I400/H400/I590 Syllabus
Sustainability in HCI and Design

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Summary
In this class, we will investigate sustainable interaction design along three primary dimensions, namely (i) **themes** that may endow forms with meaning—*understanding and motivating what is worthwhile*, (ii) **forms** that serve as an expression of meanings—*designing things that are worthwhile*, and (iii), **interactive functions** of meaningful forms—*things that things do that are worthwhile*.

Meaning Themes
The themes we will consider are all sustainability matters at the behavioral, practice, and policy levels. For each level, we will understand and apply five sustainable interaction design principles, namely

1. linking invention and disposal,
2. promoting renewal and reuse,
3. promoting quality and equality,
4. de-coupling ownership and identity, and
5. using natural models and reflection.

Forms
We will design for the introduction of interactive forms that can scaffold sustainable behaviors, practices, and policies. We will also design for the removal of interactive forms that afford unsustainable behaviors, practices, and policies. Initially, we will look at the specific forms of monitors and controls, mechanisms of awareness, and channels of news. We may revise this list of forms, as needed.

Interactive Functions
The forms we design (or “undesign”) will afford interactive functions relating to such sustainability concerns as food, shelter, air, water, migration, health, safety, adaptation, mitigation, energy, and so forth.
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<td>Forms (Meanings)</td>
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<td>1</td>
<td>1.12</td>
<td>Individuals and Behaviors, SID Principles</td>
<td>food, shelter, air, water, migration, health, safety, adaptation, mitigation, energy, ...</td>
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<td>1.19</td>
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<td>4</td>
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<td>DiSalvo et al., 2010</td>
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<td>Communities and Practices, SID Principles</td>
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<td>7</td>
<td>2.23</td>
<td>Priest et al., 2016</td>
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<td>8</td>
<td>3.1</td>
<td>Pierce et al., 2011</td>
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<td>Governance and Policies, SID Principles</td>
<td>food, shelter, air, water, migration, health, safety, adaptation, mitigation, energy, ...</td>
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**Assigned Readings**


Class Format
The basic form of each regular class is:

- Hour 0:00-0:20: Introduction and explanation of the next project step
- Hour 0:20-1:00: Readings & Discussion
- Hour 1:00-1:20: Guest or News Items of the Week
- Hour 1:20-1:30: Break
- Hour 1:30-2:45: 5 Minute Project Presentations or Break Out Work and Critique Time

For the three presentations classes, the format is always video presentations by each group of duration exactly 6 minutes and 40 seconds, with 5 minutes for questions and discussions.

Readings
For each of the readings, you must submit a sheet of paper with your name, two quotes from the reading that you think are interesting, and for each quote a statement about why you believe the quote is interesting, or a question about the quote that you expect the class discussion to clarify. The submitted papers will be shuffled and several will be drawn at random to be discussed. The readings do not strictly follow the themes. Some are foundational design theory that is more general than the particular themes.

Projects
For the projects, the forms are always one of research, or insights, or concept/prototypes. The form of research is always diagrams or images. The form of insights are always diagrams or annotated images. The form of concept/prototypes is always a sequence of images or a video. The project presentations always take the form of a five minute video that must stand alone without accompanying spoken commentary (mp4 or avi). The project presentations integrate the materials of research, insights, and concepts/prototypes into a single video of exactly 6 minutes and 40 seconds in length.

This is not a class about sketching. In general in this class, primitive concept sketching or screen display wireframes are not acceptable forms of finished work. The primary outputs are diagrams, or photographs which may be annotated, or video. The use of text should be minimal. You will create or use physical forms as needed in the service of image making or video. You do not need to make interactive features work, but rather you need to illustrate how they will work in images and/or video narratives. You do need to be able to explain what technologies are needed to implement your designs, if they are available or will be, and how they will work. Production values—that is the quality of your diagrams, images, and videos matter significantly in this class.

The projects are done in groups of 3-5 depending on class size. Every project presentation must clearly attribute who contributed which parts. It is possible for different people in the same group to receive different grades.

Grading
You will be judged on (1) the combination of your reading perparations and contributions to the discussion, (2) your group project work, and (3) your attendance and attitude, especially relating to your tolerance, openness, and rigor. You will receive a mid-term grade and a final grade only in the form of a letter grade. For detailed feedback, kindly make an appointment to speak with the appropriate Associate Instructor.

Contacts
For nearly all questions, kindly contact the Associate Instructor(s) for your section:
Texts, Required Software
There is no textbook for the course. The readings are primary source as indicated under "Assigned Readings." You must have a camera which can be manually controlled, or purchase an app that allows your smart phone camera to be manually controlled. Several such apps are available. I paid $1.50 for mine, an app called "manual." Other applications we will use include Adobe InDesign, Lightroom, and Photoshop, MS Powerpoint or a more sophisticated video creation tool of your choosing. These are available at iuware.iu.edu.

