

# Usher: Efficient (re)Discovery

## Medium-fi Prototype

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## Links to our Prototype and Readme

Both our medium-fi **prototype** and accompanying **readme** can be temporarily accessed here:

<http://stanford.edu/~akhaliq/>

## Problem and Solution Overview

Although our focus has shifted, we have very much retained our first problem as inspiration. Initially, we realized that we are constantly being recommended things to do and explore, but existing methods of recording that information are not suited to actually going out in the real-world and doing those things. As a result, we can't take advantage of the limited time in our schedules to do the things we've always wanted to do. To solve this problem, we invented a platform where people could easily input these things into our application and be recommended things at the right time and place.

However, we realized that building a recommendation engine is a difficult task because many more factors than just time and place affect our willingness to engage in an activity. For example, you may have always wanted to read *Pride and Prejudice* but when the applications recommends it, you're just not in the mood. As a result, we pivoted and decided to focus on an area where you always desire to explore new things: **travel**.

When you are traveling, you are immersed in a new environment full of things you want to see, touch, smell... From our interviews, we realized that it is difficult to find a balance between planned activities and spontaneity. You want to see the Eiffel tower and the Louvre, and the rest should be up in the air. Very much like our initial solution, we have created a recommendation engine that takes the broad list of things you want to do and recommends the next thing to do as you explore. Pick up your phone in the morning, and let our application guide you through your day. As we stated before, we realize travelers want the right balance of must-do's and spontaneous activities. As a result, we ask users to choose a small number of things they want to do that day - at all costs - and we take that into account when we recommend things as the day goes by.

## Representative Tasks

### **Task 1: Recording the Information (moderate complexity)**

When you are at home planning a trip and you find things you want to do or if someone recommends something directly, then you input those into the application. This input action should be quick, fluid and painless - and that is why we've implemented this right from the Home page.

This task has evolved since our last iteration, simply as a result of our greater focus. Previously, our input page was a quick way of jotting down desired activities. These activities had to later be detailed in order for the recommendation engine to function. In the current task, users are able to quickly jot down an activity. They will then be shown a list of entries that satisfy the query, and will be prompted to choose an entry. These entries will be pulled directly from a popular travel application called TripAdvisor. This accounts for why this task has evolved from a simple to moderately complex one. As a result of greater focus, this task can now bypass the need to “detail” the inputs because the range of activities has been decreased and there are now less time-frame and social considerations to take into account.

### **Task 2: Organizing and Viewing Data (simple complexity)**

In this section entitled “My List,” users are able to look through their list of preferred activities. Each entry is interactive: when clicked, you are rerouted to a page with greater informative detail and the option to set the entry as your current activity.

In our previous interface, users could select filters to sift through their inputs. However, we found that a search bar is a much more efficient and seamless way to go through a list. This change was made possible thanks to greater activity detail offered by TripAdvisor entries, including tags.

### **Task 3: Interacting with App Recommendations (complex complexity)**

As stated before, we have tried to mirror traveler mentality and preferences. By being a traveler’s day-to-day guide, we ask you to first tell us what activities you want to do that day. Having this initial anchor is important, we feel. After completing a first activity, we then recommend something to do based on (1) the activities you wanted to do at the beginning of the day, (2) activities that are close to you, (3) activities that accommodate the completion of all your initially preferred tasks by time required and (4) activities that travelers with similar lists also want to do.

By focusing our application, we eliminated the uncertainty that users would simply ignore our recommendation. A broad application made our recommendations less adapted to a person’s immediate preferences, but in a travel setting, people are in an exploring mood. As a result, we believe our recommendations will be more in tune with a traveler’s desires.

We have also maintained a secondary recommendations engine that runs in the background and recommends the top choice by location and time. Unlike our previous implementation, we are now making this an option that can be turned on and off. This is because we truly believe that travelers want to have control over their future actions, and therefore being able to choose from a recommended list is more appropriate.

# Revised Interface Design

## *Overall Structure*

With greater focus into travel came the need to restructure the way users perform tasks. As a result, we have created a *Home Screen* from which all interaction starts. Because we are now a traveler's day guide, we are now keeping track of a user's current activity. This current activity is integral to determining what a user will want to do next and therefore vital to our recommendation engine. Hence, the Home screen is dynamic and shows changes in current activity.

