

RecoMedia

Media that matches your moments.

CS147 Fall 2024

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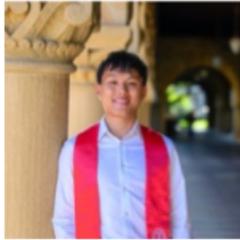
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Project Name and Value Proposition

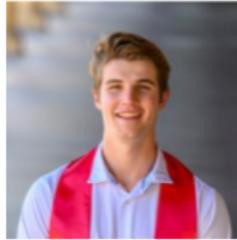
Project Name: **RecoMedia**

Value Proposition: **Media that matches your moments**

Team Members



Whyden Dhamcho
Developer



Chris Kelly
Developer



Calvin Laughlin
Developer



Jack Ryan
Designer

Problem/Solution Overview

Experiences are better when you are prepared for them, but planning isn't enjoyable for everybody.

RecoMedia is designed for the spontaneous, and to fit the spur of the moment. We make planning feel unobtrusive and easy. Watching media related to an upcoming trip/event is a great way to hype yourself up, learn about your destination, or inspire the next excursion. We aim to provide users with inspiration, cultural relevance, and education so that they can better enjoy their approaching experience.

Needfinding

For our studio's topic of "movement", we chose the domain of spontaneity for our interviews. What challenges do spontaneous people face when they are traveling? When they are planning to travel? We hoped to find a problem that could directly benefit the "go with the flow" approach to experiences.

Interviews

Participant Selection:

We hoped to interview people who represented both sides of the "planning" and "spontaneous" spectrum in order to compare and contrast different views and experiences.

We acquired our participants from a post on Nextdoor (image below). Although we did not state in the advertisement that we were looking for "planners" or "improvisers", we asked these individuals who responded to the post which group they felt more associated with before we scheduled the meeting.

Posts



Jack Michael Ryan
Stanford Campus · 29 Sep · Edited · 🌐

Hi Neighbors,

Ever wanted to be part of something that could shape future technology or improve the way we interact with the world? My name is Jack Ryan and I'm a Senior at Stanford studying Symbolic Systems. Along with my team of three Co-term students in Computer Science, we're working on a research project for Professor James Landay that explores finding solutions to real-world needs.

We're looking for thoughtful community members who are open to sharing their experiences and perspectives in a ≈ 45-minute conversation over coffee or a bite to eat (our treat!). Your insights could directly influence the direction of our research and potentially lead to impactful innovations in the future.

Whether you're passionate about technology, community issues, or simply curious about how your unique perspective could help, please feel free to message me! We'd love to arrange something at your convenience.

Jack

For our first round of interviews, we found three people that we thought could provide interesting perspectives on planning¹:

Liam, an ex-collegiate athlete. (Self-described planner)

Sam, who is an employee at a local technology company and an avid traveler. (Self-described mix, half planner half improviser)

Carina, a customer service representative who loves live music. (Self-described improviser)

We learned a lot about our domain from these initial interviews, and came away with a few key insights on what is important to people during and before an event. Firstly, Liam spoke about some of the challenges of planning for everyday life, especially for fitness. Life is unpredictable, and there are always setbacks or other challenges that arise that can make even the best laid plans go awry. Sam described his dislike of “overplanning”, which he experienced during many of his journeys around Asia. Sam spoke about how a tightly scheduled day can add a stuffy or rigid feeling to a trip. He found that overly structured travel plans can lead to stress and disappointment, and that it was important to keep some aspects of travel unplanned and open to improvisation.

Our last interview in this first round was with Carina, who admitted to doing almost no planning ahead for any of her recent excursions to see live music. She told us a story about going to a concert in San Francisco that inspired our problem focus. Throughout her telling us this story she only reflected upon how the night was ruined by one mistake. She had forgotten where she parked her car and by the time she found it in the parking lot and got in, she had to wait bumper to bumper for several hours just to escape the lot. She said it made the experience so bad that she “blocked it out of her memory”

After this first round of interviews, we realized that our solution, whatever it may be, would have to walk a fine line between leaving room for spontaneity, which can leave people feeling unprepared, and overplanning, which can make an experience feel forced. Our solution would have to honor both of these concerns, and allow users to plan without feeling like they are planning.

For our second round of interviews, we wanted to find people that represented extreme users for overplanning. We again messaged people who responded to our Nextdoor post and looked

¹Some names are changed to anonymize participants at their request.

for strong responses to the question: “Do you feel like you are more of an improviser or a planner?” as well as making some assumptions based on the person’s profession or interests. We found two interviewees that we thought would fit the overplanner archetype.

Justin - a computer scientist in HCI, world traveler, and recreational pilot.

When prompted with the topic of spontaneity versus planning, Justin immediately started talking about his experience as a pilot. His main point was that being a pilot requires planning in order to be spontaneous, so that you can be ready and quick to react to any possible scenario that may occur. When Justin is planning for an event, he likes to have every basis covered, but not every event deserves that level of attention. Specifically when it came to travel, Justin spoke about how his trips around the world were improved when he purposefully did not plan, which allowed him to find hidden gems and other parts of the experience that he would have never known about.

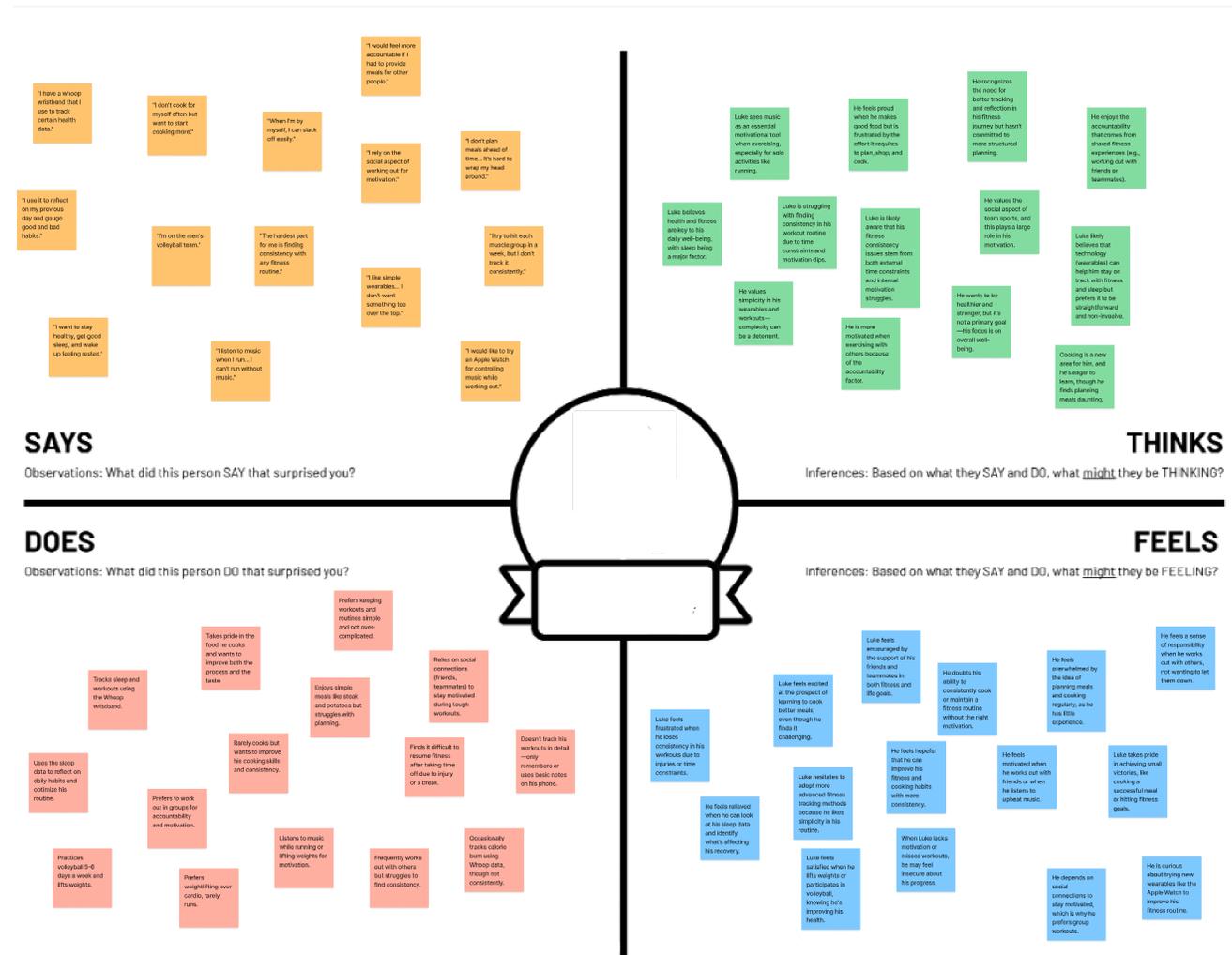
Sajin - a team manager at several large technology companies.

Sajin also gave us a very interesting perspective on planning, specifically using technology to plan. Although his job requires him to lead and organize many people to accomplish complicated goals, he tries to remove technology from his life outside of the office. He prefers more traditional organizational techniques for his everyday life rather than relying too heavily on technology.

