



Analyse **Google Maps** from the lens of the usability heuristics of interface design

Learn In Public Challenge : 4/5

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OVERVIEW

About

Google Maps is a web mapping platform and consumer application offered by Google. It offers satellite imagery, aerial photography, street maps, 360° interactive panoramic views of streets, real-time traffic conditions, and route planning for traveling by foot, car, bike, air (in beta) and public transportation.

Business Model

- Local ads that businesses post in order to attract customers .
- Custom maps are generated using APIs that businesses can use for a variety of reasons.

Value Propositions

- Accurate Navigation
- Real-Time Traffic Updates
- Local Business Information
- Offline Maps
- Integrated with Google Services
- Customizable Features
- Explore Nearby attractions

Competitions



WAZE



Apple Maps



HERE WeGo

OVERVIEW

Statistics

220 countries and territories

10 B+ Downloads
4.2 ★ Rating
17 M Reviews

API is used by over 2 M websites

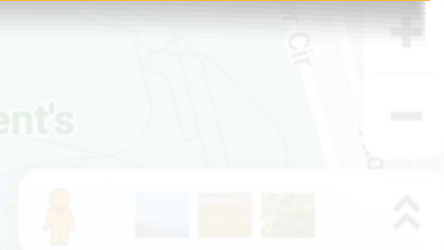
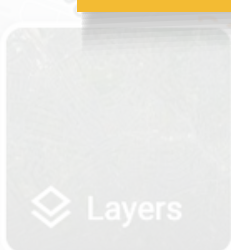
Mapped over 10 M miles of street view imagery

67% of users choose google maps as navigator app

Local Guides community has 150 M contributors

Contains 1 B km of roads

1 B MAU



USABILITY HEURISTICS FOR USER INTERFACE DESIGN

Jakob Nielsen's 10 general principles for interaction design, known as heuristics, are broad guidelines that provide a framework for creating intuitive and user-friendly interfaces. These heuristics serve as fundamental rules of thumb, focusing on usability aspects such as visibility, feedback, error prevention, and user control, helping designers create digital experiences that are efficient, effective, and satisfying for users.

**Visibility of
System Status**

1

**Match
Between the
System and
the Real World**

2

**User Control
and Freedom**

3

**Consistency and
Standards**

4

Error Prevention

5

**Recognition
Rather than
Recall**

6

**Flexibility and
Efficiency of
Use**

7

**Aesthetic and
Minimalist
Design**

8

**Help Users
Recognize,
Diagnose, and
Recover from
Errors**

9

**Help and
Documentation**

10

USABILITY HEURISTICS : 1/10

Visibility of System Status

The design should always keep users informed about what is going on, through appropriate feedback within a reasonable amount of time.

Pros

Real-time updates: It provides real-time updates on traffic conditions, route changes, and estimated arrival times, keeping users informed about the current system status.

Clear Indicators: Uses visual cues such as color-coded traffic overlays and route highlights to indicate system status, making it easy for users to understand and respond accordingly.

Feedback mechanisms: Offers Feedback mechanisms such as audio alerts and notifications enhance user awareness and interaction, ensuring a seamless navigation experience.

Cons

Information Overload: In busy areas with multiple overlays and indicators, the system status may appear cluttered, potentially overwhelming users with too much information.



USABILITY HEURISTICS : 2/10

Match Between the System and the Real World

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.

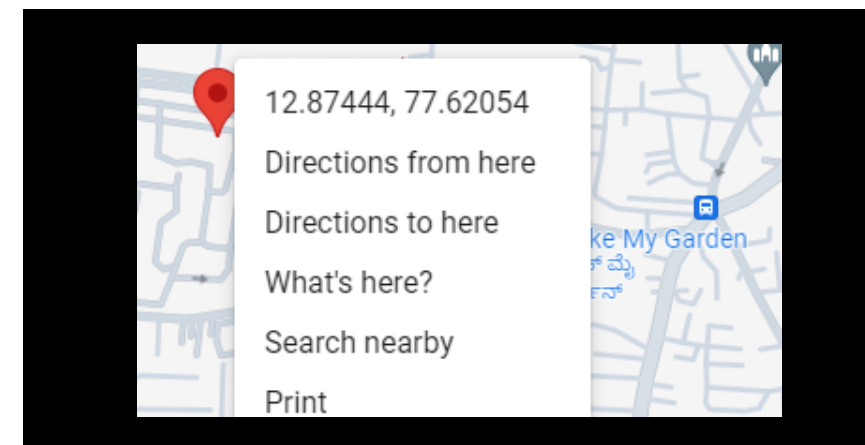
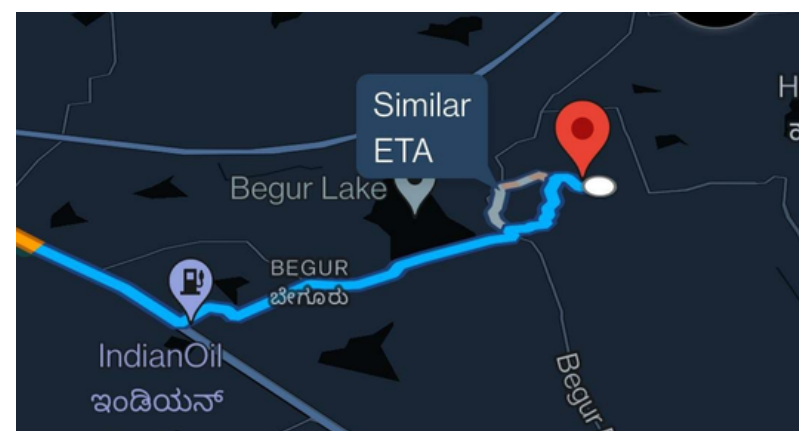
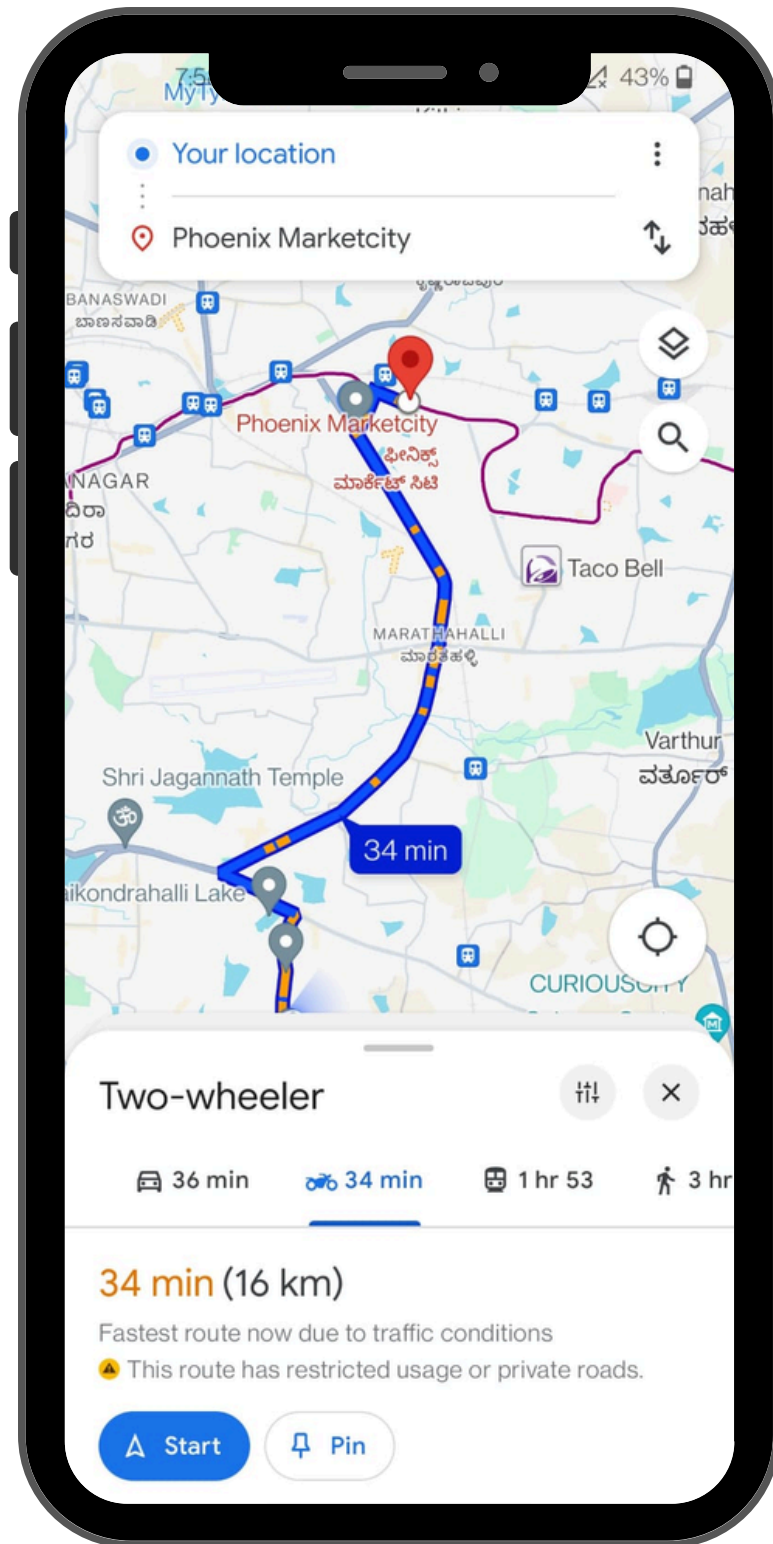
Pros