Our motivation behind this change came primarily from our low-fi testing. After a user chose an activity in our first prototype, there would be no feedback and confirmation that this action occurred. Now, once a user chooses an activity they are rerouted to the Home Screen where this action is made clear. Because we are a traveller's day guide, this also acts as a reminder to the user where the application thinks you are.

## *Interaction*

Through our low-fi prototype, we discovered that our swiping mechanism was unsuccessful for two reasons: swiping functions were different for different pages and swiping was difficult for users who had not used similar interfaces. The result was unintuitive and required learning. As a result, we have regressed and decided to use features with clear mappings such as buttons and scroll bars. These give the user greater guidance.

Furthermore, we have also decided to discard filters and instead use a search bar. This was made possible because TripAdvisor entries have more information that can help us identify what a search query wants. The result is a greatly simplified interface. This search bar occurs across the Home Screen (as an add function for new entries) and in My List (as a search function through existing entries).

## *Content*

From our feedback, we realized that the way people make decisions is very complex. The example of Tinder is an edge-case, where people judge each other purely on physical looks. However, when a traveller chooses an activity to do next there are many more factors that play a role: current mood, must-do's of the day, distance, price etc. Hence, we decided that our interface should display more information about each entry because a user's decision process is complex.

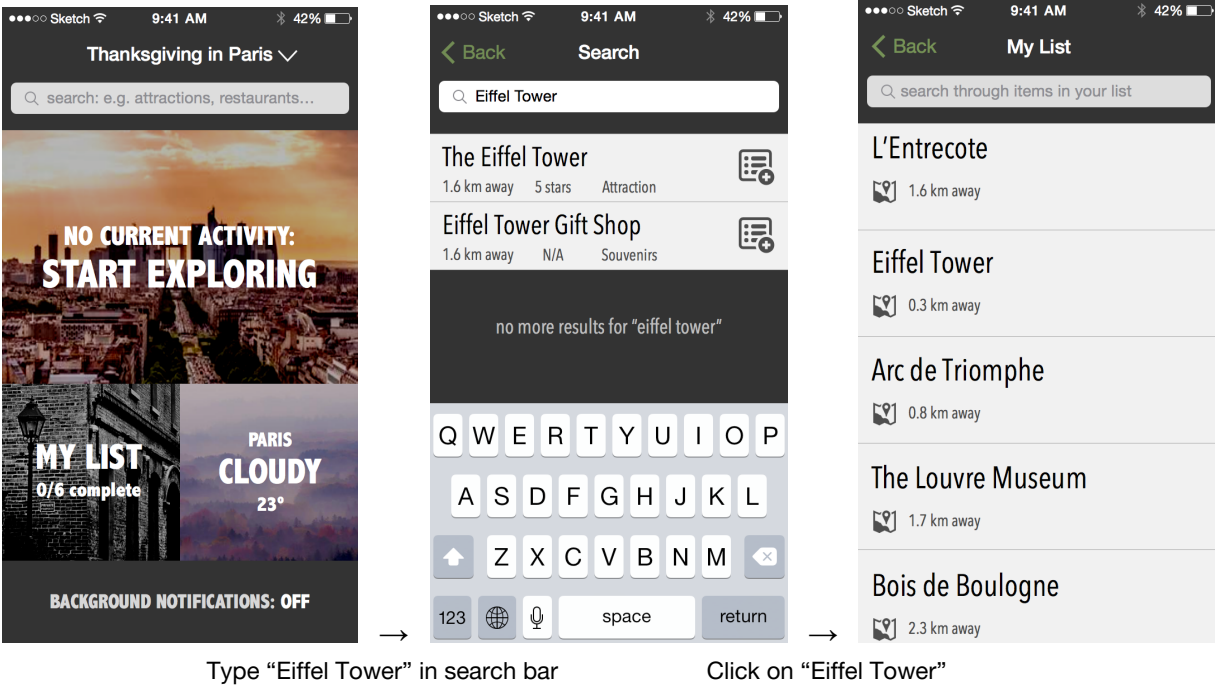
We have also evolved our recommendation engine to take into account outside recommendations. If two users share highly similar lists (their entries have similar tags, for



