INF PhD General Comprehensive Examination

June 2015

INSTRUCTIONS: This INF PhD General Comprehensive Exam consists of three questions. You must answer a total of one question.

The completed exam must be returned to Mei Chen (email meichen@albany.edu) by 11:59 p.m. (midnight; 23:59) August 19, Friday. We would prefer that you send a pdf so as to eliminate identifying information from the paper.

In preparing your answers, you may use published or unpublished sources, the World Wide Web, or your own notes. However, you may not ask for or receive help on the exam from any person. You may make use of personal or mainframe computers in answering your question and you are expected to turn in an answer that is word-processed, double spaced and paginated, with references as appropriate. Remember that the ability to present information clearly is one of the technical skills to be demonstrated in this program.

Your answer will be read anonymously by three different faculty members. Clearly label each page with the number of the question being answered. DO NOT place your name on your pages; use your UAlbany ID number (the 9-digit system-generated number that is unique for each student) to identify your answer. Each page should be numbered at the top with the number of the question, the number of the page of your answer, and your Albany ID number (e.g., Q.1, p.3, #000448221).

When you return the exam, you will be required to turn in the signed Honor Pledge statement (see next page) indicating that the exam is entirely your own work, and that you agree to keep the exam confidential after the examination. (This is to keep identifying information from potential graders.) You should email a copy of the signed Honor Pledge to Dr. Mei Chen (email meichen@albany.edu) or deliver it to Angela St. John in Draper 113. YOUR NAME AND SIGNATURE SHOULD APPEAR ONLY ON THIS HONOR PLEDGE.
INF PhD General Comprehensive Exam
June 2015

Honor Pledge

I certify that I have completed the attached examination materials, constituting the general portion of the comprehensive examination in information science, using my own efforts. I have not asked for, given, or received help from any person in completing this exam.

I agree not to discuss or divulge any information about this exam to anyone until after midnight (23:59) on September 1, 2015.

________________________________________
Signature	ID number	Date

Print or type your name

You may fill out, sign, scan and send this pledge as an email attachment as a separate document with your comp email, or deliver a paper copy to Angela St. John in Draper 113 the week after completing the comp.
Comprehensive Examination--Summer 2015

Please answer one of the three following questions. Use the grading rubric as a guide in terms of critical elements for a strong essay. Remember that a well-developed essay will draw from across the proseminars, your own research experience and readings, and other classes you have taken, as appropriate. Think synthesis, not summary.

Question 1: Using Information Structures to Create Identity

In *Change of State* (chapter 6, page 168) Sandra Braman wrote

> Because both communal and individual identity are constructed via flows of communication, introduction of any new information or communication technology influences the ways in which we relate to each other and form into groups, from the most local to the global. Informational structures provide the architectures that enable both social and technological form.

Use your essay to elaborate upon this statement, using materials from your five proseminars (readings, discussions, theories as appropriate) and examples from your own reading, other classes, and research. Be sure to include in your essay a discussion of how groups are formed online, how individuals are engaged in (or by) their enterprises, what kinds of satisfactions members might enjoy, and why some groups might eventually wither away. A strong essay will use a small number of examples, exploring in depth the influences of new information and communication technologies and their specific affordances. How are both social and technological forms enabled by communication flows?

Reference
Question 2: Testing Popperian Incrementalism

In “Frame analysis as a tool for understanding information policy,” Rowland, Eisenschitz and Bawden end their article discussing Popperian policy making. As seen in the quotation below (p. 37) “piecemeal engineering” appears to be one way in which social policy, including information policy, takes place.

In more general terms, if Popper’s epistemology is accepted, then it follows that no policy can be known to be correct, and that all will, indeed, be flawed in some way. However, such policies can be continually improved – although they will never be perfected – by critical examination of their results, and a willingness to modify them as necessary. A Popperian social policy, therefore, is one which eschews grand designs and strategies, in favour of a stepwise and piecemeal approach, making small advances which can be tested and evaluated, and which may easily be reversed if they prove useless or counterproductive; a ‘piecemeal engineering’ approach. A Popperian policy-maker will constantly seek to ‘falsify’ their policy formulations – to show them in error in some way – so that they may be improved. It goes without saying that it is essential that there is openness about the policies being followed, and their effects, in order that they may be criticized.

