

## CS4624 Syllabus 2014

### A. Introduction for CS4624, Multimedia, Hypertext, and Information Access, CS\_4624\_12253\_201401, TR 9:30-10:45, AA7 (Architecture Annex)

- This document is the Syllabus for CS4624 for the VT Spring Semester, 2014.  
The officially approved version of the general syllabus for this course, on file with the Registrar, can be found on this Scholar site under Resources, in file CS4624OfficialSyllabus.pdf. Some older versions of the course, starting from Fall 2007, can be found for recent years in VT's Scholar archives.
- This course is about three areas related to Information: Multimedia, Hypertext, and Information Access.
- This is a 4000 level capstone course, so senior level work is expected. Students should be prepared to apply what they have learned in prior courses to practical problems, and to improve their skills at learning a new field using primary references as well as some secondary resources.
- Attention to reading, labs, demonstrations, and class discussions is imperative. Students must demonstrate mastery of a body of knowledge and its application.
- (3H, 3C) Pre: 2606 or 3114
- Site URL: <https://scholar.vt.edu/portal/site/CS4624S14>
- listserv email address: [multimedia2014@scholar.vt.edu](mailto:multimedia2014@scholar.vt.edu)
- Final exam, as 09T, is May 13, 10:05-12:05pm
- Piazza for this course is accessible from [piazza.com/vt/spring2014/cs4624/home](http://piazza.com/vt/spring2014/cs4624/home)
- Piazza signups are at [piazza.com/vt/spring2014/cs4624](http://piazza.com/vt/spring2014/cs4624)

### B. Teaching

- Instructor: Edward A. Fox
- Web pages: homepage <http://fox.cs.vt.edu>, personal info <http://fox.cs.vt.edu/foxinfo.html>
- Office: 2160G Torgersen Hall
- Phone: (540) 231-5113
- Email: [fox@vt.edu](mailto:fox@vt.edu)
- Office Hours: Tue 2-5, Wed 4-5, or by appointment
- Assistant: Susie Marion, x1187, Torgersen 2160H, [smarion@vt.edu](mailto:smarion@vt.edu) (for appointments, to leave things)
- Address: Dept. of CS, 114 McBryde Hall, Mail Code 0106, Virginia Tech, Blacksburg, VA 24061
- Laboratory: Digital Library Research Laboratory - Torg 2030, x3615

GTA: Liangzhe Chen

- Email: [liangzhe@vt.edu](mailto:liangzhe@vt.edu)
- Office Hours: Friday 1pm-5pm in McB 106, and, for greater flexibility, you can arrange an individual meeting at your own convenience.

### C. References (free):

1. See the list on wiki page [ResourceList14](#) and the files in Resources/Resources2014 and Resources/References2014
2. Edward A. Fox and Jonathan P. Leidig. Digital Library Applications: CBIR, Education, Social Networks, eScience/Simulation, GIS. Morgan & Claypool Publishers, San Francisco, Feb. 2014 (in press), for Ch. 1 on CBIR. A copy of each of the four digital library books, including this one, book4, can be found in Resources/Resources2014 .
3. Gerald Millerson and Jim Owens. Video Production Handbook, 4th Edition, Focas Press, 2012, Print ISBN-13: 978-0-240-52080-3, Web ISBN-13: 978-1-136-04553-0 (for video projects) - accessible from VT Library site through databases, i.e., Safari

D. Lab support:

- The facilities of the Digital Library Research Laboratory (<http://www.dlib.vt.edu/>), and support by students working there (2030 Torgersen Hall), will be available to the class. This will include an 11-node cluster, running Hadoop and Solr, etc.
- There are two servers in the Computing Center, one focused on the CTRnet project, and the other supporting Ensemble and AlgoViz, that can be utilized as needed.

E. Field Trips and Guest Presentations and Activities (for details see [OutlineS14](#) in the wiki):

1. Multimedia

- Innovation Space
- TV Studio
- Videoconferencing
- Music
- ICAT/Center for the Arts

2. Hypertext

- VT Website
- CINET

3. Information Access:

- DLRL Cluster

F. Schedule (draft)

Details will be added as field trips and other activities are finalized. See wiki page [OutlineS14](#)

Schedule of Activities

Date	Activity
1/21	Introduction, Projects Overview
1/23	Introduction, Projects Overview

Date	Activity
1/28	Multimedia: (C) JPEG (Wallace article)
1/30	Multimedia: Lname A-L in TV Studio, Lname M-Z in Innovation Space
2/4	Multimedia: Lname M-Z in TV Studio, Lname A-L in Innovation Spac
2/6	Multimedia: (C) MPEG (by Didier Le Gall)
2/11	Multimedia: ICAT/Center for the Arts tour and presentation by Dr. Knapp
2/13	Multimedia: videoconferencing: Lname A-L to Torg. 1100C then Burruss 123A; Lname M-Z to Burruss 123A then Torg. 1100C; switching sites midway
2/18	Multimedia: Music (Charles Nichols, in AA7)
2/20	Multimedia: (C) MPEG4
2/25	Multimedia: (C) MP3
2/27	Multimedia Quiz
3/4	Midterm Presentation(1)
3/6	Midterm Presentation(2)
3/18	Hypertext: (C) Hypermedia (but might be done later if a field trip is scheduled)
3/20	Hypertext: (C) Amsterdam (but might be done later if a field trip is scheduled)
3/25	Hypertext: (C) SemanticWeb (but might be done later if a field trip is scheduled)
3/27	Hypertext: (C) PageRank (but might be done later if a field trip is scheduled)
4/1	Hypertext: guest lecture on VT Website, unless it is scheduled earlier
4/3	Hypertext: guest lecture on CINET, unless it is scheduled earlier
4/8	Hypertext Quiz
4/10	Information Access: IRlecture (but might be done later if a field trip is scheduled)
4/15	Information Access: (C) WittenCh, Facets (but might be done later if a field trip is scheduled)
4/17	Information Access: (C) XMLret, eBooks (but might be done later if a field trip is scheduled)
4/22	Information Access: (C) Explore, MIR (but might be done later if a field trip is scheduled)
4/24	Information Access: (C) Book4ch1 (but might be done later if a field trip is scheduled)

Date	Activity
4/29	Information Access: guest lecture on DLRL cluster, unless it is scheduled earlier
5/1	Final Presentation(1)
5/6	Final Presentation(2)
5/13	Final

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### **Grading Policies**

#### Needs

- If a student needs accommodations in the classroom, those requests should be funneled through Services for Students with Disabilities. Dr. Susan Angle and her staff will do the necessary documentation and then communicate the student needs to the faculty. Dr. Angle does not specify the nature of the disability in her communications. Each student has the right to not disclose their history or disability but may do so with individual faculty members if they wish.
- Any student with any special needs that might affect their classroom performance is invited to speak individually with the instructor, if they wish to.

#### Grading Categories and Points

- 33 points for Final, covering all aspects of the course
- 34 points for Term Project (see wiki page ProjectsS14), split up as follows: 4 Midterm presentation, 5 Final presentation, 10 Final report, 10 Final Deliverables and Results, 5 Instructor's Assessment
- 5 points for Quiz on Multimedia part of course (see wiki page OutlineS14)
- 5 points for Quiz on Hypertext part of course (see wiki page OutlineS14)
- 5 points for Concept Maps
- 10 points for Assignments related to readings and videos (see wiki page OutlineS14)
- 8 points for Supplemental Activities (reports on field trips, guest presentations)
- The instructor will total the points and then select cutoffs for each grade range, not necessarily using a curve or other standard assignment.
- The instructor reserves the right to adjust grades for unusual performance, such as on the final. There may be extra credit assignments.

#### Final

- The final should be held in the classroom as scheduled.
- This open book, open notes final may include questions taken from prior quizzes.
- Contact the instructor if you have a conflict and need a makeup.

### Term Projects

- Student groups will undertake class projects. Everyone should actively participate; that will be considered in peer evaluations and by the instructor.
- There will be a number of project groups, each size 2-4.
- Each project group will give a midterm presentation and a final presentation
- At the end of the semester, they also will prepare a final report, that will go into VTechWorks, with suitable metadata, and all deliverables provided.
- All project-related materials including peer reviews of group members (0-10 on quality, 0-10 on quantity), and client assessments (0-10 on quality, 0-10 on quantity), are due to the instructor by May 8.
- The scores of each group member will be scaled based on their peer evaluation and based on the client assessment.
- See also the Project Particulars section below.