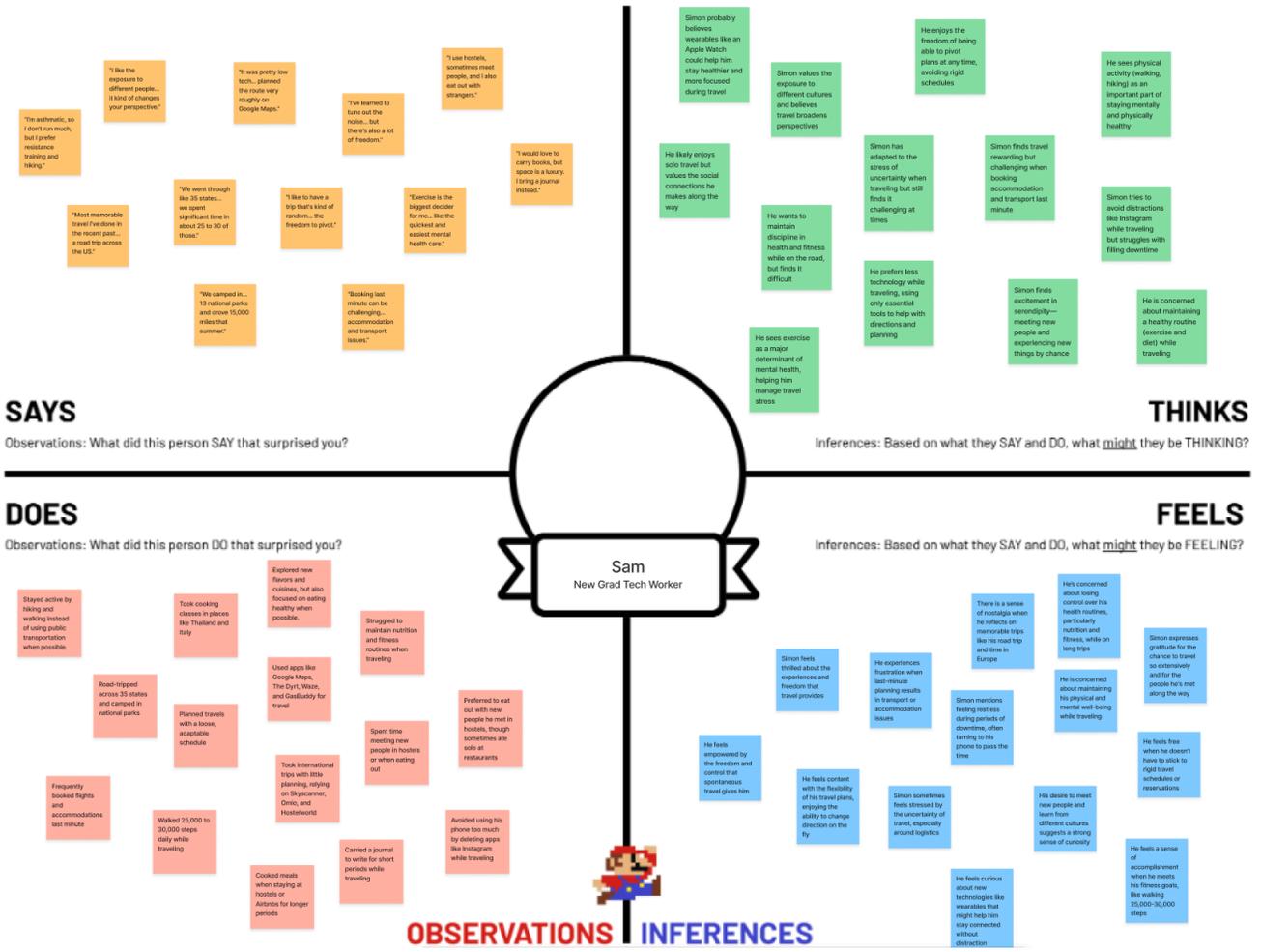
Synthesis

We used empathy maps to better structure and organize what we learned from our interview process. Here are the maps for our more interesting interviews:

Liam:



Sam:



POVs & Experience Prototypes

With the new insights and direction we gained from our interviews, we crafted POV statements for each interview. After each POV, we quickly devised as many HMW statements as possible within 15 minutes. We had no restrictions on what counted as “good” ideas and just aimed for quantity over quality during the creative process. We then spent another 15 minutes cutting these HMW statements until we were left with our favorites, and from there brainstormed solutions using a similar quantity over quality approach.

Here some of the POVs we created for each interviewee:

Carina

We met Carina, an IT support worker who enjoys spontaneity but is often surrounded by structured planning when attending events or managing her daily routines.

We were surprised to notice that while Carina prefers going with the flow, she often finds herself frustrated by the challenges of parking and long waits after concerts or events, despite her desire to enjoy these experiences more spontaneously.

We wonder if that means Carina seeks a way to combine her spontaneous approach to outings with practical planning tools that can alleviate the logistical challenges of events, allowing her to focus on the enjoyment rather than the hassle.

It would be game-changing to create a solution that helps Carina plan just enough to make her event experiences seamless, while still preserving the freedom of spontaneity she enjoys

Sam

We met Sam, a new grad tech worker who feels more comfortable abroad than at home

We were surprised to notice that when he is traveling, he says he doesn't like to use his phone, but claimed that it was “crucial” for him to be using certain apps while he was on the go.

We wonder if that means there is an optimal amount of technology for travel so that it doesn't diminish from the experience.

It would be game changing to consolidate his travel technologies to maximize planning without inhibiting his spontaneity.

Justin

We met Justin, a meticulous computer graphics expert who enjoys exploration and values spontaneous moments, especially during his travels.

We were surprised to notice that while Justin enjoys immersing himself in new cities without a set plan, he often prepares for potential obstacles in advance, applying his pilot training mindset of anticipating a range of possible outcomes.

We wonder if this reflects a deeper tension within Justin—between his love for unstructured experiences and the precise, calculated nature of his work and hobbies, allowing him to confidently handle unexpected situations while still embracing the freedom of spontaneity.

It would be game-changing if Justin was able to keep navigating new environments freely while having access to just-in-time resources if unexpected challenges arise, ensuring both spontaneity and preparedness

Sajin

We met Sajin, a senior tech manager who values flexibility but works within a highly structured environment.

We were surprised to notice that despite managing large teams and relying on JIRA for work, Shrikant prefers handwritten notes and avoids using digital tools in his personal life, even disabling notifications on his phone and smartwatch.

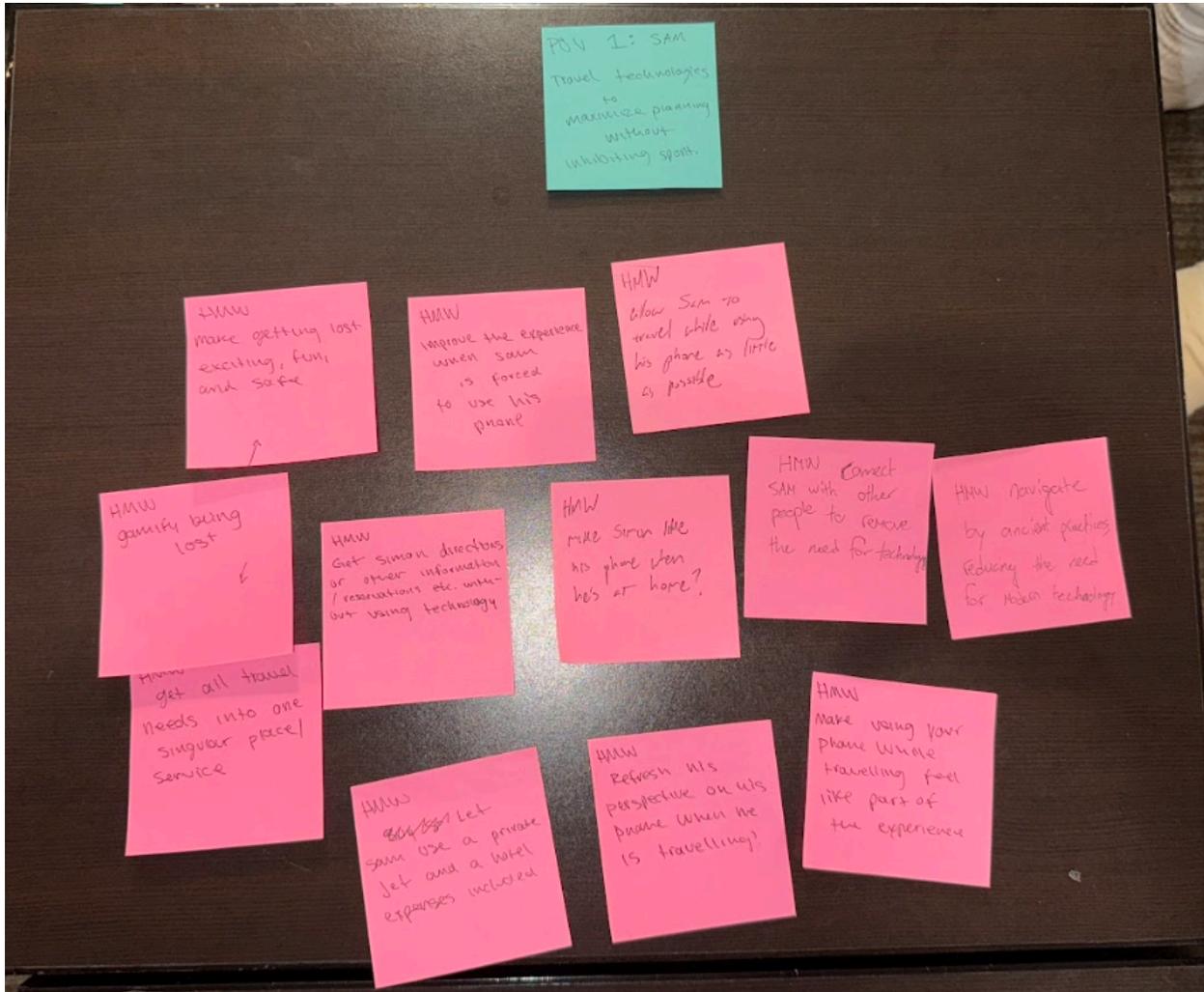
We wonder if that means Sajin seeks the ability to have more control over his use of technology without letting his technology “control” him such that it enhances his productivity instead of being overwhelming.

It would be game-changing if Sajin could streamline his workflow, giving him the benefits of digital organization while preserving his preference for minimal technological interference.

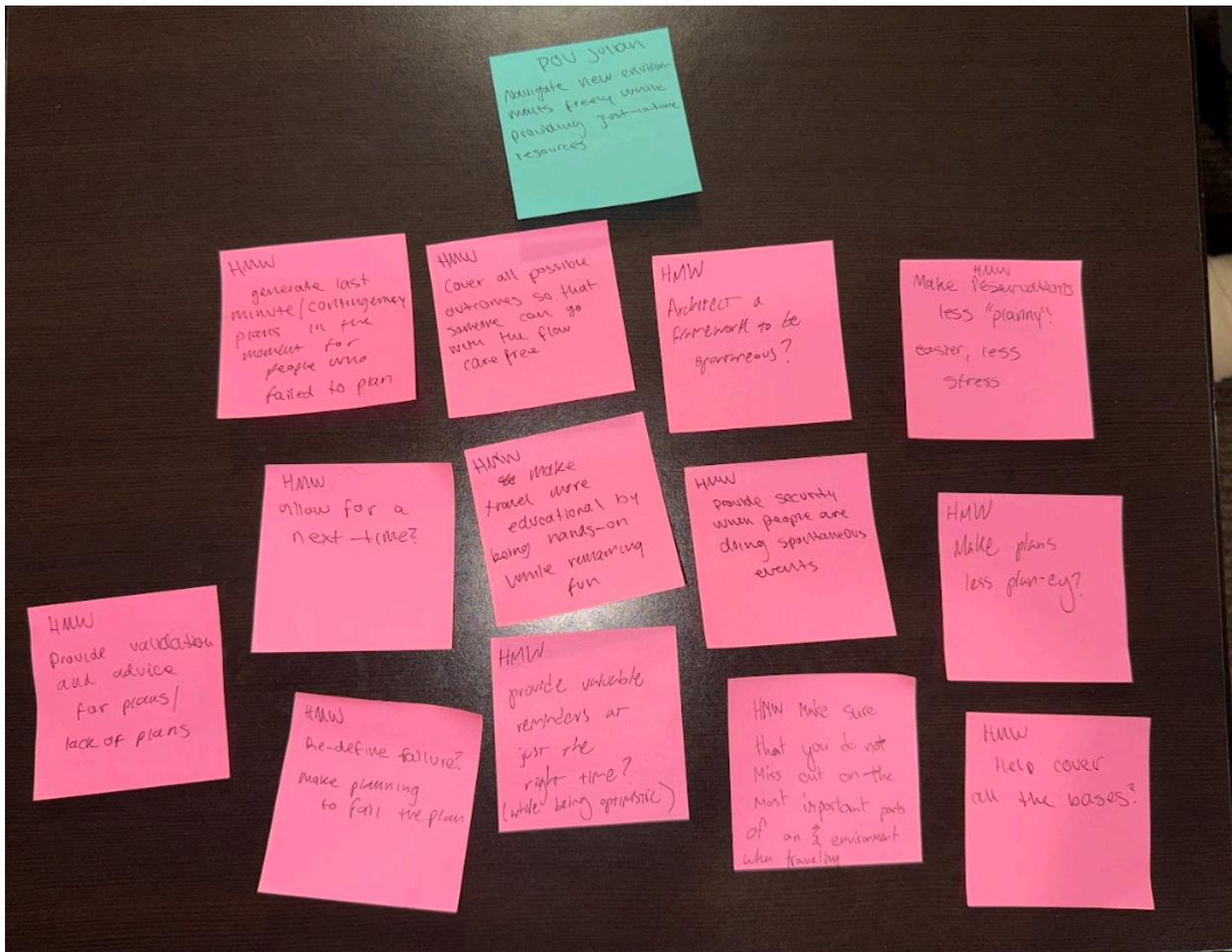
HMWs

Here are some images of a few of the “how might we’s” that we generated from these POV statements. These are the raw results of the brainstorming sessions.

