MDes Interaction Design
Semester One
Integrated Syllabus
Version 0.1.4

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- Visiting Professor of Design (Sep 1 – Dec 31, 2012) | Specialism Leader |
The Hong Kong Polytechnic School of Design

Kenny Chow, Christine Tsin
The Hong Kong Polytechnic School of Design

Image: E. Blevis, 2012
Foreword

This integrated syllabus is a work in progress. As this is the first time that I am teaching these courses, expect some revisions during the course of the semester.

Project assignments and model "solutions" will be added to the syllabus as the semester progresses.

Examples of what these projects may look like are abundant on my website in various syllabi here:

http://eli.informatics.indiana.edu/
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Welcome & Introduction, SD5400 Vision & Change (1C) (Sep 3 & 4)

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Special Concept Workshop (0C) (Sep 5 6 7)
Key Learning Objectives: Values, Methods, Reasoning in HCI/ID

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SD5018 Research and Analysis for Design (Thursdays, Sep 13 - Dec 13)

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SD5507 Graduate Seminar I: Interaction Design Theory (2C) (Mondays 10:00-13:00 Sep 10 - Nov 19)
Key Learning Objectives: Foundational Theory & Applications of Interaction Design

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SD5508 Graduate Seminar II: Human-Computer Interaction (2C)
(Wednesdays 14:00-17:00 & Fridays, 10:00-13:00 Sep 12- Oct 12)
Key Learning Objectives: Foundational Theory & Applications of Design-Oriented HCI
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**SD5527 Graduate Studio Workshop 1**: Sponsored Collaborative Design Project (3C) (Tuesdays 10:00-13:00 Oct 9 - Dec 11)
Design for Mobile Banking, sponsored by HSBC, Key Learning Objectives: Design Application

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**SD5018 Research and Analysis for Design** (Thursdays, Sep 13 - Dec 13)

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**SD5507 Graduate Seminar I: Interaction Design Theory** (2C) (Mondays, Sep 10 - Nov 19)

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**SD5508 Graduate Seminar II: Human-Computer Interaction** (2C)
(Wednesdays & Fridays, Sep 12 - Oct 12)

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**SD5502 Information Architecture & Visualization** (2C)
(Fridays, Nov 9 - Dec 14)
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**SD5527 Graduate Studio Workshop 1:** Sponsored Collaborative Design Project (3C) (Tuesdays Oct 9 - Dec 11)

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**SD5018 Research and Analysis for Design** (Thursdays, Sep 13 - Dec 13)

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**SD5507 Graduate Seminar I:** Interaction Design Theory (2C)  
(Mondays, Sep 10 - Nov 19)

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**SD5502 Information Architecture & Visualization (2C)** (Fridays, Nov 9 - Dec 14)
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<th>Short Descriptions of Courses</th>
<th>Special Concept Workshop</th>
<th>SD5507 Graduate Seminar I</th>
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<td>Key Learning Objectives: Understand and Apply Design Theory, especially Design Research Methods</td>
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<td>Learning Paradigm: One Room School House (ORSH)</td>
<td>Learning Paradigm: Design Challenge Based Learning (DCBL)</td>
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<td>Project</td>
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SD5508 Graduate Seminar II

(2C) (Wednesdays & Fridays, Sep 12 - Oct 12)

Key Learning Objectives: Understand and Apply HCI Theory & Practice, especially Concept Systems and Prototypes

Learning Paradigm: Design Challenge Based Learning (DCBL)

Projects (Examples)
- Comfort Control Systems
- Time Telling Systems
- Social Mechanisms of Awareness
- Music Sharing and Distribution Systems
- Sharing & Attribution Systems
- Social Networking and Other Social Systems
- Systems that Motivate at Scale
- Systems of Scholarship & Learning
- Systems that Promote Health & Well-Being
- Digital Imagery Systems
- ...

SD5527 Graduate Studio Workshop I

(3C) (Tuesdays Oct 9 - Dec 11)

Key Learning Objectives: Understand and Apply HCI and Interaction Design to Sponsored Collaborative Design Project

Learning Paradigm: Design Challenge Based Learning (DCBL)

Project
Design for Mobile Banking, sponsored by HSBC

Evaluation, Portfolios, Scholarship

Evaluation
Students are expected to attend and participate in each and every class and to help each other succeed.

Evaluation—that is to say grading—will be based in equal parts on (i) attendance, participation, steady progress, and helping others, (50%) and (ii) the quality of project outcomes (50%).

Portfolio
Students will collect their best work into a portfolio, as an overall deliverable for all classes. A first iteration of the Portfolio will be due as a project in SD5507 and a final version of the portfolio will be due at the end of SD5527.

