireframes and Prototyping (Continued)

After concepting on paper, I built medium-res wireframes in Balsamiq. However, it became abundantly clear with the medium-res screens that duplicating functions on the home and hunt screens was at best wasteful. So, I tweaked the architecture's site map, before building a hi-res prototype.

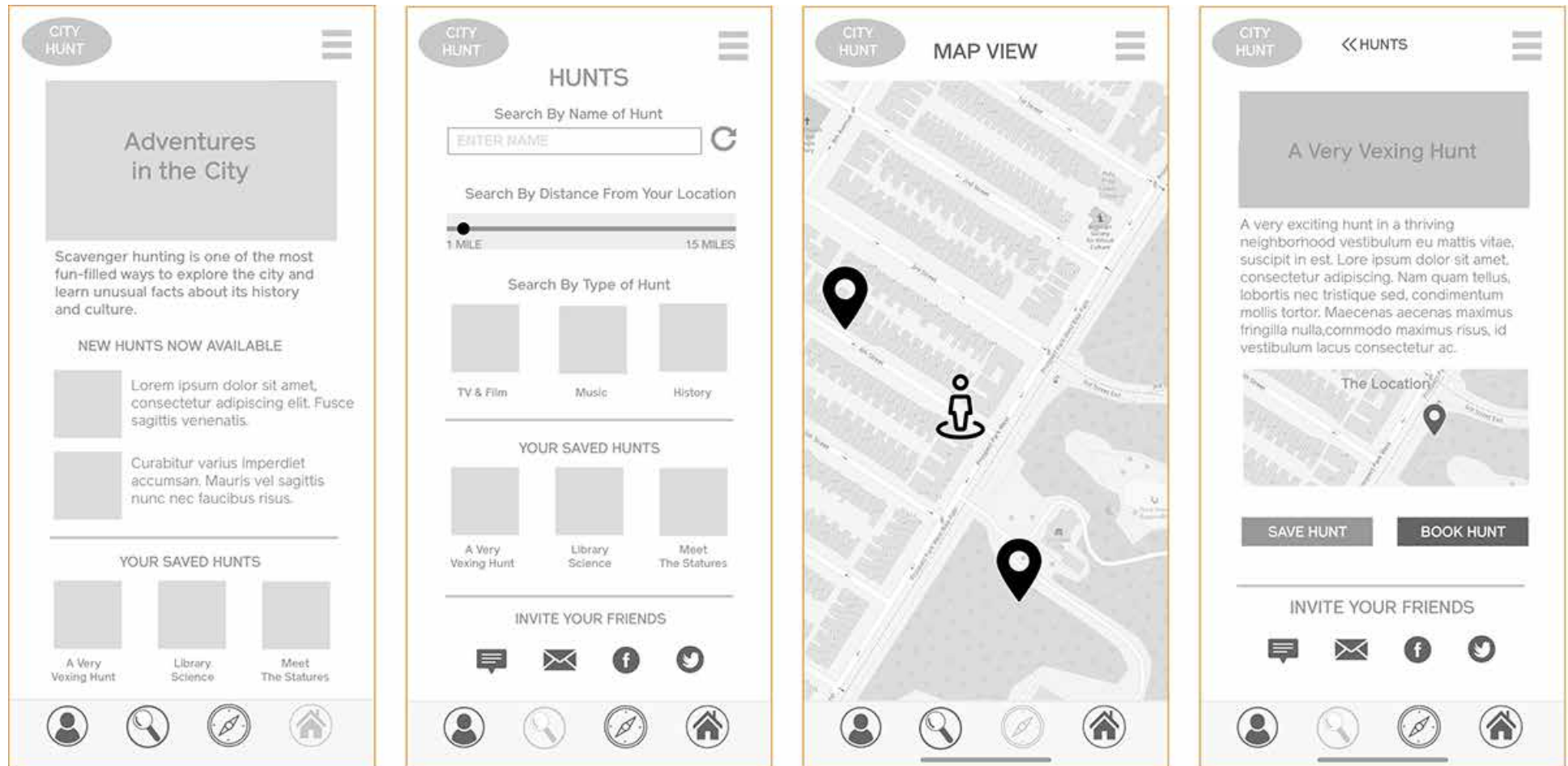


Wireframes and Prototyping (Continued)



PHASE 3 | User Testing & Revision

After building a high-res prototype on Invision, I was ready for remote and F2F moderated usability testing.



