
Writing New Stories for the Same Old File System

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ABSTRACT

Planz enables the creation of a document-like overlay to the file system. Headings and subheadings correspond to file system folders and subfolders. The notes under a heading can point to files – and also to email messages and web pages. Headings and notes can express the structure of a personal project. This structure, in turn, provides a basis for organizing the various forms of information needed for project completion.

INTRODUCTION

The Personal Project Planner [6] (Planz for short) addresses a basic challenge of our modern lives: Our digital information comes in many different forms (files, email messages, read-only and transactional Web pages of all kinds) and is often scattered in many different ways.

Tools meant to help can actually make things worse. Special purpose tools such as OmniPlan¹ or even a general-purpose tool such as Microsoft OneNote² tend to “box us in” by imposing a fixed structure of dialog boxes, tabs and pages that don’t always fit with the more fluid, informal nature of our everyday planning. Also, the organizations of different tools are usually

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¹ <http://www.omnigroup.com/applications/omniplan/>.

² <http://office.microsoft.com/en-us/onenote/default.aspx>.

incompatible with each other and with the organizations we've created already to manage files, email messages and web pages.

How can we organize our information—and ourselves—to stay on track? How can we do this without spending all of our time on organization? Planz addresses each of these issues by adhering to two basic principles:

1. **Plan first, let the organization follow.** The Plans you create in Planz are part of a single document that looks like the draft document you might create in a word processor or the notes you might scribble to yourself on a notepad. You plan by typing your thoughts freehand. Then link your thoughts to files, web pages, and email messages. You organize your thoughts under headings and subheadings over time and only according to your needs. Access your Plans and the information you need to complete these Plans through a single integrated document.

2. **No new organization.** The Plans you create in Planz are essentially an alternate way to work with your existing files and folders³. The headings and subheadings of a Plan represent folders and subfolders in your file system. Use these to organize not only files but also e-mail messages and web references. Change your Plans as easily as you might change a document in a word processor.

WHY THE "SAME OLD FILE SYSTEM"?

Features of Planz can be found in other tools. However, Planz is unique in its efforts to integrate various features of word-processing and linking as an overlay

³ Planz currently works with Microsoft XP, Vista & 7. However, the approach in PLanz readily extends to other file systems.

to a folder-based hierarchical file system. Planz represents an effort to explore new modes of interacting with information organized into the files and folders of a conventional file system.

Why the file system? The file system – especially that portion local to a personal computer -- is still where people are most likely to feel a sense of ownership and to invest in efforts to organize their information [2, 3, 5]. There may be many good reasons to believe that people will increasingly entrust their information to the Web (e.g., for easier maintenance and anywhere access). However, if and as this transition occurs, there are also good reasons to believe that the hierarchical folder model will follow⁴. For example, even as support for tagging and search continues to improve, an established preference for browsing or location-based finding [1] endures [2]. Moreover, people use their folder hierarchies for many other things besides the enablement of browsing. People report, for example, that folders help them to represent and track tasks to be done and to "see" their information better [5].

To be sure, a strict hierarchy suffers from a basic limitation that while an information item can only appear in or be referenced from one location (e.g., a folder), we may want to access and work with this item in several different contexts. After noting several variations of this basic limitation, Dourish et al [8] go on to propose a radical property-based, "placeless" solution.

By contrast, the approach taken in the design of Planz is modest with respect to changes envisioned. What

⁴ An irony, of course, is that the hierarchical file system is already "there" as an underlying basis for organizing the information of the Web.

can be accomplished through small changes realized in a light-weight overlay to an existing file system? Can this be done in ways that preserve and even enhance a sense of digital place -- a sense of knowing "where to go" -- that is already evident the preference for browsing vs. search?

Planz is designed to work like a basic "no frills" word processor (see Figures 1 & 2). But, as noted above, the document created in Planz is an overlay to the file system. Headings in the document correspond to folders in the file system. The notes under a heading point to files under a corresponding folder. Some of these files are "local". Others may be shortcuts pointing to files, folders, email messages or web pages that are elsewhere (in the file system, in storage managed by Outlook or on the Web).