Scholarship
Students who may be interested in further advanced studies and/or careers as scholars may substitute written papers targeted at publication venues for some project work. Students who are interested in advancing design in this way should discuss this option with the Instructor.
Resources (Partial Listing)

Design Methods

Design Frameworks

DCBL & ORSH Learning Paradigms
• Eli Blevis. 2010. Design challenge based learning (DCBL) and sustainable pedagogical practice. Interactions 17, 3 (May 2010), 64-69. DOI=10.1145/1744161.1744176

Design Theory

HCI, more generally than Design-Oriented HCI
• Jack Carroll (ed.). Human–Computer Interaction Series, 1, Volume 20, Creativity and Rationale, Springer.

This list will be greatly expanded, as the semester progresses.
Details
SD5527 Graduate Studio Workshop I

(3C) (Tuesdays Oct 9 - Dec 11)

The course description for this workshop is being revised. This is a project oriented class.
Details
Special Concept Workshop

(0C) (Sep 6 7 10-12 14)

Objectives
The key learning objectives are to understand and apply values, methods, reasoning in design-oriented HCI.

Learning Paradigm: One Room School House (ORSH)

Project
Design for Sustainability & Adaptation to Climate Change

Intended learning outcomes
Professional skills
• Basic ability to characterize predispositions (basic assumptions and varied perspectives)
• Basic ability to conduct research as observations, literature review, and collections
• Basic ability to derive insights from research
• Basic ability to create concepts and concept systems from insights
• Basic ability to describe prototypes as behavioral, appearance, and usability
• Basic ability to describe strategy as social value, enterprise viability, and technical feasibility

Transferable skills
• Bring a values orientation to design
• Understand basic forms of design methods
• Understand how designs may be represented in terms of rationale, frameworks, and logics

Indicative content
• Rapid development of predispositions, research, insights, concept systems, prototypes, and strategies in a values-rich context

Subject synopsis
I will lecture/present on the first day only, and describe the project to the students. Thereafter, students may work in pairs or alone. Students will present their work each day to the assembly, while other students at once engage in critique of what is being presented, while working on their own work.

Project Deliverables
Presentation of a design explanation in the PRInCiPleS framework (pdf, indd)

Method of Assessment
Assessment will be based on the following:
• Instructor’s observations of student’s attendance, participation, steady progress, and engagement in helping others, (50%)
• Instructor’s observations of the quality of project outcomes (50%)

Readings: Primary

Readings: Additional, Partial Listing


Details
SD5507 Graduate Seminar I
SD5508 Graduate Seminar II

SD5507: (2C) (Mondays, Sep 10 - Nov 19)
SD5508: (2C) (Wednesdays & Fridays, Sep 12- Oct 12)

Although these are two separate courses that are somewhat temporally offset, they will proceed in a parallel complementary way, with themes that serve as a focus for design theory, especially design methods in the case of SD5507, and corresponding themes that serve as a focus for HCI theory and practice, especially the design of concept systems and prototypes in the case SD5508.

Objectives
The key learning objectives are to (i) understand and apply design theory, especially design research methods SD5507, and (ii) Understand and Apply HCI Theory & Practice, especially Concept Systems and Prototypes SD5508.

Learning Paradigm: Design Challenge Based Learning (DCBL)

Projects
The following are potential projects, which serve as project based learning themes which serve as motivated learning tasks to which design theory and research skills and HCI concepts and prototyping skills may be applied and practised.
- Comfort & Comfort Control Systems
- Time & Time Telling Systems
- Diversity and Social Inclusion & Social Mechanisms of Awareness
- Music Listening & Music Sharing and Distribution Systems
- The Commons & Sharing & Attribution Systems
- Community & Social Networking and Other Social Systems
- Fashion & Systems that Motivate at Scale
- Transdisciplinarity & Systems of Scholarship & Learning
- Health & Well-Being & Systems that Promote Health & Well-Being
- Visual Thinking and Digital Imagery Digital Imagery Systems
- Portfolio

Note that in what precedes, the word systems refers to systems in which interactive digital technologies play a material role.

Intended learning outcomes
Professional skills
- Advanced ability to characterize predispositions (basic assumptions and varied perspectives)
- Advanced ability to conduct research as observations, literature review, and collections
- Advanced ability to derive insights from research
- Advanced ability to create concepts and concept systems from insights
- Advanced ability to describe prototypes as behavioral, appearance, and usability
- Advanced ability to describe strategy as social value, enterprise viability, and technical feasibility

Transferable skills
- Bring a values orientation to design
- Understand basic forms of design methods
- Understand how designs may be represented in terms of rationale, frameworks, and logics
- Experience with design, and the particular skills needed for design in which interactive digital technologies play a material role
- Literacy about design theory, HCI, & interaction design

Indicative content
- Experience in the theory and applications of predispositions, research, insights, concept systems, prototypes, and strategies in a values-rich context, especially as related to systems in which interactive digital technologies play a material role.