### Questions and Answers

- When do I work in groups?
    - Individual work is required on: concept maps, the final, and individual quizzes.
    - Collaborative work is required for the term projects.
  - Can I get an Incomplete at end of term?
    - The grade of Incomplete will only be granted in extremely unusual circumstances. When granted, it will be the student's responsibility to gain access to necessary course materials, which will be complicated by the limited access afforded to labs.
  - How can I learn to use my time more effectively, and in general learn better how to study?
    - See <http://www.how-to-study.com/>
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### Project Particulars

#### Deadlines

- ALL PROJECT WORK IS DUE May 8.
- Project groups should form by January 30. Project pages must be updated, and approval must be obtained, by February 6. The client can update the wiki page, or send email to the instructor indicating approval: of the description, deliverables, timeline, roles, and other details. This then becomes a contract between the student team and the client, that will be the basis for project grading.
- Midterm project presentations will take place in class on March 4 and March 6. Clients should be invited to the presentation.
- Final project presentations will take place in class on May 1 and 6. Clients should be invited to the presentation.

#### Client Recommendation

- The client will judge how well the project objectives were met, how useful the end results will be for the client's purposes, how clear the documentation is so that changes or extensions are facilitated, and how much work was required. The client will notify the instructor of any special efforts made by particular member(s) of the project group, so they can be rewarded for such labor.

- The client will report to the instructor by May 8, two scores for each project group (0-10 on quality, 0-10 on quantity).

#### Presentations

- The in-class presentations should be characterized by a professional delivery, carefully rehearsed to fit into the minutes allowed, with clear graphics, audible speech/audio, and other forms of multimedia as appropriate. There should be a brief explanation of the project goals and of the history of the effort, comments on problems faced and lessons learned, and a demonstration or description of the project deliverables.
- The midterm presentations will be a rehearsal of the final presentations, except that for work not yet completed, the discussion will focus on plans.
- One useful site is <http://www.kumc.edu/SAH/OTEd/jradel/effective.html>

#### Documentation

- A written report is required to describe in more depth what is covered in the Final Presentation. Also, there must be a section for users, saying how the project should be used. (In some cases this may be limited to be a one-page handout or flyer, if user instructions and help are part of the project.)
- Every project must include discussion for those who may need to maintain, revise, or extend the project. This must describe all raw materials (tapes, disk files, etc.) used, how they were transformed, all intermediate files or results, documentation of any programs and their building or use, and give locations (physical or on computer file systems). A knowledgeable person reading this should be able to carry on the work or make revisions if there are problems.
- A one page abstract/executive summary also must be included.
- If you have screen dumps or other illustrations, have something like "Figure 2. Text of caption describing the figure" below the figure.
- If you have a table, at the top have something like "Table 3. Text of table title/description"
- Please work with personnel in University Libraries to upload a full archive of your work. They have a system called VTechWorks (<http://vtechworks.lib.vt.edu/>) for this. It allows you to enter metadata about what you are archiving, as well as the content itself. If they allow, it should include all raw materials related to the project, carefully labeled and packaged.
- For examples of what was done in the past, see the VTechWorks entries for CS4624 (<http://vtechworks.lib.vt.edu/handle/10919/18655>) and CS5604 (<http://vtechworks.lib.vt.edu/handle/10919/19081>).
- Learn about VTechWorks through the video at <http://www.youtube.com/watch?v=0I3bklg8wz4>
- To start to use it, contact Keith Gilbertson ([keith.gilbertson@vt.edu](mailto:keith.gilbertson@vt.edu)) and/or Nathan Hall ([nfhall@vt.edu](mailto:nfhall@vt.edu)) to get an account for your project group, that will allow you to upload files and descriptions.
- If VTechWorks can handle everything, that will suffice. Just make sure that both the instructor and the client can get all they need from that. Otherwise, find another way so that both the instructor and the client have complete copies.
- The report should be a professionally prepared document that 1) meets the needs of your client, and 2) documents your work. Often, this will require about 20 pages. While the structure will vary depending upon your specific effort (e.g., preparing a video, writing software), the organization below may provide a sufficiently comprehensive structuring:
  - Cover page (mentioning CS4624, Virginia Tech, Blacksburg, date, people in group, client, title, ...)
  - Table of Contents (and Table of Figures and/or Table of Tables if you have many tables or figures)
  - Executive Summary (1 page)
  - Users' Manual (telling everything a user of your product might want to know)
  - Developer's Manual (so someone can pick up where you left off, easily)
    - Concept Map (or maps if you wish) - explaining structure or flow or history or ...

- Inventory of all data files, program files - with explanation of each
  - For interactive programs: screen dumps
  - For videos: Storyboard (see for example <http://www.techteachers.com/digstory/storyboards.htm>), Script
  - Lessons Learned (a history, allowing you to reflect on your experience)
    - Timeline/schedule
    - Problems
    - Solutions
  - Acknowledgements (listing especially the client, with their contact information)
  - References
- References should be in accord with standard bibliographic techniques. Give as complete information as possible for each, so it easy for a reader to find what you referred to. Don't just give a URL since if that changes people won't find anything - always have authors/editors/creators, title, year, etc. it would help for you to get used to standard formats like those from ACM ([http://www.acm.org/publications/submissions/latex\\_style](http://www.acm.org/publications/submissions/latex_style)) or IEEE-CS ([http://www.computer.org/portal/web/publications/style\\_refs](http://www.computer.org/portal/web/publications/style_refs)). These can be handled manually, or you can use EndNote with Word, or BibTeX if you use LaTeX.

#### Quality

- The project quality is measured in terms of the quality of its elements, their integration, and how the deliverables satisfy the goals of the project. Video, audio, images, scripting, programs, user-interface, and other aspects will all be assessed. All project specific factors will be considered.

#### Peer Evaluations

- Each student will provide 2 numbers for each other project group member. One will reflect the quality of that student's work and the other the amount of work.
- Each number should be on a scale of 0 to 10, where 0 represents no contribution and 10 represents superlative contribution. It is important that these numbers be honestly assigned. If a student turns in the same numbers for all group members, those scores will be ignored.
- If you are the only member in your project group, you don't need to turn in the peer evaluation scores. Your peer evaluation scores will be given by the instructor instead of yourself.

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#### The Virginia Tech Honor Code

- The Honor Code will be strictly enforced in this course. All assignments submitted shall be considered graded work, unless otherwise noted. All aspects of your coursework are covered by the Honor System. Any suspected violations of the Honor Code will be promptly reported to the Honor System. Honesty in your academic work will develop into professional integrity. The faculty and students of Virginia tech will not tolerate any form of academic dishonesty.

COMMISSION ON FACULTY AFFAIRS Resolution 93-94B

- Policy on Classroom Attendance
- Adopted by CFA on November 19, 1993
- Whereas, Virginia Polytechnic Institute and State University is committed to providing high quality education to its students, and Whereas, attendance at classes is essential to their obtaining that education, and Where as, the Faculty Handbook as currently written seems to diminish the importance of attending classes, and Whereas, the Faculty Handbook and Policy Statement 6330 conflict with each other, Be it therefore resolved that University policy and sections 3.6.1 and 3.6.2 of the Faculty Handbook be revised as follows:
- 3.6.1 Syllabus and Performance Expectation
  - Faculty are expected to provide students with a course syllabus on the first day of classes each semester, including course objectives, topical outlines, and the expected performance for which grades will be assigned as well as the instructor' s attendance policy if any. Also included should be a statement on the Honor System and its application to the particular course. The syllabus should also include information about the instructor's office hours and how he/she can be reached directly or through the departmental office during normal working hours.
- 3.6.2 Class Attendance
  - Class meetings are an integral part of most courses and the central component of many. Therefore, both faculty and students are expected to meet at all regularly scheduled times, except for cancellations announced on a university-wide basis by appropriate authority.
  - When faculty cannot meet a class, it is their responsibility to notify their department head or chair as promptly as possible so that appropriate measures can be provided for the missed classes.
  - When students cannot attend a class, it is their responsibility to make arrangements for any work missed as soon as possible.
  - In cases of prolonged absences, students may ask their academic deans to notify their instructors of the reason for their absence.



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## Wiki for CS4624, Spring Semester 2014

This site is under construction; changes are being made.

This page is the wiki [Home](#) page for this course. Anyone in the class can add new pages to our wiki, or edit any page. You can change any page by clicking on the edit link above. We can use the wiki for many purposes. Explore! Learn! Share! Have fun!

If you want to experiment a little, click on [test](#) and when you get to that page use the Edit option near the top of the frame to make tests.

To learn about concept maps, which we will use to aid learning and discussion, see [CmapsS14](#).

Much useful content is available under Resources; see a summary of the most important: [ResourceList14](#)

Other information about CS4624 may be found using other parts of our Scholar site: Announcements, Calendar, Email Archive, Syllabus, Assignments, Tests & Quizzes, Drop Box, Gradebook, Roster, Statistics, etc. Please be sure to study the Syllabus carefully.

## Projects

Please see [ProjectsS14](#) for details on the term project activities. See also discussion about them in Piazza. Further, to learn about different types of projects, or to find educational resources to help with those, see [ProjectTypesS14](#) - where you also can make edits as in the Assignments "Add educational resources" and "Comment on educational resources". [ProjectRelatedS14](#) gives info. on funded projects that relate.

