

Sorting is a state and a verb (and a floor wax and a dessert topping)

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Cliff Barbier points out that after you sort an Explorer view by name, new items are not inserted in their sorted position. This goes back to the question of whether sorting is a state or a verb.

If you take an Explorer folder and say *Sort by Name*, do you mean “From now on, always show the contents of this folder sorted by name”? Or do you mean “Rearrange the items currently in this folder so they are sorted by name”? The first case treats sorting a state, where sorting is an attribute of the folder that persists. The second case treats sorting as a verb, where the action is performed so that its effects linger but the action itself is not remembered.

You might think that sorting is obviously a state, but STL disagrees with you:

```
std::vector<Item> v;  
... fill v with stuff ...  
std::sort(v.begin(), v.end(), Item::ByName);  
v.push_back(Item(...));
```

When the last line of code appends a new item to the vector, it is not inserted in sorted order because `std::sort` is a verb which acts on the vector, not a state of the vector itself. The vector doesn’t know “Oh, wait, I’m now a sorted vector.”

Okay, so in Explorer, is sorting a state or a verb?

“Let’s do both!”

Sorting is a state, in the sense that the list of items is presented in sorted order when the folder is first opened. It’s a verb in that the sorted order is not maintained when new items are added to the view while the folder is already open.

Placing new items at the end instead of in their sorted position is necessary to avoid having items move around unbidden. Suppose you’re looking at a folder sorted by name, you scroll down the list, find the item you want, and just as your finger is poised to click the mouse

button, another process creates a file in the folder, which Explorer picks up and inserts into the view, causing the items to shift, and when your finger goes down on the mouse button, you end up clicking on the wrong item.

You can imagine how annoying this can end up when there is a lot of file creation activity in the folder. If the items in the view were continuously sorted, then they would keep moving around and make it impossible to click on anything!

Mind you, you do have this instability problem when files are deleted and you are in a non-placed view (like List or Details), but there's at least a cap on how much trouble deletion can cause (since eventually you delete all the items that were in the view originally).

It looks like starting in Windows Vista, Explorer tries to insert new items into their sorted position, so at least in the modern versions of Windows, *sort* is a state. Good luck trying to click on something when the contents of the folder are constantly changing.

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