Use your essay to reflect upon the concept of piecemeal engineering, looking at examples from your proseminars, and your own reading and research, which point to this particular aspect of information science. Are there counterexamples that follow a different path and are not incremental in their production of structures in information creation, processing, flows and use? How do they inform or disconfirm the idea of incrementalism as put forth by Popper? A strong essay will explore both examples and counter examples of this concept. Although the authors are looking particularly at policy formation, feel free to apply the general concepts here to areas of information organization, management, technology, organizations or policy as is appropriate for your particular discussion.

Reference
Question #3: Developing a White Paper for the National Science Foundation’s new Competition to Support Small Business Technology Transfer (STTR) Based on the DPLA API Program

The Digital Public Library of America has established a program to support the development of applications that use the resources of the DPLA to create new value for citizens, libraries, and private and non-governmental entities at all levels (dp.la/apps). Some of the technical resources provided by DPLA to support its API program are described in Attachment #1. Specifically, this attachment points to the API Codex site where developers can find technical document for such functions applications development, and bulk downloads of DPLA materials.

For this question, assume that the NSF’s Small Business Technology Transfer Program (STTR) is interested in putting together a Request for Proposals (RFP) to solicit ideas for commercial applications based on the DPLA API program. Specifically, NSF is interested in providing start-up funding under its existing STTR program for entrepreneurs who want to create a business plan based on resources and materials publicly available from the DPLA API program.

The NSF has retained you to draft a white paper to help it frame this RFP. You have been hired for this job because you have completed the set of core classes in UAlbany’s INF PhD program. The National Science Foundation seeks your wisdom, based on literature, frameworks from the proseminars, and other experiences you have had so far in the program. It is interested in your ideas on the various issues that they will want to include in the solicitation and how they should frame the overall RFP. A strong white paper will include discussion that cuts across management, policy, technology, and organizational dimensions of an RFP.

References (for background, not API materials)


Attachment #1: Extract from http://dp.la/info/developers/ pointing to technical resources for potential developers of DPLA Apps.

Make something awesome.

In addition to serving as a content portal for students, teachers, scholars, and the public, DPLA is also a powerful platform that enables new and transformative uses of our digitized cultural heritage. With an application programming interface (API) and maximally open data, DPLA can be used by software developers, researchers, and others to create novel environments for learning, tools for discovery, and engaging apps.

DPLA built and maintains an open API to encourage the independent development of applications, tools, and resources that make use of data contained in the DPLA platform in new and innovative ways, from anywhere at anytime. We welcome contributions from interested developers who would like to build applications or tools using our API or a bulk download of our dataset. For those who’d like to poke around, the code powering the DPLA portal and the rest of our infrastructure is available on GitHub.

App Library

Examples of awesome tools that have been built using our API are featured in our App Library (earlier efforts by the DPLA developer community can be seen in our lists of fall 2012 Appfest apps and summer 2011 Beta Sprint submissions). Have you made something cool? Want to show it off? If so, let us know at apps@dp.la or through our contact form.

Tech Help

Not sure where to start? Our API Codex lays out the authoritative documentation for the DPLA API and resources you can use to make the most of it. Our Sample Code and Libraries page is your go-to for libraries, wrappers, and other code samples. Still have questions? Subscribe to our tech email list to chat with other developers.

**SBIR versus STTR (copied from [http://www.nsf.gov/eng/iip/sbir/goodfit.jsp](http://www.nsf.gov/eng/iip/sbir/goodfit.jsp))**

The Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs are similar in almost every way. However, the differences are highlighted below. More specific information is available via [this video](http://www.nsf.gov/eng/iip/sbir/goodfit.jsp).

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<th>SBIR</th>
<th>STTR</th>
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<td><strong>Phase I Grant</strong></td>
<td>Feasibility / Proof-of-Concept</td>
<td>Up to $150k for 6 months</td>
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<td>Up to $750k for 24 months</td>
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<td><strong>Phase II Grant</strong></td>
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<td>Up to $750k for 24 months</td>
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<td><strong>Partner</strong></td>
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<td><strong>Merit Review Criteria &amp; Most Other Aspects</strong></td>
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*FFDR = Federally Funded Research and Development Center