KEY FEATURES OF THE DOCUMENT OVERLAY

Through its maintenance of a document overlay, Planz supports several key features:

- **Drag & link.** Select a file, an email message or (via its address) a web page and drag into Planz. The selected item stays where it is. But a new note with a link to this item is created in the Planz document. Or select text from the item, drag and drop into Planz. The selected text is now included as a new note in the Planz document but with a link pointing back to the source information item. Drag & link is, as one user noted, a "kind of super-shortcut maker". An item is stored in only one place (e.g. as managed by the file system, Outlook or a web server)⁵ but can easily appear in any number of places.⁵

⁵ Links (shortcuts) are represented by a small shortcut component in a note's icon. Initial evaluation suggests that people understand the distinction between a note icon

- **Annotate.** Simply type -- anywhere -- in the Planz document to add reminders, explanations, elaborations, etc. Support for annotation is motivated by anecdotal comments and fieldwork observations [7] that people often devise elaborate workarounds to annotate their files and folders including, for example, naming conventions or the provision for a companion "documentation document" to explain a folder's contents.
- **Order.** Move the elements (headings and notes) of a Planz document up or down just as you might move the sections or paragraphs of a document using a word processor. Move elements in Planz as an alternative to moving files and folders more directly through the use of a conventional file manager. Or make smaller moves to establish a local ordering. The importance of order is evident in the naming schemes people often devise to insure that files and folders are listed (by name) in a certain order or to insure that key files or folders appear first in a listing [5].
- **Create** a new document or create and send a new email message "in-context". The item is created as it would be normally (e.g., in separate windows managed by a supporting application such as Microsoft Word or Outlook). However, Planz creates a new note pointing to this item near the insertion point in the Planz document.

A STORY OF PLANZ USE

In the following story, Bob is beginning to think about the re-model of his house. He uses Planz (figure 1) to record his initial thoughts just as he once used a word processor.

representing an item (e.g., a file created locally) and a note icon for a link. The messages to confirm a deletion also are also distinct for these two cases. However, the possibility for confusion between item and its links remains a focus of ongoing evaluation.

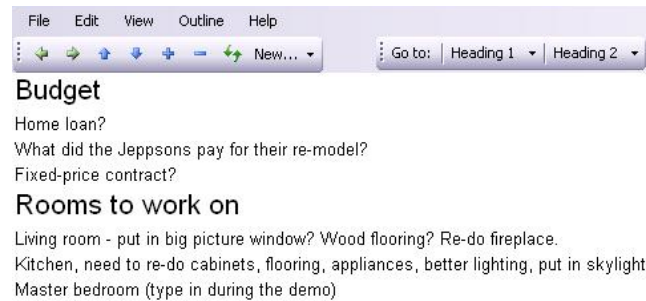


Figure 1. An early view of a “house re-model” in Planz.

Bob continues to think about the re-model and he continues to write his thoughts down. Several weeks later, the re-model plan is much larger. At this point, Bob may decide to switch to an outline view in Planz for greater control over the ordering and presentation of components in the re-model plan (figure 2).

The headings in figure 2 correspond to folders; the subheadings to subfolders; the icons represent files or file shortcuts (e.g., to web pages, email messages or remote files).

Notice then, that the re-model plan also provides a basis for grouping together project-related information in various forms, from various sources.

WHAT'S NEW?

The key features of the Planz document overlay, as listed above, were previously described in connection with an earlier version of Planz (referred to as “the Planner”)[6]. At that point the prototype provided only