Subject synopsis
Students will be assigned specific projects according to the aforementioned themes. On Mondays (SD5507), students will work on and present projects centered around the design research/theory themes, and on Wednesdays and Fridays, students will work on and present projects centered around design concept system and prototyping themes. The organizational structure will be DCBL as described in detail in this paper:

Eli Blevis. 2010. Design challenge based learning (DCBL) and sustainable pedagogical practice. interactions 17, 3 (May 2010), 64-69. DOI=10.1145/1744161.1744176

Project Deliverables
Each project will be presented as a three page PDF comprising a sketch, a main contribution page presenting either design research or design concept or prototype as assigned, and an attributions page. The exact number of projects may vary as I discover what pace is possible and most conductive to learning in this environment with this cohort.

Method of Assessment
Assessment will be based on the following:
- Instructor’s observations of student’s attendance, participation, steady progress, and engagement in helping others, (50%)
- Instructor’s observations of the quality of project outcomes (50%)

Readings: Primary
TBA
SD5507/5508 Project One

Design Research about Special Relationships and Concepts for Interactive Systems that Support Special Relationships

In groups assigned in class:

Step One:
Find (or create) (min) 3 interesting images of special relationships (i.e. couples, close friends, close family, ...) or circumstances relating to special relationships. Be sure to attribute your sources correctly. Explain what is interesting about each image or illustration and why you have chosen these three to be together, especially with reference to interactive technologies where possible. Your explanation may take the form of labelled insights that you can use to motivate Step Two.

Step Two:
Illustrate (either by sketching or photo collage or by any other means) a concept (or system of concepts) that specifically supports special relationships by means of interactive technologies.

Step Three:
On a separate page, include clear attributions in correct format for any and all work.

Step Three:
Submit your work as a PDF file. Step One is due at the start of Class on Monday. Steps Two and Three are due at the start of class on Wednesday.

Bring your work on a flash drive to class.
(a) Abstract Image, Distinctive Technique
100 Special Moments (Newlyweds) by noteworthy photographer Jason Salavon (http://salavon.com). The image is produced algorithmically by averaging together “100 unique commemorative photographs culled from the internet.” The use of algorithmic techniques in Salavon’s work endows meaning in the sense of showing how certain forms of special ultimate particular events can have so much similarity one-to-another. The image is reproduced here in accordance with educational fair use only. Please see the Artist’s site.

(b) Detailed Image, Old Technology
Wedding photograph of Tony & Kitty Hochertz (1911-1912). This photograph was accessed from (http://www.wachdorfconnect.com/hochertz.htm) which is a site targeted at archiving a particular family’s history. The image is public domain due to its age. The extraordinarily high resolution of the image shows just how beautiful film was (and is) and stands in contrast to the pastel effects of Salavon’s work—a surprising juxtaposition apropos of the capabilities associated with digital means of image production.

(c) Quirky Image, New Technology
Another image of a couple—the author and his wife and their two dogs. This is a much less formal pose than the other two images, and as such represents a search for an ultimate particular expression of identity. The image also targets the crisp resolution of the older photograph, which is only possible because the sensitivity of the digital sensor and modern fast lenses makes it possible to use a fast enough shutter speed to achieve such resolution even with restless dogs contributing to the composition.
SD5507/5508 Project Two

Trading Spaces

In groups assigned in class:

The projects for Project One may be described as:

1. Baby Safety & Cognitive Development - Baby Sling
2. Roommate Harmony Management System
3. Recording Histories in Special Relationships - Relation-line, Automatic Snapshots
5. Mediating Father & Son Relationships - Histories and Safety
6. Archaic Chinese Marriage Customs – Reflective Exhibit Design
7. Mediating Small Special Business Relationship Needs
8. Cross-Border Weekly Commuting Effects on Family Relationships

I will ask groups to trade project topics and to provide a concept sketch, behavioral prototype design, and appearance prototype design for the adopted project (3 pages max.).

Due: 5 October
SD5507/5508 Project Three

Can One Size Fit All Needs?

You may have seen people nowadays—especially on airplanes or in other transportation contexts—carrying a laptop, an iPad (tablet), and an iPhone (smartphone). I have sat beside such people on airplanes, and I asked them why they needed to carry three (or more) devices, and of course, they say that they need each to do different things using different software on each device.

Interview and/or observe people to find out what kinds of things they do and need to do and like to do on what kinds of respective devices and screen sizes. Document the interviews and/or observations using any variety of methods.

Design a system (which may include both hardware forms and interactive software systems, as well as services—such as cloud services—and things owned personally and things owned by ones employer and things owned publically) that provides an alternative to carrying multiple kinds of devices.

For the forms, you may want to consider things that fold, stack, interlock, insert, or scroll, and any other techniques for varying size of which you can think. You may want to look into technologies like e-ink, flexible displays, and display technologies such as AMOLED.