Sam's HMW



Justin's HMW



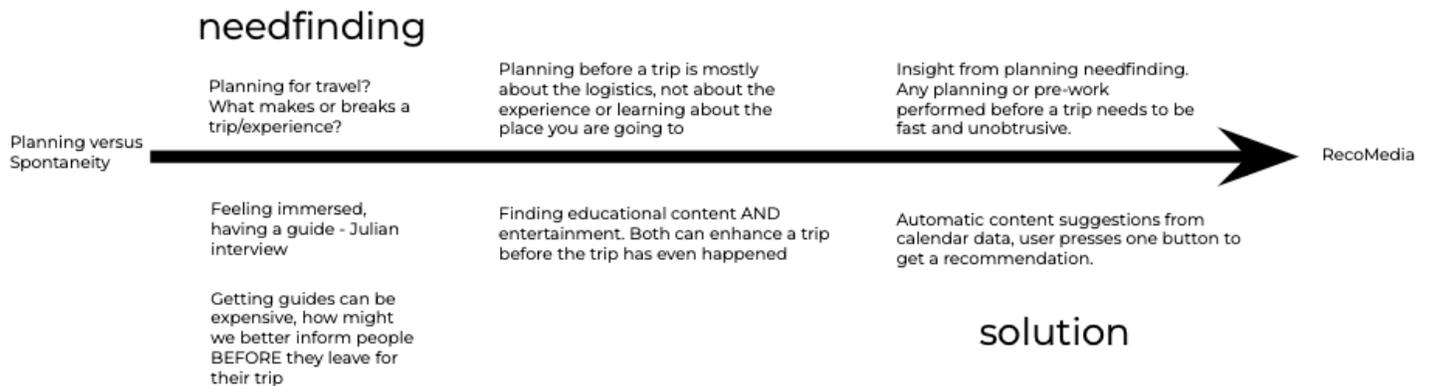
Top HMWs from all brainstorming sessions:

1. How might we allow for a next time?
2. How might we make getting lost exciting, fun, and safe?
3. How might we re-define failure? Make planning to fail the plan?

Top solutions:

1. **“Fire-Sale” Reservations**
 - a. Restaurants can offer last minute reservations to nearby customers at a discounted rate.
2. **Nearby Event Notifications**
 - a. Notify users who are near high-density areas, points of interest, or live events.
3. **Upcoming Event Media Recommendations**
 - a. Enhance travel experiences through personalized media recommendations related to upcoming trips.

*In order to demystify some of the jumps that we made in brainstorming, here is a small diagram that more specifically details how we arrived at our calendar based recommendation solution. We created this diagram after receiving some feedback that it may not be entirely clear how this solution came about from our brainstorming.



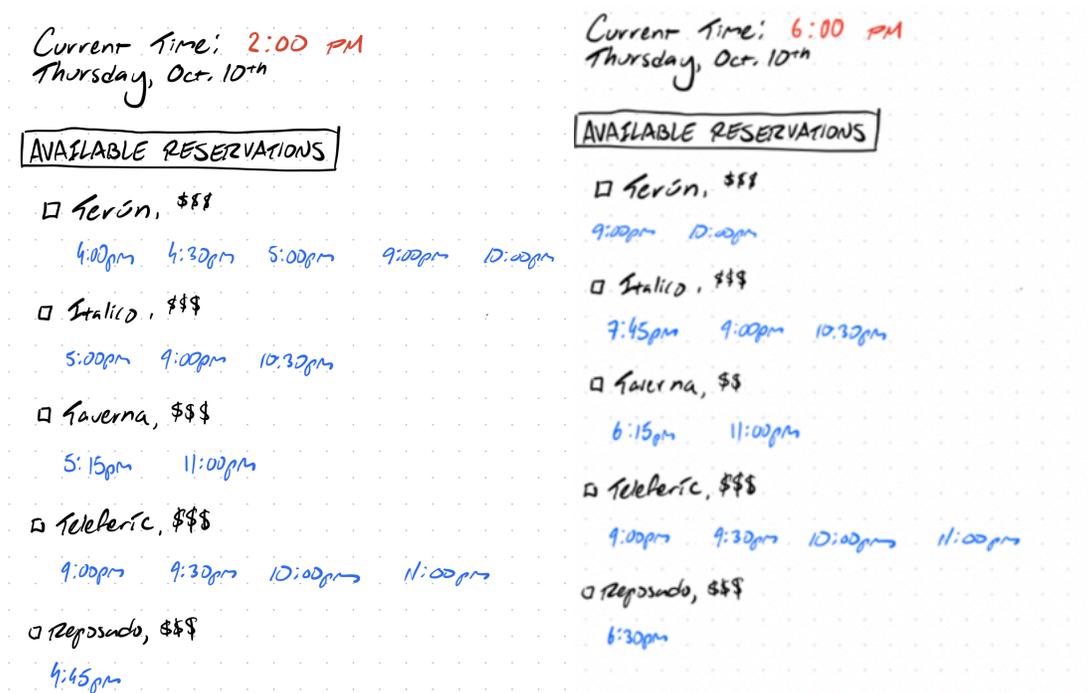
Experience Prototypes:

We created a brief experience test for each solution to see if our assumptions were correct and to see which one we should continue developing.

“Fire-Sale” Reservations

Our assumption: People are willing to book a reservation for a restaurant at the last minute.

We tested this assumption by asking people to pick a fake reservation from a lo-fi reservation system. The page showed the current time and the upcoming reservations. The leftmost screenshot below was our control, with the nearest reservation time occurring two hours in the future for a very early dinner. Each restaurant has the same price rating to remove any bias. To preserve some sense of realism, we made most of the very high density dinner times unavailable to reserve (6 - 8pm). Most of our subjects selected one of the 9pm dinner reservations that were available. The page on the right is where we tested our assumption, we then asked the participants to select another reservation, this time noting that the “time” had been changed to 6pm. Even though there was a new, cheaper, reservation at 6:15, which is a more standard time to have dinner, participants did not select this new option, stating that they “did not want to feel rushed” or “would have no way of preparing to get there in time” despite of the new drop in price. With these results in mind, we decided not to continue working on firesale.



Nearby Event Notifications

Our assumption: People would be willing to spontaneously deviate from their daily plans/routine to attend a nearby event.

For this experience prototype, our testing method was quite simple. We ourselves would act as a “notification” for a nearby event. We randomly approached several people at main quad and invited them to a fictitious coffee and doughnut event. We selected people that looked like they were going somewhere with a degree of purpose rather than just wandering around so that we would catch them in-between their activities. We found that almost none of the people we spoke to were interested in deviating from their walk to class or other activity in order to attend our fictitious event. We admit that this could be a reflection of the busy lives of those walking around main quad, but we still decided to abandon this solution due to the lack of people who agreed to follow us.



Upcoming Event Media Recommendations

Our assumption: People want to consume media that is related to upcoming events in their life.

We knew of a group of people that we were tangentially friends with that were all planning to go to Las Vegas the following week. For this experience prototype, we asked the individuals in this group, as well as a control group, to pick a movie, TV show, and song from a list of options that they would like to watch/listen to in the near future, with one option from each having a clear relation to Las Vegas. We did not instruct the participants to choose media that was related to their upcoming events, just to pick one that they would like to watch/listen to.

Test	Control
<p><u>MOVIES</u></p> <p><i>The Hangover: 3</i> La La Land: 1 Parasite: 0</p> <p><u>TV SHOWS</u></p> <p><i>Pawn Stars: 2</i> Deadliest Catch: 2 Gator Boys: 0</p> <p><u>SONGS</u></p> <p><i>"Viva Las Vegas" by Elvis Presley: 2</i> "Blinding Lights" by The Weekend: 2 "Dreams" by The Cranberries: 0</p>	<p><u>MOVIES</u></p> <p>La La Land: 2 Parasite: 1 <i>The Hangover: 1</i></p> <p><u>TV SHOWS</u></p> <p><i>Pawn Stars: 2</i> Deadliest Catch: 1 Gator Boys: 1</p> <p><u>SONGS</u></p> <p>"Dreams" by The Cranberries: 4 <i>"Viva Las Vegas" by Elvis Presley: 0</i> "Blinding Lights" by The Weekend: 0</p>

We found that media that was related to Las Vegas was more commonly selected by the test group, although our sample size was quite small, we were encouraged by comments made during the testing procedure about their upcoming trip. The results seemed to imply that people are more likely to watch media if it is related to an event that is coming up in their lives. Beyond these positive results, we also experienced users appeared to take these recommendations fairly seriously, with several users stating that they “were going to go watch that tonight!” after our prototype had concluded. We decided that media recommendations would be the solution that we would pursue further into development based on these positive results.

Design Evolution

Final Solution - RecoMedia

Our final solution, as mentioned earlier, is an app that provides media recommendations based on upcoming events or trips that the user may have.

In order for our solution to be able to give these users recommendations for their upcoming trips, we decided to create a platform that uses calendar data to see what events were approaching in the user’s life, and then provide them relevant recommendations based on the location they were planning to travel to.

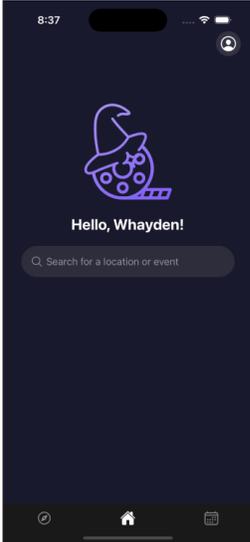
To provide these recommendations to the broadest set of users, we wanted to expand it beyond just users who have an upcoming trip they know of, but also give the users the opportunity to explore recommendations for nearby locations or upcoming holidays. Our final app implementation allows users to search for recommendations on the home screen, discover recommendations on the aforementioned explore page, or find recommendations for events or trips on their calendar. Within the recommendations we provide information on the media, why we recommended it to the user for that location/event, as well as places featured if it's a show or film, and finally the relevant streaming services users can find the media.