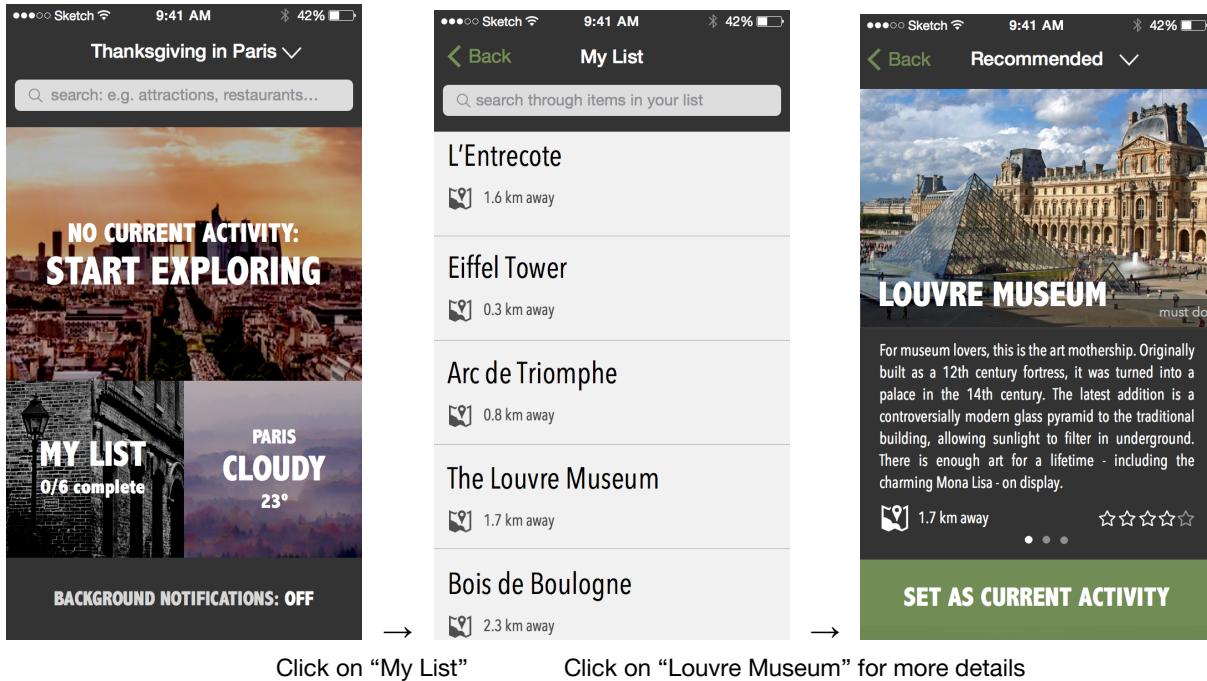
example), then we will use entries from one person's list and transfer it to another traveller's recommendations for a new activity to do. Although this function works mostly in the background, we want the user to know where the activity recommendations comes from, and so we have developed a small interface cue for that (located in bottom right of the recommendation picture).

## Scenario Storyboards

Found something you wanna do in a trip to Paris? Add an Activity.

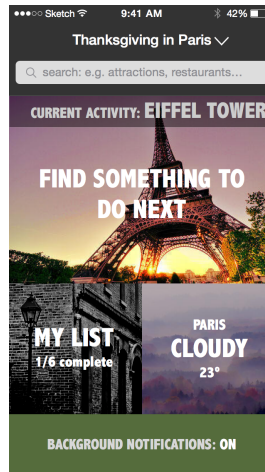


Wanna update your list? Stare and dream? Organize and view activities.