## Outline

Please see [OutlineS14](#) for the details of class activities and resources related.

## This year's information (in alphabetical order) can be found at:

- [CmapsS14](#)
- [OutlineS14](#)
- [ProjectRelatedS14](#)
- [ProjectsS14](#)
- [ProjectTypesS14](#)

- [ResourceList14](#)

## Old information

Last year's info can be found at:

- [CmapsS13](#)
- [EffectivePresentations13](#)
- [FieldTrips13](#)
- [Modules13](#)
- [OutlineS13](#)
- [Schedule13](#)
- [TeamS13](#)
- [ProjectRelatedS13](#)
- [ProjectsS13](#)
- [ProjectTypesS13](#)

The 2012 info can be found at:

- [OutlineS12](#)
- [Schedule12](#)
- [TeamS12](#)
- [FieldTrips12](#)
- [ProjectsS12](#)
- [EffectivePresentations12](#)
- [ProjectTypesS12](#)

The 2011 info can be found at:

- [ProjectsS11](#)
- [OutlineS11](#)
- [Schedule11](#)
- [TeamS11](#)
- [FieldTrips](#)
- [Modules](#)
- [EffectivePresentations](#)

The 2010 info can be found at:

- [ProjectsS10](#)
- [OutlineS10](#)
- [TeamS10](#)

The 2009 info can be found at:

- [ProjectsS09](#)
- [OutlineS09](#)
- [TeamS09](#)

## Recently changed pages

Changes since Jan 12, 2014 3:35 PM

- [4624s14dlrcluster](#) was last modified Feb 11, 2014 3:01 PM by Sunshin Lee
- [4624s14animalrescue](#) was last modified Feb 11, 2014 12:08 PM by Jackie Falatko
- [6604s14russianflu](#) was last modified Feb 11, 2014 11:43 AM by Sam Fisher
- [6604s14tweetsnry](#) was last modified Feb 11, 2014 2:08 AM by Edward Fox
- [6604s14idealpages](#) was last modified Feb 11, 2014 1:37 AM by Edward Fox
- [4624s14videoaccessibility](#) was last modified Feb 11, 2014 1:31 AM by Edward Fox
- [4624s14vtwebarchiving](#) was last modified Feb 11, 2014 1:09 AM by Edward Fox
- [4624s14contempvideoweb](#) was last modified Feb 10, 2014 1:41 PM by Edward Fox
- [Projectss14](#) was last modified Feb 10, 2014 1:33 PM by Ken Pham
- [4624s14vtwordpress](#) was last modified Feb 10, 2014 1:32 PM by Ken Pham
- [4624s14collegiatetimes](#) was last modified Feb 9, 2014 9:47 PM by Edward Fox
- [4624s14collabcreativitywebsite](#) was last modified Feb 9, 2014 9:42 PM by Edward Fox
- [4624s14btimporter](#) was last modified Feb 9, 2014 9:30 PM by Edward Fox
- [6604s14idealcompiling](#) was last modified Feb 9, 2014 8:25 PM by Edward Fox
- [4624s14etddberrors](#) was last modified Feb 9, 2014 6:16 PM by Luke Schmader
- [6604s14idealfocusedcrawling](#) was last modified Feb 9, 2014 3:26 PM by Edward Fox
- [6604s14xpantrac](#) was last modified Feb 6, 2014 10:38 PM by Edward Fox
- [Outlines14](#) was last modified Feb 6, 2014 11:39 AM by Edward Fox
- [4624s2014mpegdiscussion](#) was last modified Feb 5, 2014 11:45 PM by Edward Fox
- [4624s14idealspreadsheet](#) was last modified Feb 5, 2014 4:57 PM by Tony Ardura
- [4624s14vims](#) was last modified Feb 5, 2014 4:33 PM by Edward Fox
- [Projectypess14](#) was last modified Feb 5, 2014 3:53 PM by Tucker Legard
- [4624s14dspaceembargo](#) was last modified Feb 5, 2014 2:47 PM by Edward Fox
- [4624s14iawarewrite](#) was last modified Jan 31, 2014 7:20 PM by Edward Fox

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## OutlineS14

Please see the Syllabus for more dates. See below for sequencing and for supporting YouTube videos.

### Resources Outline

Short	Path	Description
INTRODUCTION		
Intro	Resources/20140121CS4624Intro.pptx	1/21: PowerPoint of introduction to the class
<a href="#">Home</a>		1/21: Overview of the class Wiki, starting from its homepage
<a href="#">ProjectsS14</a>		1/21 and 1/23: Discussion of term projects
CmapsPPT	Instructions/ConceptMapsVTCS4624S13.ppt, .pdf	1/23: <a href="#">CmapsS14</a> and PowerPoint of introduction to concept maps
1. MULTIMEDIA		
VideoTips	Instructions/videography_tips.pdf	(used when needed) PDF file from Innovation Space giving tips on videography
VideoProd		(used when needed) <a href="http://proquest.safaribooksonline.com.ezproxy.lib.vt.edu:8080/book/video/9780240520803">http://proquest.safaribooksonline.com.ezproxy.lib.vt.edu:8080/book/video/9780240520803</a> -- Video Production Handbook, 4th Edition. Gerald Millerson; Jim Owens. Focal Press 2012
U-JPEGshort		YouTube - How JPEG Works (3 min) <a href="http://www.youtube.com/watch?v=9gPHZEXoMKc">http://www.youtube.com/watch?v=9gPHZEXoMKc</a>
U-JPEGcomp		YouTube - Jpeg and Image Compression for dummies (4 min) <a href="http://www.youtube.com/watch?v=elc-KSs-3xc">http://www.youtube.com/watch?v=elc-KSs-3xc</a>
U-LossyComp		YouTube - Introduction to Lossy Image Data Compression Part1 (11 min) <a href="http://www.youtube.com/watch?v=2HgyWnwiRzk">http://www.youtube.com/watch?v=2HgyWnwiRzk</a>

U-AVcomp		YouTube - Audio and video compression (57 min) <a href="http://www.youtube.com/watch?v=rC16fhvXZOo">http://www.youtube.com/watch?v=rC16fhvXZOo</a>
JPEG (C)	Resources2014/p30-wallace.pdf	1/28: Gregory K. Wallace. 1991. The JPEG still picture compression standard. Commun. ACM 34, 4 (April 1991), 30-44. DOI=10.1145/103085.103089 <a href="http://doi.acm.org/10.1145/103085.103089">http://doi.acm.org/10.1145/103085.103089</a> . See <a href="#">4624S2014JPEGdiscussion</a> for more details.
FieldTrip		1/30: Lname A-L TV Studio, Lname M-Z Innovation Space
FieldTrip		2/4: Lname M-Z TV Studio, Lname A-L Innovation Space
U-MPEG		YouTube - MPEG Compression & how it works ... (10 min) <a href="http://www.youtube.com/watch?v=P7abyWT4dss">http://www.youtube.com/watch?v=P7abyWT4dss</a>
MPEG (C)	Resources2014/p46-le_gall.pdf	2/6: Didier Le Gall. 1991. MPEG: a video compression standard for multimedia applications. Commun. ACM 34, 4 (April 1991), 46-58. DOI=10.1145/103085.103090 <a href="http://doi.acm.org/10.1145/103085.103090">http://doi.acm.org/10.1145/103085.103090</a> . See <a href="#">4624S2014MPEGdiscussion</a> for more details.
FieldTrip		2/11: ICAT/Center for the Arts
FieldTrip		2/13: Videoconferencing: Lname A-L to Torg. 1100C then Burruss 123A; Lname M-Z to Burruss 123A then Torg. 1100C; switching sites midway
FieldTrip		2/18: Music (guest lecture in AA7 by Charles Nichols)
MPEG4 (C)	Resources2014/p5-puri.pdf	2/20: Atul Puri and Alexandros Eleftheriadis. 1998. MPEG-4: an object-based multimedia coding standard supporting mobile applications. Mob. Netw. Appl. 3, 1 (June 1998), 5-32. DOI=10.1023/A:1019160312366 <a href="http://dx.doi.org/10.1023/A:1019160312366">http://dx.doi.org/10.1023/A:1019160312366</a>
U-MP3works		YouTube - How an MP3 player works (5 min - on ear, masking) <a href="http://www.youtube.com/watch?v=qmXIDDBE4oU">http://www.youtube.com/watch?v=qmXIDDBE4oU</a>
U-MP3audible		YouTube - Audible effect of MP3 compression (2 min) <a href="http://www.youtube.com/watch?v=BxiveVjqD68">http://www.youtube.com/watch?v=BxiveVjqD68</a>
MP3 (C)	Resources2014/MP3usingMatlab.pdf	2/25: Pages 1-9, 14 of: Analysis of the MPEG-1 Layer III (MP3) Algorithm Using MATLAB doi:10.2200/S00382ED1V01Y201110ASE009
MidiTut		YouTube - What is MIDI? What is a MIDI Controller? Guide and Tutorial (9 min) <a href="http://www.youtube.com/watch?v=IqTtGA0Bkc">http://www.youtube.com/watch?v=IqTtGA0Bkc</a>
MidiCont		YouTube - MIDI Controller basics tutorial - The DSP Project (8 min) <a href="http://www.youtube.com/watch?v=IAI-Rn2H5qA">http://www.youtube.com/watch?v=IAI-Rn2H5qA</a>
Midi Intro	Resources2014/intromidi.pdf	Tutorial: Introduction to MIDI, from <a href="http://www.midi.org/aboutmidi/intromidi.pdf">http://www.midi.org/aboutmidi/intromidi.pdf</a>
Midi JavaUse		<a href="http://docs.oracle.com/javase/7/docs/api/javasound/midi/package-summary.html">http://docs.oracle.com/javase/7/docs/api/javasound/midi/package-summary.html</a>