SHCI I400/H400 Sections
VT: SUSTAINABILITY IN HCI & DESIGN
32693 RSTR 04:00P-06:30P T HD TBA Blevis E
Above class open to undergraduates only
Above class meets at the IU Research and Teaching Preserve:
HTTP://WWW.INDIANA.EDU/~PRESERVE/
Above class meets with INFO-H 400

VT: SUSTAINABILITY IN HCI & DESIGN
32678 RSTR 04:00P-06:30P T HD TBA Blevis E
Above class open to Hutton Honors College students only
Above class meets at the IU Research and Teaching Preserve:
HTTP://WWW.INDIANA.EDU/~PRESERVE/
Above class meets with INFO-I 400

SHCI I590 Section
VT: SUSTAINABILITY IN HCI & DESIGN
CLSD 33765 04:00P-06:30P T HD TBA Blevis E
Above class open to graduates only
Above class meets at the IU Research and Teaching
HTTP://WWW.INDIANA.EDU/~PRESERVE/
Above class meets with INFO-I 400 and H 400

Accommodations & Feedback
We welcome your feedback. We will do our best to accommodate specific requests if they are reasonable and have merit.

Academic Misconduct
The class is morally and procedurally bound by IU’s policies on academic misconduct, the details of which you can read about at the following website: www.indiana.edu/~code/code/index.shtml
Religious Observance
In accordance with the Office of the Dean of Faculties, any student who wishes to receive an excused absence from class must submit a request form available from the Dean of Faculties for each day to be absent. This form must be presented to the course professor by the end of the second week of the semester. A separate form must be submitted for each day. The form must be signed by the instructor, with a copy retained by instructor, and the original returned to the student. Information about the policy on religious observance can be found here: www.indiana.edu/~vpfaa/holidays.shtml

English
If English is not your native language or you are otherwise shy about speaking in class, please do not worry. You will not be penalized in any way for making contributions to the class in less than perfect English or for taking time to compose your answers. You are welcome to say what you want to say in your language of choice first and then ask for help from others to translate to English. I will frequently emphasize to the class the need for all of us to be supportive of each other when it comes to contributing to the discussions. There is no need to feel rushed when responding to questions in class—an important part of the class is the construction of a feeling of community with the faculty and your peers.

Important Notice
As your instructor, one of my responsibilities is to help create a safe learning environment on our campus. Title IX and our own Sexual Misconduct policy prohibit sexual misconduct. If you have experienced sexual misconduct, or know someone who has, the University can help. I encourage you to visit http://stopsexualviolence.iu.edu/ to learn more. If you are seeking help and would like to speak to someone confidentially, you can make an appointment with a Mental Health Counselor on campus (contact information available at http://stopsexualviolence.iu.edu/employee/confidential.html).

It is also important that you know that federal regulations and University policy require me to promptly convey any information about potential sexual misconduct known to me to our Deputy Title IX Coordinator or IU’s Title IX Coordinator. In that event, they will work with a small number of others on campus to ensure that appropriate measures are taken and resources are made available to the student who may have been harmed. Protecting a student’s privacy is of utmost concern, and all involved will only share information with those that need to know to ensure the University can respond and assist.
Detailed Grading Rubric

40% Project Work (Teams*)
40% Assigned Readings and Discussion (Individual)
20% Attendance and Participation (Individual)

For your project work (40%), our assessment of your work to date is:
(A+) You are doing exceptional work.
(A) Your work is excellent.
(A-) Your work is very good. There is room to improve your contributions.
(B+) Your work is good, and there are opportunities to improve your contributions.
(B) Your work is satisfactory. Many improvements are possible.
(B-) Your work may be improved.

* Please note that not everyone on each team necessarily receives the same assessment. We can do this because we have been asking who has done which work during the presentations in some instances and in some other instances it is evident.

For your assigned readings and contributions to discussions (40%), our assessment of your work to date is:
(A+) Your contributions to the discussion and evidence of having read the materials are exceptional.
(A) Your contributions to the discussion and evidence of having read the materials are excellent.
(A-) Your contributions to the discussion and evidence of having read the materials are very good. There is some possibility to more fully contribute to the discussions.
(B+) Your contributions to the discussion and evidence of having read the materials are good. There are more than a few possibilities to more fully contribute, or your contributions could be more thoughtful.
(B) Your contributions to the discussion and evidence of having read the materials are satisfactory. There is some evidence that you have not done all of the readings, or your contributions could be more thoughtful.
(B-) Your contributions to the discussion and evidence of having read the materials may be improved. There is evidence that you have not done the readings on more than one or two occasions.

For your attendance and participation (20%), our assessment to date is:
(A+) Your attendance is perfect and you are always checked-in.
(A) You have only one or zero unexcused absences, and you are always checked-in.
(A-) You have one or two unexcused absences, and you are nearly always checked-in.
(B+) You have one or two unexcused absences, and you are not always checked-in.
(B) You have more than two unexcused absences, and you are not always checked-in.
(B-) Your attendance and participation needs improvement

Overall, you can calculate your summary grade according to the following scheme:

\[
A+ = 100 \\
A = 95 \\
A- = 90 \\
B+ = 88 \\
B = 85 \\
B- = 80
\]

\[
0.4 \times \text{ProjectWork} + 0.4 \times \text{ReadingsAndDiscussion} + 0.2 \times \text{AttendanceAndParticipation}
\]

It is possible to receive a grade lower than B-.
Additional References

The following are optional readings. I may refer to these time to time in class, but they are not required. I will add to this list from time to time.


Edward Helmore. 2015. Apple Watch release signals firm’s transformation into luxury brand. www.theguardian.com/technology 03.09.2015 @ September 23, 2015.


Wikipedia: Library of Congress. en.wikipedia.org @ 09.10.2015.