Tasks

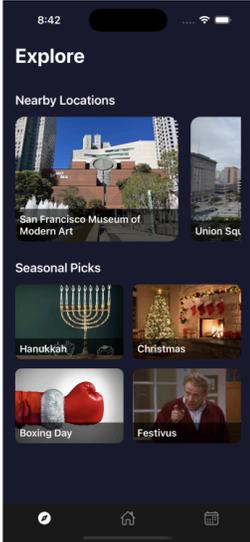
Simple Task: receive a recommendation for a location

Receiving recommendations is the core feature of the platform. This task will be the most frequently used and should therefore be the easiest to accomplish for the user. This task performs automatically at various stages in the app, whether that be from the explore page, from searching, or from the calendar. This is done through our app making an API call to Claude that provides the best media recommendations for the specific location or event.

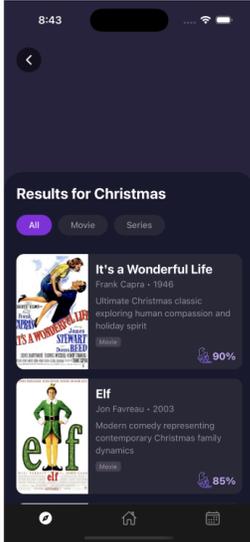
Task flow:



Home Page: user clicks on explore in bottom left or swipes



Explore Page: user clicks on Christmas



Recommendation Page: user clicks on Elf

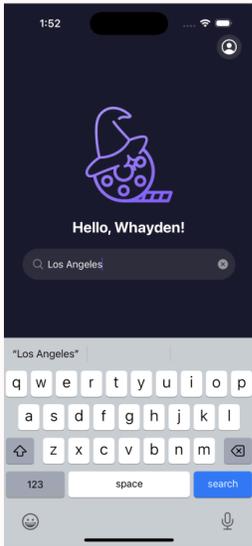


Details Page: user can observe details on their recommendation

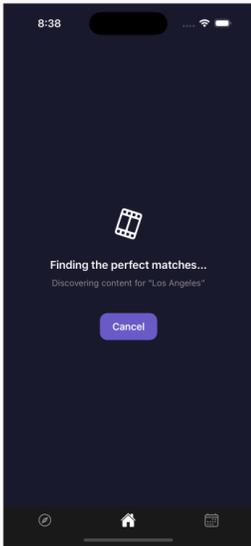
Medium Task: searching for a location or event to receive a recommendation

Still part of the core feature of receiving a recommendation, but made slightly more complicated for the user by asking them to input text in the search bar. This task is more important for users who have a specific location or event in mind, perhaps one that they have not planned as extensively for, but still desire recommendations for. By allowing users to input their own search term, the app's range of what it provides recommendations for is far larger.

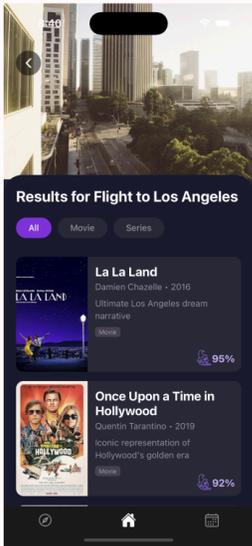
Task Flow:



Home Page: user clicks on search and types in their location or event



Loading Screen: shows a loading animation as app fetches data, with cancel



Recommendation Page: user clicked on Once Upon a Time in Hollywood



Details Page: user can observe a summary, why the recommendation, and places

Complex Task: syncing your calendar and receiving a recommendation from it

This task requires the most upfront effort, but the syncing process only needs to be performed once. By syncing their calendar, users give RecoMedia to integrate with events that they have already planned/scheduled. Since this task is a one-time setup, which occurs the first time the calendar view page is opened, the benefits far outweigh the initial effort. This feature is especially valuable for users who want a more automated approach to receiving recommendations.

Task Flow:

Complex Task

Login Page: user signs in or creates an account for the first time

Home Page: user clicks on the calendar button on the bottom right

Calendar Page: user can see their events and clicks on Flight to San Francisco, will initially ask for permission

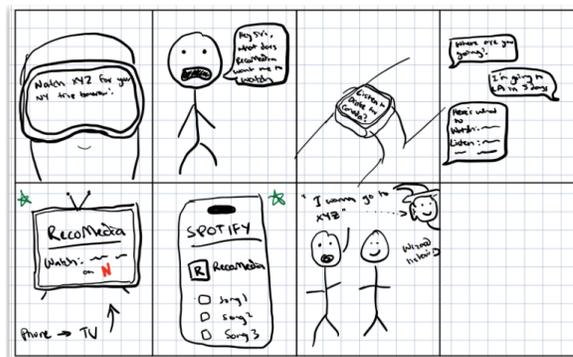
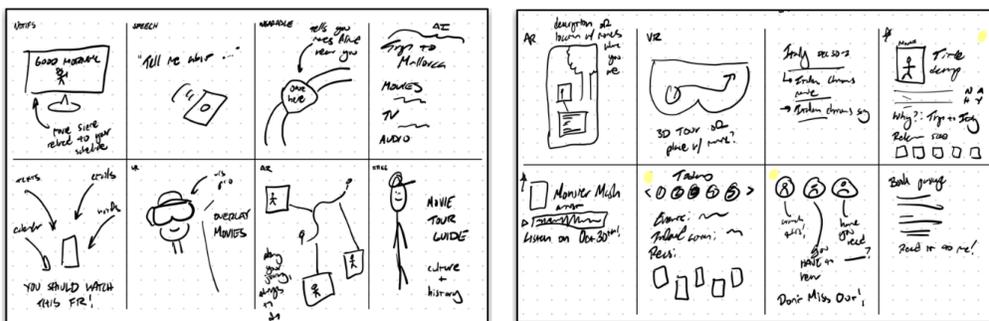
Recommendation Page: user chooses to watch Vertigo and clicks it

Details Page: can see the details on this recommendation

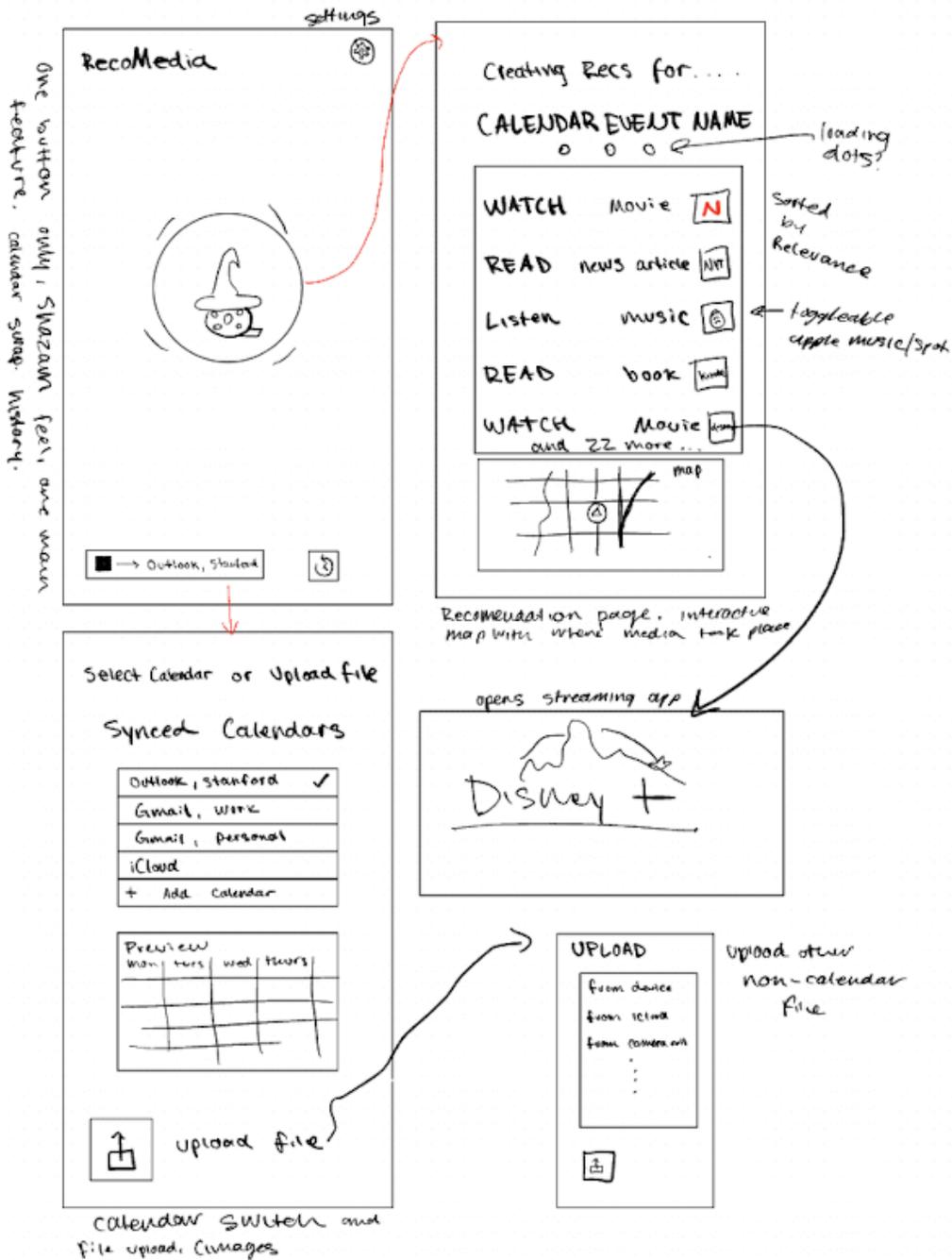
Major UI/design Iterations:

Initial sketches:

For our initial sketches, we considered multiple modalities for how we would implement our solution before we had decided on a mobile app. We explored VR, AR, Apple Carplay, and more as possible implementations for our media recommendation solution. We used Notability for these sketches as it allowed for the quick editing of paper and pencil while also affording comforts of technology like copy and pasting, drawing perfect shapes, ect.