Midi JavaSW		<a href="http://docs.oracle.com/javase/7/docs/api/javax/sound/midi/package-summary.html">http://docs.oracle.com/javase/7/docs/api/javax/sound/midi/package-summary.html</a>
2. Hypertext		
GuestLectures		VT Website, CINET
Hypermedia (C)	Resources2014/HypermediaGenes.pdf	Pages 7-23, 35-44 of: Hypermedia Genes doi:10.2200/S00223ED1V01Y200910ICR011
Amsterdam (C)	Resources2014/p50-hardman.pdf	Lynda Hardman, Dick C. A. Bulterman, and Guido van Rossum. 1994. The Amsterdam hypermedia model: adding time and context to the Dexter model. Commun. ACM 37, 2 (February 1994), 50-62. DOI=10.1145/175235.175239 <a href="http://doi.acm.org/10.1145/175235.175239">http://doi.acm.org/10.1145/175235.175239</a>
SemanticWeb (C)		The Semantic Web. Tim Berners-Lee, James Hendler and Ora Lassila. Scientific American May 17, 2001. <a href="http://www.scientificamerican.com/article.cfm?id=the-semantic-web">http://www.scientificamerican.com/article.cfm?id=the-semantic-web</a>
U-SemWeb		YouTube - The Semantic Web of Data Tim Berners-Lee (8 mins) <a href="http://www.youtube.com/watch?v=HeUrEh-nqtU">http://www.youtube.com/watch?v=HeUrEh-nqtU</a>
U-SemWebIntro		YouTube - Intro to the Semantic Web (6 min) <a href="http://www.youtube.com/watch?v=OGq8A2zfWKg">http://www.youtube.com/watch?v=OGq8A2zfWKg</a>
U-PageRank		YouTube - Introduction to PageRank - Google Algorithm - Matt Cutts (6 min) <a href="http://www.youtube.com/watch?v=g9p1jj4EFLc">http://www.youtube.com/watch?v=g9p1jj4EFLc</a>
PageRank (C)		The Anatomy of a Large-Scale Hypertextual Web Search Engine. Sergey Brin and Lawrence Page. <a href="http://infolab.stanford.edu/~backrub/google.html">http://infolab.stanford.edu/~backrub/google.html</a>
CINET		VT site <a href="http://cinet.vbi.vt.edu/cinet_new/">http://cinet.vbi.vt.edu/cinet_new/</a>
GraphTheory		Introduction, Basic Notions in Graph Theory (54 min) <a href="http://videlectures.net/fmf07_pisanski_ibn/">http://videlectures.net/fmf07_pisanski_ibn/</a>
GraphSocial		Graph Mining Techniques for Social Media Analysis (25 min) <a href="http://videlectures.net/icwsm08_mcglohon_gmtsma/">http://videlectures.net/icwsm08_mcglohon_gmtsma/</a>
3. Information Access		
GuestLecture		DLRL Cluster
IRlecture	IAallFox20100413.pdf	PDF of lecture on information retrieval for part 3 of the course
WittenCh (C)	WDch4CS4624S06.pdf	PDF of Preprint chapter on information retrieval from Witten et al. book
Facets (C)	Resources2014/FacetedSearch.pdf	Pages 3-26, 39-43 of: Faceted Search doi:10.2200/S00190ED1V01Y200904ICR005
XMLret (C)	Resources2014/XMLretrieval.pdf	Pages 1-28 of: XML Retrieval doi:10.2200/S00203ED1V01Y200907ICR007

eBooks (C)	Resources2014/ReadingWritingEBook.pdf	Pages 38-56 of: Reading and Writing the Electronic Book doi:10.2200/S00215ED1V01Y200907ICR009
Explore (C)	Resources2014/ExploratorySearch.pdf	Pages 1-23 of: Exploratory Search: Beyond the Query-Response Paradigm doi:10.2200/S00174ED1V01Y200901ICR003
MIR (C)	Resources2014/MIR.pdf	Pages 1-20, 41-45, 85-88 of: Multimedia Information Retrieval doi:10.2200/S00244ED1V01Y200912ICR010
Lucene		Apache Lucene lucene.apache.org
U-Solr		YouTube - Solr in 5 Minutes - Ignite Style Presentation (5 min) <a href="http://www.youtube.com/watch?v=ClhrrPzJWml">http://www.youtube.com/watch?v=ClhrrPzJWml</a>
U-SolrCloud		YouTube - Solr 4: The SolrCloud Architecture (33 min) <a href="http://www.youtube.com/watch?v=eVK0wLkLw9w">http://www.youtube.com/watch?v=eVK0wLkLw9w</a>
SolrRef		Apache Solr Reference Guide <a href="https://cwiki.apache.org/confluence/display/solr/Apache+Solr+Reference+Guide">https://cwiki.apache.org/confluence/display/solr/Apache+Solr+Reference+Guide</a>
Hadoop1		YouTube - What Is Hadoop? (17 min) <a href="http://www.youtube.com/watch?v=l0k8VBWzGXw">http://www.youtube.com/watch?v=l0k8VBWzGXw</a>
Hadoop2		YouTube - Hadoop Tutorial: Introducing Apache Hadoop (18 min) <a href="http://www.youtube.com/watch?v=6UtD53BzDNk&amp;list=PLoEDV8GCixReEs3dFbILHM0sUSi0XemHr">http://www.youtube.com/watch?v=6UtD53BzDNk&amp;list=PLoEDV8GCixReEs3dFbILHM0sUSi0XemHr</a>
Hadoop3		YouTube - Basic Introduction to Apache Hadoop (14 min) <a href="http://www.youtube.com/watch?v=OoEpf6yga8&amp;list=PLoEDV8GCixReEs3dFbILHM0sUSi0XemHr">http://www.youtube.com/watch?v=OoEpf6yga8&amp;list=PLoEDV8GCixReEs3dFbILHM0sUSi0XemHr</a>
Book4 ch1 (C)	Resources2014/book4-20140119.pdf	Edward A. Fox and Jonathan P. Leidig. Digital Library Applications: CBIR, Education, Social Networks, eScience/Simulation, GIS. Morgan and Claypool Publishers, San Francisco, Feb. 2014
OPTIONAL		
Book1	Resources2014/book1Published.pdf	Edward A. Fox, Marcos Andre Goncalves, and Rao Shen. Theoretical Foundations for Digital Libraries: The 5S (Societies, Scenarios, Spaces, Structures, Streams) Approach. Morgan & Claypool Publishers, San Francisco, July 2012, 180 pages, ISBN paperback 9781608459100, ebook 9781608459117, DOI 10.2200/S00407ED1V01Y201203CRM004, <a href="http://www.morganclaypool.com/doi/abs/10.2200/S00434ED1V01Y201207ICR022">http://www.morganclaypool.com/doi/abs/10.2200/S00434ED1V01Y201207ICR022</a> , supplementary website <a href="https://sites.google.com/a/morganclaypool.com/dlibrary/">https://sites.google.com/a/morganclaypool.com/dlibrary/</a>
Book2	Resources2014/book2Published.pdf	Rao Shen, Marcos Andre Goncalves, and Edward A. Fox. Key Issues Regarding Digital Libraries: Evaluation and Integration. Morgan & Claypool Publishers, San Francisco, Feb. 2013, 110 pages, ISBN paperback 9781608459124, ebook 9781608459131, DOI 10.2200/S00474ED1V01Y201301ICR026, <a href="http://www.morganclaypool.com/doi/abs/10.2200/S00474ED1V01Y201301ICR026">http://www.morganclaypool.com/doi/abs/10.2200/S00474ED1V01Y201301ICR026</a>

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Book3	Resources2014/book3-20140119.pdf	Edward A. Fox and Ricardo da Silva Torres. Digital Library Technologies: Complex Objects, Annotation, Ontologies, Classification, Extraction, and Security. Morgan and Claypool Publishers, San Francisco, Feb. 2014
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Key: (C) means that each student will prepare a concept map prior to the discussion of this work in class.



