Parisian Flea™
A Paris Flea Market Guide

M4 - THE PROTOTYPE

Prototyping Strategy
The Parisian Flea mobile app was designed using Google's Material Design Language and a prototyping method popularized by Greg Nudelman in his book called "*$1 Prototype A Modern Approach to Mobile UX Design and Rapid Innovation.*" The method uses a 3 x 5 sticky note pad as an artifice to sketch out the UI elements and task flow directly onto the pad. The pad happens to be just about the same size as a handheld device. The brilliance of this method offers the affordance of trying things out quickly, remove the parts that are not working, add overlays, experience transitions and get user feedback from just about anyone, anywhere. This method informs mobile design in a very rich interactive manner that is easy and accessible for anyone involved software development for mobile.

In the article "*Applying User-centered Design to Mobile Application Development,*" the use of paper prototypes proves to be beneficial over realistic UI prototypes for mobile application development (Nudelman, 2014). Greg Nudelman holds the same philosophy as well. "Paper prototypes are easy to fix: If you discover issues with the design, you can fix the interface right then and there, using an eraser and a pencil, or a new piece of paper. Alternative flows can be tested by drawing a new screen design in a few minutes and can be compared with an existing design almost immediately. This method helps move the design along quickly. It is helpful for more than one team member to be present while testing paper prototypes" (Nudelman, 2013 65). With paper prototypes getting end-user feedback before implementation is easy to do and changing things around throughout the design and testing process helps to work out the kinks in the design.

"Paper prototyping helped then to get end-user feedback before anything was implemented. It was easy to add and remove features—even halfway through a test. It is a method that every interaction designer uses when designing the first proposal of a new software application before writing the UI specifications" (Kangas 58).

Google's MDL is qualitative attempt at unifying the mobile experience explicitly for the Android market. The simplification of the interactions along with the symbolic design language is rapidly becoming a standard for mobile experience design. As late as 2005, Kangas & Kinnunen were advocates for universal design. "When the application is simple, and interaction is based on standard UI style components, a paper prototype test is a sufficient method for verifying usability before the actual implementation" (Kangas 58).

In cases for complex system design where there is no apparent design standard, the need for a UI prototype wins over the paper prototype. However for mobile design the universality of Google's Material Design is what makes paper prototype experiments extremely informative.

When universal design reaches an ambient state, the desired experience has been obtained. For the user, intuition has kicked in, and the experience has become enjoyable. The user knows what to do instinctively.

$1 Dollar Prototype
This methodology utilizes cheap materials for rapid prototyping to solicit feedback in just about any situation where there is a coffee shop, cafeteria or anywhere there are people and a few minutes to spare. This process is an iterative one that makes excellent use of storyboarding to visualize a concept on 3 x 3 stickies then switches to 3 x 5 stickies to represent the artifice of a mobile phone. The method also provides explicit direction on how to make use of Android design patterns in Google Material Design.

Storyboards and paper prototypes were created in a workshop taken on September 17, 2015, in Dallas. They represent the initial task flow of plan, browse and join tasks for Parisian Flea from the home screen of the app.

Description of Wireframe Interactions
The Parisian Flea is a boutique travel app for those who want to travel and shop the Paris Flea Market circuit. The clickable wireframes were built using Balsamiq Mockups.

Join
The user can browse markets and view market details without joining the app. When the user tries to add a favorite or add a market to the calendar, they will be prompted to join the app. It is then the user must create an account. The join screen includes input filed for the user's first and last name, username, password, email, tags and privacy toggle. After creating an account, the user can either browse first or plan first.

Join – Create Account
- Create account
- Fill out form
- Click join

Browse
Browsing first allows the user to look at all of the Paris Flea Markets in detail. There is a favorite icon that allows the user to designate a market as one of their favorites. This favorite feature also allows the user to add notes about the market. The user can also add the market to their calendar by creating an event. The schedule allows the user to see what markets and other points of interest they are planning for a given day as well.

Browse - Add Favorite
- Browse markets
- Choose Antica Market
- View details
- Add to favorite

- Add note to favorite

Browse - Add Event
- Browse markets
- Choose Antica Market
- View market details
- Add event to calendar
- Choose times
- Set reminder
- Add event
- View schedule
- Change times for Antica Market
- Choose Antica Market
- View market details

Plan

If the user chooses to plan first, they begin by choosing the dates for their trip followed by an overview of the markets that are being held during that week in a calendar view, list view or map view. The user can create shopping lists, add tags and filters so that the market selection is narrowed down based on their preferences. From there the markets can be added to the schedule.

Plan – Travel Dates
- Choose travel dates
- Show markets
    - Calendar view
    - List view
    - Map view
- View market details
- Add to calendar

Plan – Preferences
- Create shopping list
- Add tags
- Filter markets

Note: Wireframes for the plan task are not included in this report. They will be included in the final documentation.

Purchase

When the user makes a purchase at the market they can upload a photo of the item and enter the name of the item, name of the vendor, the price, add tags and notes. The photo icon clicks to the photo gallery within the app. The photo gallery houses images that were taken

with the app camera. When clicking the camera icon the user can select photos from the gallery or take a new photo. Once the details for the purchased item are entered the user may collapse the row by touching the item row.

Purchases - Add Purchase
- Choose Purchase from the main menu
- Add a purchase
- Add details
- Add tags
- Add photos
- Choose from gallery
- Add note
- Collapse row

Advanced Features
Due to time constraints the following advanced features will not be included in this iteration: Concierge, Socialize, and Memberships.

Reflection
I am a strong advocate for rapid mobile prototyping. I used sketchy paper prototypes initially to get a sense of direction for task flow and I tested the paper prototypes with real people while at a conference. After my user interviews, I organized and categorized details until I saw some patterns emerging. Information architecture informs interaction design as a rule of thumb. Interaction design begins with some key task flows that are going to be implemented in this iteration plus some wireframe. I continuously work on the task flows and the wireframes in tandem and have mimicked material design patterns as much as possible up until this point. I consider the paper prototypes, task flows and wireframes to be the essence of rapid prototyping and interaction design as a practice. The wireframes I created are now clickable prototypes for the 3-5 major tasks. I have started an HTML prototype as well. I am working with all three sets of artifacts now interchangeably. I would repeat this process and have been using this process for going on two years now.

Learnings
As with any prototype getting too detailed will get you into trouble. I learned after thinking through the tasks in Lucid Chart I was able to simplify the actions and interconnect them when needed. The most challenging thing for me was staying focused on a touch interface and constantly reminding myself that 70% of the mobile market is for Android users. Google's Material Design Language has been a great way for me to stay focused. The move toward universal design using MDL is already surfacing in many spin-offs. The thing that I keep learning each time I do this is that rapid prototyping should never be skipped. It should become part of practice. There is so much that can be resolved through rapid prototyping and testing before implementation. It is such a time saver not to have to wrangle so much code when if the design has not been vetted.

REFERENCES

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