


# File Management Problem Space

 This is a draft in progress.

Discussion about file management and what components might emerge.

## File Management Definition

File Management is a broad term with a variety of definitions. For scoping and discussion purposes we define file management as overall user-management of files. The files are generally *uploaded* into the target web application from a user's personal computer or another website or application. Users can then *organize* their files, typically *represented* [navigationally or spatially](#). They may decide to *share* these files with others, either as *information* (read-only) or in a more *collaborative* manner. Further yet, they may desire to share their *organization* of files with others (e.g. an instructor sharing a structure of content with their students).

## Problem/Pain

The Resources Tool in Sakai tries to do too much. It is the file manager within a site, the place for all site members to view files in a variety of contexts, the place users can pull files from other sites into the current site, the place to set conditions for content availability -- it even allows users to create links and in-line documents. It does so much that it can be difficult to know how to accomplish the particular task in view. General consensus is that the functionality needs to be chunked out in different ways and the UI generally simplified. The Resources Tool is also challenged by several usability issues for specific interactions. Those details will be fleshed out through the work of this project. For some examples, check out [Allison's UX Walkthrough](#) which focused on the Resources tool.

File management is a common activity and users have expectations based on their experience with their personal computers and the desktop metaphor.



### Note

Do users really think of a file uploaded from an external place differently than content created within the system? Where this gets particularly tricky is if we allow users to display files in-line. For instance, an instructor uploads a PDF of their syllabus and it displays directly on the page. Is this different than if they created the syllabus within the tool using a wysiwyg editor for instance?

## Scenarios

### [Sarah Windsor - Primary Persona](#)

#### Getting course site set-up

Sarah needs to set her course site up for the semester. She begins gathering the course materials -- the syllabus which needs some updating from last time she taught the class, readings for various topics / class sessions (docs, pdfs, websites, etc.), some assignments she'll be reusing from a previous class along with her handy list of useful links she likes students to have. Now she needs to get the material onto her course site. After the site is created, she needs to upload all of this material and would like it to be mapped to her syllabus.

She asks her 3 Teaching Assistants to gather and upload material for several topics on the syllabus. They'll do that over a stretch of several weeks. In addition, Sara continues to appropriate course materials throughout the semester. Sometimes this will be an addition and other times she'll have found a replacement for something already on the site.

#### Sharing files across courses

Sarah would like to use some of the class material from a previous class she taught. She had a Sakai site for that class too so would like to reuse some of the materials in the class site. There are several assignments that she can reuse as-is and a couple that she wants to make minor tweaks to before using in the new class. Many of the readings are the same. She can even reuse the syllabus with some minor tweaks. Perhaps she needs to browse the old site to see what else might be of use.

#### Sharing files with colleagues

Sarah would like to circulate a draft of a paper to a few trusted colleagues before submitting it for publication. She doesn't want to create an entire site for this limited purpose, she simply wants to surface it for a particular group of people to read temporarily, and get some comments that she can incorporate.

#### Display syllabus content in-line

Sarah has already created her syllabus. It's currently a pdf. She would like the content of the pdf to be displayed on the page when students visit the Syllabus tool.

#### Providing feedback

Sarah has several graduate students working under her, is thesis advisor to another, and common interactions with all of them include reviewing proposals and drafts of their work, which are returned to them with either informal comments and suggestions or even formal approval. They aren't graded like homework and quizzes, but it's still valuable to have these copies and a history of these interactions.

#### Spin-off copies for others to edit

Sarah has a favorite assignment she delivers every semester, where she circulates a template of a sample case study and then asks students to devise their own in their groups, working from the sample. She wants to keep her original file available and inviolate for future classes, but also wants the students to just be able to take their own copy of it and begin to edit it collaboratively within their groups.

#### **Profile: promotion and tenure**

Sarah needs to keep a close eye on her career progress toward promotion and tenure, and wants to keep track of her publications, conference presentations, course evaluations, and any other details that she knows the review committee will factor into account. She'd also like to have it arranged in a presentable form with a fixed URL that she could distribute.

#### **Assessing Teamwork**

Sarah has her class work on projects in teams, all working on the same document. To gauge the contributions of team members, she wants to see the document edits made, and by who, each time a change is made to the file in Sakai.

#### **More scenarios to come...**

[Ed McClellan, Undergraduate](#)

#### **Collaborating on a file**

Ed and his project team are in the final stretch -- they just need to pull together their various pieces of the final paper and then Heather will do the final edit. The plan is for everyone to upload their pieces to the project site. After all 5 sections are uploaded, Heather will pull them all together (copy & paste) and do a final edit to put it all in one voice and check for spelling and grammatical errors.