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## Resourcelist14

### Summary table from Resources

Short	Path	Description
Intro	20140121CS4624Intro.pptx	PowerPoint of introduction to the class
OldSyll	CS4624OfficialSyllabus.pdf	PDF of Official syllabus for CS4624 (can be ignored)
	Modules/*	PowerPoint and PDF files about useful tools related to our course, like Hadoop, Solr, and Weka
Amsterdam	Resources2014/p50-hardman.pdf	Lynda Hardman, Dick C. A. Bulterman, and Guido van Rossum. 1994. The Amsterdam hypermedia model: adding time and context to the Dexter model. Commun. ACM 37, 2 (February 1994), 50-62. DOI=10.1145/175235.175239 <a href="http://doi.acm.org/10.1145/175235.175239">http://doi.acm.org/10.1145/175235.175239</a>
Book1	Resources2014/book1Published.pdf	Edward A. Fox, Marcos Andre Goncalves, and Rao Shen. Theoretical Foundations for Digital Libraries: The 5S (Societies, Scenarios, Spaces, Structures, Streams) Approach. Morgan & Claypool Publishers, San Francisco, July 2012, 180 pages, ISBN paperback 9781608459100, ebook 9781608459117, DOI 10.2200/S00407ED1V01Y201203CRM004, <a href="http://www.morganclaypool.com/doi/abs/10.2200/S00434ED1V01Y201207ICR022">http://www.morganclaypool.com/doi/abs/10.2200/S00434ED1V01Y201207ICR022</a> , supplementary website <a href="https://sites.google.com/a/morganclaypool.com/dlibrary/">https://sites.google.com/a/morganclaypool.com/dlibrary/</a>
Book2	Resources2014/book2Published.pdf	Rao Shen, Marcos Andre Goncalves, and Edward A. Fox. Key Issues Regarding Digital Libraries: Evaluation and Integration. Morgan & Claypool Publishers, San Francisco, Feb. 2013, 110 pages, ISBN paperback 9781608459124, ebook 9781608459131, DOI 10.2200/S00474ED1V01Y201301ICR026, <a href="http://www.morganclaypool.com/doi/abs/10.2200/S00474ED1V01Y201301ICR026">http://www.morganclaypool.com/doi/abs/10.2200/S00474ED1V01Y201301ICR026</a>
Book3	Resources2014/book3-20140119.pdf	Edward A. Fox and Ricardo da Silva Torres. Digital Library Technologies: Complex Objects, Annotation, Ontologies, Classification, Extraction, and Security. Morgan and Claypool Publishers, San Francisco, Feb. 2014
Book4	Resources2014/book4-20140119.pdf	Edward A. Fox and Jonathan P. Leidig. Digital Library Applications: CBIR, Education, Social Networks, eScience/Simulation, GIS. Morgan and Claypool Publishers, San Francisco, Feb. 2014
CmapsPDF	Instructions/ConceptMapsVTCS4624S13.pdf	PDF of introduction to concept maps

CmapsPPT	Instructions/ConceptMapsVTCS4624S13.ppt	PowerPoint of introduction to concept maps
eBooks	Resources2014/ReadingWritingEBook.pdf	Pages 38-56 of: Reading and Writing the Electronic Book doi:10.2200/S00215ED1V01Y200907ICR009
Explore	Resources2014/ExploratorySearch.pdf	Pages 1-23 of: Exploratory Search: Beyond the Query-Response Paradigm doi:10.2200/S00174ED1V01Y200901ICR003
Facets	Resources2014/FacetedSearch.pdf	Pages 3-26, 39-43 of: Faceted Search doi:10.2200/S00190ED1V01Y200904ICR005
Hypermedia	Resources2014/HypermediaGenes.pdf	Pages 7-23, 35-44 of: Hypermedia Genes doi:10.2200/S00223ED1V01Y200910ICR011
IRlecture	IAallFox20100413.pdf	PDF of lecture on information retrieval for part 3 of the course
JPEG	Resources2014/p30-wallace.pdf	Gregory K. Wallace. 1991. The JPEG still picture compression standard. Commun. ACM 34, 4 (April 1991), 30-44. DOI=10.1145/103085.103089 <a href="http://doi.acm.org/10.1145/103085.103089">http://doi.acm.org/10.1145/103085.103089</a> . See <a href="4624S2014JPEGdiscussion">4624S2014JPEGdiscussion</a> for more details.
Midi	Resources2014/intromidi.pdf	Tutorial: Introduction to MIDI, from <a href="http://www.midi.org/aboutmidi/intromidi.pdf">http://www.midi.org/aboutmidi/intromidi.pdf</a>
MIR	Resources2014/MIR.pdf	Pages 1-20, 41-45, 85-88 of: Multimedia Information Retrieval doi:10.2200/S00244ED1V01Y200912ICR010
MP3	Resources2014/MP3usingMatlab.pdf	Pages 1-9, 14 of: Analysis of the MPEG-1 Layer III (MP3) Algorithm Using MATLAB doi:10.2200/S00382ED1V01Y201110ASE009
MPEG	Resources2014/p46-le_gall.pdf	Didier Le Gall. 1991. MPEG: a video compression standard for multimedia applications. Commun. ACM 34, 4 (April 1991), 46-58. DOI=10.1145/103085.103090 <a href="http://doi.acm.org/10.1145/103085.103090">http://doi.acm.org/10.1145/103085.103090</a>
MPEG4	Resources2014/p5-puri.pdf	Atul Puri and Alexandros Eleftheriadis. 1998. MPEG-4: an object-based multimedia coding standard supporting mobile applications. Mob. Netw. Appl. 3, 1 (June 1998), 5-32. DOI=10.1023/A:1019160312366 <a href="http://dx.doi.org/10.1023/A:1019160312366">http://dx.doi.org/10.1023/A:1019160312366</a>
VideoTips	Instructions/videography_tips.pdf	PDF file from Innovation Space giving tips on videography
WittenCh	WDch4CS4624S06.pdf	PDF of Preprint chapter on information retrieval from Witten et al. book
XMLret	Resources2014/XMLretrieval.pdf	Pages 1-28 of: XML Retrieval doi:10.2200/S00203ED1V01Y200907ICR007

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## CmapsS14 - Concept Maps

### Resources:

- CMapTools (<http://cmap.ihmc.us>)
  - For courses and in support of research and education at Virginia Tech
  - Introductory slides: see the PDF or PPT version of ConceptMapsVTCS4624S13 in Resources/Instructions.
  - Developed by the Institute for the Interdisciplinary Study of Human & Machine Cognition (IHMC), established in 1990 as an interdisciplinary research unit of the University of West Florida
  - Download Instructions: If you want to use Cmap Tools, and it is not running on your computer, please start with the download process on page <http://cmap.ihmc.us/download/>.
  - Use the Help menu in the client application
- CMapTools documents from IHMC
  - Concept map on concept maps: [http://cmaskm.ihmc.us/servlet/SBReadResourceServlet?rid=1064009710027\\_1483270340\\_27090&partName=htmltext](http://cmaskm.ihmc.us/servlet/SBReadResourceServlet?rid=1064009710027_1483270340_27090&partName=htmltext)
  - Documentation page: white papers, videos, publications, and many other useful links on using CMapTools: <http://cmap.ihmc.us/Documentation/>
  - White papers: includes papers on permissions and access, which is useful for cmapserver administration: <http://cmap.ihmc.us/Documentation/WhitePapers.php>
  - Videos: <http://cmap.ihmc.us/videos/index.php>
- Suggestions for steps in building a concept map: [http://pavo.ihmc.us/servlet/SBReadResourceServlet?rid=1064009710027\\_279131382\\_27088&partName=htmltext](http://pavo.ihmc.us/servlet/SBReadResourceServlet?rid=1064009710027_279131382_27088&partName=htmltext)

### Background

- A brief history/background of concept maps ([http://en.wikipedia.org/wiki/Concept\\_map](http://en.wikipedia.org/wiki/Concept_map))
  - Based in David Ausubel's ([http://en.wikipedia.org/wiki/David\\_Ausubel](http://en.wikipedia.org/wiki/David_Ausubel)) subsumption theory - "the most important single factor influencing learning is what the learner already knows."
  - Proposed by Joseph Novak (professor at Cornell), who wrote "Learning How to Learn" in 1984.
  - This led to the study of concept maps at the Institute for Human and Machine Cognition (<http://www.ihmc.us>)
- Different features of a Concept Map
  - Concepts
  - Connections

- Linking phrases
- Resources and how they can be linked to a concept
- Linking phrases should consist of verbs, conjunctions, prepositions, etc. and are not "concepts" themselves. Ideally you should be able to read each proposition as an English sentence (even if it is a stilted one).
- Different Layouts of a Concept Map
  - Hierarchical layout (top-down), endorsed by Novak
  - Star-shaped, with key concepts in the center
  - Many other layouts are possible, and can be enhanced by using color, video, etc.