The objectives for testing were to determine if users understood the app, observe interaction for usability challenges, and note any opportunities for improvement. In 2 in-person and 4 remote sessions, subjects largely matching my personas consented to be recorded with the clickable Invision prototype.

User Testing (continued)

The image displays a video call interface with three participants and a central corkboard containing user testing observations and comments.

Participants:

- Top Left: A man with glasses and a white shirt.
- Top Right: A woman with dark hair and a black polka-dot shirt.
- Bottom Right: A woman with curly hair and glasses, wearing a white shirt.

Corkboard Content:

OBSERVATIONS	POSITIVE COMMENTS	NEGATIVE COMMENTS	ERRORS
Immediately understood navigation icons and app functionality. Felt at ease with the app - P1	I like the simple layout - P1	Not sure what's going on with the message. Did I send it? Why am I on the hunts page?	Did not understand Search By Name. - P2
Found navigation easy to understand - P3	This app could be a lot of fun. I'd use it. - P1	How do you search by name? Why not by location - P4	Did not understand "Book Hunt"
Immediately understood navigation icons - P2	The Distance Bar is cool - P1	Search By Name throws me. I don't know what I'd be searching for. Unless I could put in a zip code or neighborhood. - P2	Did not understand Search By Name - P4
Found the Navigation easy. - P5	"Hunt entry pinned on map - that's great!" - P2	Saved Hunts looks like hunts that were not completed - P4	
Immediately understood the navigation. - P4	I thought the flow went well, and it all made sense. - P2	Is a "Saved Hunt" a finished hunt? - P5	
Understood icons and navigation.	Yeah, this seems really easy - P3	You should add Venmo. I never use Paypal. - P4	
Chose Texting as her mode of invitation. - P1	This looks like fun. - P5	You should include Venmo. - P3	
Invites by Text - P6	I have to deal with really busy interfaces all day, and I love how this is simple and approachable. P6	I'd use Venmo. Paypal is lame. - P5	
Invitation by Text Messaging.	The distance bar is cool - P6	Why are only a few things clickable? - P5	
Invitation by Text Messaging. Would never use Social Media. - P3		I'd like the address of the hunt clearly stated. - P2	
Invitation through Text Messaging - P5			
Chose Email for invites. - P2			
Found a hunt by Map View. - P4			
Found a hunt through categories. - P5			
Clicked on distance to find hunt. P6			
Found a hunt by category. - P3			
Transactions were familiar and simple. - P5			
Found transaction easy and familiar. - P4			
Found transactions easy to accomplish - P1			
Thought the forced choices by limited hot spots "forced." - P5			
Confused by "Summary" in transaction. - P2			
Wants a receipt for the transaction. - P4			
Would use Apple Pay on this - P6			

User Testing (continued)

By Jakob Nielsen's scale, the testers identified one minor usability problem, and a couple of opportunities for improvement.