Real-World Conventions: The design of Google Maps follows real-world conventions for navigation, such as using arrow symbols for directions and standard icons for map features, enhancing usability and user familiarity. Ex- Bike, car, walk, train, using local language to represent places, Choose Destination, Start, Restaurants, Petrol, Hotels, Shopping ATMs, Groceries, Saved, Updates, Go, Contribute, Explore etc.

Cons

Geocoding: The process of converting addresses into geographic coordinates (latitude and longitude) on the map. User may not be clear about what no's are representing.

Navigation Features: Terms such as "ETA predictions" may not be immediately clear to users who are not tech-savvy



USABILITY HEURISTICS : 3/10

User Control and Freedom

Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action without having to go through an extended process.

Pros

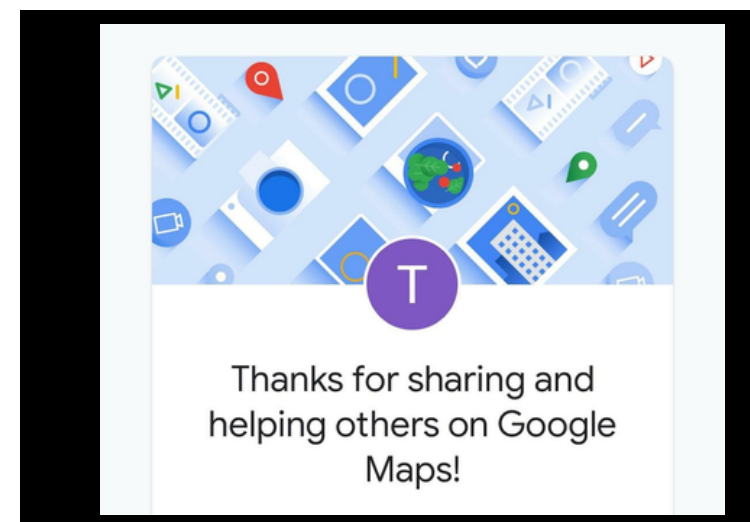
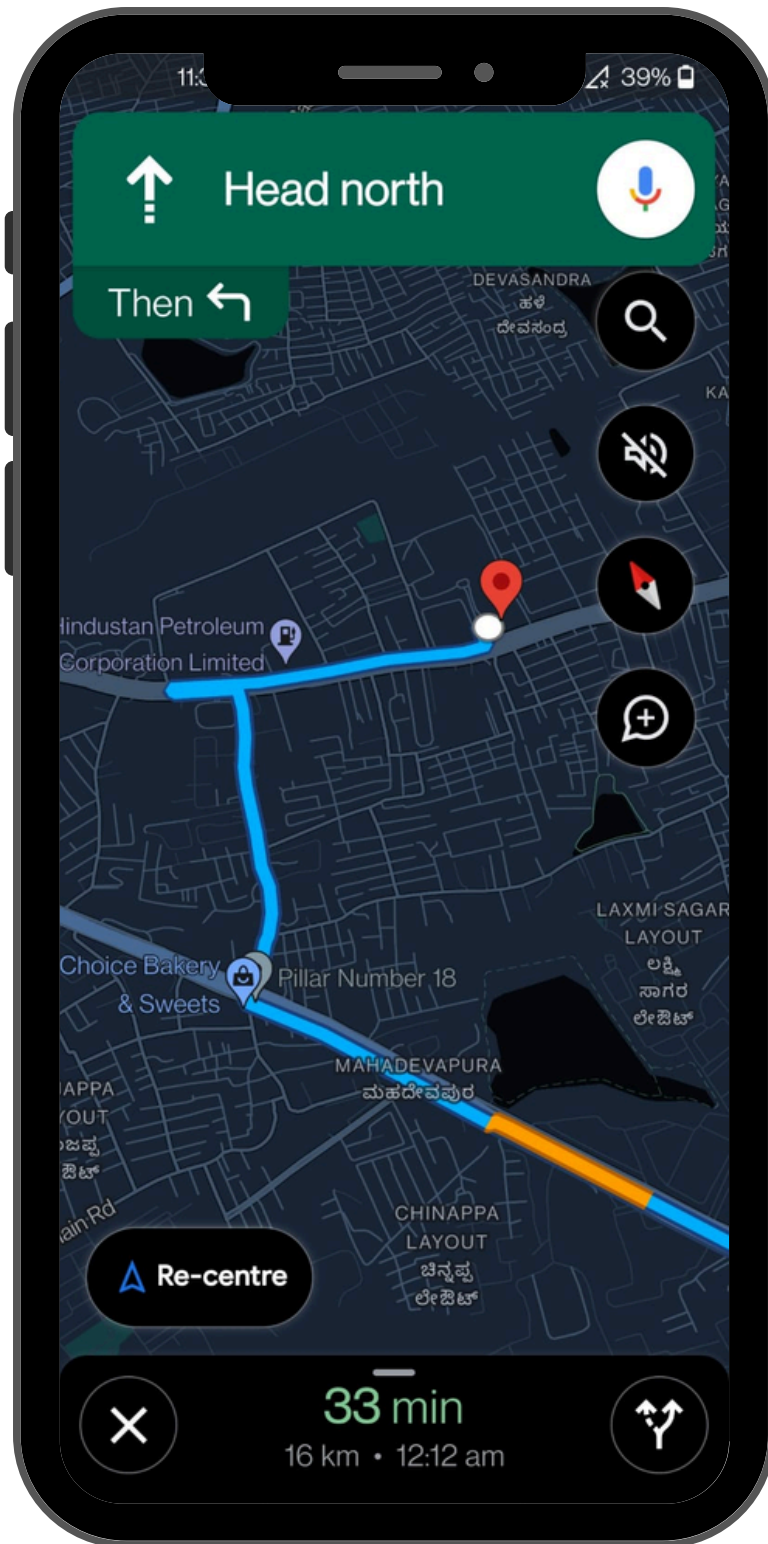
Exit Options: It allows users to cancel navigation easily with clear on-screen options.

