

Syllabus

I • Coordinates

1. **Course:** INF1006: Information Workshop II: Section 101
 - a. Title: Platforms for Annotation, Commentary, and Collaborative Editing
 - b. Term: Winter 2017
2. **Coordinates**
 - a. Time: Monday, 9:00 a.m. — 12:00 noon
 - b. Dates: February 27 — April 3, 2017 (6 classes)
 - c. Place: BL417 (iSchool Room 417, Bissell Bldg., 140 St George Street St.)
3. **Instructor:** Brian Cantwell Smith
 - a. E-mail: brian.cantwell.smith@utoronto.ca
 - b. Office: BL633
 - c. Office hours: Thursday, 11:00 a.m. – 12:00 noon

II • Course Description and Objectives

The internet has opened up vast new possibilities for collaborative commenting, editing, annotation, and writing of documents. At present, such practices employ a potpourri of systems—from Microsoft Office’s “track changes,” to facilities for adding comments and copy-editing marks to PDF documents (such as iAnnotate), to shared Google Docs, to unstructured notes sent via email. Attempts are being made to systematize some parts of these activities, including the World Wide Web Consortium (W3C)’s Open Annotation Model, WordPress’ CommentPress facility for structured commentary, and the increasing use of GitHub (a system originally developed to provide version control and code management for distributed software development, but now used as well for collaborative writing and other arts and humanities projects).

This workshop will be a hands-on exploration and conceptual assessment of available tools for collaborative annotation, commenting, and editing, and comparison of those tools with age-old annotation and commenting practices from the era of pen and print.

Theoretical issues of document identity and intertextual reference will be used to develop metrics and conceptual models in terms of which to map currently available tools, identify respective strengths and weaknesses, and point towards opportunities for future development. Student projects will involve exploring current options, documenting their ability to support commentary and annotation of increasing complexity, and formulating recommendations for their improvement.

A. Course objectives

1. **Articulate** the conceptual structure of annotation, commenting, and editing (ACE), as practiced in both print and online practices.

We wish to acknowledge this land on which the University of Toronto operates. For thousands of years it has been the traditional land of the Huron-Wendat, the Seneca, and most recently, the Mississaugas of the Credit River. Today, this meeting place is still the home to many indigenous people. We are grateful to have the opportunity to work on this land.

2. **Comprehend** traditional (print-based) ACE practices
 3. **Investigate** the powers, merits, and demerits of contemporary digital annotation systems and practices (e.g., Google docs, MSWord “track changes,” PDF annotations and comments, Comment Press, the W3C Open Annotation System standard, and practices on blogs, GitHub, etc.)
 4. **Envisage** the design and features of next-generation online platforms for extended “discursive exchange.”
 5. Understand the vital role of **documentary reference**, not only intertextual (as is evidenced in citational practices, for example), but also intra-textual, and the use of such intra-documentary reference in annotations, comments, footnotes & endnotes, copy-editing practices, etc.
 6. Develop familiarity with issues of **documentary identity**, and its implications for citation, annotation, commentary, and computer-based document systems.
- B. Course Learning Outcomes (CLO)
1. Develop conceptual tools for analysing and assessing online tools for editing, commenting, and annotation.
 2. Develop the skills to recognize and formulate an appreciation both of the ways in which online tools improve on or extend their classical paper-based precursors, and also of the extent to which online tools have yet to provide as much power, flexibility, and expressive potential as their print-based predecessors.
 3. Develop facilities for the “conceptual design” of systems far beyond the capabilities of present-day systems (rather than merely incremental or next-step forms of design, of the sort that could be implemented relatively straightforwardly).
- C. Program Learning Outcomes (PLO)
1. The general Program Learning outcomes for the MI degree program are available [here](#).¹
 2. In understanding the practice on annotating, editing, and commenting, the capabilities of online platforms and programs supporting them, and the conceptual issues underlying them, students will be well positioned not only to use and respond to changing information practices and needs of society (PLO #1), but also to develop and lead these changes and practices in the future.
 3. Student’s facility with and comprehension of new, online-mediated forms of discursive engagement will allow students to contribute to the practices underlying critical assessment of the body of knowledge underlying the information and archives sciences (PLO #3).
 4. By studying the technological underpinning of ACE practices, students will gain an in-depth understanding of a critical dimension societal information communication, preservation, and development (PLO #5).

