Syllabus for IS-764 - Human-Centered Computing and Design

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Course Room: GITC 5600

Description
This course is designed as an introductory seminar on human centered computing and design as it is used in the field of information systems.

- The course balances the acquisition of basic knowledge about the conduct of qualitative research with the application of that knowledge to research on information systems.
- This course develops skills in designing and evaluating systems using qualitative methods.
- Students will also acquire skills in making and justifying qualitative methodological choices, writing qualitative research reports, and understanding how to publish qualitative research in information systems.

The course provides a survey of the methodological literature on qualitative research methods paired with appropriate article-length exemplars in the information systems domain. This course covers a variety of different research strategies including design science, action research, case study, qualitative data collection and analysis techniques, and scenario-based design. We also discuss writing and reviewing academic articles and research proposals.

At the end of this course, the student should be able to:

1. Describe the NSF area of Human Centered Computing (HCC) research  
2. Explain some theories applicable in HCC research  
3. Specify the features of a design approach to HCC research  
4. Analyze and critique academic articles (particularly from a qualitative and design viewpoint).

Required Text
There is no text for the course. All readings are available online or distributed in class.

Honor Code
Any evidence of cheating in any form, including plagiarism, will be dealt with according to the honor code of NJIT (course failure and suspension or expulsion). Please note: There will be no warnings or chances with regard to cheating. Any discovered case of cheating will be immediately passed to the Dean of Students for further investigation.
This is your warning now. Cheating is not worth it. You may not only fail this course but also be suspended from NJIT. The full text of the NJIT Honor Code is available for your review at http://www.njit.edu/academics/honorcode.php

Regarding Participation
Class members come to IS 786 with a myriad of backgrounds, experiences and opinions. Everyone will benefit from everyone else's knowledge. We are structuring the class to encourage discussion, both during class and on-line between classes. We expect everyone to join in the discussion.

On-Line Computer Conferences
We shall be using the Moodle learning management system (http://moodle.njit.edu/). You can access Moodle from your computer and modem at home, from the labs at NJIT (and Rutgers), or from any computer with access to the Internet network. Online discussions (Forums) and online chats will be done using the appropriate tools in Moodle. You are encouraged to participate in these as you would in additional to our regular classroom discussions.
**Grading**
The point weight of each assignment is:

- Homework (5)  50%
- Class Participation  10%
- Peer Evaluation  10%
- Term Paper  30%

**Homework (Five of them, each worth 10%)**
We are going to choose an example context for a semester long project that has seven parts. We will start the first two parts in class number 2.

- Root concept, Stakeholders, Semi Structured Interview Guide
- Wicked problem statements to be researched through design, theory that could drive user/usability study

We next five parts will be done in two teams of five persons each.

1. Two semi structured interviews + one transcription for group – week 4
2. Use of Qualitative Analysis Software Nudist /Nvivo – week 6
3. Personas and problem scenarios – week 7
4. Activity scenario, Information scenario – week 9
5. Expansive interaction design scenarios – week 12
Term Paper (worth 30%)
Each person will develop their project topic and provide a one-page proposal for our approval no later than the 11th class session. Further details about project requirements will be provided during the first class session.

Here are some general requirements
- The purpose of the term project is to demonstrate your mastery of course concepts. References to readings, text and class discussion make a better project.
- The topic must focus on a Human Centered Computing topic.
- Analysis, Synthesis and Critique make a better output for the project.
- The term project can be either a case study or a research paper.
- The length of the project report is open but we would expect about 10 pages of text with appropriate appendices as needed, but no more than 20 pages in total.
- The report will conform to the style guidance for a JAIS paper.

Here is a template for thinking about the argument presented in the paper. The paper itself should follow the standard layout for an academic paper (Introduction, Background Literature, etc).

- In recent discussions of ________, a controversial issue has been whether ________.
- On the one hand, some argue that _________. From this perspective, _________.
- On the other hand, however, others argue that _________. In the words of one of this view’s main proponents, _________. According to this view, _________.
- In sum, then, the issue is whether ________ or ________.
- My own view is that _________. Though I concede that _________, I still maintain that _________. For example, _________. Though some might object that _________, I reply that _________.
- The issue is important because _________.


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<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>Reading</th>
<th>Real World Class Project Work</th>
</tr>
</thead>
</table>
Slides of Research Community Venues |
| 3    | Intro to Why Qualitative | • Rittel (Philosophical)  
• Outeraction (Understanding Use/Design Space)  
• Carrol - Scenario Based Design 1 (Method) | Root Concept  
Stakeholders  
Platform Decisions, Competitive Analysis |
• Chapter 4 of About Face - Cooper (Why in Qualitative Research to Guide Design) - (Read all up to end of 4) | Design Documentation 1 - With Sections  
Paper Review Exercise  
Carrol - Cooper Comparison - (Method) |
Conducting Interviews |
• Nvivo  
• Atlas  
• [NUDIST Qualitative Data Analysis System](http://www.nvivo.com)  
• Personas from Textbook Chapter 11 and /or Chapter 5 of about face | Analysis of Interviews  
Personas |
| 8    | | • Catchup | Activity/Context Scenarios  
Requirements |
<table>
<thead>
<tr>
<th>9</th>
<th>Proposing &amp; Reporting Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Key Path Scenarios / Validations Scenarios</td>
<td></td>
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<tr>
<td>• Functional Elements</td>
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<td>• Storyboards/Wireframes</td>
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<thead>
<tr>
<th>10</th>
<th>Case Studies and Ground Theory Approach</th>
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<thead>
<tr>
<th>11</th>
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<thead>
<tr>
<th>12</th>
<th>Turning Design Innovation into Grant and Research Proposal - The hunt for Theory</th>
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<td>• NSF Workshop on Scientific Foundations of Qualitative Research 2004</td>
<td></td>
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| 13 | Turning Design Innovation into Grant and Research Proposal - The hunt for Theory |

| 14 | Final Design Document Submission |