We decided that an app interface better aligned with our values of non-formal planning, as using a smartphone feels less serious than working on a web browser at a computer, and AR and VR implementations would reduce the ability to quickly use the solution at any time. Here is our first sketched UI layout for a smartphone application, also made in Notability:

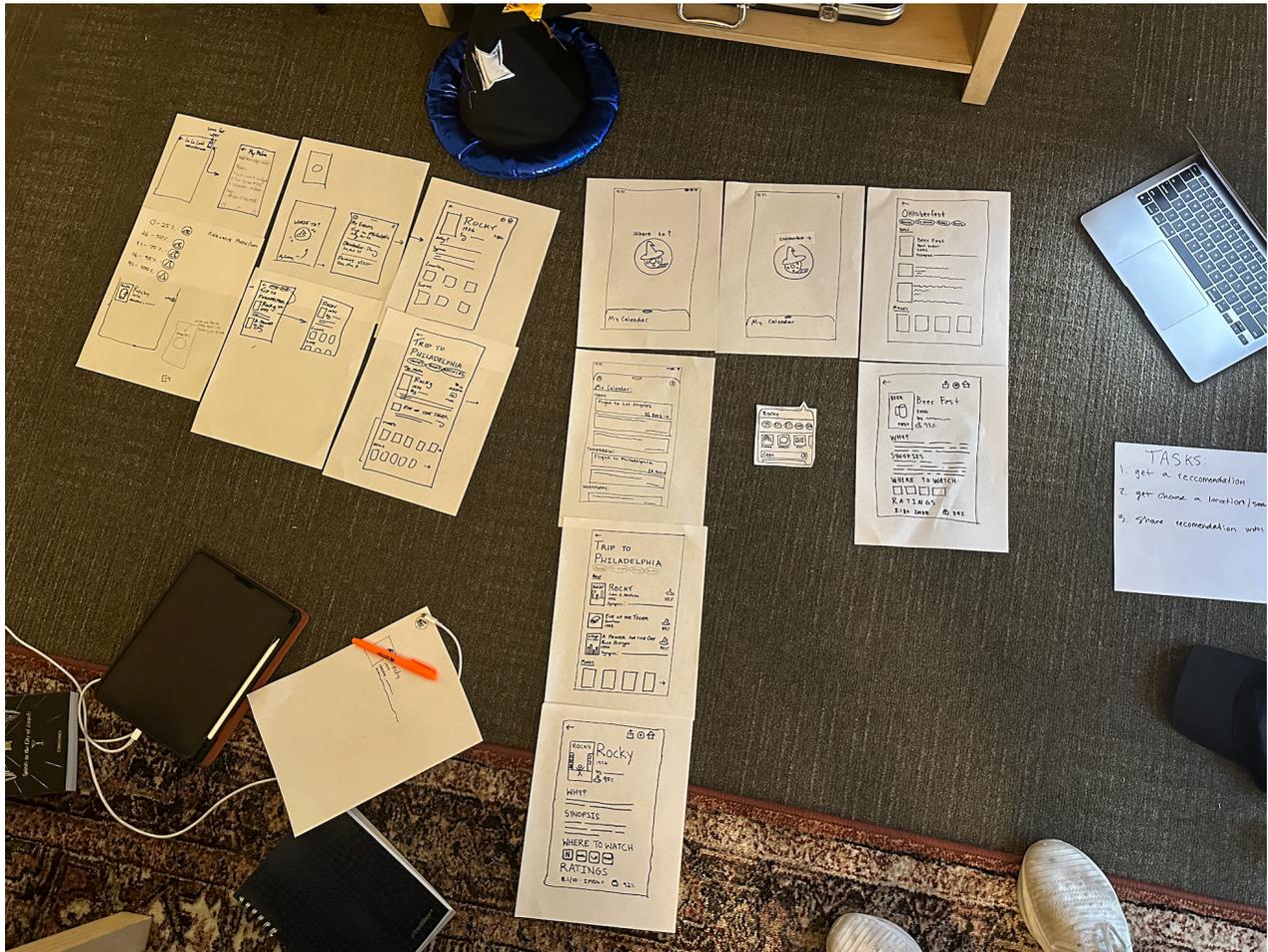


We then mapped out some more of the interface using notability before deciding to make the change to real paper and pencil for the Lo-Fi prototype.

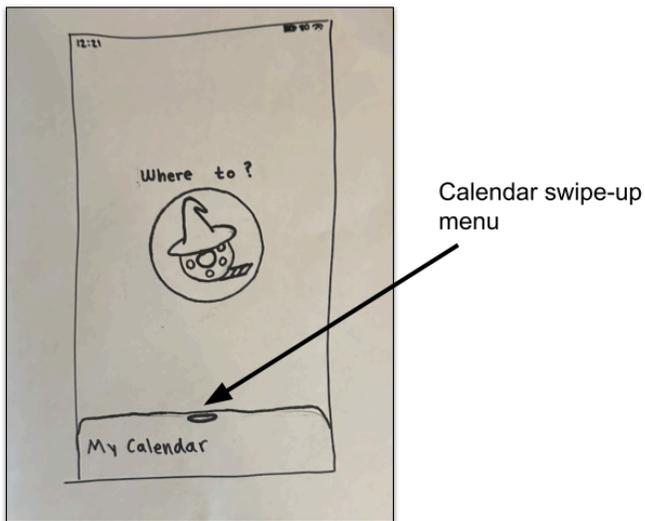


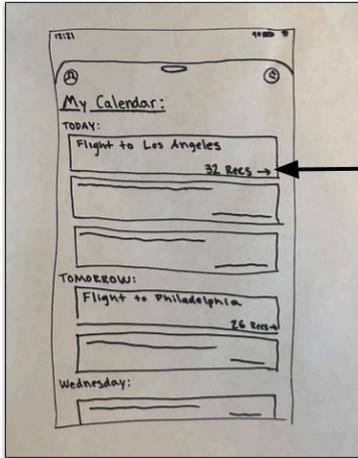
We ultimately made the switch to paper because it was far easier to be collaborative with each other while we were designing. The four of us could sit around a table and all work together on mapping out the interface. Paper also felt less formal, and made it far easier to scrap designs or ideas, improving the iterative process.

Lo-fi prototype:



Simple task: receive a recommendation:

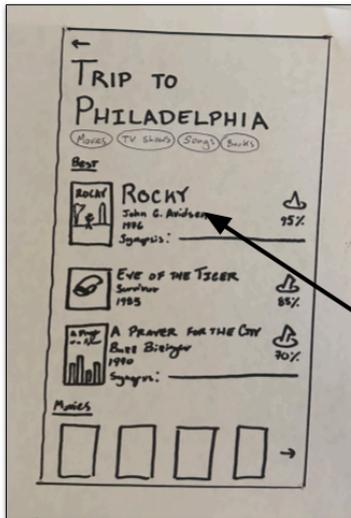




Calendar lists upcoming events that have been synched.

Tapping on one event will show recommendations

Animates as a "slide over"

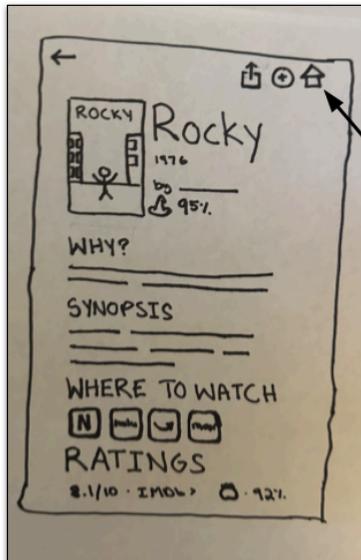


Recommendations Tab.

Sorted by "relevance" to the trip.

Toggles for various media types.

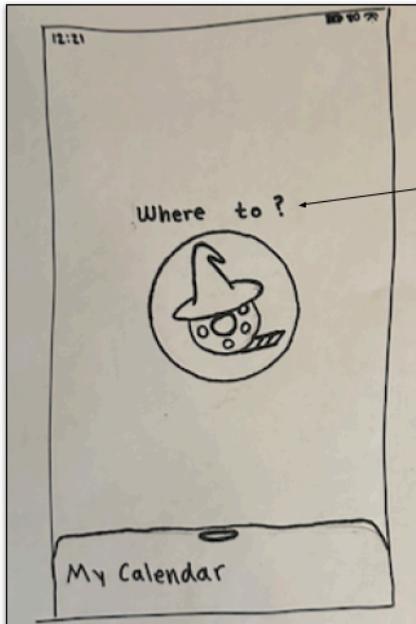
Inspect one recommendation by tapping.



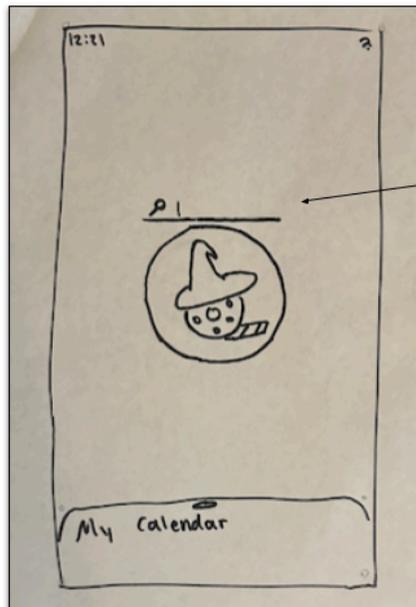
Individual Recommendation.

Home button returns users back to the "where to?" page

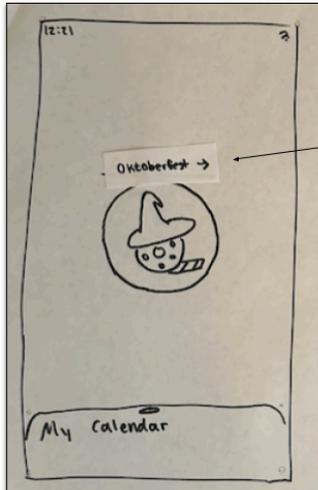
Medium task: searching for location/event, receiving recommendation:



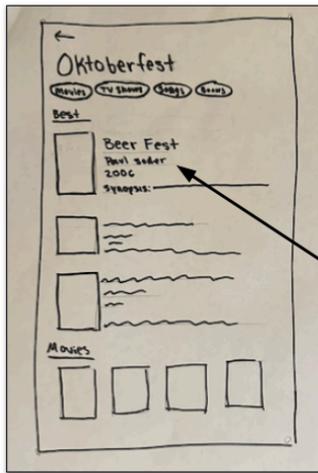
Clicking on the text opens up the search option.



Search bar replaces text.



User "types" in search for Oktoberfest



Search results.

The movie "Beer Fest" is shown as the most relevant.

From here the actions are the same as the calendar navigation.

Tapping the movie will show more details.

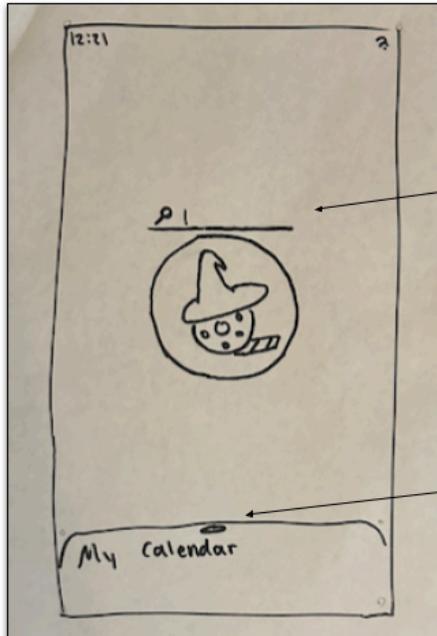


Details for movie.

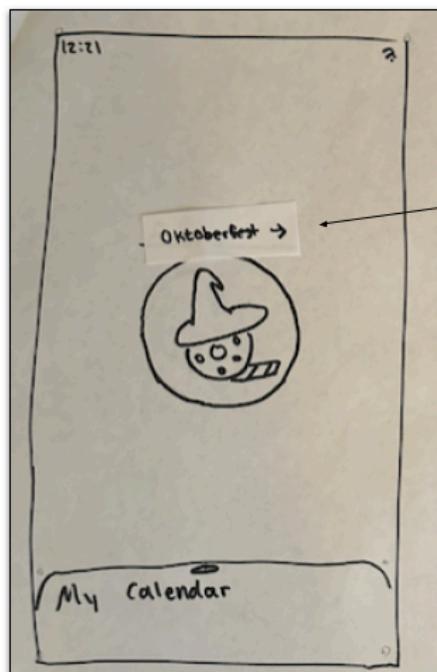
Complete with share and home button.

