SI 710 Course Syllabus: Digital Public Goods

Instructor: Yan Chen, 4348 North Quad, yanchen@umich.edu
Office hours: Please sign up for a slot on the class Google Sheet.

- Tuesday: 3:00-4:00 PM; we might meet in person after September 15 if the pandemic situation allows.
- Wednesday: 9:00-10:00 PM, or by appointment

Meets: Each week there will be three components:

1. First hour: Pre-recorded lecture
   I will pre-record one hour of lecture that covers the basic concepts and methods and upload it to YouTube. You can watch it at your convenience.

2. Second hour: Zoom presentation
   Each Tuesday from 1:00-1:50 PM, a student will lead a zoom session for an in-depth presentation of a paper, where students in North America are expected to attend and students in Asia are expected to watch the recording before the third hour.

3. Third hour: Synchronous
   Each Tuesday from 9:00 - 9:50 PM, I will hold a synchronous class where everyone is expected to attend.

Learning Objectives: This doctoral seminar course analyzes the motivations and incentives for users to contribute to digital public goods, e.g., content to online communities. We use social science theories as guidance to study the current incentive structures of online Q&A, microfinance, P2P file sharing, open source, and crowdfunding sites, as well as potential new design features that could improve the quantity and quality of the contents. After completing this course you will be able to:

- recognize the class of mechanisms that would be appropriate to online communities involving user-generated content, such as goal setting, leader boards, team competition, social comparisons, and exclusion;
- identify the key design considerations in adapting such mechanisms to a particular online community or organization;
- design a laboratory or an online field experiment to test your hypotheses;
apply causal inference techniques to experimental or naturally-occurring field data.

**Prerequisite:** Students should have completed at least one undergraduate statistics or econometrics class, and with basic knowledge of differential calculus.

**Assignments:** Three homework assignments and a final paper. You are expected to watch the recorded lecture and read the assigned papers (*) before class and come prepared with questions or comments. We will experiment with Perusall for comments, which are due by noon on the Monday before each class. Reading questions and comments, as well as contributions to in-class discussions will count towards your grade.

**Grading:**

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due Date</th>
<th>% of Grade</th>
<th>Late Penalty</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 problem sets</td>
<td>1 week from release</td>
<td>45%</td>
<td>2 points for every 24 hours</td>
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<tr>
<td>Final Paper</td>
<td>December 15, 2020</td>
<td>20%</td>
<td>2 points for every 24 hours</td>
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<tr>
<td>Reading comments</td>
<td>Monday noon</td>
<td>20%</td>
<td>1 point for every 24 hours</td>
</tr>
<tr>
<td>Presentations</td>
<td>(assigned below)</td>
<td>15%</td>
<td>N/A</td>
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**Original Work Policy**

**Collaboration:** I strongly encourage collaboration while working on homework problems. Active learning is effective. Collaboration will be especially valuable in summarizing the reading materials and picking out the key concepts. You must, however, write your homework submission on your own, in your own words, before turning it in. If you work with someone on the homework before writing it, you must list any and all collaborators on your written submission.

**Plagiarism:** All written submissions must be your own, original work. Original work for narrative questions is not mere paraphrasing of someone else’s completed answer: you must not share written answers with each other at all. At most, you should be working from notes you took while participating in a study session. Largely duplicate copies of the same assignment will receive an equal division of the total point score from the one piece of work. You may incorporate selected excerpts from publications by other authors, but they must be clearly marked as quotations and must be attributed. If you build on the ideas of prior authors, you must cite their work. You may obtain copy editing assistance, and you may discuss your ideas with others, but all substantive writing and ideas must be your own, or be explicitly attributed to another. See the Rackham Graduate policy on Academic and Professional Integrity for the definition of plagiarism, and associated consequences: [http://www.rackham.umich.edu/policies/academic_and_professional_integrity/statement_on_academic_integrity/](http://www.rackham.umich.edu/policies/academic_and_professional_integrity/statement_on_academic_integrity/).
Accommodations for Students with Disabilities

If you think you need an accommodation for a disability, please let me know at your earliest convenience. Some aspects of this course, the assignments, the in-class activities, and the way we teach may be modified to facilitate your participation and progress. As soon as you make me aware of your needs, we can work with the Office of Services for Students with Disabilities (SSD) to help us determine appropriate accommodations. SSD (734-763-3000; http://ssd.umich.edu/) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. I will treat any information you provide as private and confidential.

Readings: Papers will be accessible from Canvas. *: required paper; The following books are recommended for students interested in theoretical analysis of public goods (1 and 2), and experiments (3 and 4).

1. Joel Watson. *Strategy: an Introduction to Game Theory*. If you need a game theory crash course, this is a good reference.

2. David Parkes and Sven Seuken (shortened as PS). *Algorithmic Economics: A Design Approach*. This book is not published yet. I uploaded a draft to Canvas, with the authors’ permission. Please do not distribute without the authors’ permission.


4. Alan S. Gerber and Donald P. Green (Shortened as GG). *Field Experiments: Design, Analysis, and Interpretation*. The datasets used in this book can be found at this Yale website: http://isps.yale.edu/FEDAI#.VNe-SyvF98E.
Topic 1. (September 1, 8) Digital public goods and user-generated content; Experimental Method;


Topic 2. (September 15, 22) Bundling public with private goods: Open source software; Optional: Game theory crash course

Presentations: Hayden; Yichi.

Case study: Linux, R and OSS


Topic 3. (September 29; October 6) Personalizing the ask: Open content and recommender systems

Presentations: Helen; Zihan

Case study: Wikipedia and Open Content


Parkes and Seuken: Chapter 19.

Guest lecture: Professor Yuqing (Ching) Ren on October 6.

Topic 4. (October 13, 20) Injecting social norms: Information design

Presentations: Akash

Case study: Movielens and collaborative filtering


Topic 5. (October 27, November 3 - Election Day) Social identity for social good: team competition

Presentation: Shubham
**Case study:** Kive teams and WikiProjects


**Topic 6.** (November 10, 17) Recognizing contributions: Reputation systems

**Presentations: Hua-Shao, Lillian**

**Case study:** Quora, Stack Exchange, and other question-answering sites


*Parkes and Seuken: Chapter 20.

**Topic 7.** (December 1, 8) Setting a threshold; Goal-setting; Crowdfunding
**Presentations: Anjali, Qingyi (Sunny)**

**Case study:** Kickstarter, Kiva and other crowdfunding sites