III • Schedule

Week 1 (Feb 27) — **iAnnotate**

This class will be led by Steven Hockema,² Chief Technical Officer of BlueDot,³ a Toronto company that studies how infectious diseases disperse worldwide through analysis of big data. Steve was a professor at the iSchool for a number of years, and taught courses on document formats and web-based documents. He was also a designer and implementer of *iAnnotate*,⁴ the first PDF annotation platform for the iPad, which he will talk about.

¹http://current.ischool.utoronto.ca/system/files/user/108/policy_on_student_learning_outcomes_o.pdf

²Brian Cantwell Smith will be out of town that day, but will return for the following week’s class.

³<http://bluedot.global>

⁴<https://www.iannotate.com>

Week 2 (Mar 6): **Introduction**, and **Annotation** and **locally-attached comments**

1. Before the break, an introduction to the course as a whole, including some historical retrospective, and an overview of the sorts of conceptual analysis that we will be undertaking in the class.
2. After the break, initial investigations (see Assignment #1) of popular annotation and commenting systems and practices—with reference to the:
 - a. Properties they *have* that future more-advanced systems should retain;
 - b. Properties they *lack*, which should be included in future systems;
 - c. Characterization of what they *do*, and what they *don't*, incorporate that classic text-based ACE practices were able to deal with.

Week 3 (Mar 13): **Annotation** and **locally-attached comments (cont'd)**

1. Completion of initial project reports on existing commenting/annotation systems.
2. Completion of initial list of analytic categories in terms of which to analyse ACE systems.

Week 4 (Mar 20): Document **Reference**—lecture and discussion**Week 5** (Mar 27): Document **Identity**—lecture and discussion**Week 6** (Apr 3): Project **reports**, wrap-up, and conclusion**IV • Assignments**A. Assignment 1 — **Analysis** Due Mar 20; worth: 40% (presentation: 10%; written report: 30%)⁵

1. Form small groups (2–4 people) or work on your own—your choice.
2. Choose one common annotation or commenting system or practice to analyse with respect to its ACE capabilities—either from the following list, or of your own choosing. Only one person or group should work on each system; if your first choice has already been chosen, please choose another.

<ol style="list-style-type: none"> a. Blog or forum comment systems b. Comment practices on GitHub c. CommentPress d. EndNote e. Google Docs f. Hand-written notes g. MSWord “track changes” 	<ol style="list-style-type: none"> h. OneNote i. PDF Comments j. Social reading tools (e.g. Social Book) k. StackOverflow l. Twitch m. YouTube comments n. ... Others?
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3. Develop a **conceptual analysis** of
 - a. What the chosen system does (allows), and what it does not allow;
 - b. What its merits and demerits are;
 - c. How it compares (as best you can) to what is provided by *other contemporary digital systems* (including others on the above list for which are not the responsible party);
 - d. How, and in what ways, it compares to what was available in *print- and writing-based ACE practices*—i.e., what classic practices it does and does not provide, improves on or worsens, etc.
 - e. Suggestions of properties and/or capacities in terms of which it is helpful to characterize the system.

⁵The standards against which assignments will be graded will depend on the number of people in the group (or recognize individual submissions appropriately).

4. On Week 2 or 3 (Mar 6 or 13): Present an oral report (with written or visual aids as appropriate) on the chosen system (10 minutes max!), and solicit feedback from the rest of the class on their characterization of that system/practice.
5. By Week 4 (Mar 20): Submit a written (group or individual) report on the selected system, incorporating the feedback obtained from class discussion. The report should not merely be a *description* of what the system does. It should be an **analysis** of the system, framed in terms of a **conceptual framework** for analysing ACE systems more generally.

Preparing your report will thus involve two logical steps (which you will likely do in parallel):

- a. Propose an analytic framework that believe would be useful (clear, concise, illuminating) for analyzing your and other ACE systems.