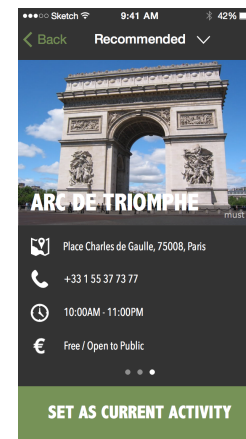
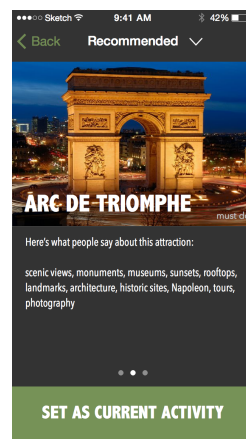
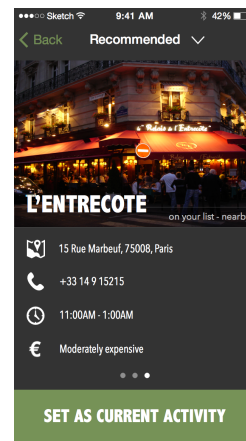
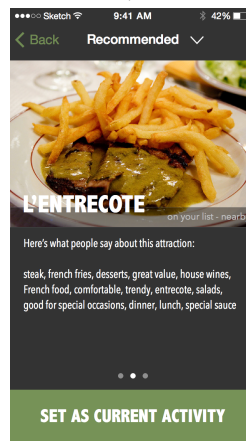


Don't know what to do? Need a little help choosing? Choose the next activity.

←→: Swipe left/right, ↑↓: Swipe up/down



“Find something to do next”



More Activities

# Prototype Overview

## *Tools Used*

### *Sketch*

Sketch is a mockup tool that allows easy repositioning and placement of UI elements to quickly prototype design ideas and interactions. Sketch is generally quite easy to use as it features “snap to grid” placements of symbols and elements allowing fast and efficient placement of UI objects. However, it can be occasionally buggy and automatically groups together similar items and symbols which makes minute edits somewhat cumbersome to do. Broadly, however, it was an easy and efficient tool to use.

### *InVision*

Having made screen shots using Sketch, we used InVision to create interactivity within screens and between screens. This tool was, in general, easy to use even for the untrained. It only took us about half an hour to get acquainted with the tool after browsing some tutorials. The tool was good for creating action paths, for highlighting actionable materials only in certain parts of screens, and for organizing representative tasks into sections. A particularly useful process was being able to change the screen shot for a particular event, but still retain the same interactive actions from the previously removed screen (given the file was named the same thing and had the same dimensions). This allowed us to repeatedly iterate on our interface design while simulating action paths. Overall, the tool did its job.

However, it was limited in certain ways. For example, it was hard to collaborate on the document. Although you could share the project, being active at the same time sometimes led to bizarre actions.

## *Limitations of Current Prototype*

1. **Interaction Limitations:** using InVision, one page could not have more than one swiping motion. This meant that we had to use temporary interactive methods to make each page function. For example, in the current prototype’s Recommendations, you go through numerous recommendations by scrolling. However, in our final prototype we wish to have a quick swipe motion to cycle through these.
2. **Limited Dataset:** we have not yet implemented a scraper for TripAdvisor entries and so our hard-coded dataset is of 6 entries.
3. **Limited Paths:** even with a limited dataset of 6 entries, there are a number of action permutations. A user can go down any path, and setting those all up in Invision is impossible. As a result, we will need to instruct users to go down specific paths.
4. **Features Under Construction:** our vision for a complete application has several features. However, given constraints of the prototyping tool, some of these features

remain under construction. For example, automatic app recommendations, weather feature, adding and searching are all under construction.

### *Hard-coded Features*

We have not yet implemented a scraper for TripAdvisor entries, and so for the medium-fi prototype we created 6 entries and manually filled out the content. These 6 entries are used in My List and in the Recommendations.