Complex Task: Sharing a recommendation*

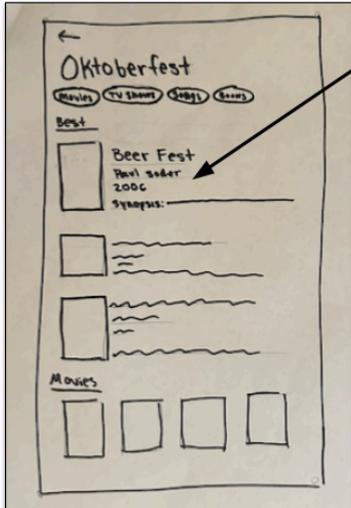
*For this task, we originally believed that this would be more challenging for the user to accomplish and would be performed less often than the simple and moderate tasks. However, in both our designing of the share menu and the lo-fi prototyping. We found that it was far easier than we had originally anticipated, and therefore decided to demote it to a moderate task in the medium and high fidelity prototypes.



Same as searching task, user navigates to any specific recommendation. Either by searching or through calendar view. For this example, the user searches.



User "types" in search for Oktoberfest



Search results.



Details for the recommendation.

Here, the user selects the share icon.



Sharing options, such as message, airdrop, or email appear.

Usability goals / evaluation technique for lofi prototype

Serendipitous, we want our users to feel delighted by media related to their journeys. Smooth, the experience should be easy, understandable, and quick.

Our evaluation technique for these usability goals was to make certain measurements during the lo-fi testing stage of our design. We told users to pretend as though the paper was an app screen and to tap on elements they thought would allow them to complete each task. We recorded the following during the testing period:

Time to complete each task

Navigation tally

- How many times a navigation button was clicked

Number of “misclicks”

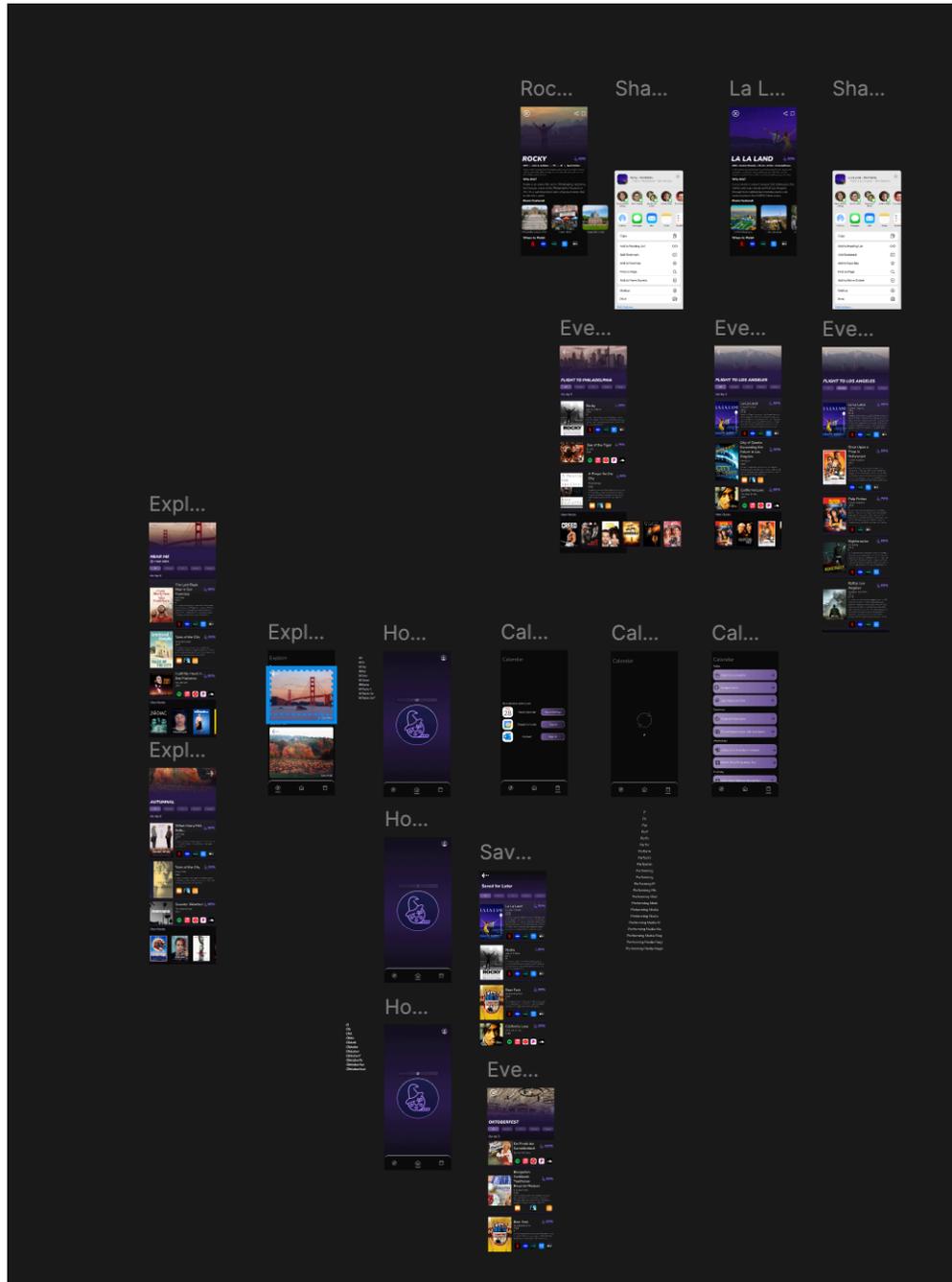
- How many times a user clicked an inactive element

We found that many of our prototype testers struggled with the searching functionality; they were either confused as to what could be entered in the search bar field (“*I wouldn't have thought that I could look up something like an event like Oktoberfest*”) or struggled in recognizing the search bar entirely.

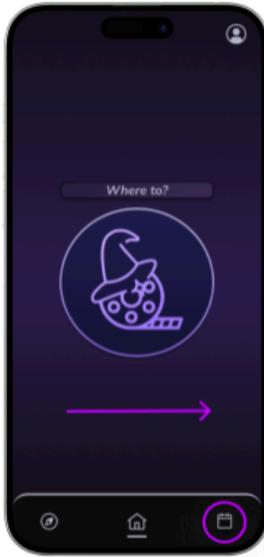
We also received some positive feedback, such as praise for the “why this?” section of a recommendation. Multiple testers thought that it was a great to be specifically told about the relation between their search term and the given recommendation.

Medium-Fi Prototype

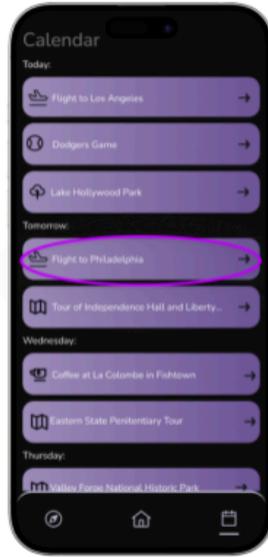
We created our med-fi prototype in Figma, making sure that we made changes according to the results of our low-fi.



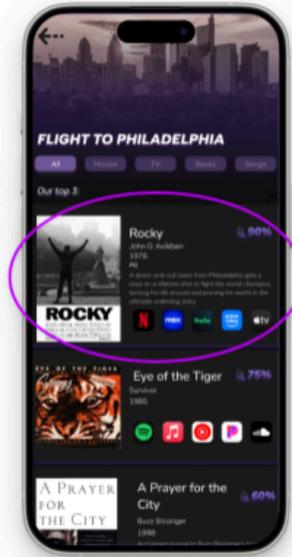
Simple Task: receive a recommendation



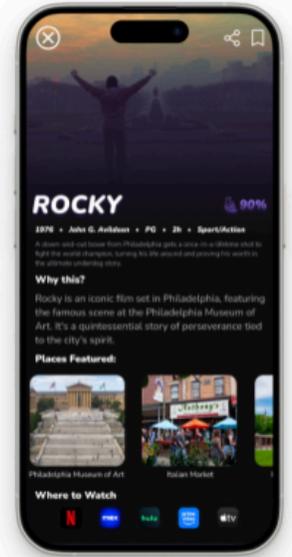
Tap calendar icon or swipe right



Select upcoming event/trip

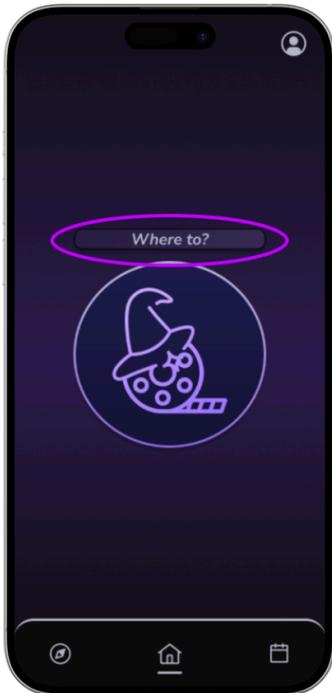


Pick from top three, or keep scrolling to find more



Enjoy! See the "Why?" and links to streaming services

Medium Task: searching for location/event, receiving recommendation:



Tap the search bar.

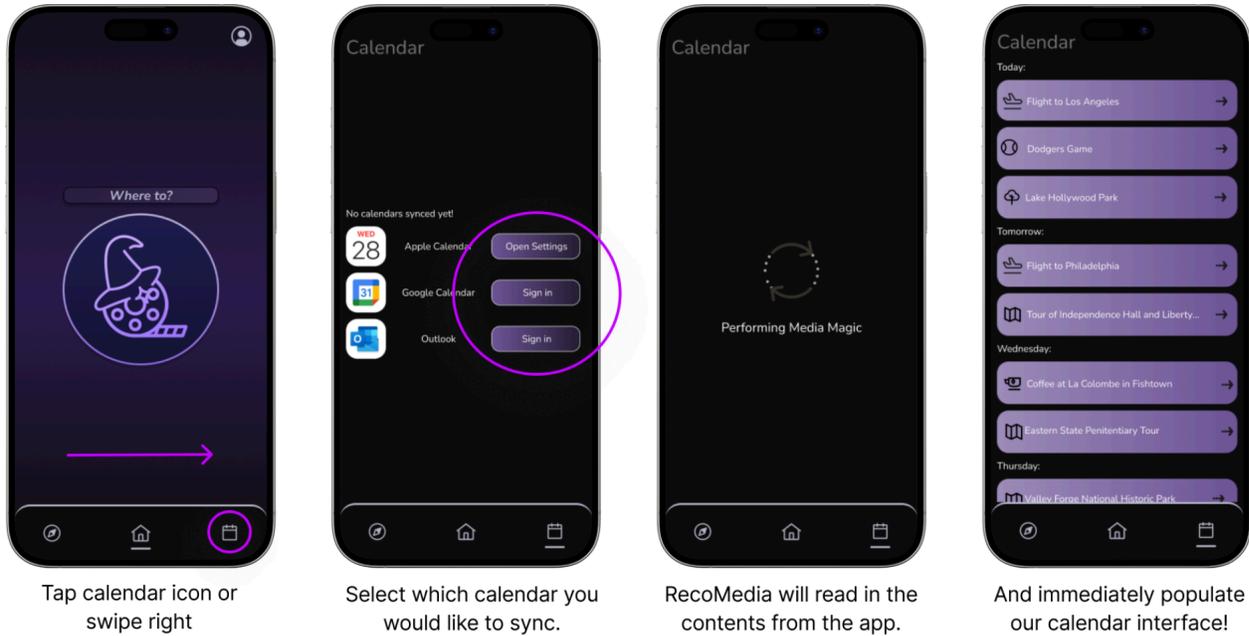


Enter in your place or event of interest.