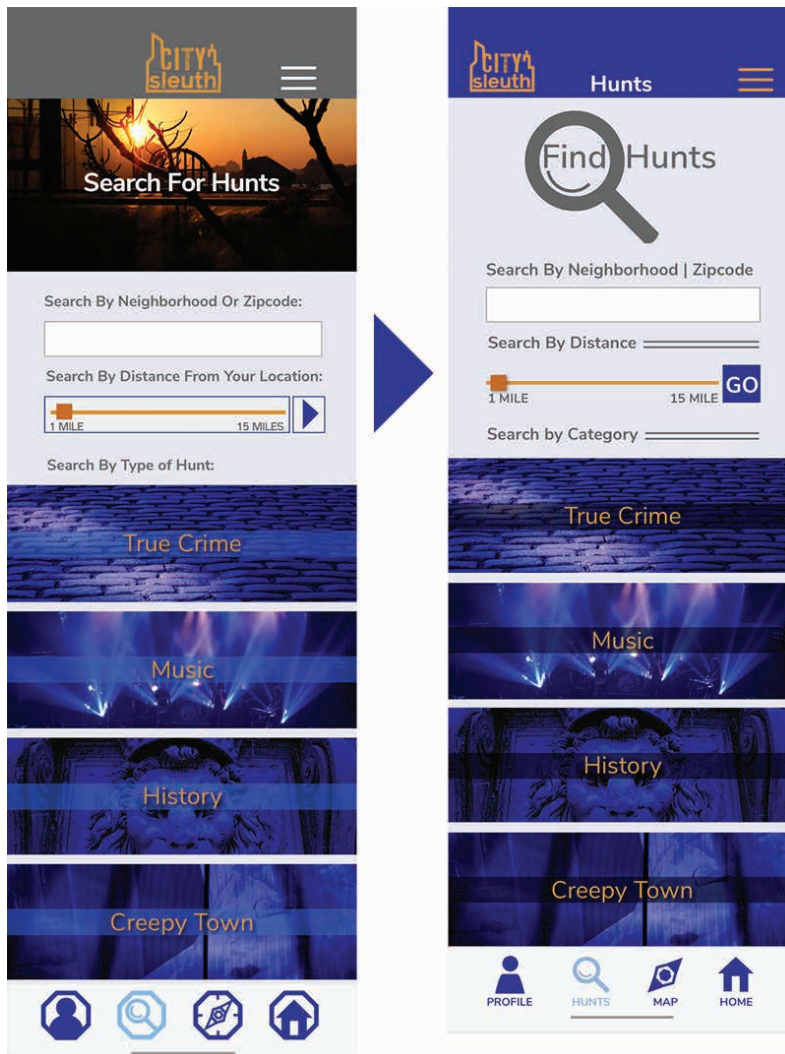
- Searching for a 'Hunt By Name' was confusing, and in the next iteration became a search by zip code or neighborhood.
- "Saved Hunts" was confusing for first time users. It opened the possibility for on-boarding with brief, descriptive text.
- Younger testers, in particular, were eager to see Venmo as a payment option.



PHASE 4 | UI

Time for the visual build! Choosing a limited color palette, a Google font, and a 12-grid layout, I built an initial style guide and first round of interface iterations.

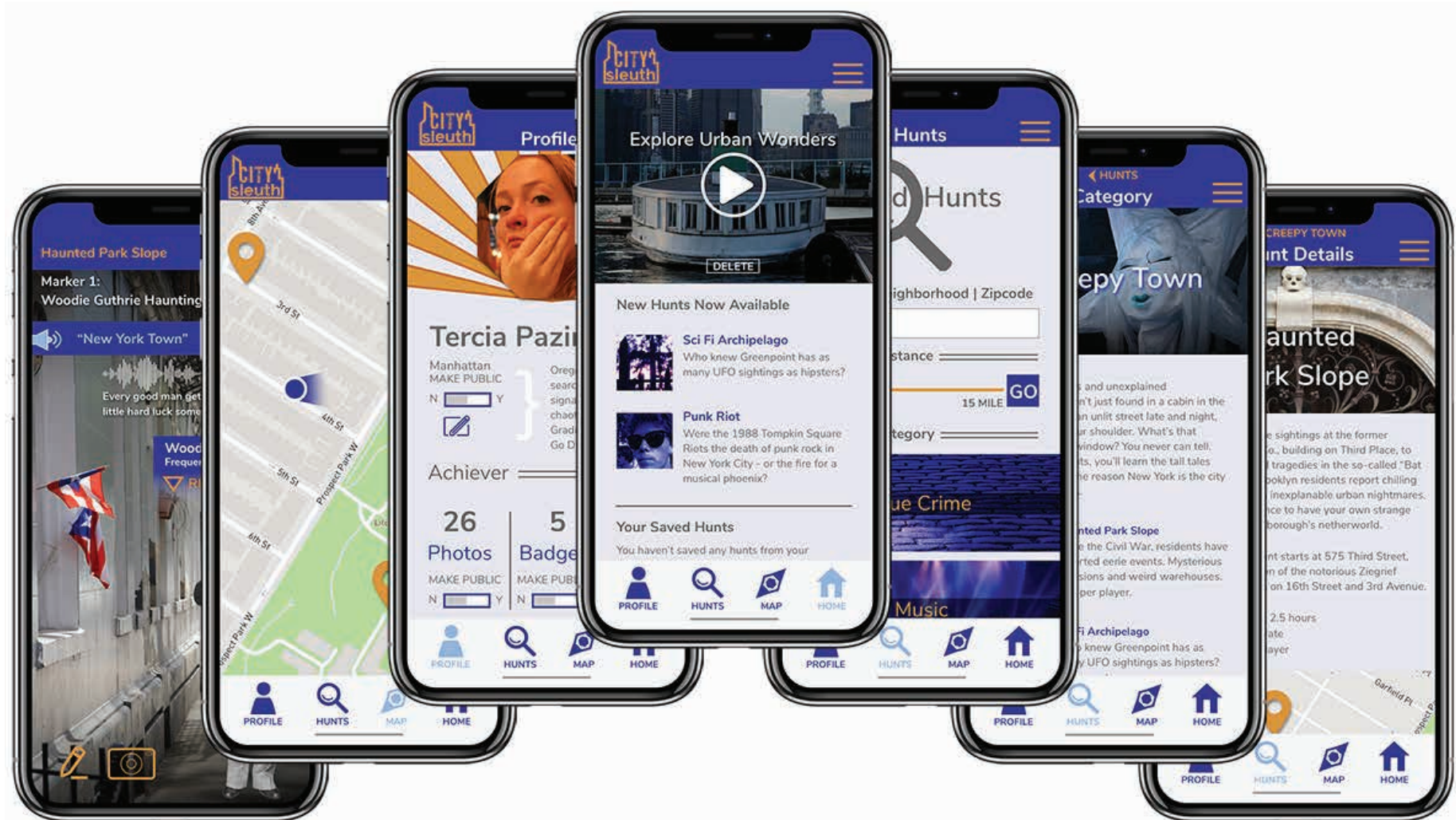
Examining these screens for WCAG accessibility issues with tools such as ContrastChecker uncovered areas for improvement. Clicking through a prototype on Invision, design peers also strengthened my work with valuable critical input.