## Creating accounts

- You'll be asked to enter your account information the first time you run Cmaptools. Use your own PID as username, and use the password you get from the TA, so that you have access to your own folder on the server. After that you can always find your account information in edit->preference->user info.

## Server

- Accessing your folder on the Virginia Tech DLRL (USA) concept map server
  - Go to "Shared CMaps in Places" under Window. If Virginia Tech DLRL (USA) is not in the list, click "add place", check "add a place that is not in the list", input "128.173.49.46" as the internet host name, don't make change to those two port numbers. Then you should see the Virginia Tech DLRL server in Shared CMaps in Places. Double click on it to see details.
  - Go to Old\_Classes if you want to see old Cmaps related to this course.
  - Submit your Cmaps to your directory, inside the Students directory under CS4624S14.
- To submit a Cmap
  - After you finish your Cmap, go to File->Save CMap as, select places and find Virginia Tech DLRL (USA) and your folder, and save your work in it.

## In-Class Activity

- You may be asked to present your Cmap in class. If so, either you or the instructor can navigate to your folder on the server and project that.
- Alternatively, if there are problems, you can show your Cmap from where you have it saved on your local computer; it always is wise to keep a local copy.

## Problems connecting to the server

- CMapTools installation on your personal machines:
  - The first time you install CMapTools, it will ask you to enter your profile. Enter the username and password that you use to access your folder on the Cmap server - Virginia Tech DLRL.
  - This should give you access to your folder on the server and you need NOT enter the username and password again to access your folder on the server.
- CMapTools installation on a public machine:
  - After you login to the machine, you will be asked to enter your profile the first time you start CMapTools. Enter the username and password that you use to access your folder on the cmap server - Virginia Tech DLRL.
  - This should give you access to your folder on the server and you need NOT enter the username and password again to access your folder on the server.
  - With the machines in a lab, you will need to enter your profile every time you login. Just make sure that the username and password are the same as those that you use to access your folder on the server.
- If you forget your password to access your folder on the server, contact the TA and he will reset your password for you.

## Evaluation of Concept Maps

- Cmaps can be evaluated on many criteria. User studies, showing utility for various purposes and tasks, can be particularly helpful. Many devices can be used, in various combinations, to achieve a particular desired effect, e.g., providing a summary or study aid.
- For the purposes of grading, 1/2 of the points will be given for each of 2 broad areas:
- Presentation is one key area (50%):
  - Layout
    - Supporting habits like left to right and top to bottom
    - Clustering
  - Color
    - Emphasis
    - Grouping
  - Organization
    - Hierarchical showing taxonomy
    - Network/graph showing ontology or flow
    - Star or other schemes related to layout
- Content is another key area (50%):
  - Coverage of material
    - Accuracy
    - Breadth
    - Depth

- Detail
- Terminology
- Use of auxiliaries (allowed by Cmap tools)
  - Notes
  - URLs for web pages related, typically as examples
  - Multimedia resources

## Tips for concept maps from textbook chapters

- Content sources for concepts include words or short phrases of key points from the:
  - Objectives for the chapter
  - Headings of sections and sub-sections
  - Italicized and/or bolded terms in the body of the text
  - Interactive tutorials, programming exercises, and worksheets
  - Captions of figures, titles and headings of tables
- Presentation should be approached first with regard to organization and then regarding layout, etc.:
  - One organization comes from the sections, sub-sections, and contained tables and figures
  - A cross-cutting organization comes from the objectives of the chapter
  - Connections should be made when alternatives are each explained, when a sequence or workflow is required with several steps, or when one goes between generalities and specifics/examples

Back to [Home](#)

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## ProjectsS14 - Term Project Information for CS4624 Spring 2014

Please follow instructions below to examine and then sign up for your term project group. Please talk with others in the class to form groups. Everyone must be settled in a group by Jan. 30 and the final contract on each project must be approved by all by Feb. 6.

### Project Criteria

1. Projects must relate to Multimedia, Hypertext, and/or Information Access.
2. Projects must be approximately completed early, thoroughly checked, refined, and rechecked. Points will be taken off if the final deliverables are not truly useful and usable, with a proper hand-off and transition completed.
3. A web site development effort alone is not sufficiently related, unless there also are multimedia or information access aspects.
4. Projects are normally undertaken by a group of size 2-4. 1-person groups only are allowed if there is a grad student doing related work with whom you will coordinate.

### Project List to Select From (New)

Project	Names Signing Up	More?	Description
<a href="#">4624S14AnimalRescue</a>	Falatko, Henslee		Further work with Drupal system for Giles Animal Rescue
<a href="#">4624S14BTDDimporter</a>	Brink, Piorkowski, Bice	No	Import into VTechWorks scanned bound theses and dissertations (BTDs)
<a href="#">4624S14CollabCreativityWebsite</a>	López-Gómez, Singh	No	Website supporting collaborative creative art form development
<a href="#">4624S14CollegiateTimes</a>	O'Hara, Lin	No	Create a page for public access, searching and querying of Collegiate Times grade database
<a href="#">4624S14ContempVideoWeb</a>	Thompson, Katz. Anderson, Ryan. Kindel, Dave. Nalls, Brandon	No	Create a composite video and website for contemplative practice
<a href="#">4624S14CSseminar</a>		No	Computer Science Seminar Series Video Capture Project

<a href="#">6604S14DLplanning</a>			The DL planning tool developed by Sai Tulasi Neppali should be enhanced and applied
<a href="#">4624S14DLRLcluster</a>	Pontani, Joseph. Lech, Adam. Bollinger, Matthew	No	Get information access software working on 11-node cluster in DLRL
<a href="#">4624S14DSpaceDOI</a>			Add DOI support to DSpace submission workflow
<a href="#">4624S14DSpaceEmbargo</a>	Schiefer, Sharma	No	Add embargo support to DSpace batch import command
<a href="#">4624S14ETDdbErrors</a>	Schmader, Mestre	No	Detecting and correcting coding errors in ETD-db database
<a href="#">4624S14ETDsWithheld</a>			Scheduled release of withheld ETDs
X <a href="#">4624S14IAWArewrite</a>	CANCELED BY CLIENT!		Reimplement the International Archive of Women in Architecture (IAWA) Biographical Database
<a href="#">6604S14IDEALfocusedCrawling</a>	Bonnefond, Ritchie, Menzel, Tedesco, Morris, Patel, Zheng	No	Improve the focused crawling for the IDEAL project using sources and publishing models
<a href="#">6604S14IDEALpages</a>	Aly, Gulotta + 2 in CS6604		Use the evolving cluster to work with IDEAL webpages, with Hadoop, Solr, Mahout
<a href="#">4624S14IDEALspreadsheet</a>	Ardura, Burnett, Neuman, Lacy	No	Connect a spreadsheet type interface to IDEAL
<a href="#">6604S14IDEALtweets</a>			Use the evolving cluster to work with IDEAL tweets, with Hadoop, Solr, Mahout
<a href="#">6604S14IDEALviz</a>			Use the IDEAL data to produce visualizations using Google Maps
<a href="#">4624S14InterPresence</a>			Prototype software for an interpreting business with multiple remote clients connecting over video with a pool of interpreters
<a href="#">4624S14NDLTDscholar</a>			Make the roughly 3M records in the NDLTD Union Catalog accessible for Google Scholar
<a href="#">6604S14QatarArchiving</a>			Web archiving for the country of Qatar
<a href="#">6604S14RussianFlu</a>	Sims, Fisher, Pinsirikul, Horn	No	Analyzing info. about the 1889 Russian flu, with visualization
<a href="#">CS4624S12P-TrackPunch</a>	Jonas Weigert	No	Social Music Discovery Platform for your Social Network.



<a href="#">6604S14TweetsNRV</a>	Sbitani, Cheng, Roble	No	Andrea Kavanaugh is helping with New River Valley related news and tweets; these need to be integrated with IDEAL processing
<a href="#">6604S14TweetsMetadata</a>			Develop methods for sharing tweet data, including collection metadata standards
<a href="#">6604S14UWSArchiving</a>			Uninterruptible Web Service approach to Web archiving, extending SiteStory
<a href="#">4624S14VideoAccessibility</a>	Heath, Cassidy; Legard, Tucker; Morales, Edna ; Retterer, Brad ; Supanich, Mike	No	Make VTechWorks videos more accessible
x <a href="#">4624S14VIMS</a>	CANCELED BY CLIENT! The following need to find another project: Mestre, Schmader. Pham, Ken. Bice, Nathanael. Ng, Matthew. Magee, Scott	No	Extract data and prepare metadata records for the Veterinary College from old MUMPS/Cache system
X <a href="#">4624S14VTAAwebsite</a>	CANCELED BY CLIENT!		Website for Tidewater Chapter of the Virginia Tech Alumni Association
<a href="#">4624S14VTechWorksHarvesting</a>			Development of software to harvest full text and metadata from disciplinary repositories to populate VTechWorks
<a href="#">4624S14VTwebArchiving</a>	Rinaldi, Mehta	No	Launch Web archiving for .vt.edu
<a href="#">4624S14VTwordpress</a>	Magee, Scott; Ng, Matthew; Pham, Ken		Virginia Tech Themed WordPress Themes
<a href="#">6604S14Xpantrac</a>	Johnson Samantha, Neidig, Cabrera, Hoffman	No	The Xpantrac tool developed by Seungwon Yang should be adapted to work with IDEAL data

## Other Options for Projects

- o You can devise a project. You must prepare a description, like the ones for the projects described above. You must assemble a group to work on it. You must secure permission of the instructor.
- o You can refer to [ProjectSample](#) to see the template required.

