

Lifetime Library - iDrop iRODS Client Interface

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Abstract

The School of Information and Library Science (SILS) at the University of North Carolina at Chapel Hill has been teaming with the DICE group to develop and iterate iRODS client software to help students manage an ongoing relationship with their information resources and the University.

1. Overview

Students come to university to develop personal knowledge bases that will help them achieve their goals in life. Over the course of their university experience, students acquire physical resources (e.g., books, notes, files) as well as mental resources (e.g., explicit and tacit knowledge, social relationships). In the past, the physical resources were discarded, sold or lost, or stashed in attics. Today, most of the course materials, personal notes, and assignments done at universities originate in digital form (e.g., web-pages, word processed files, spreadsheets, simulations, codebases, databases) some of which are in proprietary systems or formats (e.g., Blackboard).

In addition to course-related digital objects, students acquire enormous streams of social interactions (e.g., Facebook, Twitter, LinkedIn streams) and data files (e.g., music, photos, videos). Over the course of several years on campus, students use a variety of devices (e.g., laptops, desktops, PDAs, mobile phones) for creating, managing, and using these data.

When students graduate, they may preserve some traces of their digital lives, but typically, these traces disappear when their computers are retired. We aim to provide trustworthy and easy to use services that help our students and alumni sustain, extend, and use the information resources that compose their knowledgebase over a lifetime.

2. Current Status

One of the ways we aim to serve the students and alumni is through an easy to use backup service hosted and maintained under the auspices of the University. This backup service is built on top of iRODS and

affords multiple ways through which to save and then interact with saved resources. The client software we have developed, iDrop for Lifetime Library, is built using the Java Swing GUI and currently supports connecting and managing files and metadata across Windows, Mac, and Linux. Students have individual accounts and connect through the iDrop interface which resembles a classic local/remote FTP window with an accompanying transfer status window. The scalable iRODS backend handles the authentication and authorization of connections and users as well as the replication of the students' files and metadata.

The current iteration of the iDrop for Lifetime Library presents a familiar local/remote hierarchical interface that allows for the dragging and dropping of files as well as renaming, deleting, and moving. In addition, the general purpose free text tagging infrastructure also allows for the organization of files across multiple facets. These tags are searchable and present the students with an alternate flexible method for grouping and clustering their data.

Our current deployment consists of 20 students and various other existing users of iRODS. We have focused on the transfer engine, queueing logic, and interface bug fixes while helping stabilize the new Jargon core libraries.

3. Next Version

The next iteration of iDrop for Lifetime Library will allow for a more hands-off approach with the addition of a "watch folder". This folder will automatically stay in sync with the iRODS server and across multiple devices. It will also remove the manual need to "put" files into the Lifetime Library, as files saved locally will be queued for synchronization.

Moving forward, we expect the Lifetime Library software to begin the important conversation with students around their management of digital resources. With a focus on ease of use and building confidence in the system, we will continue to think more broadly about the role that Universities can play during a lifetime of data accumulation.