Explore your recommendations!

Complex task: syncing your calendar



Heuristic Evaluations

Following the completion of our Medium-Fi prototype, we were heuristically evaluated on our project by a fellow team. Of those, we received 33 violations rated with severity 3 and 4, which could be categorized into three groupings: 7 were generic recommendations for fixes we had already planned but were out of the scope of our Med-Fi prototype, 16 were great recommendations that we strongly considered to incorporate, and 8 were solid recommendations that we communicated about and discussed necessity and feasibility. We will highlight those recommendations here.

Severity 4:

- 1) H3: Lack of working “X” button on OctoberFest Page
 - a) This would be fixed when coding but was a shortcoming with our Figma Med-Fi implementation
- 2) H7: Not working RecoMedia Magic button
 - a) This was definitely an issue we planned on fixing that just didn’t have implementation within the Med-Fi prototype, but our solution eventually was to remove the button altogether because it didn’t align well with our

planned goals and values, as well as making it less intuitive for users to search.

- 3) H10: Lack of communication of the purpose and vision of app
 - a) The recommendation was to provide users more assistance with the purpose of the app on the home screen, so we added a prompt in the search bar for the user to “Search for a location or an event.”
- 4) H2: What to put in the search bar, unclear what fields are acceptable
 - a) This was solved along with the violation detailed above.
- 5) H12: Build the profile
 - a) This was not in the scope of our Med-Fi but we implemented it in our High-Fi prototype with a working log-in and log-out feature, however we have yet to fully incorporate any settings or a save feature.
- 6) H12: Make the search button/feature more transparent and visible
 - a) Improved the search bar’s visibility and prominence.
- 7) H2: Calendar Functionality
 - a) We definitely understood that we needed to have this functionality in our app, so we developed the ability for our app to connect with the Apple Calendar and sync events from your device’s calendar onto the app for the user to get recommendations for.

Severity 3:

- 1) H3: Near Me page has a next button that is unintuitive, it’s like going back but going forward visually
 - a) We fixed the button by removing the button altogether and the user can navigate between the three primary screens either through the buttons in the tab on the bottom of the screen or through swiping.
- 2) H2: Explanation of how Top 3 is determined
 - a) They wanted an explanation of how the Top 3 is determined, and so instead of adding more text on the screen, we included a working relevancy meter on each of the top recommendations to show a high relevance score.
- 3) H10: RecoMedia Magic button not clickable till after search
 - a) Fixed by removing the button.
- 4) H7: Calendar viewing is difficult, especially if event you are searching for is far away in time

- a) We hoped to fix this but were unable to add the functionality of a calendar view in the scope of this project. We plan to implement this in the future.
- 5) H6: Need more clarity on calendar page as to what specific Monday, Tuesday, etc. that day is
 - a) Like the previous violation, this would be fixed with a grid-like calendar view.
- 6) H4: Unclear what the arrow next to the Bay Area means/does here.
 - a) Like one of the heuristic violations named prior, we fix this with swiping or using the bottom buttons.
- 7) H3: Calendar page doesn't have a back button, inconsistent with other pages. Every other page has a back button. It takes the option away to sync with a different calendar as well.
 - a) Utilized the swiping and footer tab buttons instead.
- 8) H2: It is unintuitive that the big round button means search. After typing in an event/destination, the users might look for a smaller symbol such as a search symbol near the text input area to search.
 - a) We created a more definitive search bar with a search bar magnifying glass logo to signal the user where to search easier.
- 9) H7: Can't load more options besides our "Top 3". Doesn't account for the scenario where I might want to see more than 3 options.
 - a) Wasn't fully implemented but currently we are able to provide the Top 3 as well as some more recommendations that may be slightly less relevant.
- 10) H1: When I am on the profiles page, the bottom navigation bar disappears. Hard to track where I am on the app, also keeps me from using shortcuts to jump from page to page.
 - a) Made the navigation bar present throughout the screens of the app for quick navigation and added a back button in our profiles page.
- 11) H4: It is inconsistent/confusing why the profiles button is not located in the navigation bar, even though everything else is.
 - a) We did not consider this to be a relevant or pertinent fix to be made. We considered it better for the profile button to be in the top right corner.
- 12) H5: Unclear how to unsync calendar after you choose one.

- a) We currently don't have the functionality for multiple calendars to sync, nor do we have the ability to unsync the calendar yet.
- 13) H11: The app lacks high contrast in the text, especially if users have visual impairments. The dark mode design with purple text might not be easily readable for all users.
 - a) We made the text slightly brighter to create higher contrast against the dark background.
- 14) H6: Absence of search history
 - a) We haven't yet, but would like to incorporate a search history in the future.
- 15) H6: No way to track if saved items were completed or not, people might forget if they have watched the movie, read the book etc.
 - a) We definitely hope to include this in the future, but weren't able to implement this in the scope of the quarter.
- 16) H11: Descriptions are hard to read, text sizes are really small, and makes the text look clunky.
 - a) We increased the size of the text on the recommendations page and the media detail page. We didn't think it looked that clunky and through our testing the size of the text was good.
- 17) H1: Navigation bar disappears
 - a) Has already been recommended and implemented in the High-Fi version.
- 18) H1: No indication of status of the system or where to go next after typing text into the search bar "Where To?".
 - a) We made the search functionality more apparent using text, logo, color, and size and added a loading screen as the app is searching for recommendations while providing the ability to cancel.
- 19) H3: In most screens, the "back" or [X] button is very close to the top/not enough margin from the top
 - a) Cosmetic issue that was fixed in the High-Fi prototype.
- 20) H5: Repetition in sign in/connect to calendar button. Users might click the wrong "sign in" button, since they look exactly the same but connect to different apps
 - a) We no longer have a connect calendar screen as it only works for Apple Calendar (and eventually Android Calendar) that prompts the user

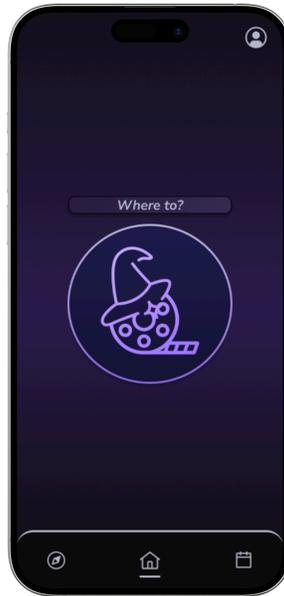
natively in the OS, so have “sign-in” only for logging in with the user’s account.

- 21) H9: No evident handling of error syncing calendar
 - a) We added error handling/explanation why the calendar failed to sync if the user declines to connect their calendar natively in the OS.
- 22) H11: Displaying audio media, such as songs or audiobooks, maybe inaccessible to those with hearing impairments
 - a) We considered this and will still decide whether to add audio media, as for now our app only provides movies and shows. However, we believe we can still provide audio-only media and allow the user to remove audio-only media in their profile settings.
- 23) H7: I don't really see any personalization for making frequent tasks more efficient
 - a) We believe this is out of the scope of our project and will consider that in the future.
- 24) H10: No documentation for main button
 - a) This was fixed by removing the main button, which was originally planned to be a random recommendation but we decided that didn't align with our values and goals for the app.
- 25) H12: No profile page
 - a) Was implemented in the High-Fi prototype.

Design Evolution Images

Home Screen Evolution:

Version 1:



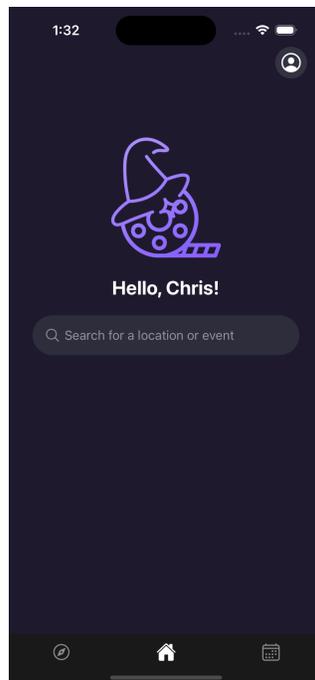
Version 2: Based on the heuristic feedback, we made some significant changes to our Home Screen in an effort to make RecoMedia's purpose more evident to our users and limit confusion surrounding navigation.



Improvements:

- Added description to search bar make it more clear what the search is for
- Added Recomedias tagline to reinforce our product mission
- Search icon offers visual queue for the bar's purpose
- Removed magic button
- Cleaner tab bar look

Final Version: From our second high fi version, we continued to simplify the home screen. We opted to remove the Recomedias name and tagline, replacing it with just the logo, to make it feel less cluttered.



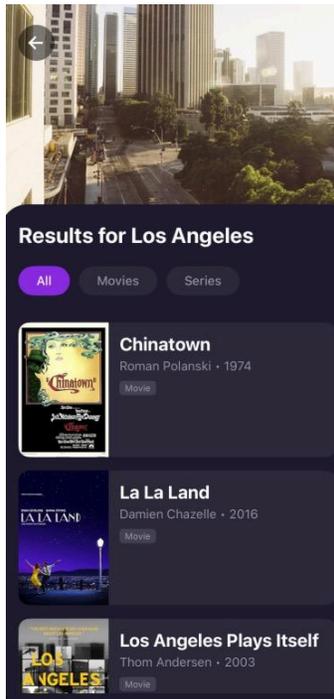
Improvements:

- Simplified layout with logo and fewer words
- Added, greeting to make app feel more personalized for user
- Moved search bar up so that it is not blocked by keyboard when typing

Location/Event Page Evolution: Med-Fi



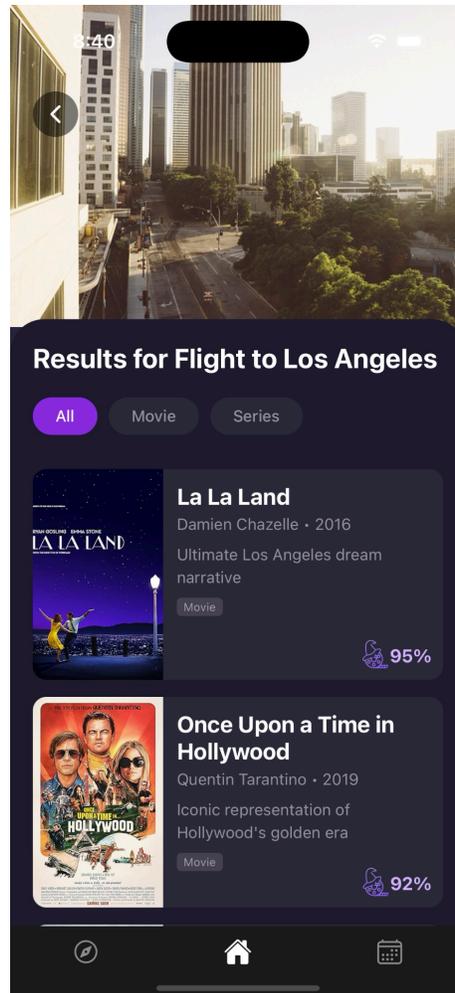
High-Fi Version 1: Based on feedback, we decided to remove the lengthy media description from the location page to not overwhelm the user. When a specific media is selected the resulting page will have the description.



