Facet Folders unify conventional folder hierarchies with filtering of personal data based on faceted metadata. Facet Folders can be easily restructured and adapted to user demands.

**Motivation**

Tools for Personal Information and Media Management (PIMM) generally rely on folder hierarchies for organizing files. However, as personal data collections grow in size, the management of such data and folder structures becomes a significant burden. Specifically,

- folder structures cannot be adapted easily, once a user’s needs change,
- a tension exists between content organization for current use vs. future re-use,
- items often cannot be sufficiently filed under one single category, and
- a subordination is imposed on folders although there is often no single “correct” hierarchy (see Figure 1).

Nevertheless, folder re-access based on a user’s spatial memory is arguably one of the greatest strengths of static folder hierarchies.

**Basic Design**

With faceted classification schemes, a data retrieval concept suitable for PIMM was introduced which we combine with folder hierarchies. Facets are orthogonal dimensions which partition the metadata of a domain so that every metadata value is assigned to exactly one dimension. Relevant facets in PIMM are e.g. Time, Location, or (conceptual) Classification. Based on one metadata value of a facet, filters can be defined which we call “Facet Folders.” A Facet Folder is a folder permitting to filter items of a data collection according to the folder’s filter attribute, for example, all items associated with Florence. By nesting Facet Folders into a hierarchy, different views on the dataset can be constructed, such as those illustrated in figure 3. Placing an item into a Facet Folder associates it with the metadata defining the view (i.e. implicit tagging).

For example, to structure a vacation view by time instead of country, a Time Facet Folder could be moved one level upwards in the hierarchy as illustrated in step (1) of figure 4. The result visible in step (2) shows that all time-based Facet Folders of related branches have been automatically moved up, too. This is done to facilitate rearranging from within multiple child branches of a Facet Folder. Furthermore, the number of Facet Folder instances is automatically extended based on the metadata of items available in the target folder.

**Visual and Interaction Design**

- Facet Folders are derived from the familiar design of folder-based tools, such as file managers.
- Individual Facet Folders are represented by labeled rectangles, displaying filtered items using thumbnail previews.
- Folded on the same hierarchy level of a branch are vertically stacked and grouped by filter attributes of identical facet type and granularity.
- The hierarchy can be rearranged using a drag & drop interaction.

We already implemented an initial design in C++ using the Qt library.

**Benefits of Facet Folders**

- Facet Folders enable the construction of different persistent views on a set of personal data.
- Faceted metadata is explicitly exposed.
- Hierarchies can be easily rearranged according to changing demands.
- Items can be classified by simple assignment to Facet Folders.