(Continued ...
Bonus:
Describe how the system you design may be sustainable in the sense that it may be upgraded rather than discarded as future developments occur and needs change. Describe a business model that would enable a consumer electronics company to participate profitably in such a sustainable form of commerce. Describe why people might use your system, as a matter of fashion.

You may work in pairs or alone on this project.

Discussion: OCT 10 Wednesday
First Iteration due: OCT 12 Friday
Second Iteration due OCT 15 Monday

Images:
Exhibition of Jiangmei Wu’s 2009 MFA Thesis, photographed by Eli Blevis
SD5507/5508 Assigned Papers


SD5527 Project

Sustainable Identity, Access, & Well-being

Here’s what we know so far:
We will work in 4 teams of 4.
We will design for sustainable identity, access, & well-being.
The deliverable will include a design plan and prototypes.

Here’s what is to be determined:
The focus may be on financial services and access.
The level of prototyping needs to be determined.
We may have a collaborator.
SD5507/5508 Project Four

HTML/CSS

Take any one of your earlier projects and set it in “hand-coded” HTML/CSS on the HTTP server account provided to you by PolyU. Instructions will be provided in class for how to access your HTTP server account using winSCP or a similar FTP program. You probably want to work in teams of two for this assignment, but you are not required to do so.

Here is what you should do step by step:

One: Install an FTP application on your computer and learn how to access your HTTP server account provided, following the instructions in class.

You can read about how to access your HTTP server files here:
Your website can be accessed here:
http://people.sd.polyu.edu.hk/ebblevi/
where <username> is your username. My site would be:
http://people.sd.polyu.edu.hk/ebblevi/

Two: Follow the instructions to learn the basic elements of HTML and CSS coding here:
http://www.w3.org/Style/Examples/011/firstcss.en.html

Follow these instructions exactly, especially noting that you must use a plain text editor such as Notepad or TextEdit and that you must save the files with a “.html” extension. You may copy and paste the files rather than re-type them, but be certain to read every line carefully.

Here are some alternative tutorials, you may prefer:
http://www.w3schools.com/
http://www.blueprintcss.org/
Thanks to Kevin Flick for suggesting these links. You will also want to look at
http://www.csszengarden.com/
once you are familiar with the basic HTML/CSS concepts.

Three: Replace the navigation in the example index.html file to reflect what you would like to have in your personal web site, presumably something like:

• Home
• Portfolio
• Resume
• Interests
• Contact

Four: If you followed the tutorial of step two exactly, you will have already extracted and put the CSS definitional elements in a separate file named “mycss.css” and added the line
<link rel="stylesheet" href="mystyle.css"> to your index.html file. If you didn’t do this, go back and make sure you have done the entire tutorial.

Five: Decide on a stylistic organization and layout that will work for all pages on your site in the index.html file. This index.html file together with mystyle.css will serve as a template for new pages. The better job you do of extracting stylistic elements and putting them in the CSS file, the easier it will be to change the style of your site later. Improve on the example in the tutorial by removing needless decorative stylistic elements and making stylistic decisions that add clarity and meaning.

Six: Make a page called portfolio.html, which is just like index.html except that it should have the navigation elements listed as:
Seven: Make a page called myproject.html, which is just like index.html except that it should have the navigation elements listed as:

- Home
- Portfolio
- <My Project>
- Resume
- Interests
- Contact

where the <My Project> navigation element references a page called “myproject.html” (or the name of the project you have decided to code, with the file extension ”.html” -- this is case sensitive on most servers.)

Decide if you want to put all of the slides for your project on one page or on 16 separate pages. If on one page, use anchor links for the navigation. The tutorial of step two uses anchor links on its right side navigation—you can copy the technique from this tutorial.

Eight: Add the content from your inDesign project to the page myproject.html or to individual html files referenced by myproject.html. Congratulations, you have just created the first example of your portfolio web site and a container for your portfolio web site. And, you did it by hand—you have a hand-coded site!

Further Instructions: You can look at the html files of any web site in the browser. For example, in Firefox, you would select “Web Developer” → “View Page Source” from the “File” menu. Do NOT use an editor like Dreamweaver, etc. You must code this site by hand using a simple text editor. One of the main pedagogical goals of this project is for you to gain an understanding of hand coded HTML and CSS. If you want to learn more advanced techniques for honing your skills with HTML and CSS, please see: http://www.w3.org/Style/CSS/learning

Once you have mastered HTML and CSS, you may want to continue to have the control that hand coding affords, or you may want to move to other kinds of web-site coding programs. Having learned HTML and CSS will be a firm foundation for understanding how such programs work and mastering them in a way which evidences your skills as a designer.

For extra Karma: If you already know how to code in HTML and CSS, consider choosing a partner who does not know and help her or him along.