## Other Information

- o Types of projects: [ProjectTypesS14](#)
- o Related project activities: [ProjectRelatedS14](#)

**Presentation Order**

Number	Project
1	
2	
3	
4	
5	
6	
7	

**2013 Selected/Approved Project List (selected activities, where Approved reflects client communication)**

Project	SignedUp	More?	Description
<a href="#">CS4624S13P-AnimalRescue</a>	2	No	Enhanced website for Giles County Animal Rescue
<a href="#">CS4624S13P-ContempVideo</a>	3	No	Digital video recording and editing for VT conference on Contemplative Practices
<a href="#">CS4624S13P-CRAdataETDs</a>	2	No	Amazon Mechanical Turk and/or Machine Learning based data extraction for CRA from theses/dissertations
<a href="#">CS4624S13P-CSseminar</a>	4	No	Digital video recording and editing of weekly CS seminar
<a href="#">CS4624S13P-CTRimages ??</a>	3	No	CTR image and video retrieval from webpages
<a href="#">CS4624S13P-DHorat</a>	4	No	“More Hack, Less Yak,” An Oral History of the Digital Humanities
<a href="#">CS4624S13P-Dining</a>	2	No	Dining Services Food Safety Game
<a href="#">CS4624S13P-Environment ??</a>	2	No	Develop a digital library / portal / web archive related to the environment
<a href="#">CS4624S13P-FocusedCrawler ??</a>	2	No	A focused crawler for any events, e.g, CTRnet
<a href="#">CS4624S13P-IDRgeneralization</a>	2	No	Engaging experts in intelligent systems and education related to identification

<a href="#">CS4624S13P-MELT</a>	3	No	Middle English Translator and Pronunciator
<a href="#">CS4624S13P-MobileTickets</a>	3	No	Trouble ticket mobile app prototype for field engineers responding to network and telephone trouble calls
<a href="#">CS4624S13P-NewModule</a>	2	No	Add a new module about MM/HT/IA, using the LucidWorks Big Data software
<a href="#">CS4624S13P-PORTvideo</a>	2	No	Visualizing the Invisible: Port Research Commons
<a href="#">CS4624S13P-UnityClass</a>	2	No	Unity3D Character Shading and Control
<a href="#">CS4624S13P-VESPAvideo</a>	2	No	Videos for Virginia eSports Association
<a href="#">CS4624S13P-VESPAwebsite</a>	4	No	Website for Virginia eSports Association
<a href="#">CS4624S12P-FeedingVirginiaMMdlWeb</a>	6	No	Feeding Virginia project with multimedia, digital library, and/or website components
<a href="#">CS4624S12P-FlickrIDR</a>	3	No	Web-based version of SuperIDR for Flickr
<a href="#">CS4624S12P-SeerSuite</a>	2	No	Building website and service using SeerSuite and crawling
<a href="#">CS4624S12P-TrackPunch</a>	1	No	Social Music Discovery Platform for your Social Network.

**2012 Selected/Approved Project List (selected activities, where Approved reflects client communication)**

Project	SignedUp	Approved	Description
<a href="#">CS4624S12P-ADSphoto</a>	4	Yes	Managing and re-using photos for VT's Adult Day Services
<a href="#">CS4624S12P-ADSvideo</a>	4	Yes	Digital video recording and editing for VT's Adult Day Services (merged with above)
<a href="#">CS4624S12P-AnimalRescue</a>	2	Yes	Enhanced website for Giles County Animal Rescue
<a href="#">CS4624S12P-ARvideo</a>	4	Yes	Digital video recording and editing for Apple Ridge Farm in Cooper Hill, VA
<a href="#">CS4624S12P-BoyScoutPhotoRecords</a>	4	Yes	Boy Scout Photo Medical Records system for Pulaski County
<a href="#">CS4624S12P-CarillionCaseSimulator</a>	3	Yes	Interaction simulation training from past cases for new residents and interns at the hospital
<a href="#">CS4624S12P-CatawbaMMwebsite</a>	2	Yes	Multimedia for Catawba Sustainability Center website
<a href="#">CS4624S12P-CSseminar</a>	3	Yes	Digital video recording and editing of weekly CS seminar

<a href="#">CS4624S12P-DisasterVideoGallery</a>	1	Yes	An online gallery for the CTRnet web site of videos about disasters
<a href="#">CS4624S12P-eTexts ??</a>	1	Yes	Preparing multimedia resources and supplements for eTextbook project
<a href="#">CS4624S12P-LectureCapture</a>	2	Yes	Educational lecture capture and captioning
<a href="#">CS4624S12P-LibraryProjects</a>	5	Yes	Seven image, audio, video, script, and/or system projects to choose from for University Libraries (Digital Libraries and Archives)
<a href="#">CS4624S12P-MathEdVideo</a>	3	Yes	Video for VT's Mathematics Education program
<a href="#">CS4624S12P-NewModule</a>	3	Yes	Add a new module about MM/HT/IA, using the IBM cloud
<a href="#">CS4624S12P-SavePenguinsVideo</a>	2	Yes	Video for save the penguins
<a href="#">CS4624S12P-UpwardBoundVideo</a>	2	Yes	Video for Upward Bound / Educational Talent Search program
<a href="#">CS4624S12P-ValleyInterfaithWebsite</a>	2	Yes	Valley Interfaith Child Care Center Website enhancement
<a href="#">CS4624S12P-VaTechniquesVideos</a>	4	Yes	Promotional Videos for gymnastics programs at VTG

Old entry, to be ignored: [6604S14IDEALcompLing](#)

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## ProjectTypesS14

Type	Description	URLs	Recommended Background/Interest
5S	Theory, DL automation	<a href="http://www.dlib.vt.edu/projects/5S-Model/">http://www.dlib.vt.edu/projects/5S-Model/</a> <a href="http://www.morganclaypool.com/doi/abs/10.2200/S00434ED1V01Y201207ICR022">http://www.morganclaypool.com/doi/abs/10.2200/S00434ED1V01Y201207ICR022</a> <a href="http://www.morganclaypool.com/doi/abs/10.2200/S00474ED1V01Y201301ICR026">http://www.morganclaypool.com/doi/abs/10.2200/S00474ED1V01Y201301ICR026</a> <a href="https://sites.google.com/a/morganclaypool.com/dlibrary/">https://sites.google.com/a/morganclaypool.com/dlibrary/</a> <a href="http://en.wikipedia.org/wiki/Digital_library">http://en.wikipedia.org/wiki/Digital_library</a>	Digital libraries, formal definitions
Adaptive hypermedia	Computer aided instruction, tutoring systems	<a href="http://www2.sis.pitt.edu/~peterb/">http://www2.sis.pitt.edu/~peterb/</a> <a href="http://en.wikipedia.org/wiki/Adaptive_hypermedia">http://en.wikipedia.org/wiki/Adaptive_hypermedia</a>	Hypermedia
Archiving	Working with Internet Archive, etc.	<a href="http://www.archive.org">http://www.archive.org</a> <a href="http://www.archive-it.org/">http://www.archive-it.org/</a>	Digital preservation and archiving
Automatic classification	Machine learning, categorization, classification	<a href="http://www.oclc.org/research/activities/auto_class.html">http://www.oclc.org/research/activities/auto_class.html</a> <a href="http://en.wikipedia.org/wiki/Document_classification">http://en.wikipedia.org/wiki/Document_classification</a> <a href="http://www.cs.waikato.ac.nz/ml/weka/">http://www.cs.waikato.ac.nz/ml/weka/</a> <a href="http://robotics.stanford.edu/~nilsson/mlbook.html">http://robotics.stanford.edu/~nilsson/mlbook.html</a>	Machine learning
Captioning	Converting audio to text	<a href="https://support.google.com/youtube/answer/2734698?hl=en&amp;ref_topic=3014331">https://support.google.com/youtube/answer/2734698?hl=en&amp;ref_topic=3014331</a> , <a href="http://www.softelgroup.com/Downloads/Subtitling-and-Captioning-Resource-Library/White-Papers/Softel-white-paper-Subtitling-and-captioning-challenges.pdf">http://www.softelgroup.com/Downloads/Subtitling-and-Captioning-Resource-Library/White-Papers/Softel-white-paper-Subtitling-and-captioning-challenges.pdf</a>	Video Editing, Post Processing
Crawling	Crawling web sites to collect pages	<a href="http://sourceforge.net/projects/archive-crawler/">http://sourceforge.net/projects/archive-crawler/</a>	Web crawlers
CS education	CS education support, incl. Webcat	<a href="http://www.computingportal.org">http://www.computingportal.org</a> <a href="http://www.algoviz.org">http://www.algoviz.org</a> <a href="http://www.cs.vt.edu/node/740">http://www.cs.vt.edu/node/740</a> <a href="http://web-cat.cs.vt.edu/">http://web-cat.cs.vt.edu/</a>	Automatic grading, portals, websites, digital libraries
Curriculum: DL	DL, curriculum, CS, LIS	<a href="http://curric.dlib.vt.edu/">http://curric.dlib.vt.edu/</a> <a href="http://en.wikiversity.org/wiki/Curriculum_on_Digital_Libraries">http://en.wikiversity.org/wiki/Curriculum_on_Digital_Libraries</a>	Digital libraries