Our first (collective) step towards formulating such a conceptual framework is the list of categories or properties generated during initial project reports on March 6 and 13—to be transcribed and made available by the end of Mar 13. You will use this list as a basis for developing your framework. In constructing it, you will likely want: (i) to add additional concepts that you think would be valuable, or that would help organize or fill out the scheme, to give it coverage and intellectual coherence; and (ii) potentially leave out any categories that you don't think are important, or are included on or subsumed by other categories, etc. I.e., your goal is to come up with a framework that is clean, distilled, and workable, while still being (reasonably) comprehensive.

Note that you don't want to include only those properties or categories that *your system* exhibits or deals with. One of the things you will likely want to say, in your analysis, is that your system does *not* deal with this or that issue. A way to think about this is that you should develop your framework so that it would be usable for the other projects your classmates are studying, as the basis for their analysis.

- b. Analyze your particular system in terms of your framework, explaining (see also IV.A.3 above):
 - i. What, in its present state, your system does and doesn't do (or deal with);
 - ii. Who your system is designed for, and what tasks it is good for;
 - iii. Who your system is *not* designed for, and what tasks it is not good for;
 - iv. What you think it *could* or *should* do (or deal with) if it were extended to be as useful as possible (i.e., were to maximize its potential). Be imaginative and daring.
6. Length: medium (5-15 pages, depending on number of people in the group). Grading will be based on analytic power, creative insight, and conceptual depth (not on length).
7. Submission: Assignment #1 reports should be posted on Blackboard, on the "Discussion Board".⁶

B. Assignment 2 — Conceptual **Design**

Due April 15; worth: 60%

Address **one** of following four alternative questions. Some notes:

- a. As with assignment #2, this assignment is to be completed individually or in groups (of your own selection). Maximum group size: 4. If you want to work in a group, you may maintain the same group as for the first assignment, or form a new one. It is up to you.⁷
- b. Every one of these assignments is *vastly* too hard to "solve" in 2-3 weeks of work. Do the best you can in the time provided. Work at a conceptual level that indicates a grasp of the issues—i.e., in sufficient detail that your proposal has teeth, but not in so much detail that you

⁶A Forum will be set up for each system being investigated.

⁷Note: again, for group work, please send an email to brian.cantwell.smith@utoronto.ca with a statement from each group member describing their contribution. Do not include this in the report itself, which is to be posted on Blackboard.

get lost in the weeds. Steering a middle-level path through the issues will require taste and judgment.

- c. In none of the 4 cases do I know the “right” answer. That’s why this is research: to figure it out! ;-)

1. Assignment 2 · Alternative 1 – W3C Open Annotation Standard

- Compare (i) the categories/frameworks from all of the projects posted (on Blackboard) by class groups and individual class members for Assignment #1 with (ii) the model proposed on 17 January 2017 by the W3C⁸ as a “Web Annotation Data Model.”⁹
- Overall, in conceptual terms—i.e., as described in prose—what model of annotation underwrites the W3C standard? At a general level, is it fundamentally different from or essentially similar to the models assumed by the class projects?
- In somewhat more detail, how does what the class came up with in their projects relate to the W3C model? I.e., were the features the class identified covered in, subsumed by, compatible with, different from, an extension of, incompatible with, etc., what the W3C has proposed?
- From our class projects, as a whole, are there revisions, edits, extensions, etc., that you would suggest that, as a class, we could send to the W3C, to incorporate in their next version?
- Are there things we came up with that you expect that the W3C would *not* be interested in for a next version of their model—but that you nevertheless think are important ACE capabilities, which should be addressed by designers and implementers of a next generation of platform?

2. Assignment 2 · Alternative 2 – Dynamic Document Identity

- In class on Feb 27, Steve Hockema will have noted that, while working on iAnnotate, he had “figured out a solution” to having annotations able to be preserved across changes/edits in documents—i.e., a solution that would allow annotations to be attached to *dynamically changing* documents, rather than merely to single, unchanging versions.¹⁰ He is unlikely, however, to have provided any details about what his solution was!
- Propose a model or approach that would solve this problem of attaching annotations to dynamically changing documents—or at least deal with it well enough for your solution to be potentially useful.

In this context, ‘dynamically changing documents’ doesn’t mean video, animations, or other types of document that, when viewed, present the viewer with a visual process of some sort. Rather, it refers to documents (whether text, video, or anything gelse) that are *edited or changed* from one version to another.