# Appendix

## Prototype Screenshots

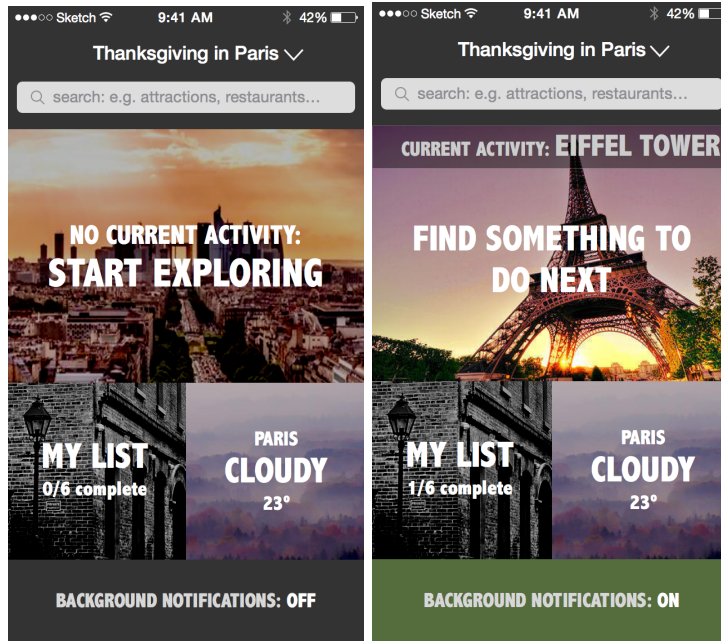


Figure 1. Homepage, a) with no current activity selected, b) with current activity selected.

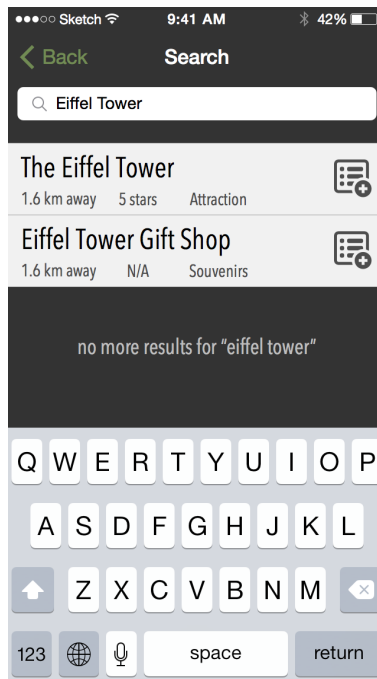


Figure 2. Add/search activity page.

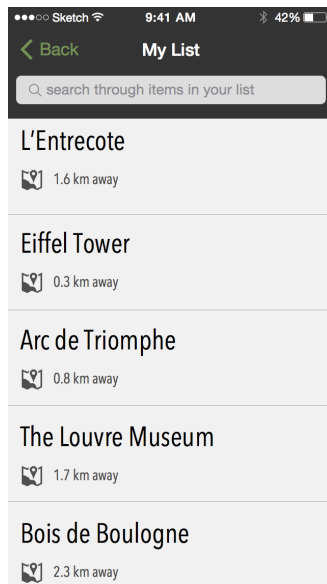


Figure 3. "My List" page.

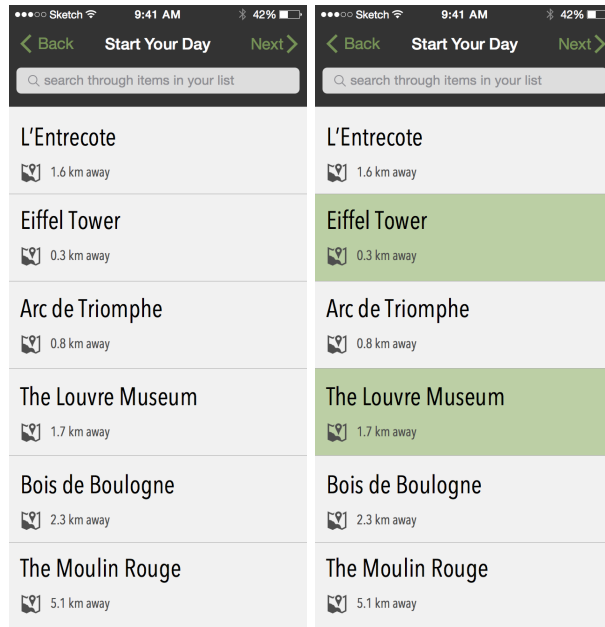


Figure 4. "Start your day" page.