User Control: Users have control over navigation by choosing alternate routes, avoiding tolls, switching different map views, zoom in, voice assistant, avoid Tolls, avoid motorways, avoid ferries, rotate the map as needed, change route etc.

Cons

Permanent Changes: Once a user saves a change to a map, such as adding a new place or editing a location's details, it cannot be undone or reverted back to its previous state.

Reviewed Places: Reviews and ratings submitted by users for places in Google Maps cannot be canceled or reverted back once submitted.



USABILITY HEURISTICS : 4/10

Consistency and Standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform and industry conventions.

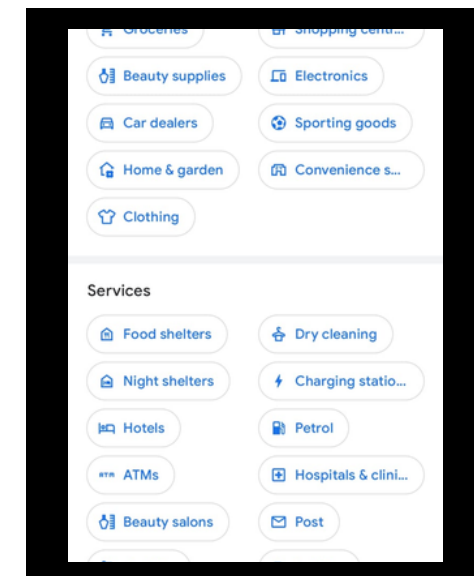
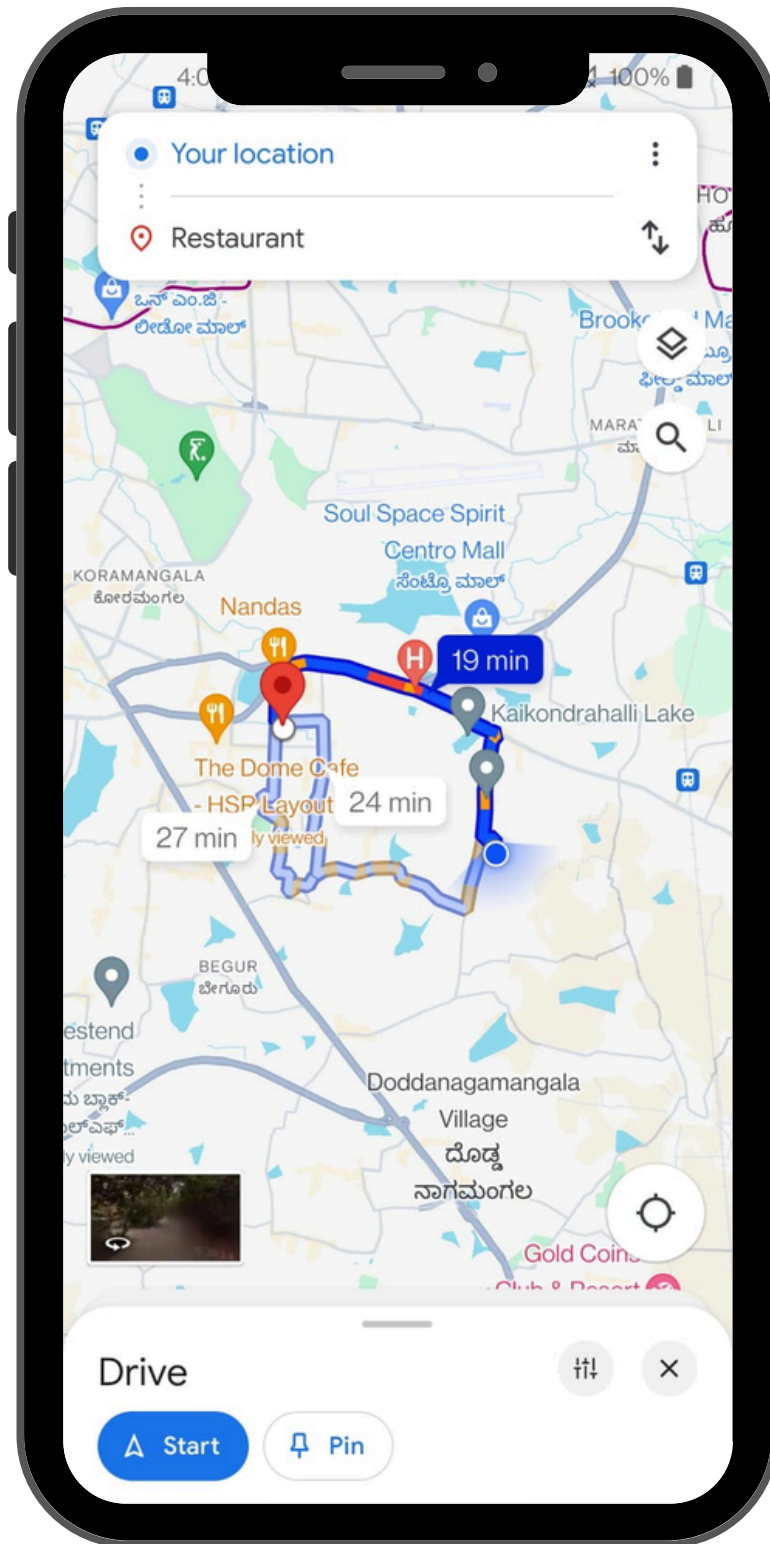
Pros

Color Scheme: Google Maps maintains a consistent color scheme for map features, such as green for parks, blue for water bodies, and red for traffic congestion, providing visual clarity and continuity in map representation.

