Google My Maps: Heuristic Evaluation

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Part II: Project Description

Google My Maps is a web-based map creation tool that allows users to create custom maps by adding Points Of Interest (POI), drawing shapes, and importing geographical data layers on top of standard Google Maps base layers.

Part III: Evaluation Execution

I conducted the heuristic evaluation in the "Aula Studio Alfa" in Cesena, on a laptop computer with Windows 11 using a Chrome browser.
I followed Nielsen's 10 Usability Heuristics, keeping them in sight while searching for issues in the interface.
I defined and performed the following three tasks:

1. **Map creation:** creating a new map, saving POI with markers, drawing a custom route.
2. **Editing and styling:** grouping markers by category, changing icon styles/colors, adding additional info to the POI (description, photos, …), hourly planning with estimated times.
3. **Inspiration:** searching for inspiration by looking at the map, trying to discover new POI to add to the itinerary.

Part IV: List of Violations

1. H4 Consistency and standards
   Where: Task 1, "Base map" at the bottom of the sidebar.
   What: By clicking the little arrow down icon near the faint "Base map" text, it opens a selector of map styles.
   Why: This is inconsistent with the standard map type selector that is used by all type of map services, including Google Maps: a large image with the preview of a different map style, improving the explainability of the button itself.
   Severity: 2
2. H6 Recognition rather than recall
   Where: Task 1, The "Add layer" text at the top of the sidebar.
   What: When the user reaches 10 layers, if clicked it shows a popup saying that the limit of layers for this map has been reached.
   Why: The user always has to keep in mind the limit of 10 layers in order to avoid planning to add more layers. It's also impossible to know beforehand if the limit has changed.
   Severity: 3

3. H4 Consistency and standards
   Where: Task 1, Top Toolbar (below the search bar).
   What: The "Add directions" button is located in the top toolbar alongside drawing tools, whereas the "Add layer" button is in the sidebar.
   Why: This violates the proximity principle and internal consistency. Directions are essentially a type of layer, so users expect the control to create them to be grouped with the "Add Layer" or "Layer Options" controls in the sidebar, rather than separated into the drawing tools toolbar.
   Severity: 2
4. H9 Help users recognize, diagnose, and recover from errors
   Where: Task 1, Directions Layer (Sidebar).
   What: When renaming a destination node to an invalid location, the system displays a generic "Cannot find a valid route" error at the bottom without highlighting which specific node is causing the failure.
   Why: The error message is too generic. The user is forced to guess which of the stops is problematic. The specific input field containing the error should be highlighted (e.g., red border) to guide the user to the fix immediately.
   Severity: 2
5. H5 Error prevention
   Where: Task 1, Directions Layer.
   What: If the user enters an invalid name (triggering the error in Issue #4) but then clicks a node on the map, the system "accepts" the invalid text string as the new official name of the stop. This persists even after a page refresh.
   Why: The system allows the interface to enter a corrupted state that normally is not accepted.
   Severity: 3
6. H6 Recognition rather than recall
   Where: Task 1, Directions Layer.
   What: The user is prevented from adding more than 10 stops to a route, but this limit is not displayed anywhere until the user attempts to add the 11th stop.
   Why: Users cannot plan their route effectively if they don't know the constraints beforehand. They are forced to recall (or discover by failure) that the limit is 10.
   Severity: 3
7. H4 Consistency and standards
   Where: Task 1, Map Canvas interactions.
   What: Right-clicking on the map produces no context menu, and long-pressing (click and hold) does not drop a pin.
   Why: This is inconsistent with the standard Google Maps interface and most web-based map tools
   Severity: 2

8. H1 Visibility of system status
   Where: Task 1, Directions Layer vs Map View.
   What: Clicking a node in the sidebar highlights it on the map, but clicking a route node on the map does not highlight the corresponding text in the sidebar list.
   Why: Feedback should be bidirectional and consistent for both the saved and the route nodes.
   Severity: 2
9. H7 Flexibility and efficiency of use
   Where: Task 1, POI Details Card.
   What: Clicking a Point of Interest (POI) displays a card with very limited text info. It lacks photos, reviews, or rich data.
   Why: Users need to assess locations visually. By stripping this information, the system forces the user to leave the tab and open standard Google Maps to vet the location, which is inefficient.
   Severity: 3
10. H8 Aesthetic and minimalist design
    Where: Task 1, Search Result Card (Green marker).
    What: The "+ Add to map" button—the primary action for the map creation workflow—is small, text-only, and visually blends with the card footer.
    Why: This primary action lacks visual weight. It should be a distinct, prominent button to guide the user's eye.
    Severity: 2
11. H3 User control and freedom
    Where: Task 2, Directions Layer styling.
    What: The user cannot customize the color or style of the route line/nodes.
    Why: Users creating custom maps often need to differentiate between different routes using color. Restricting this freedom limits the tool's utility for planning complex itineraries.
    Severity: 2
12. H8 Aesthetic and minimalist design
    Where: Task 2, Formatting Toolbar (Paint bucket).
    What: The color picker palette is very small, and the color swatches are tiny squares packed closely together.
    Why: The color boxes are too small, making selection difficult and prone to error.
    Severity: 2
13. H3 User control and freedom
    Where: Task 2, Batch layer nodes styling.
    What: Users cannot change the color of a whole layer without also resetting the icons to a uniform shape, or vice versa.
    Why: The dependency between Icon and Color settings limits user freedom in styling its nodes.
    Severity: 2