Improvements:

- Fixed back button
- Simplified filter options for now, until our app supports additional forms of media
- Removed media descriptions
- Added media classification

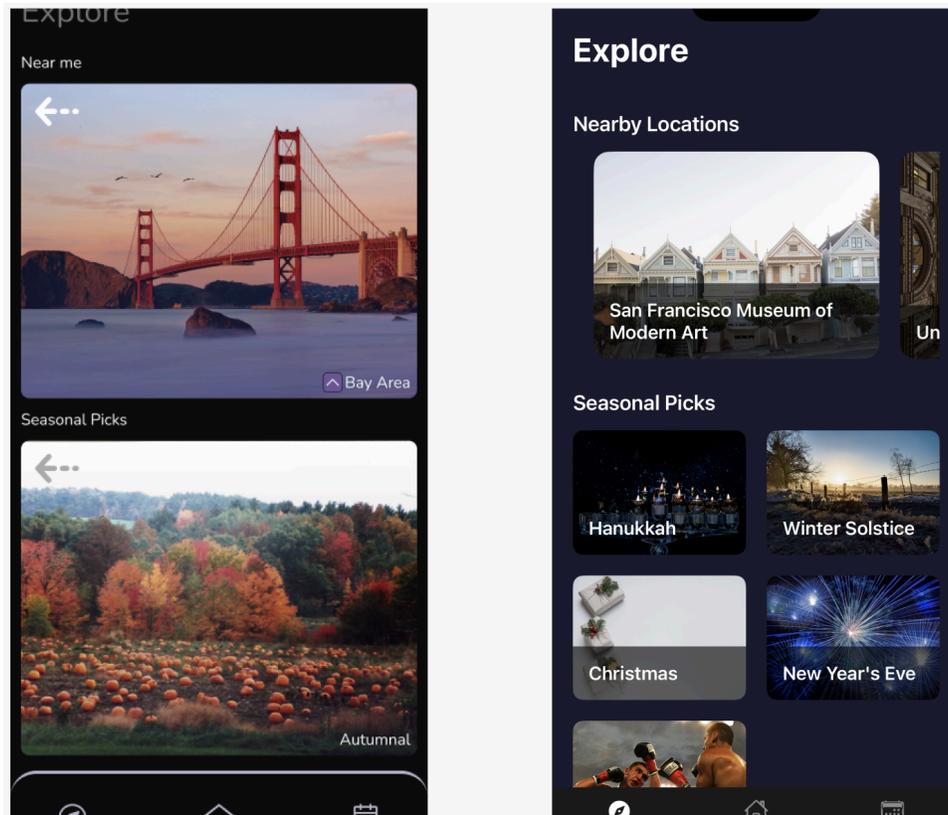
Final Version:



Improvements:

- Added brief (3 line) description to search result page explaining why it is a relevant pick for this location
- Added relevancy score to result page on each media piece
- Changed back button to remain consistent across the app

Explore Page Evolution



Improvements:

- Horizontal scrollview that features multiple locations nearby.
- Seasonal options that will change depending on the time of year
- Seasonal picks formatted in grid view to make overall layout more dynamic

Values in Design

Unifocal

We have one main focus, providing recommendations.

Why overcomplicate? Design around intuitiveness, make the recommendation process as simple as possible.

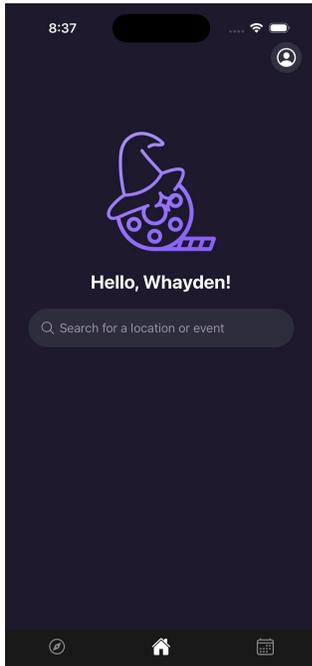
User-Centered

We are designing for the spontaneous and the improvisers. Our solution should reflect our users' need for quick, non-formal preparation.

Inclusivity

We recognize that there can be serious marginalization in media. We strive to remove as many potential biases that could occur in our recommendation process, not only to represent equally but to allow everyone to find something they love.

How these values are embedded in specific design features



Unifocal

We focused our home screen around doing one single task: getting a recommendation.

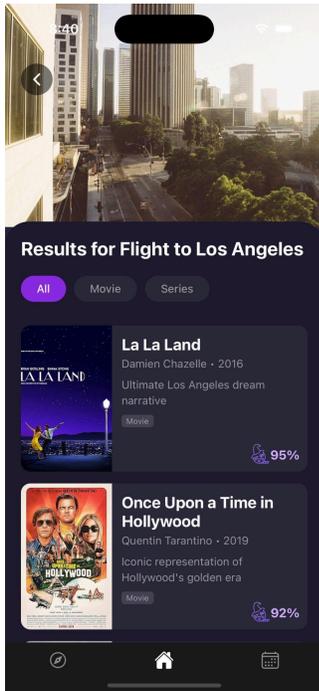
Instead of having to worry about any multitude of options, users can just type their location or event and are one tap away from relevant and enjoyable content.



User-Centricity

Enriching your experience should be fast and easy. We took this value to the design of the recommendation page, as well as the rest of RecoMedia.

We gave short descriptions of the media, and most importantly the “Why This?” section so a user has transparency as to why a piece of media is connected to a search query, keeping users easily informed. It also contains relevant places to the search, giving users the information they need on their travels.



Inclusivity

We designed our results page around the idea that everyone should be able to find something that speaks to them.

We implemented filters, a relevancy meter, and made sure to give as many recommendations as needed from a variety of media types.

We hope that by providing a wide range of media for every search request, that we can hopefully serve up media that speaks to as many people as possible.

Value Tensions:

Unifocal:

- **Simplicity vs. Depth:** In prioritizing a single focus, the app may limit options for users seeking broader functionality, like customization of recommendation settings.
- **Personal vs. AI:** The app makes recommendations based on AI-generated algorithms, which might overshadow some user control over their choices.

User-Centered

- **Speed vs. Customization:** A streamlined interface may limit deeper customization options, potentially sacrificing some flexibility to keep the app quick and easy to use.
- **Privacy vs. Personalization:** Balancing the use of calendar data for personalization while respecting users' data privacy.

Inclusivity

- **Personal vs. AI:** We have the safeguard of utilizing AI and its pre-filtering of content, however, there is no definite way yet to vet responses. Using AI could potentially provide inappropriate or not culturally relevant media.
- **Representation vs. oversimplification:** Avoiding stereotypes while still making content culturally relevant can be challenging, as certain cultural nuances may be lost in AI interpretation.

Final Prototype Implementation

Our final prototype faithfully adheres to the original design specifications, delivering a fully functional, production-ready experience without relying on placeholder or simulated elements (i.e., no Wizard of Oz techniques or hard-coded data). From end to end, the system dynamically processes user input, retrieves recommendations via AI-driven APIs, and serves real-time media content and events.

Tools Used; Pros and Cons

Frontend:

We built the frontend using React Native and TypeScript through Expo Go, allowing for a smooth development workflow, rapid iteration, and a robust type system that minimized runtime errors.

Pros: Rapid prototyping, excellent developer experience, and strong type safety.

Cons: Limited direct native module customization without ejecting from Expo and a frustrating navigation system.

Backend & Data Storage:

User authentication, search queries, and historical results were managed with Supabase, providing a straightforward, scalable database solution.

Pros: Easy integration, real-time capabilities, and built-in auth.

Cons: Requires careful schema design and a bit of learning with PostgreSQL.

Custom API Endpoints:

We leveraged Make.com (a low-code integration platform) to implement a custom endpoint, `getRecommendations`. This endpoint processes a user's search query via Anthropic's Claude, applies a carefully refined prompt to generate media recommendations, then retrieves matching posters and images from the OMDb API (for movies and series) and the Pexels API (for event and location visuals).

Pros: Rapid, code-light iteration; modular endpoint creation; free tier enabled extensive experimentation.

Cons: Limited low-level control compared to traditional backend frameworks and a long-term reliance on the platform in the future.

AI Assistance:

AI proved to be immensely helpful in all aspects of the development process. We leaned heavily on ChatGPT and Claude to help us with debugging, and found it very helpful in getting

started. Once we got our code to a position we felt customizing from, we went to work and were able to make things fly. Cursor with Claude enabled was also a huge help with debugging across files.

Pros: Significantly accelerated development, reduced boilerplate coding, offered quick solutions to complex frontend issues.

Cons: AI-driven debugging was limited for custom API logic since the model lacked direct implementation visibility.

Wizard of Oz Techniques Used

None. The final prototype operates entirely on live integrations and genuine API calls. When the application runs, users receive authentic recommendations and real-time data. All logic is fully implemented—there are no manual interventions, hidden scripts, or simulated responses.

Hard-Coded Techniques Used

We avoided hard-coding or pre-simulating content. Every piece of data (media titles, event imagery, geographical information) is fetched dynamically. While we initially intended to include recommendations for songs and books, we deferred this feature due to the lack of a suitable free API for their associated imagery. Extending the platform to these media types would be trivial: simply adding a few more instructions to the recommendation prompt and integrating a suitable image API would suffice.

Key Functional Features Achieved

User Authentication: End-to-end email-based login and secure credential storage using Supabase.

AI-Driven Recommendations: Real user queries feed into Claude for genuine, context-rich media suggestions.

Saved Searches and Results: Persistent data storage to support quick re-fetching and improved user experience.

Real-Time Location Data: The Explore page leverages the Google Places API to suggest relevant nearby activities.

Seasonal and Contextual Items: The AI tailors recommendations based on seasonal events, cultural calendars, and time of year.

Calendar Integration: With a single click, users can sync events directly from their system calendars, streamlining the process of discovering media for upcoming travels or events.

In sum, the final prototype stands as a fully functional, fully integrated solution that matches the initial vision—leveraging a combination of modern frameworks, low-code endpoints, and advanced AI models to deliver a robust, dynamic user experience.

Reflection and Next Steps

This class brought the four of us as teammates very close together. Collectively spending many hours putting our best effort into the same project made us a great team and even better friends. Learning how to work together in design, especially in this fast paced and highly involved class, was certainly one of the biggest takeaways we had as a group. Constructive feedback while brainstorming, designing, or implementing felt hard to give at first, but became easier throughout the quarter as we realized we all wanted what was best for the project.

Iteration was another large takeaway that we took away from this course. On several occasions we had to scrap ideas, designs, or features. It was challenging when an idea that you thought was going to be great had a flaw that you had overlooked or just became too difficult to bring into reality, but learning how to throw away or alter what we had made in order to make the next version even better was what brought our project to success in the end.

We have decided as a group that we would like to continue working on RecoMedia until it can be released on the App Store; we've done a lot of hard work and feel that getting it out into the wild as something real that we have made would be a fitting ending to the process.