Database	Data management, reporting	<a href="http://en.wikipedia.org/wiki/Database">http://en.wikipedia.org/wiki/Database</a> <a href="http://philip.greenspun.com/panda/databases-choosing">http://philip.greenspun.com/panda/databases-choosing</a>	Database management systems
DL Research	Digital library research	<a href="http://www.dlib.org">http://www.dlib.org</a>	Digital libraries
Ezine	Electronic magazine for dissemination	<a href="http://beyondpenguins.nsdlib.org/">http://beyondpenguins.nsdlib.org/</a>	Electronic magazines, publishing
Game	Develop interactive game	<a href="http://en.wikipedia.org/wiki/Game_engine">http://en.wikipedia.org/wiki/Game_engine</a>	Game development
HTML5 Video	Learn HTML5 video streaming	<a href="http://www.w3schools.com/html/html_videos.asp">http://www.w3schools.com/html/html_videos.asp</a> <a href="http://en.wikipedia.org/wiki/HTML5_video">http://en.wikipedia.org/wiki/HTML5_video</a>	Interest in setting up a website to stream video and even audio.
HTTP Live Streaming	Learn how to stream media securely.	<a href="https://developer.apple.com/resources/http-streaming/">https://developer.apple.com/resources/http-streaming/</a>	Interest in streaming audio securely.
Information visualization	Presentation, interaction, analysis	<a href="http://infovis.cs.vt.edu/">http://infovis.cs.vt.edu/</a>	Class or experience or interest in visualization
IR Research	Information retrieval research	<a href="http://www.sigir.org/">http://www.sigir.org/</a>	Class or experience with search system development
Multimedia	Capture, digitization, conversion	<a href="http://picasa.google.com/">http://picasa.google.com/</a> <a href="http://www.is.vt.edu/">http://www.is.vt.edu/</a>	Work with images, videos, audio files
NDLTD support	Support for ETD systems and services	<a href="http://www.ndltd.org">http://www.ndltd.org</a>	Search systems, text analysis/mining, crawlers, or digital libraries
OAI	Connecting s/w, harvesting	<a href="http://www.openarchives.org">http://www.openarchives.org</a>	Open Archives Initiative
Ontology	Formal representation of knowledge as a set of concepts	<a href="http://en.wikipedia.org/wiki/Ontology_%28information_science%29">http://en.wikipedia.org/wiki/Ontology_%28information_science%29</a> <a href="http://old.aitopics.org/Ontologies">http://old.aitopics.org/Ontologies</a>	Organizing information and representing knowledge

Personalization	Personalizing information systems	<a href="http://en.wikipedia.org/wiki/Personal_information_manager">http://en.wikipedia.org/wiki/Personal_information_manager</a>	Personalizing information
Podcast	Audio program development	<a href="http://www.podcastblaster.com">http://www.podcastblaster.com</a> <a href="http://askabiologist.asu.edu/podcasts">http://askabiologist.asu.edu/podcasts</a>	Preparing podcasts
Recommender	Recommender enhancement to DL / IR system	<a href="http://en.wikipedia.org/wiki/Recommendation_system">http://en.wikipedia.org/wiki/Recommendation_system</a>	Building recommender systems
Usability	Studying and testing re HCI	<a href="http://www.hci.vt.edu/">http://www.hci.vt.edu/</a>	Class or experience with usability testing
Video	Develop video program	<a href="http://www.hyperionics.com/hc/">http://www.hyperionics.com/hc/</a> <a href="http://www.is.vt.edu/">http://www.is.vt.edu/</a> <a href="http://en.wikipedia.org/wiki/TV_studio">http://en.wikipedia.org/wiki/TV_studio</a> <a href="http://en.wikipedia.org/wiki/Stage_lighting">http://en.wikipedia.org/wiki/Stage_lighting</a> <a href="http://en.wikipedia.org/wiki/Microphone">http://en.wikipedia.org/wiki/Microphone</a> <a href="http://www.youtube.com/watch?v=AqNWe8LRzNI&amp;feature=related">http://www.youtube.com/watch?v=AqNWe8LRzNI&amp;feature=related</a> <a href="http://www.fairfaxvideostudio.com/library/video-production-tips-make-an-interesting-video-out-of-boring-content.cfm">http://www.fairfaxvideostudio.com/library/video-production-tips-make-an-interesting-video-out-of-boring-content.cfm</a> <a href="http://toasterdog.com/files/basics_of_video_editing_notes.pdf">http://toasterdog.com/files/basics_of_video_editing_notes.pdf</a>	Video capture and editing
Website	Hypermedia development	<a href="http://en.wikipedia.org/wiki/Hypermedia">http://en.wikipedia.org/wiki/Hypermedia</a> <a href="http://www.uth.tmc.edu/uth_orgs/educ_dev/">http://www.uth.tmc.edu/uth_orgs/educ_dev/</a>	Website development, hypertext, hypermedia
Wiki	Wiki harvesting and automation	<a href="http://en.wikipedia.org/wiki/Wiki">http://en.wikipedia.org/wiki/Wiki</a>	Wiki use, OAI
Interviewing	Interviewing people on video	<a href="http://desktopvideo.about.com/od/homevideoprojects/ht/video-interview.htm">http://desktopvideo.about.com/od/homevideoprojects/ht/video-interview.htm</a> <a href="http://www.mediacollege.com/video/interviews/">http://www.mediacollege.com/video/interviews/</a>	Video recording, audio recording

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## ProjectRelatedS14

Information related to project activities

Contact	Abbreviation	Title	Description
Hasan, S.M Shamimul	Cinet	From Desktop to Clouds - A Middleware for Next Generation Network Science	Portion of project focused on digital library support for network simulation studies: <a href="http://cinet.vbi.vt.edu/cinet_new/">http://cinet.vbi.vt.edu/cinet_new/</a>
Yang, Seungwon	DLcurric	Digital library curriculum development	Developing curricular recommendations for teaching about digital libraries: <a href="http://curric.dlib.vt.edu">http://curric.dlib.vt.edu</a> and <a href="http://en.wikiversity.org/wiki/Curriculum_on_Digital_Libraries">http://en.wikiversity.org/wiki/Curriculum_on_Digital_Libraries</a>
Chen, Yinlin	Ensemble	Ensemble pathway development	Building distributed portal and Web site for the NSF Ensemble pathway for the National Science Digital Library: <a href="http://www.computingportal.org">http://www.computingportal.org</a>
Magdy, Mohamed; Chen, Yinlin	IDEAL	Integrated Digital Event Archiving and Library	Extension of the Crisis, Tragedy, and Recovery network and DL416 projects to carry out Web archiving for events; series of NSF proposals: <a href="http://www.eventsarchive.org/">http://www.eventsarchive.org/</a> and <a href="http://www.ctrnet.net">http://www.ctrnet.net</a> and <a href="http://www.dl-vt-416.org">http://www.dl-vt-416.org</a>
Kanan, Tarek	ELISQ	Electronic Library Institute - SeerQ	The Qatar National Research Fund is supporting development of digital library infrastructure building upon Heritrix, Solr, and SeerSuite: <a href="http://elisq.gu.edu.qa/">http://elisq.gu.edu.qa/</a>
Murthy, Uma	SI	Superimposed information	Project at Portland State, Villanova, and VT to handle annotations and related activities atop some base info: <a href="http://si.dlib.vt.edu">http://si.dlib.vt.edu</a>
Fox, E.A.	TUES CL	Computational Linguistics Fall 2014	NSF through its TUES program is funding VT to develop a computational linguistics course for seniors in Fall 2014. This involves active learning, where students will develop tools to produce English summaries related to IDEAL event collections.

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