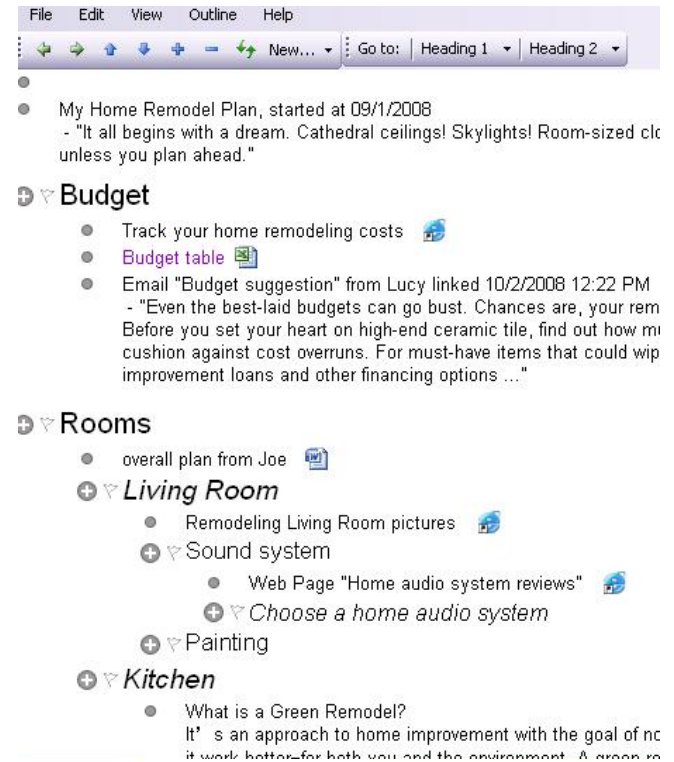


Figure 2. A later, outline view of the “house re-model”.

partial for support for these features and could only be used for short periods of time in a directed, “hands-on” demo. In its current version, Planz provides full support for these key features and is available for free download⁶. Planz has a small but dedicated base of

⁶ http://kftf.ischool.washington.edu/planner_index.htm.

users and has been used for periods of seven to fourteen days as part of a controlled evaluation.⁷

The first answer, therefore, to the question “What’s new?”, is that Planz is now “real” and can be (is being) used for the daily management of personal information. Three new features are also noteworthy:

1. **Two-Click Access** –from any document, email message or web page, click once (Windows-o) to jump back to a note referencing this item in Planz. Click a second time, on the icons for a notes nearby, to access related information.

2. **In-place Expansion.** Link to any folder, anywhere; promote the resulting note to be a heading; expand to see the folder’s contents. In this manner, information can stay where it is (e.g., on a network share) but still be included for access and manipulation in the current view.

3. **Consolidated Support for Task & Time Management.** Click to the left of a heading to create a task or an appointment elsewhere (Figure 3). Click again to check a task as completed.

⁷ This evaluation delivered good and bad news. On the plus side, all eight participants expressed appreciation for the “at-a-glance” visibility of information and project status afforded by Planz. Three participants expressed an intention to continue using Planz beyond the period of the evaluation. On the minus side, three (other) participants indicated that they came to appreciate Planz only late in the evaluation and that they would not consider using Planz unless it was more “product-like” (faster, smoother, with more features). The results of this evaluation are the subject of another article (under preparation) and are not a focus of this extended abstract.

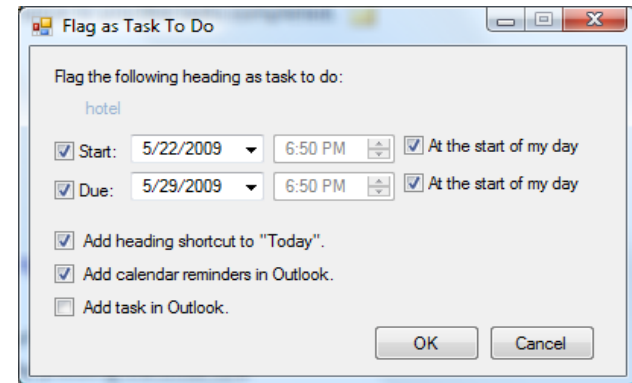


Figure 3. Any heading can be flagged to appear as a task or an appointment in Microsoft Outlook.

PLANZ ARCHITECTURE

Behind the scenes, Planz is able to support its more document-like outline view by placing an XML fragment in each folder. Planz assembles fragments on demand to present a coherent view of headings, notes and links.

The distribution of XML fragments in association with folders has more general application in support of a variety of views into personal information including mind-mapping, decision tree, workflow and tabular views.

SUMMARY

Planz begins with the notion that describing projects and project structure should be as easy as typing thoughts, free-hand, into a document. Represent projects as major headings in the document. Use subheadings (to any level) to represent the areas of a project or individual tasks or anything else of relevance to the project. The hierarchy of headings corresponds

to a folder hierarchy in the file system. This hierarchy represents not only projects and their structure but can also be used to organize project-related documents, email messages and web pages.

Work on Planz continues. Next steps include:

1. Completion of a longer evaluation during which participants will use Planz for 3 to 8 weeks.
2. Conversion of Planz to make use of Windows Presentation Foundation (WPF)⁸ for a much improved user experience.
3. Web-based and mobile versions of Planz that further explore the Planz approach of dynamically generating coherent views from an assembly of XML fragments.

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⁸ http://en.wikipedia.org/wiki/Windows_Presentation_Foundation