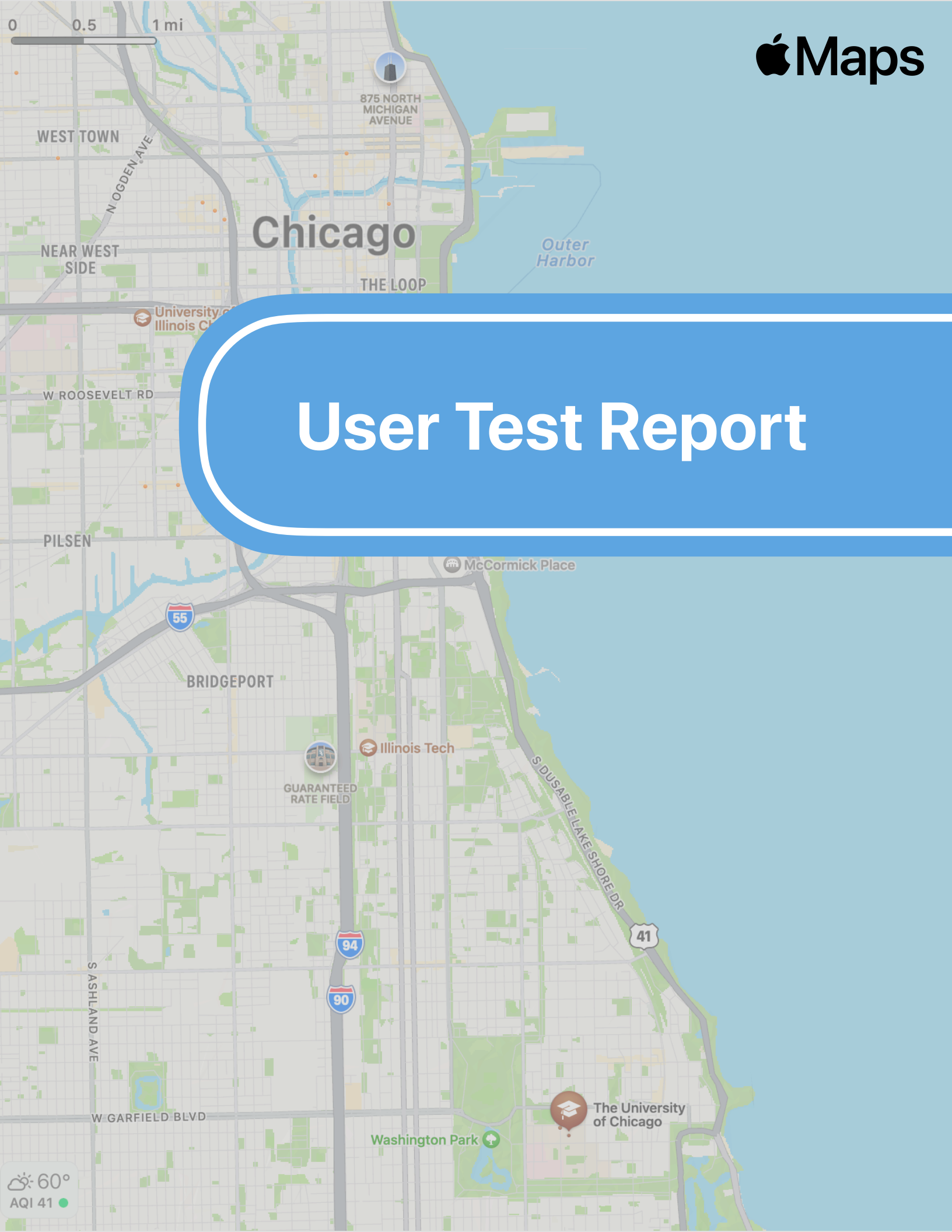


# User Test Report



# Introduction

The aim of the redesign is to enhance the user experience of the Apple Maps app. To achieve this goal, we have selected four key tasks for a usability test, with the objective of improving the app's usability and making it more user-friendly.

The initial prototype tested by users can be viewed [HERE](#).

## Methodology

The usability tests are conducted in-person and recorded. Both the users and screen are recorded during the test for the ease of the analysis. The tests are unmoderated since the tasks are relatively intuitive and easy to understand. However, the users are given a brief explanation before and interviewed after the completion of each task .

## Participant Selection

The participants for this usability test have been selected based on specific criteria to ensure a comprehensive evaluation of the redesigned apple maps application. The following factors are considered during the participant selection process.

1. Frequent commuters - Given that students and employees often have busy schedules and frequently commute between various locations such as campus, libraries, social activities, workplaces etc they are more likely to rely on map applications. Hence, by selecting students and employees we aim to capture insights from individuals who use map applications frequently.
2. Apple maps users - Participants who have previously used Apple maps were included in the usability test since their familiarity with the application allows us to understand the impact of the redesign.
3. Non-apple maps users - Participants who have not used Apple maps previously were also included in the usability test in order to gather a diverse range of perspectives and identify any potential barriers for new users.

## Tasks

1. Identify and click Apple Maps' icon
2. Edit search and add location to "Favorites"
  - Search a location ("University of Chicago" in our test), then edit the search keywords
  - add UChicago to "Favorites" in the Location Detail Tab.
3. Utilize screen on screen functionality

- Tap the blue drive button at location detail tab to start navigation;
  - Answer incoming phone call to launch screen on screen view;
  - End the call to reach home screen
  - Tap minimized window to resume navigation in Apple Maps
4. Access offline service
- Read offline alert and allow downloads
  - Locate and navigate to a gas station (Shell in our test)

## Key Findings

### Strengths of Design

In general, participants showed a positive attitude towards the redesigned Apple Maps. They expressed positive feedback on both the redesigned items and the additional product features. Through our testing, the redesigned Apple Maps majorly demonstrated improvements in providing accessibility, enhancing user efficiency and expanding the usage scenarios.