Visual Elements: Maintain consistency with standard navigation icons, search bar design, and standardized zoom/pan controls for familiar navigation. Information cards maintain a consistent layout, offering structured details for easy understanding of places and landmarks.

Cons

Landmark Icons: The icons for beauty supplies and beauty salons are the same, which can cause confusion for users seeking to identify individual places.



USABILITY HEURISTICS : 5/10

Error Prevention

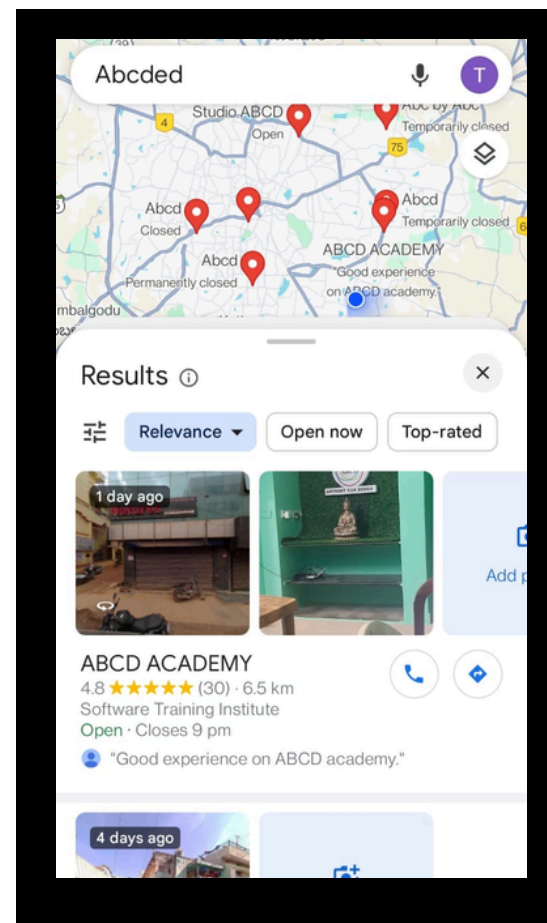
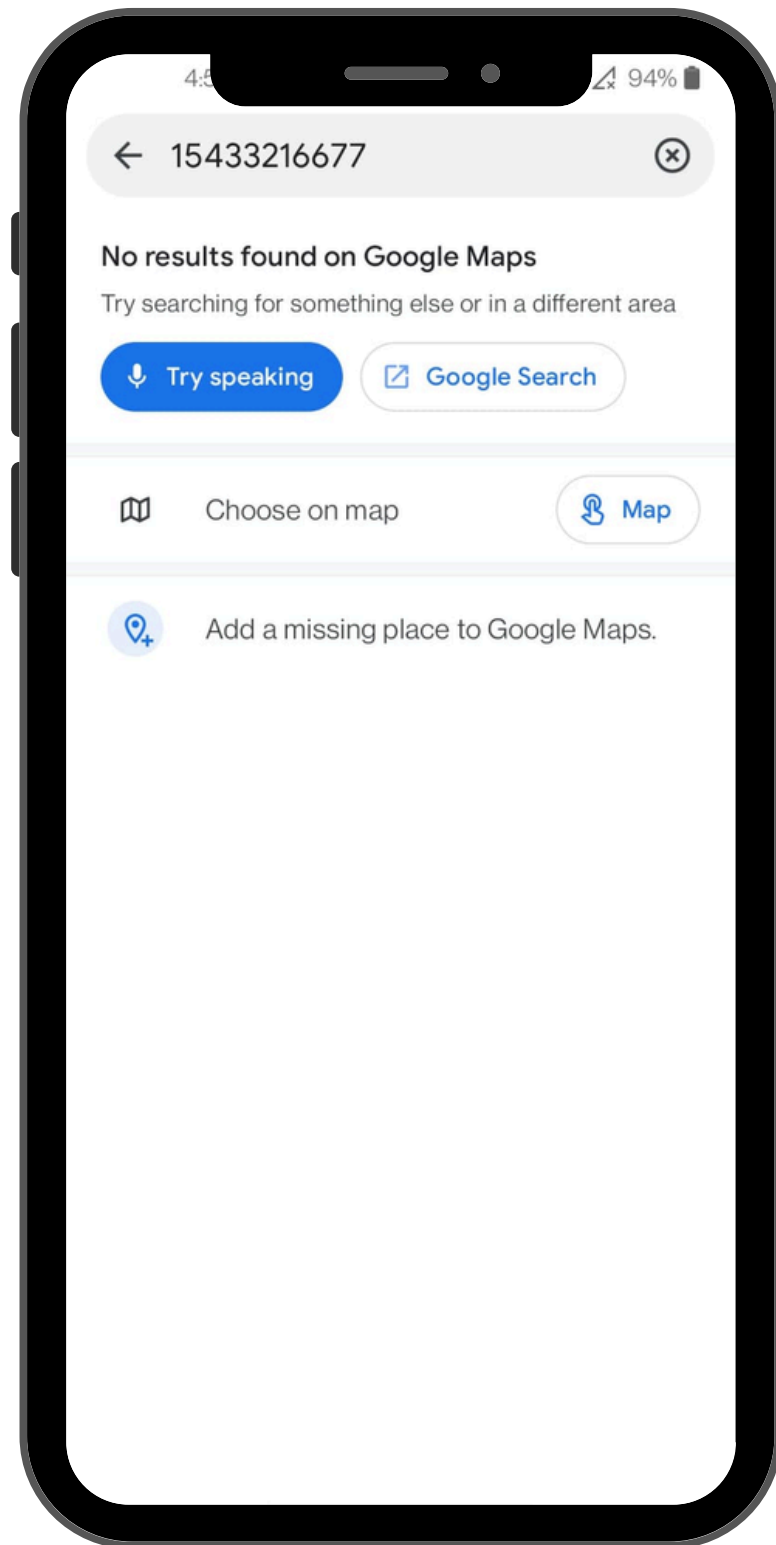
Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions, or check for them and present users with a confirmation option before they commit to the action.

Pros

Error Prevention Mechanisms: To reduce user errors, the UI design displays invalid inputs in search fields and suggests places if the inaccurate input word is entered in search.

Cons

Inconsistent Map Data: Google Maps may show outdated data like closed roads or wrong business hours, leading to user disruptions due to a lack of proactive error detection and correction.



USABILITY HEURISTICS : 6/10

Recognition Rather than Recall

Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another.

Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.

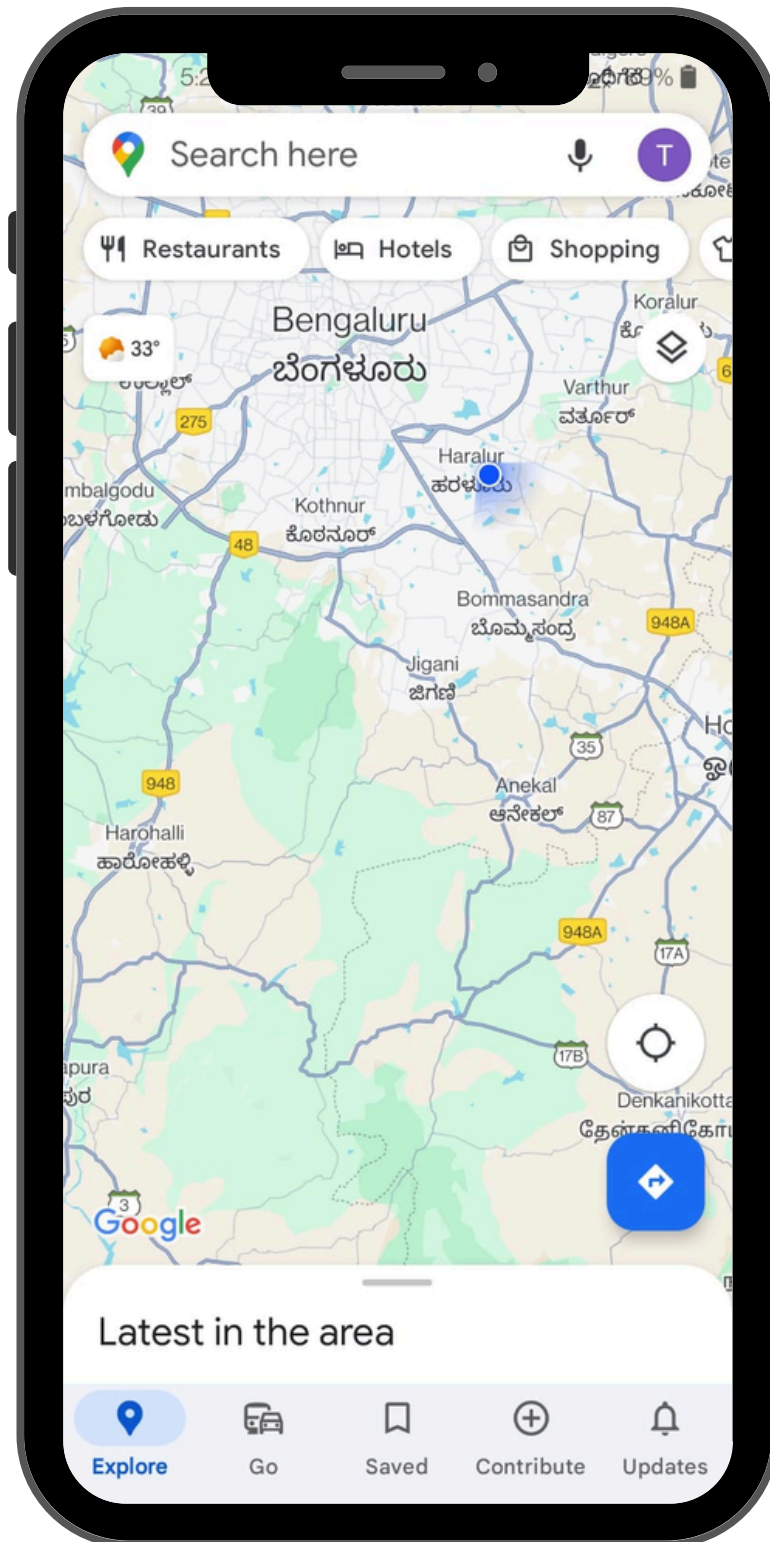
Pros

Visible Information: Google Maps clearly and prominently shows essential details such as map elements, navigation options, and search results, decreasing the need for users to recall things from memory.

Clear Labels and Menus: Field labels, menu items, and controls are clearly labeled and easy to locate, allowing users to navigate the interface without relying on memory.

Cons

Mobile Challenges: On mobile devices with limited screen space, nested menus can be particularly challenging, as users may need to scroll through long menus or submenus, leading to a less optimal user experience.



USABILITY HEURISTICS : 7/10

Flexibility and Efficiency of Use

Shortcuts – hidden from novice users – may speed up the interaction for the expert user so that the design can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Pros

Keyboard Shortcuts: Quick actions like zooming, map views, and search navigation via keyboard inputs. Ex - Zoom In (SHIFT and '+')

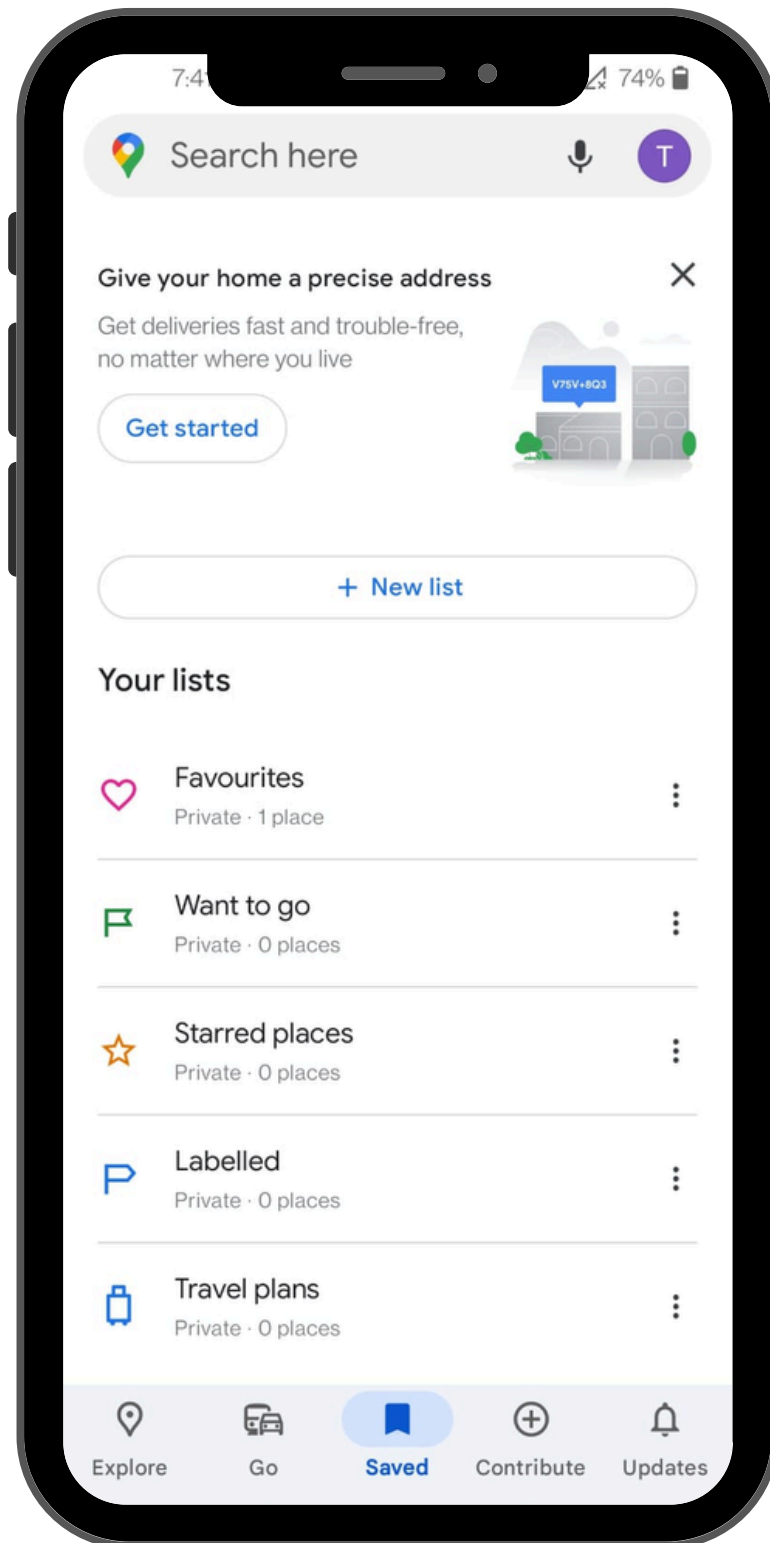
Voice Commands: Hands-free navigation using voice inputs for destinations, directions, and map interaction.