- Discuss the issues such a system would encounter, what your approach to dealing with them would be, what cases your proposal *would* and *would not* be able to handle, etc.
- Note: This problem is what is sometimes called “AI complete”: a full solution would require arbitrary amounts of understanding and intelligence. The challenge you are addressing in this

⁸World Wide Web Consortium: <http://www.w3.org>

⁹Available at: <http://www.w3.org/TR/annotation-model/>; and also available on Blackboard under: Course Materials > INF1006 · Readings > W3C -- Web Annotation Data Model

¹⁰By “dynamic document” I do not mean videos as opposed to static texts. Rather, the issue is how to attach an annotation to one “version” of a document, whether that document is text or video, in such a way that even if the document is then edited to produce a new version, the annotation will still be “appropriately” attached to the new version (see §II-D).

assignment is whether you can envision and describe *a practicably useful system that doesn't require unbounded intelligence*.

3. Assignment 2 · Alternative 3 – Reference

- a. On January 30, we talked about intertextual *reference* in an online setting—cases where one text, document, or document fragment X points to, or is about, another one, Y, where the connection between them is not implemented by *attaching* X to Y (or to a position or region of Y), but instead contains information, encoded in some scheme, that, from the perspective of X's context, *identifies* Y.
- b. Propose, as best you can in the time provided, a model or approach that would deal with *intra-textual and inter-textual reference* as a general issue on computational platforms. Your proposal should be able to deal with reflowable documents, and therefore not require a stable notion of what appears on a presented “page” or “window.”¹¹

For example, you might imagine your answer as a very initial proposal for a new W3C standard—this time not on annotation, but on general reference.

- c. Again, as best as possible in finite time, discuss both:
 - i. What cases of reference your model would deal with, or at least most straightforwardly deal with, and which it would not be able to handle.
 - ii. Comment on what existing mechanisms, if any, it would make use of (anchors, URLs, URIs, URNs, XPath, DOIs, directory structures, file structures, name spaces, etc.).
- d. Do you believe that, in (say) 30–50 years, we will have developed a general, multipurpose reference protocol that can handle all of the various kinds of reference we talked about in class? Or do you think wanting such a thing is an unrealistic pipe dream?

4. Assignment 2 · Alternative 4 – Leibniz & Clarke

- a. Analyze the (implicit and explicit) intertextual references in the famous exchange between Leibniz and Clarke.¹²
- b. Sketch out the design of an envisioned online system that would support the Leibniz–Clarke conversation, and other full-blown exchanges of this sort.
- c. As well as dealing with connections between Leibniz's and Clarke's prose, your system should allow for the sorts of translator and editor comments as those that Jonathan Bennett includes in his presentation, such as the following in ¶3 of Leibniz's first letter (p. 1):
 - i. “Clarke translates Leibniz as speaking of how God ‘perceives’ things; but the verb Leibniz uses is *sentir*, a cognate of *sens* (‘sense’), so that ‘sense’ seems right. In his 87 on page 43, Leibniz says that this verb shouldn't be used for what God does unless it is purged of its implication of passivity; and it's just a fact about word-usage at that time that the tie between •sensing and •being acted on was much stronger and more obvious than any tie between •perceiving and •being acted on.”
- d. Your imagined system should support at least the following:
 - i. Reflowable presentation, so intertextual references “work” in the presence of reflowing.
 - α. For example, Bennett's “87 on page 43” (on his p. 1) would not work in as simple a way in your system, since what is being referenced here, in your system, might not be on page 43 in any given presentation, and might change, too, as the reader scrolled

¹¹Note: you do not need to deal with reference to *dynamically changing* documents, of the sort addressed in problem 2.

¹² Available on Blackboard under Course Materials > INF1005 · Readings > Leibniz Clarke Correspondence. and at: <http://www.earlymoderntexts.com/assets/pdfs/leibniz1715.pdf>

through it. . Similarly, Bennett’s references in angle brackets (e.g., “31 <19>,” on his page 25) might need different expression in the text were reflowed.