**Redesigned logo provides better findability and accessibility.** The logo was simplified by reducing excessive color blocks and elements while retaining the major “Intersection” and “Arrow” elements. Additionally, we enhanced the contrast through retaining more white space along the edges. Color-blindness was also taken into consideration for better user accessibility when adjusting the color palette. Of the three participants, one participant spent much less time locating the redesigned logo and reported that the logo made the process easier due to simpler colors and simpler shape.

**Unified search bar position and retained search bar on location detail tab improves consistency and efficiency.** The search bar was consistently positioned at the top of both the entry view and the location detail tabs, providing users a more consistent and intuitive entry point, and eliminating the extra steps of closing a tab in order to launch a new search. All three participants shortened the time to conduct search and to relaunch search by at least 30%.

**Easy-to-find location “Favorites” button reduces user workload and increases efficiency.** The original “Add to Favorites” button was embedded within a second layer menu. A new “star” button was added to the outer interface, reducing the number of taps required by users and an interactive color change was implemented for enhanced visibility of the status. Of all three participants, they all reported that the “Favorites” button was straightforward and prominently located. Meanwhile, the choice of a universal “star” symbol

and the change of color once tapped were both intuitive. The “Favorites” button got 10 out of 10 for the user-friendliness score by all participants.

**Additional screen-on-screen functionality enables multitasking.** To fulfill the need for multitasking during navigation, a minimized navigation interface was added to ensure users do not miss important traffic route indications while processing other tasks. Meanwhile, users can easily switch between minimized window and full screen view. One participant reported the functionality as a “genius feature” and two of them found the minimized window to be very helpful in providing route information without interrupting other tasks.

**Additional offline maps feature extends usage scenarios and reliability.** By assessing the network signal at the user's expected destination or current location, users are provided with alerts in advance when entering low signal areas, along with options to cache emergency service locations and data. This new feature ensures uninterrupted map functionality in offline scenarios. All three participants agreed that the offline feature would be very useful and having essential services information stored offline would be great. One participant reported that the additional feature was a lot better since it filled the gap that current Apple Maps can't navigate at all in offline scenarios.

## Opportunities for Improvement

1. Due to differences in the low fidelity click-through style of the wire frame and the type-to-search functionality of the app, some of the timed results do not qualify as accurate comparisons.
2. The “Favorites” term, while recognizable as a graphic icon, lacks the semantic specificity that would enable the taxonomy to be useful for goal-oriented-recall of the item that had been favorited.
3. Screen-on-screen display should be dynamically related to the user's competing goal.
4. Screen-on-screen raises safety concerns for driving.
5. Automation of the Offline Access cache can minimize user error.
6. A detailed explanation of how an offline access cache would work and what information would be available from a cached Offline Access Route is needed to understand the feature.

## Recommendations for improvement

While the usability test provided validation that the time to find the new app logo was shorter than the time taken to scan the homescreen for the old app logo, potential flaws in the test indicate that a higher fidelity test that includes a randomized placement of the apps within a field of other apps could provide better validation for the designs improved findability.

### **1. Add subcategories to “Favorite” option**

Upon clicking the favorite button, present a popup menu that includes subfolder selection. Without a study on the subfolder taxonomy that users would prefer, our recommendation is to allow users to title their own subfolders. For a reference on implementation see the industry standard interface for adding bookmarks in the browser through selecting a category from a dropdown menu in a popup window or creating a new subfolder.

### **2. Redesign the Screen-On-Screen interface to provide different behaviors for each of the following scenarios: telephone functions(calling), app switching, messaging.**

For telephone functions add the telephone button menu as a banner across the top in a similar position to the placement of the buttons for accepting the call. This should leave the map in full-screen mode

For the app switching context, add a button to toggle between map and listed direction view. Due to the minimized window size, the toggle should limit the number of displayed directions to the single next step keeping the font size at the same size as the text display in full screen.

\*Additional study is needed to address the special case of receiving/replying to text messages due to its unique public safety risk. Specifically, a redesign of the texting interface should be guided by the answers to the question, does making texting on the map easier encourage new instances of texting and driving to occur, or, does streamlining the interface cut down on the amount of distracted time during the same frequency of incidents that happens now. For the time being, consider messages as part of the app switching context under the assumption that it is a passenger responding to an incoming text, not the driver.

### **3. Add automatic enabling of offline access downloads**

In maps settings, add toggles with explanations for automatic downloading of the offline cache routes from the destination to origin and from the last registered location. This should include allowing the user to set the size of the cache.

### **4. Add option to save offline cache permanently**

Add an option to save offline cache to favorited destinations so the user does not have to use data to redownload frequently visited routes. This should only be necessary if the user wants to save more routes than are normally downloaded in the cache or if they can save on the amount of cellular data services they use.

### **5. Better segmentation of the display of offline directions “from listed destination” and “from last known location”**

Change grouping on the search display for offline access to better segment the route options and create a badge to let users know when they are on offline access cache.

### **6. Adjust the offline Alert position**

Change the alert position to be above or below the user 's current location such that it does not interfere in the users immediate navigational needs. For a static position option consider a top banner position in the same place as the incoming call banner.