Saved Places: Instant access to frequent locations without the need for repeated searches.

Offline Maps: Downloadable maps for accessing data offline, ideal for areas with limited internet access.

Cons

Limited Functionality: customization options like changing map styles or adjusting navigation preferences are not accessible via shortcuts. Detailed route planning, such as adding multiple stops or customizing route options, including avoiding toll roads, requires traditional interaction methods. Accessing specific information within saved places, such as adding notes or reminders, is not available through shortcut functionalities.



USABILITY HEURISTICS : 8/10

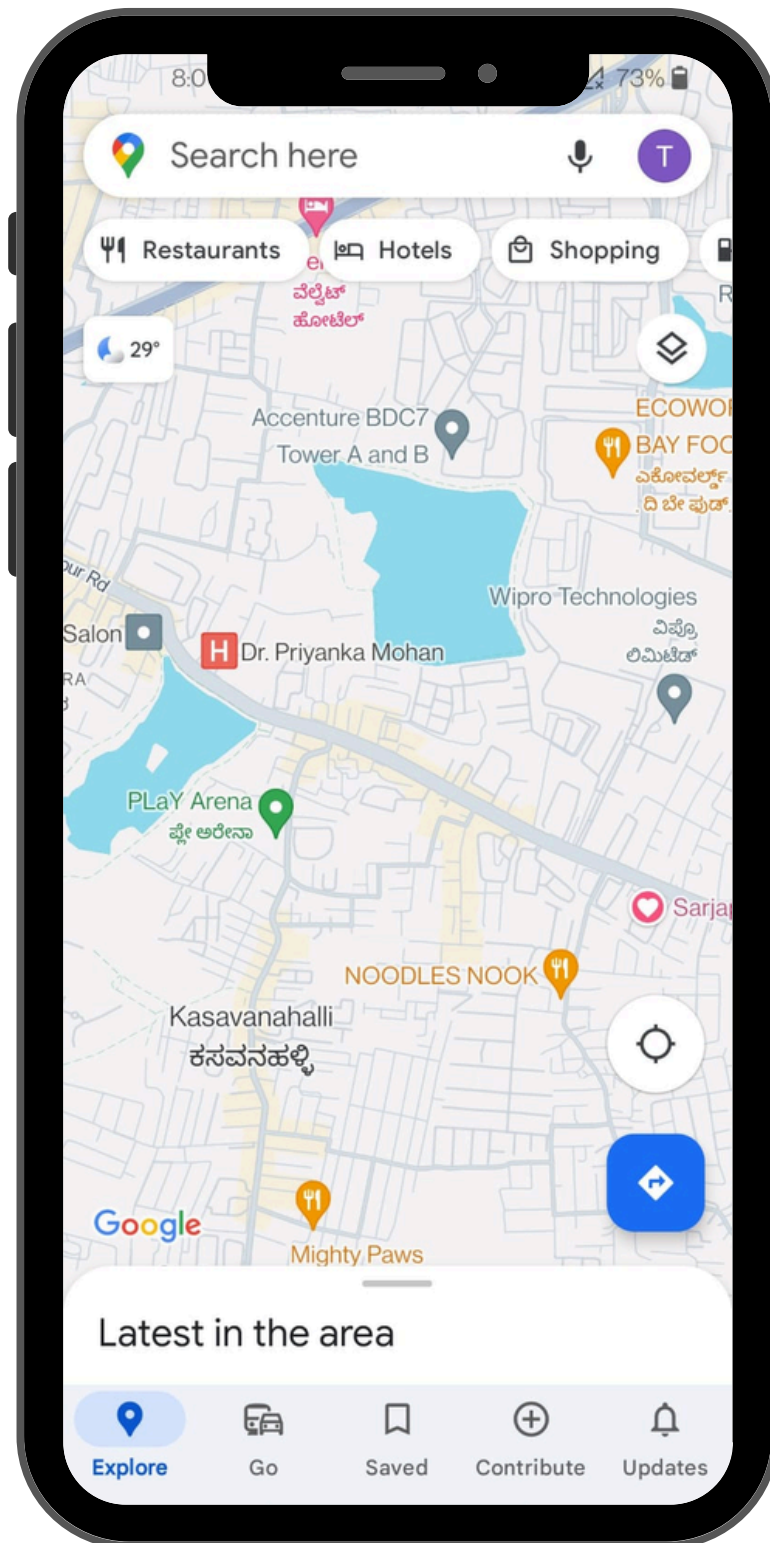
Aesthetic and Minimalist Design

Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information in an interface competes with the relevant units of information and diminishes their relative visibility.

Pros

Clean and Organized Interface: Google Maps maintains a clutter-free and well-organized interface, prioritizing relevant information and minimizing visual distractions, enhancing user focus and usability.

Visual Appearance: It uses various colors for different elements, conveying a clear and straightforward meaning for each one.