- ii. The ability to “follow” intertextual references (e.g. Leibniz’s “To Clarke’s 4”, on p. 4)—so that the text they referred to would pop up, or appear beside it, or be presented in some such, and also so that text could be “moved into,” to (temporarily?) become the focus of the user’s attention.
- iii. The option of being aware, when reading a passage, both that that passage has been referred to or commented upon elsewhere, and what comments or passages elsewhere in the exchange refer to it.
 - α. E.g., in §11 of Clarke’s second reply (p, 8), Clarke says “that is all I am arguing for,” and then, in §16 of his 3rd letter, Leibniz quotes it, saying “But, says Clarke, ‘that is all I am arguing for.’” Think about how Leibniz’s quote of Clarke could be a followable link (or at least used as a handle to display that part of Clarke’s second reply), and also about how, when reading Clarke’s original statement of it (i.e., in §11 of his second reply) the reader could know or have indicated to them that this is a phrase that Leibniz subsequently commented upon.
 - β. Similarly, in §16 of his third letter (p, 12), Leibniz poses the question “Does God act in the most regular and most perfect manner?” In §16 of his third reply (p. 15), Clarke effectively quotes that question of Leibniz, and presents his reply.
- iv. Etc.!
- e. The Leibniz–Clarke exchange is structured as five letters or “papers” and five “replies”—but don’t assume that the sort of interchange you are designing for will necessarily be hierarchically structured that way.
- f. Also: don’t constrain your design to only two people; you should be able to imagine a conversation among any (small? or does that matter?) number of participants.
- g. You won’t *conceivably* be able, in the time allotted, to be able to design a format or system for all of this. Rather, the idea (and assignment) is to:
 - i. Read the correspondence;
 - ii. Identify the forms of inter- and intra-textual reference that Clarke, Leibniz, and Bennett use (including, as much as you can, implicit as well as explicit references);
 - iii. Envision or imagine a way in which all of these forms of connection could be powerfully and dynamically presented and facilitated in a computational system.
- h. Write a paper, including descriptions or mockups or whatever works best, to document and communicate your design.
 - i. One way to think about your report is to imagine that it might be given to a team of implementers as an “early design document” or “white paper,” or something of the sort, about a system that they would then be charged with fleshing out implementing.

C. Notes

1. For group submissions, an addendum should be sent by email to the instructor with a statement from each group member stating that person’s contribution to the overall effort. (Do not include this information in the report itself, which will be made available to the whole class.)
2. Group work will be expected to be proportional deeper and fuller than individual work (proportional the number of group members).
3. Note that this is **working, research investigation!** You are expected to use your initiative, find out and use the resources that will be relevant to your analysis.

D. Formatting:

1. File format: preferred: PDF, MSWord, or PowerPoint; acceptable: .rtf, .odt, or .txt
2. Minimum 1.5" (4 cm) margins on all 4 sides
3. 12 point font
4. Headings/footers (with project identifier and page numbers)
5. Student names and IDs the beginning.
6. Citations must be in a consistent, recognized professional style.
7. Assignments must be submitted by 11:59 p.m. on the day they are due.¹³

E. Late Assignments

1. Late assignments will be subjected to a penalty, unless:
 - a. Prior arrangements have been made with the instructor, including agreement on a specific later specific submission date; and
 - b. Written medical documentation is provided at the time the assignment is submitted. U.of.T has recently changed the requirements on the submission of medical documentation: the only form that is allowed to be considered is entitled "[Verification of Student Illness or Injury](#)."¹⁴
2. Unless these requirements are met, penalties for late submission of any assignment will consist of a reduction of one grade point (A to A–, A– to B+, etc.) for every two days (including weekend days and holidays) that passes after the assignment is due.

F. Writing

1. Pay careful attention to the quality of your writing. Clarity, concision, and cogency are all highly valued, and will be included as grading criteria (§V.4, below). Correct spelling and grammar are expected. As stated in the iSchool's Grade Interpretation Guidelines,¹⁵ "work that is not well written and grammatically correct will not generally be considered eligible for a grade in the A range, regardless of its quality in other respects."
2. If you are having trouble with your English, please seek help early in the term. The [Office of English Language and Writing Support](#),¹⁶ at 63 Huron Street in the School of Graduate Studies, is designed to assist graduate students improve their oral and written communication skills. The services, all of which are free, are designed to target the needs of both native and non-native speakers. See the [current workshop schedule](#)¹⁷ or call (416) 946-7314 for more information. In addition, familiarize yourself with the resources available at the [U.of.T writing support web site](#).¹⁸