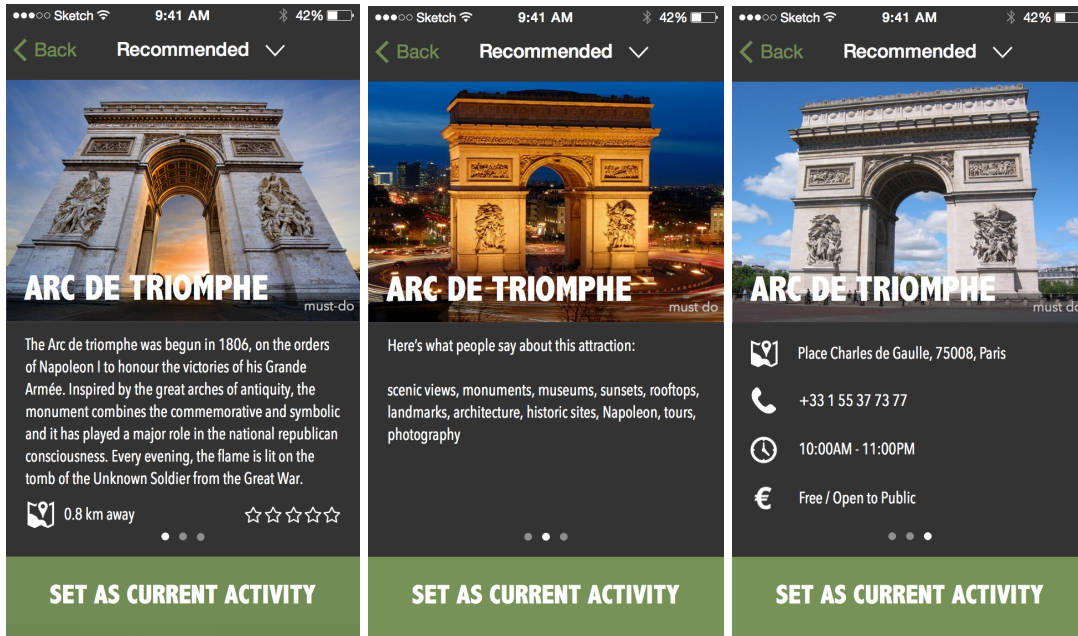


Figure 5a. Recommendation page for Arc de Triomphe.

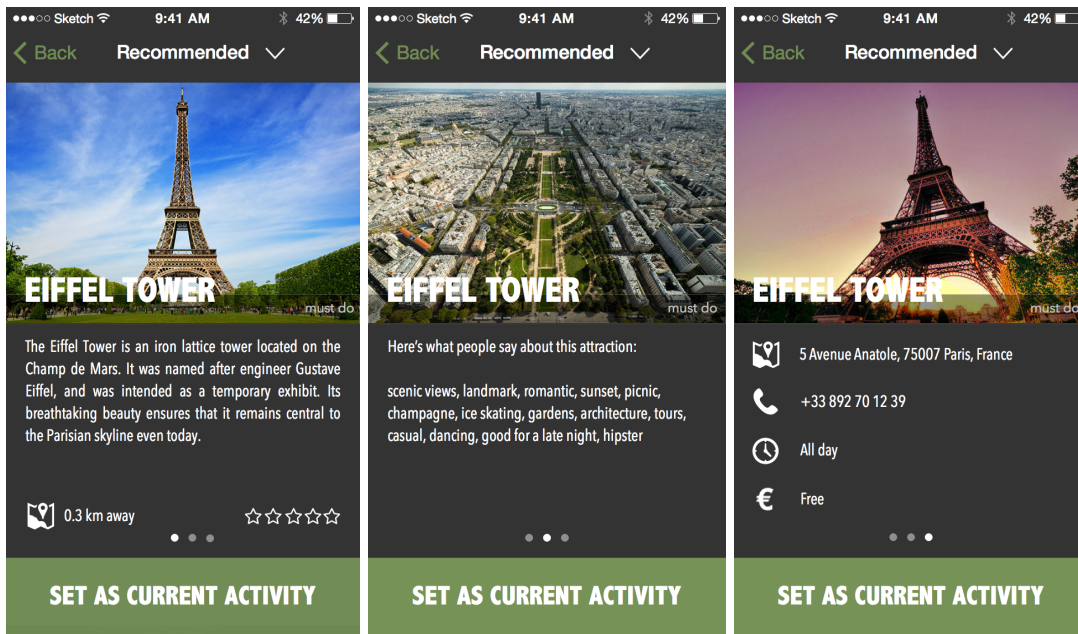


Figure 5b. Recommendation page for Eiffel Tower.



