Overview:

For this Independent Study I worked with UIUC’s Digital Services and Development Unit, which explores the use of multimedia and network technology to promote preservation of the Library’s unique collections and to provide widespread access to these collections. Nuala Koetter, Head of the unit, supervised my work. As most of my professional interests are related to digital archiving and preservation, along with digital media distribution, this project is particularly appropriate to my goals.

The primary focus of the I.S. was working with the ContentDM digital collection management software. UIUC currently employs a very basic, out-of-the-box installation (found at http://images.library.uiuc.edu) of ContentDM, with very little customization visually or technically. My main goals were to implement a variety of changes to improve the functionality and visual appeal of the digital collection, and to better visually integrate the individual collections with their HTML-based portal pages. Understanding ContentDM on a more technical level also makes me better equipped to administer a similar collection in a professional setting, along with the knowledge of how similar software packages function.

Specific Tasks:

- Investigate current installations of ContentDM by other institutions to see what customizations have been done.

- Collaborate with other users on the ContentDM listserv.

- Visually modify individual ContentDM collections to improve them visually, and to integrate them with their portal pages, by customizing header graphics and color palettes used.

- Advanced searches that take place through one collection’s portal page should pre-select that collection.

- Investigate metadata harvesting from ContentDM files.

Goals:

My major goals for this I.S. were to better understand the technical functionality of the ContentDM software, and use this knowledge to improve the functionality and look and feel of the current UIUC installation. I planned to do that by investigating the documentation for the software, working with members of the listserv to solve any
problems, and trial-and-error. I planned to spend a significant amount of time working with our current installation to see areas in which it can be improved, with the overarching goal being improved functionality and visual appeal.

**Stage 1: Understanding ContentDM**

As I had never investigated the way that ContentDM functioned on a server-level, I had to familiarize myself with the software. I first joined the ContentDM listserv, which proved to be an excellent resource throughout the semester. I then proceeded to look through all the current PDF files that ContentDM hosts on their site, which explain how to perform a variety of modifications to an installation of the software. Truly understanding the software, however, required my own test installation. I was given administrator access to a Grainger Library server, and proceeded to install CDM 4.0. After updating to 4.1, I was then ready to begin understanding how to work with CDM.

CDM has a variety of PHP files that define how things like searching, browsing, and the display of results take place. Additionally, there are a group of PHP files that are called on by these base PHP files that define individual aspects of larger pages, such as headers, menus, and item displays. Understanding how these various PHP files interact is essential to customizing the CDM installation.

**Stage 2: Automatic Search Tick Box Selection**

My first goal was to have the tick box for the correct collection automatically checked if the user came through a collection’s portal page “Search” link. I contacted a member of the CDM listserv who had outlined how to perform this modification, who was able to help me understand what changes needed to be made.

Adding this feature required the editing of a few PHP files on the server. Each collection has an alias that is defined by the collection administrator. The first modifications were made to the config.php, to define a specific element that is required in the search.php. The “Checkboxes” function in the search.php file was then modified to look for a collection’s alias in a given URL. By using a URL that contains the collection’s alias, instead of a generic search link, the collection’s tick box is now automatically checked.

I then made these changes on the live install of CDM, and edited the various collection HTML pages to include the required URLs. The advanced search feature is now live and functioning correctly.
Fig. 1: Search using http://images.library.uiuc.edu:8081/cdm4/search.php

Fig. 2: Search using http://images.library.uiuc.edu:8081/cdm4/search.php?CISOROOT=%2FEmblems
Stage 3: Visual Customization

The next phase was to begin visually customizing the individual collections. I began by downloading a variety of PDF files from the CDM website that outlined how to visually alter individual collection pages. This required a variety of modifications to many PHP files. As with the advanced search feature, it relies on the use of the collection alias. By creating individual PHP files that define the visual style, and having the CDM software look for those files, individual collections can be given their own color palettes and the like. These palettes can be extended to sub-pages such as the “favorites” page and comparison pop-up by modifying the PHP files that define those functions. Along with customizing the colors, the UIUC logo was added to the header, along with customized header text to identify the collection. In this manner, individual collections can have a look and feel that matches their portal pages, and also visually separates them from other collections.

This stage is currently in progress, with one customized style page having been created and not yet implemented on the live server. After the changes have been made to the main PHP files, it is quite straightforward to create the individual style page for each collection. I will continue to work with Nuala to implement the visual changes as she sees fit.

Fig. 3: Look and feel of default collection page
Conclusions:

Overall, I’m pleased that I was able to accomplish the tasks that Nuala asked me to complete when the semester began. I feel that I had to spend a bit too much time getting to know ContentDM, rather than implementing changes. However, as the requested changes were fairly modest, I was able to get them incorporated and functioning correctly. I feel that I was able to learn valuable skills, and have a much better understanding of ContentDM itself. Ultimately, this was the goal of the I.S., so I feel that, at least in that scope, it was a success.

I plan to continue working with Nuala to implement more changes to the live CDM installation, as it is still a bit haphazard in places. I would like to see the CDM collections be more visually cohesive, especially the portal pages. I’d also like to follow-up on a few questions Nuala had things such as OAI metadata sharing, which CDM is capable of.

Although the DSD collections are substantial and beneficial, I believe that our current installation of CDM has a few issues that need to be ironed out. Once this takes place I believe that its functionality will improve and it will be an even greater asset to the University.