#### **More scenarios to come...**

[Andrew Devall, Principle Investigator Research Project](#)

#### **Collaborating on presentation**

Andrew and his colleagues are creating a project update presentation to share with their department. They worked on the outline together and uploaded to their project site. Now they'll each take their section to flesh out with details. The presentation is in 3 weeks so they'll work on it at various times over the next few weeks. They want to work on the same document so they don't have merging challenges later on. The current challenge then will be to make sure they are always working on the most current file on the site (current version) and that two people aren't working on the file at the same time.

#### **Confidential Information**

Andrew has a document he'd like to share with Stacy and Greg on the project team. For confidentiality purposes he is not allowed to share it with the rest of the team yet but eventually probably will.

#### **More scenarios to come...**

## **Blue Sky Vision**

\*Random Thoughts\*

- Personal file manager available from anywhere in application. Main home is probably within My Workspace.
- The file manager allows users to view their files in a navigation or spatial view; with details and without
- User can drag and drop into, out of and within.
- Tagging for files allows users to find files via their tags and others tags. They can search or browse by previous tags (a.k.a. tag cloud). Standard known metadata could be auto-tagged. System knows the difference between my tag and others tags.
- Robust search that not only searches meta-data tags but also document content. It should be simple by default (think Google) but allow users define searches at a fairly granular level.
- Allow users to upload files directly into their file manager and in the context of other activities or working in other tools. While creating a wiki page, allow the user to upload a file. The file should then be accessible from within that same context and from their file manager.
- Allow instructors to display files in a customized display or display, and eventually integrate this display with links to other tools, so that navigation can become more lesson-centric and less tool-centric. See [A Blue-sky Vision of the Resources Viewer](#).

## **File Management Component Ideas**

### **Possible Components / More specific problem spaces**

#### **Getting Content In \***

Allow users to get content into the application. The system should actively understand the content and be able to add some context (ex. auto-tagging and/or organizing based on file type -- iphoto puts pics into several categories automatically when new images are added). Users may be able to add their own context to the files (ex. tagging). The thinking about this space should include how users may utilize the content in multiple places in the application (ex. include a particular article in more than one site, attach an assignment to an announcement). Where should the content live? We need to also think about how this relates to file explorer view.

May include:

- Tagging
- Attachment Manager

## File Management Views \*

a.k.a Mac Finder or Windows Explorer

Allow users to have several views on their files. Sometimes a hierarchical tree and folder structure will work best and others user will want to see the items spatially, while still others may want to see thumbnail previews of the files. Within these views we should allow users to "drag and drop" files around for organization (reorganizer component). Certain arrangements may need to be "snapshotted" for later use, or shared with others.

## Rule Creator

Users may want to establish rules or logical conditions (perhaps based on events or activity in other areas of the system) for access control.

## Version history

Allow users to see the history of edits made to content, and, where appropriate, see "diffs" of particular version edits. There should also be some affordance for reverting a file to a particular version.

## Tag Cloud \*

Give users a way to browse their tags (their folksonomy) to find files, content, etc. in their site (perhaps across sites). The tag cloud should give users indication of how often tags have been used (ex. font size indicates relative frequency).

## File Manager

Rather than views described above is there a component that includes more robust functionality like search, add & delete files, etc?

## Sharing

A user might want to explicitly share a folder or files with a specified set of groups or individual users, deciding along the way whether these others should only be able to view the shared content, or also be allowed to edit it. A site containing these users shouldn't need to be a prerequisite.

## "Smart" Page Navigator

Allow users to break up long lists of items into pages. They should be able to decide if they want paging and how many per page.

Sakai has page navigation now. The default for how many items to show on a page varies. How many makes sense depends on context, how many total items, what type of items, etc. The idea here is to make this navigator remember the users last setting (across sessions). That way they set if for what makes sense given the current situation and it is persistent. As things change for them they simply change the setting to meet current needs and again it's persistent until they need to change it again. Currently this is a "one size fits all" default and many users have to change it every time the visit a particular page.

## Tagging

Allow users to create their own folksonomy of files, content, etc. The component should be smart about remembering and suggesting previously used tags to help users build up their own folksonomy.

The value of tagging for users is in searching and browsing by tags later so this functionality would need to go hand and hand.

## Search

Description to come...

## Attachment Manager

Allow users to attach files to other content. Files could come from user's personal computer, websites and apps, other sites and/or portlets.

## Link manager

Description to come...

## Content Previewer

Preview content as the user is creating it within the application.

## Next Steps

- Review content management contextual inquiry worksheet and iterate
- Create overall project plan including short & long term
  - Sakai 2.6
  - Sakai conference meet-up with file management & navigation

## Other resources

Sakai Resources WG confluence space: <http://bugs.sakaiproject.org/confluence/display/RES/Home>

## Summit Post-it Page

See [File Management Artifacts from Summit Meeting](#)

## Fluid/Resources Post-Conference Meeting, December 7 2007

[Fluid and Resources December 2007](#)