USABILITY HEURISTICS : 9/10

Help Users Recognize, Diagnose, and Recover from Errors

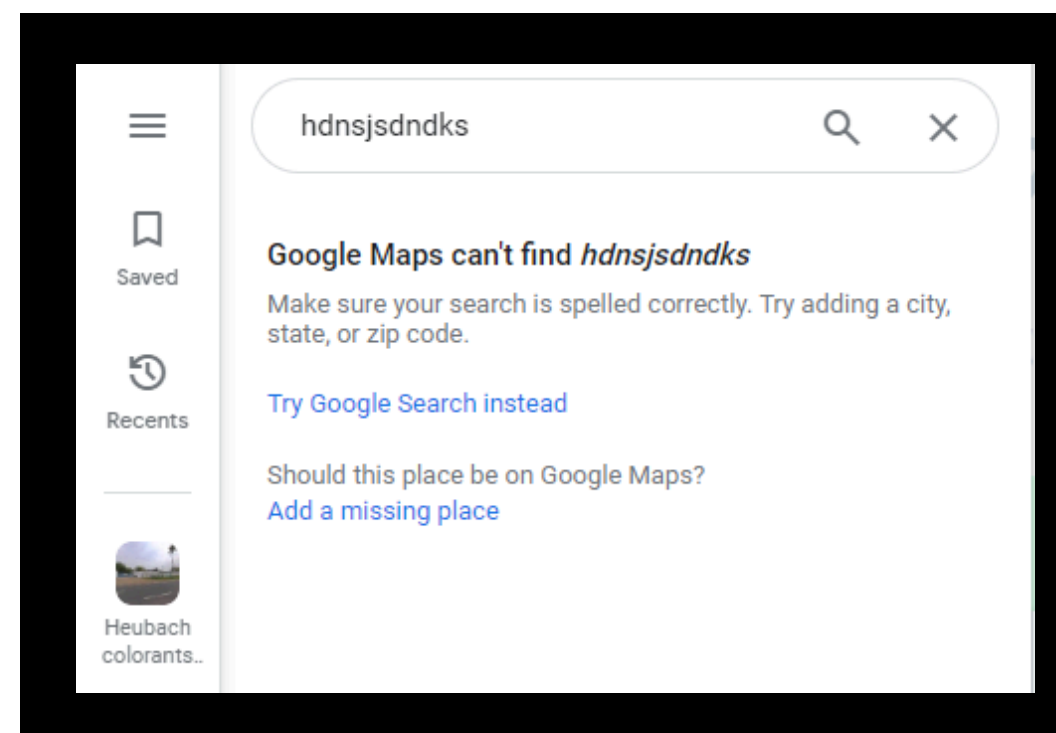
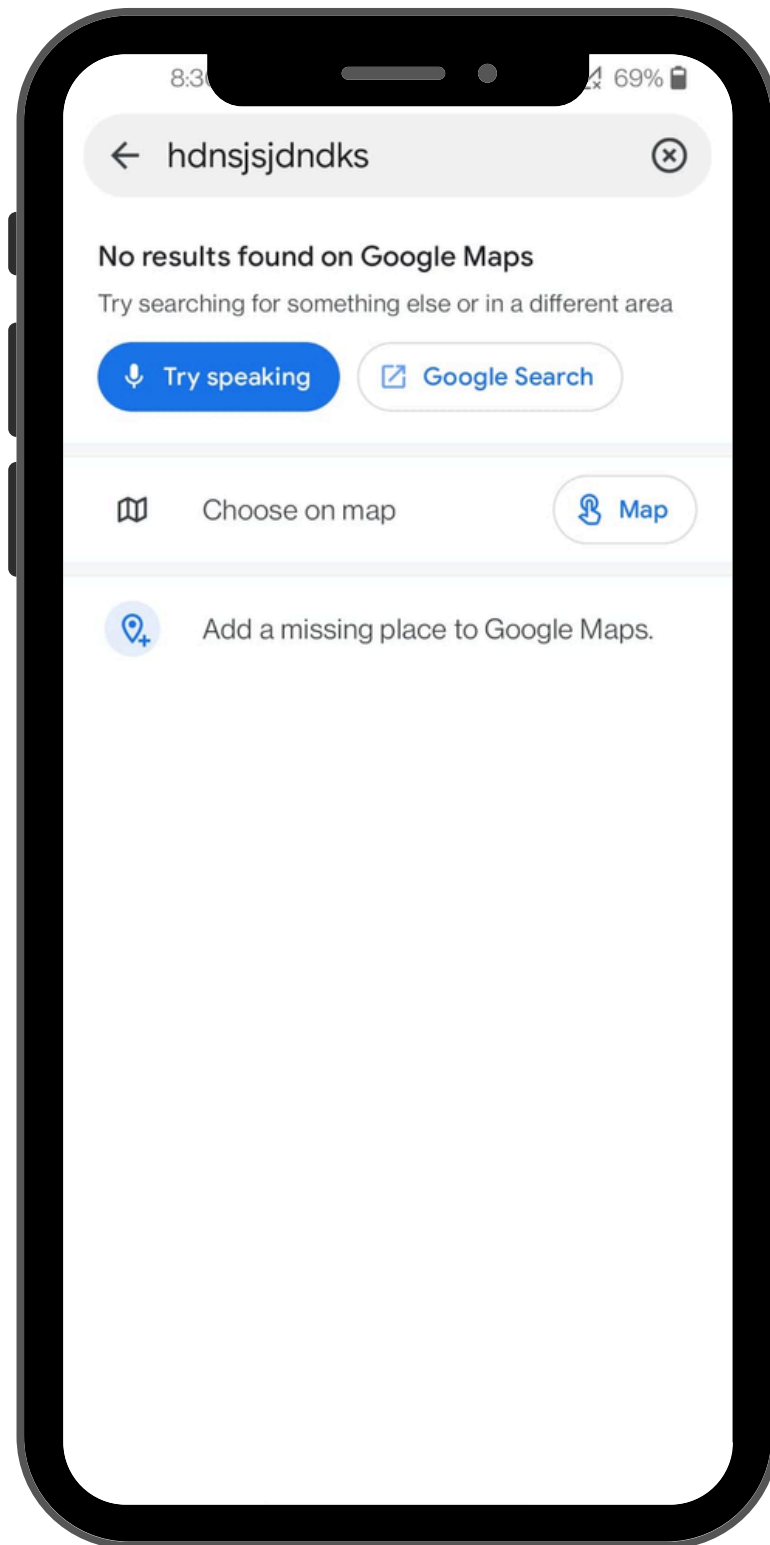
Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.

Pros

Clear Error Messages: Google Maps provides clear and concise error messages in plain language, helping users understand the problem and suggesting constructive solutions to resolve errors. When a user enters arbitrary text into the search field, it displays a simple and clear error message and prompts them to look for something else. They also provide alternatives for adding this location to the map if it is missing. The location will be verified and added later.

Cons

Platform-specific error messaging: There is difference in error message between mobile and laptop devices.