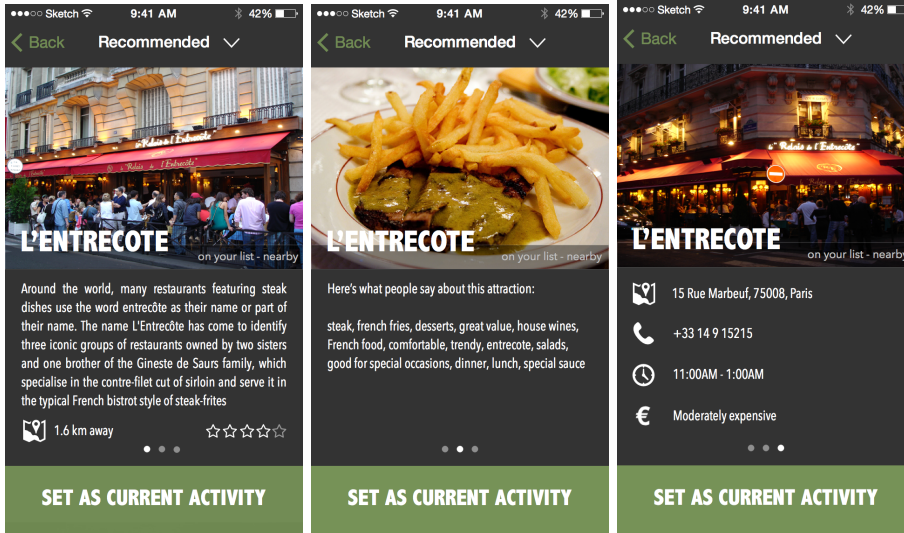


Figure 5c. Recommendation page for L'Entrecote.

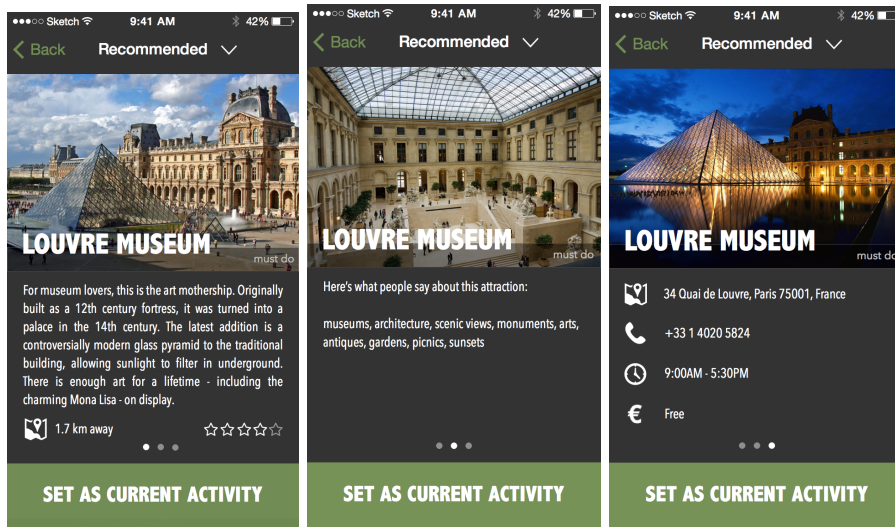


Figure 5d. Recommendation page for Louvre Museum.

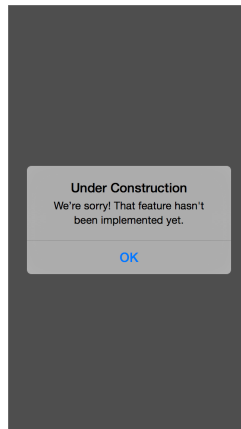


Figure 6. Under construction page.

