Google’s Wonder Wheel is a neat tool for exploring the search space.

Some queries know exactly what they want, like "sin(2)" or "how is babby formed". Others are more exploratory. Google Instant helps the user see how their keystrokes change the search results, but for those who don’t like it, Wonder Wheel is available.

Wonder Wheel supports several user tasks mentioned by Carr.

**Overview**: the central graph lets users get a broad sense of where she is in the search space. Use of a metaphor that searches are like a 2D area with related searches closer together allows the user to utilize her spatial awareness to find the query she wants. There is a fairly intuitive mapping between the similarity of queries and the way they are linked in the visualization.

Nodes are sized approximately according to how many results that query returns. Using size instead of a written number is a good tradeoff: size of a shape is probably easier to quickly parse than a number, and the user’s task rarely requires a high level of precision in counting query results.

**Zoom**: the user can get more detail about a specific query by looking at the search results on the right, or by clicking on the query itself to see more similar queries.

**Relate**: Wonder Wheel does a great job of showing related queries. By having edges between related queries, the graph makes it immediately obvious which queries are similar to each other.

**History**: To backtrack, the user simply clicks the node she wants to return to. Nodes deeper in the history are drawn with less detail. I would guess that this is because user testing revealed that users are more likely to backtrack one step at a time than four. Although the older nodes at the bottom are drawn only as empty circles, their names will appear if the user mouses over them.
This visibility helps the user move about the search graph in fewer steps, instead of having to hunt for the node they want.

Wonder Wheel lacks support for:

**Filtering**: The options on the left work for queries viewed normally, but not for the Wonder Wheel. (The user can filter by date, category of result, etc.)

**Extract**: There isn't really much the user can do to extract a query result. (Programmatically, there's probably something available, but not for the layman end user.)

If I were to redesign Wonder Wheel, I would:

**Add support for filtering**. I assume that the lack of support is an implementation issue; I can't think of any design reason not to include it.

**Make it obvious that leaving the page will destroy the history**. If the user moves several nodes in the graph, then leaves the page by clicking another search tool like "Past 24 hours" or "Images", the search history will be gone when the user returns. (Just hitting "back" doesn't bring the Wonder Wheel back at all; the user needs to explicitly refresh the page. Presumably this is a bug rather than a design error.) Perhaps the search history can be stored as a cookie on the client, or perhaps stored as a record associated with the user in Google's cloud.

**Allow the user to use the search box to start a new search**. In the below image, the user was originally searching for "london eye". She then entered a new search for "Dusseldorf", but the Wonder Wheel didn't automatically update. Getting a Wonder Wheel for Dusseldorf requires refreshing the page. It would be better to remove this extra step from the workflow.

Overall, Wonder Wheel is a nice tool, and an interesting alternative to traditional searching.