G. Grading

1. Assignments will be graded on the basis of clarity, insight, cogency, relevance, imagination, coherence, presentation, and mastery of the topic and relevant resources and literature.
2. Grading will conform to:
 - a. The iSchool's [Grade Interpretation Guidelines](#);¹⁹ and
 - b. The [University Assessment and Grading Practices Policy](#).²⁰

¹³Due to a peculiarity in Blackboard, anything posted at midnight will be recorded by Blackboard as having been submitted at 0:00 a.m. on the following date, and hence marked as late.

¹⁴<http://www.illnessverification.utoronto.ca> (replaces the former "Student Medical Certificate," which is no longer accepted)

¹⁵See §V.4, below.

¹⁶<http://www.sgs.utoronto.ca/english>

¹⁷<http://www.sgs.utoronto.ca/currentstudents/Pages/Current-Years-Courses.aspx>

¹⁸<http://www.writing.utoronto.ca/>

¹⁹<http://current.ischool.utoronto.ca/grade-interpretation>

V • Course Materials

A course website will be maintained on Blackboard. All required readings will be available on Blackboard. Other handouts and relevant materials will be posted when appropriate.

VI • Academic integrity

Honesty and fairness are considered fundamental values shared by students, staff and faculty at the University of Toronto. The essence of academic life revolves around fairness, the avoidance of cheating, and respect not only for the ideas of others, but also their rights to those ideas and their promulgation. In particular, it is essential the ideas and expressions of ideas of other people be handled and respectfully. In written assignments, when ideas or materials of others are used, *they must be cited*. Such attention to ideas and acknowledgment of their sources is central not only to academic life, but life in general.

Use of material by others without proper citation—called **plagiarism**—is absolutely forbidden, and considered to be a very grave academic offence. Please familiarize yourself with the U.of.T site [How Not to Plagiarize](#),²¹ and with the U.of.T policy detailing all policies and procedures surrounding academic offences: the U.of.T [Code of Behaviour on Academic Matters](#).²²

Appropriate citational behaviour is covered in the iSchool's "Cite it Right" workshop, which all iSchool students are expected to complete. The online Cite it Right quiz should be completed prior to the second week of classes. See the orientation portion of the [iSkills site](#).²³

Note that *no U.of.T instructor has any discretion whatsoever in dealing with cases of plagiarism. All cases must be reported*. This is a very strict U.of.T rule, to which we, as instructors, are bound. In particular, it is explicitly forbidden for any instructor to "decide charitably to let a confused or repentant student off," no matter how much we might otherwise be tempted.

Note as well that citation is critical whether or not the cited passage or idea has been published. If you rely on an idea suggested by someone else (including another classmate, even at a coffee house or pub), make sure to cite the person and to give them full and appropriate credit (e.g.: Ebenezer Le Page, personal communication, Feb 30, 2017).

VII • Practical Stuff

- A. *Communication policy*: Except in unusual circumstances, please do not email questions about the course directly to the instructor. If you have a question, there is a very good chance that others in the class will have the same question—or at least will benefit from the answer. Please therefore post all questions to Blackboard (in the appropriate forum on the "Discussion Board") so that everyone in the class can benefit from your questions and from our answers. Questions posted to Blackboard will normally be answered within 24 hours (except on weekends and during reading week).
- B. *Accommodations*: Students with disabilities, diverse learning styles, and/or needs are welcome in this course. If you have a disability or health consideration that may require accommodations, please approach the instructor, the Faculty of Information Registrar, and/or the [Accessibility Services Office](#)²⁴ as soon as possible. The Accessibility Services staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations. The sooner you let us know about your needs, the more quickly we can assist you in achieving your learning goals in this course.

²⁰<http://www.governingcouncil.utoronto.ca/Assets/Governing+Council+Digital+Assets/Policies/PDF/grading.pdf>

²¹<http://www.writing.utoronto.ca/advice/using-sources/how-not-to-plagiarize>

²²<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>

²³<http://current.ischool.utoronto.ca/workshops>

²⁴<http://www.accessibility.utoronto.ca/>