14. H2 Match between system and the real world
    Where: Task 2, Batch layer nodes styling.
    What: The styling options use database-centric terminology ("Style by data column", "Uniform style") rather than user-centric language.
    Why: The mental model is technical rather than practical. Users think of "changing the color of this group," not "styling by data column.".
    Severity: 3
15. H5 Error prevention
    Where: Task 2, Managing layers (Sidebar).
    What: Layers cannot be locked.
    Why: Saved POIs in layers can be easily moved around by accidentally pressing on them. This can often result in subtle errors, hardly noticeable by the user. Layers should be lockable in order to prevent these mistakes.
    Severity: 3
16. H4 Consistency and standards
    Where: Task 2, Map Markers.
    What: Markers change shape inconsistently: by default they are colored pins, but if user assigns them an icon, they become small circles even if they remain the same markers.
    Why: Inconsistent visual language confuses the user.
    Severity: 1
17. H7: Flexibility and efficiency of use
    Where: Task 2, Markers grouping.
    What: Saved markers cannot be organized using a multi-dimensional hierarchy.
    Why: For advanced trip planning, users need the flexibility to categorize POIs while also mapping out an hourly schedule. This lack of "nested" or multi-tag organization makes complex itineraries difficult to manage and navigate.
    Severity: 2
18. H2 Match between system and the real world
    Where: Task 3, Map View (Exploration).
    What: The map shows very few POI labels compared to standard Google Maps, requiring deep zooming to find potential stops.
    Why: The system behaves more like a blank GIS canvas than a travel discovery tool. Users expect the map to "suggest" popular places (Discovery) similar to the mobile Maps app to help them find inspiration.
    Severity: 1
19. HN Non-heuristic issue
    Where: Task 3, Map View (Exploration).
    What: The system lacks gamification mechanisms.
    Why: Unlike Google Maps, this system does not provide badges, points or other gamification mechanisms, failing to inspire and lead users to discover new places or make new maps.
    Severity: 1

Part V: Summary and Recommendations

Heuristic	**# violations**
H1: Visibility of system status	1
H2: Match between system and the real world	2
H3: User control and freedom	2
H4: Consistency and standards	4
H5: Error prevention	2
H6: Recognition rather than recall	2
H7: Flexibility and efficiency of use	2
H8: Aesthetic and minimalist design	2
H9: Help users recognize, diagnose, and recover from errors	1
H10: Help and documentation	0
HN: Non-heuristic issue	1

Google My Maps currently feels like a legacy utility tool rather than a modern travel planner. The interface suffers significantly from a lack of cohesion with the broader Google ecosystem (**H4**). Users arriving from the standard Google Maps experience face a steep learning curve due to unexpected behaviors: the absence of right-click context menus, different iconography, and the lack of rich visual data (photos and reviews) for Points of Interest. The tool relies heavily on database-centric terminology, which creates a mental model mismatch (**H2**) for casual users who simply want to organize a trip visually.

To improve usability, the interface should prioritize unifying interactions with standard Google Maps. This would reduce the friction of users having to switch tabs to check POIs on the standard application. Additionally, all the UI should be modernized to better guide the user's workflow (**H8**).

Finally, the tool needs to evolve from a blank canvas into a discovery-assisted planner. Currently, the map is too sparse to offer inspiration (**H7**). Adopting the "Explore" features from the mobile Maps app (such as dynamic popups for popular nearby attractions) would help users discover new locations without needing external research. Furthermore, removing arbitrary constraints, such as the inability to color-code route lines or the 10-stop limit on directions, would greatly enhance user control and freedom (**H3**), making the tool flexible enough for complex itinerary planning.