USABILITY HEURISTICS : 10/10

Help and Documentation

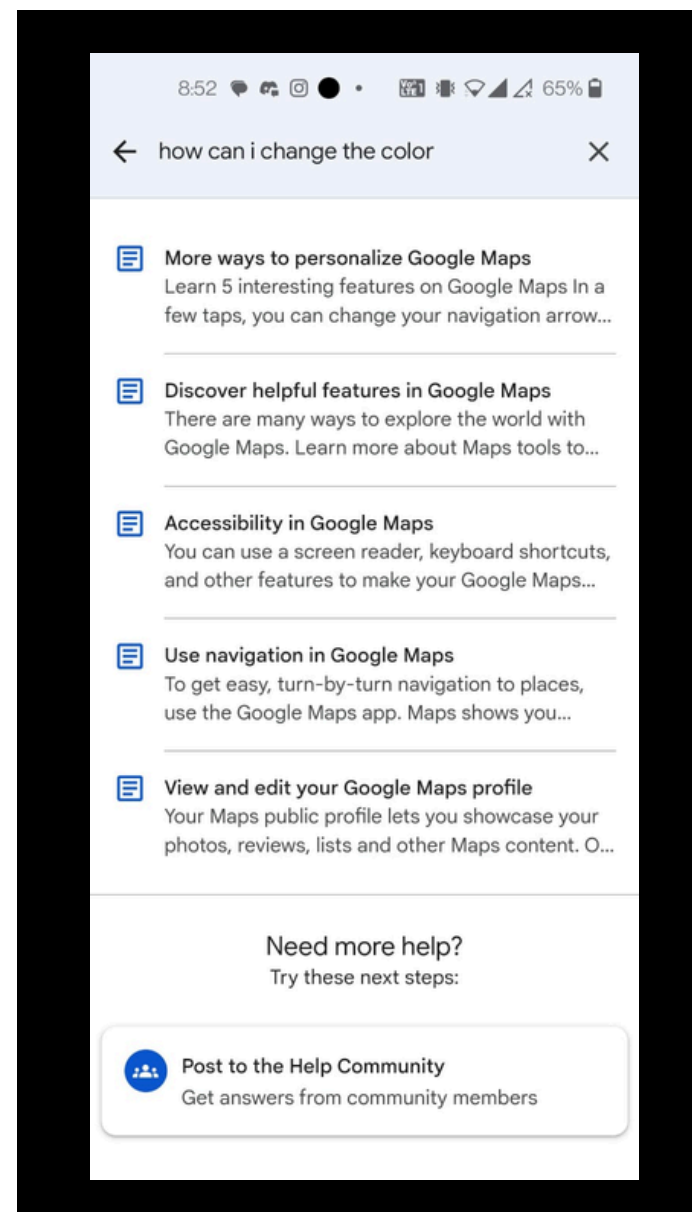
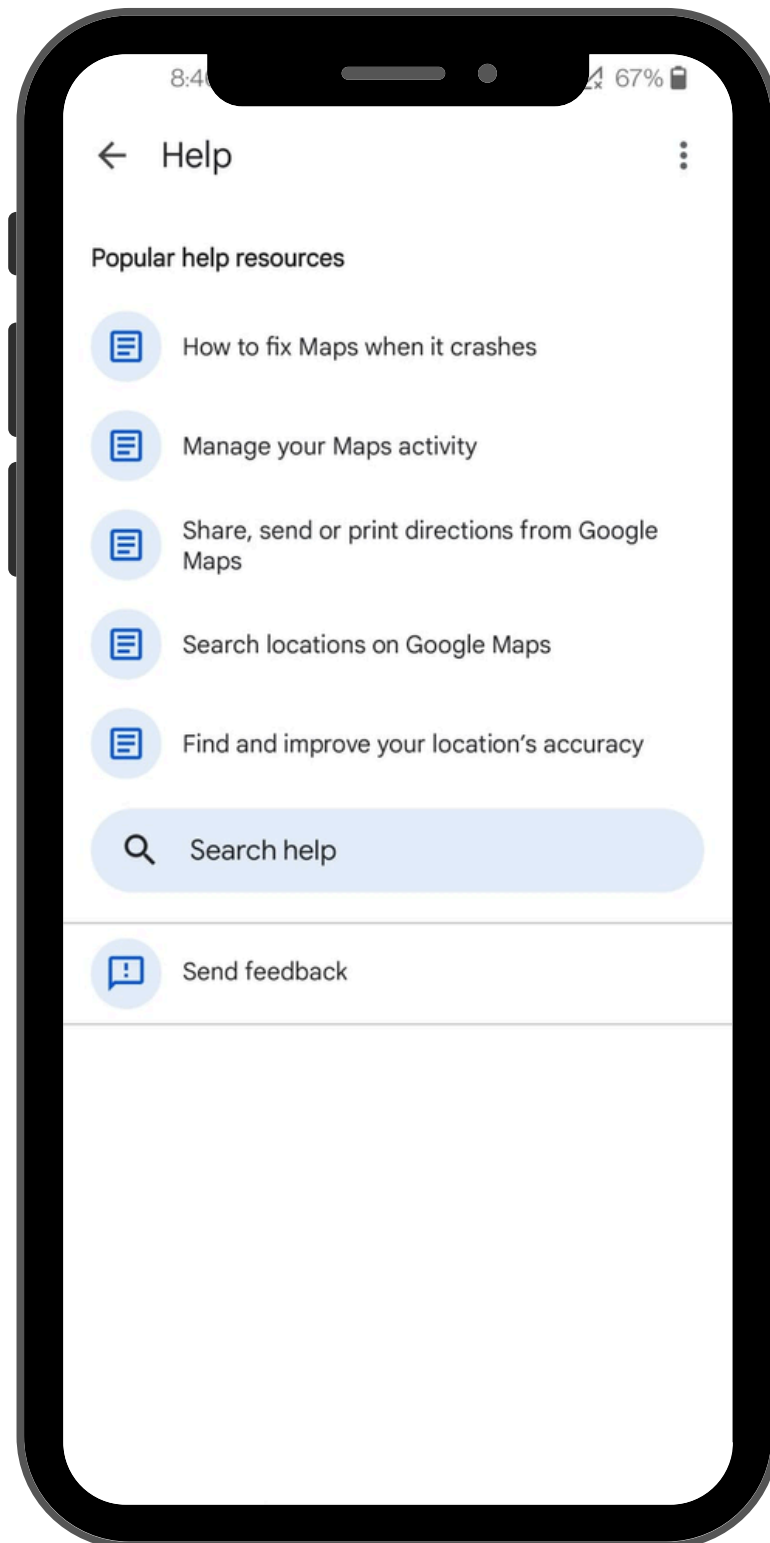
It's best if the system doesn't need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.

Pros

Help and Documentation Support: Google Maps offers FAQs, search filters, and the option to post queries to the help community, facilitating access to answers and assistance.

Cons

No In- Call Support: Users may struggle to find detailed explanations or get immediate help with specific issues while using the app.



THANKYOU!