## *Hard-coded Data*

### **6 Activities in Paris**

#### **- Le Relais de l'Entrecote**

- First Page
  - Short description: Around the world, many restaurants featuring steak dishes use the word entrecôte as their name or part of their name. In particular, the name L'Entrecôte has come to identify three iconic groups of restaurants owned by two sisters and one brother of the Gineste de Saur family, which specialise in the contre-filet cut of sirloin and serve it in the typical French bistrot style of steak-frites, or steak-and-chips
  - Distance: 1.6 km
  - Review stars: 9.1/10
- Second Page
  - Tags: steak, french fries, desserts, great value, house wines, French food, comfortable, trendy, entrecote, salads, good for special occasions, dinner, lunch, special sauce
- Third Page
  - Address: 15 rue Marbeuf, 75008 Paris, France
  - Telephone Number: +33 1 49 52 07 17
  - Hours: 11:00AM - 1:00AM
  - Price: ¾

#### **- Eiffel Tower**

- First Page
  - Description: The Eiffel Tower is an iron lattice tower located on the Champ de Mars in Paris. It was named after the engineer Gustave Eiffel, whose company designed and built the tower.
  - Distance: 0.3km
  - Review Stars: 10/10
- Second Page
  - Tags: scenic views, landmarks, romantic, sunsets, picnics, champagne, monuments, crepes, ice skating, gardens, architecture, tours, casual, dancing, good for a late night, stylish, tourism
- Third page
  - Address: 5 avenue Anatole France (Parc du Champ de Mars), 75007 Paris, France
  - Telephone: +33 892 70 12 39
  - Hours: All day
  - Price: N/A

#### **- Arc de Triomphe**

- First Page

- Description: The Arc de triomphe was begun in 1806, on the orders of Napoleon I to honour the victories of his Grande Armée. Inspired by the great arches of antiquity, the monument combines the commemorative with the symbolic and it has always played a major role in the national republican consciousness. Every evening, the flame is lit on the tomb of the Unknown Soldier from the Great War.
- Distance: 0.8km
- Review: 9.5/10
- Second Page
  - Tags: scenic views, monuments, museums, sunsets, rooftops, landmarks, architecture, historic sites, Napoleon, tours, photography
- Third page
  - Address: Place Charles de Gaulle, 75008 Paris, France
  - Telephone: +33 1 55 37 73 77
  - Hours: 10:00AM - 11:00PM
  - Price: N/A
- **Louvre Museum**
  - First Page
    - Description: For museum lovers, this is the art mothership. Originally built as a 12th century fortress, it was turned into a royal palace in the 14th century. The latest addition is architect I.M. Pei's glass pyramid, a controversially modern update to the oh-so-traditional building that allows sunlight to filter to the underground lobby. There is enough art for a lifetime on display here; three wings and about 35,000 pieces, to be exact. Look for the crowds of visitors to steal a glimpse at a much-smaller-in-real-life Mona Lisa hiding behind them.
    - Distance: 1.7 km
    - Review: 9.5 / 10
  - Second Page
    - Tags: museums, architecture, scenic views, monuments, arts, antiques, gardens, exhibits, picnics, sunsets
  - Third page
    - Address: 34 Quai du Louvre, Paris 75001 France
    - Telephone: +33 1 4020 5824
    - Hours: 9am-5:30pm
    - Price:
- **Bois de Boulogne**
  - First page
    - Description: This huge park on the western side of the city is filled with interesting activities and restaurants.
    - Distance: 2.3 km
    - Reviews: 7.9/10

- Second page
  - Tags: park, trees, boats, games, joggers, picnics, dogs, nature, weather, huge, peaceful
- Third page
  - Address: Allée de la Reine Marguerite, 75016 Paris, France
  - Telephone: N/A
  - Hours: N/A
  - Price: N/A
- **Basilique du Sacre-Coeur**
  - First Page
    - Sacre-Coeur Basilica is a Roman Catholic church in Paris, France. It is located at the peak of Montmartre, the highest point in Paris. The basilica is one of Paris' most iconic images, with its stark white silhouette visible from many points in the city. The entire building is constructed of travertine, a type of stone that produces calcite, a mineral that gives the church its pure white color. A beautiful mosaic and artfully constructed crypts are of particular interest within the church. Services are held regularly in the church, and tourists are expected to dress and behave appropriately at all times.
    - Distance: 2.5 km
    - Review Stars: 8.7 / 10
  - Second Page
    - Tags: view of paris, scammers, picnics, quiet, tourism, church
  - Third Page
    - Address: Rue du Chevalier-de-la-Barre 35, Paris 75018 France
    - Telephone: +33 1 5341 8900
    - Hours: 7AM - 10:15PM
    - Price: N/A