The combined evolution included:

- Changing top bar for both aesthetics and readability of logo
- Inclusion of page titles on all screens
- Removal of non-functional, decorative photography on primary screens
- Removal of outlines from global nav icons, and inclusion of text to aid text-to-speech readers
- Increased contrast for category card names
- Replacement of proximity bar forward triangle with “GO” button.

UI (continued)



View the current prototype: <https://invis.io/SVTB98UFC4Y>

Style Guide

Palette

Primary:

#353a90

#c56b23

#dc973d

#666666

#e6e6ee

Secondary:

#2b65e7

#90b5e7

#e6c896

#c8c8c8

Tertiary:

#c1272d

Typography

H1 Headline

Font-family: Nunito Sans • Font-weight: Bold • Font-size: 45 px

H2 Headline

Font-family: Nunito Sans • Font-weight: Bold • Font-size: 36 px

H3 Headline

Font-family: Nunito Sans • Font-weight: Bold • Font-size: 26 px

H4 Headline

Font-family: Nunito Sans • Font-weight: Bold • Font-size: 18 px

H5 Headline | Button
































Font-family: Nunito Sans • Font-weight: Bold • Font-size: 16

AA: Body



Font-family: Nunito Sans • Font-weight: Regular • Font-size: 14

Style Guide (continued)

Icons

				Default State #353a90					
				Hover State #2b65e7					
				Executed State #90b5e7	{Action opens other apps}				
				Disabled State #c8c8c8					

Counter

Default	Open
	

Switch

Off	On
	

Proximity Slider

Default State:



A horizontal orange slider bar with a square handle at the 1 MILE mark. The bar is labeled 1 MILE at the left and 15 MILE at the right. A blue GO button is at the right end.

5 Mile Markers:



A horizontal orange slider bar with a square handle at the 5 MILE mark. The bar is labeled 1 MILE, 5 MILE, and 15 MILE. A blue GO button is at the right end.

“Go” Button Hover:






A horizontal orange slider bar with a square handle at the 5 MILE mark. The bar is labeled 1 MILE, 5 MILE, and 15 MILE. A blue GO button with a white border is at the right end.

Style Guide (continued)

Buttons

Default		
Hover		
Executed		

Photo Cards

Default		← Photo composited w/ #353a90 – Vivid Light ← Stip of #00000 @ 50% opacity
Hover		← Photo composited w/ #2b65e7 – Vivid Light ← Stip of #00000 @ 50% opacity. Font color: ffffff
Executed		← Photo composited w/ #90B5E7 – Vivid Light ← Stip of #00000 @ 80% opacity. Font color: ffffff

Dialogue Box

Label Must Appear: 10 px

Label Must Appear: 10 px

Label Must Appear: 10 px

Error Message: Nunito Sans Italic.

