De La Salle University
College of Computer Studies
Software Technology Department

Course Code	:	**HCIFACE**
Course Title	:	**Human-Computer Interface Design**
Type of Course	:	Elective course
Pre-requisites	:	
Co-requisite	:	
Pre-requisite to	:	SOFENGG (Introduction to Software Engineering)
Term / Academic Year	:	Term 3, AY 2016-2017
Class Schedule	:	S17 WF 1245-1415
		S18 WF 1430-1600
Instructor/Consultation	:	Mr. Jordan Aiko Deja
		jordan.deja@dlsu.edu.ph
		by appointment
Course Site / Repository	:	Canvas

Course Description

This course explores the process and the different techniques in designing interactions in computational systems that support different human activities. Aside from the analysis, design, development, and evaluation of interactions in computational systems, we will also be looking at the different cultural, social, organizational, cognitive and perceptual factors to guide our design decisions. Lastly, we will draw insights from the disciplines of psychology, ergonomics, graphic and product design, anthropology and engineering. Throughout the course, students will be abiding by the innovation principles as defined by Prof. Shengdong Zhao (2017) which are (1) Balance Human and Computers, (2) Enhance Directness and (3) Facilitate Transition. Their outcomes will be attested by their successful completion of their design challenge and journeys.

Learning Outcomes (LO)

Upon completion of this course, the student is expected to be able to do the following:

LO1. Analyze user's activities to identify interaction design problems and challenges [CS.G02.01-04, CS.G07.01]

LO2. Design and evaluate interaction prototypes that can lead to functional and usable computational systems, and that consider public health and safety, cultural, social, organizational, cognitive and perceptual factors [CS.G04.01-02]

LO3. Validate the interaction design solutions through the conduct of interaction design experiments [CS.G05.03]

LO4. Compose complete, effective and comprehensive documentations and presentation materials that will enhance understanding of ideas being communicated. [CS.G07.02, CS.G07.04-06, CS.G07.09]

Major Course Outputs (MCO)

As evidence of attaining the above learning outcomes, the student is required to do and submit the following during the indicated dates of the term.

Learning Outcome	Required Output	Due Date
LO1, LO3	MCO1. Design Challenge Proposal	Week 7

LO2, LO3	MCO2. Design Challenge Prototype	Week 12
LO1, LO2, LO3, LO4	MCO3. Design Journey Tasks	Weeks 3, 6, 8 & 10
LO4	MCO4. Revalida	Weeks 13 & 14:

Although the major course outputs are all to be done collaboratively in groups, every student is expected to contribute to his/her group's work and will be individually graded accordingly. All group members are also expected to keep track of their own work contributions and should be ready to discuss these with the teacher whenever the need arises.

Rubrics for Assessment

See attachment.

Other Requirements and Assessments

The course has the following requirements on top of the major course outputs enumerated above:

1. Exercises, Case Studies and Quizzes
2. Design Journey Presentation and Reflection

Grading System

To pass this course, one must accumulate at least 60 points through the course requirements discussed above. The maximum points that a student can obtain through each requirement are shown below.

Assessment Task	Maximum Points
Design Journey 1 – Needfinding Artifacts (User Research Protocol, Work Models)	20
Design Journey 2 – Deep Dive Artifacts (Personas, Journey Maps, User Stories, Storyboards, Affinity Diagrams)	20
Design Journey 3 - Rapid Prototyping Artifacts (Low-Fi Prototypes, Hi-Fi Prototypes, Schemas)	20
Design Journey 4 - User Validation Artifacts (Protocol, Results, Statistical Analysis, Findings)	20
Design Journey 5 - Revalida Artifacts (Manuscript, Poster Presentation, Panel Presentation)	10
Written Exam	10
TOTAL POINTS	**100**

Class participation, which include recitation, critiquing and reflection, is an important part of this course. It is expected that students will attend classes and read relevant reference materials. Exercises and case studies will be assigned regularly to develop the students' analytical, critical thinking and problem solving skills. Individual grading may be implemented for all course projects based on actual individual contributions, which can be partly deduced through a student's active participation in class discussions, presentations and reflection. Grouped assignments would still require individual submission in Canvas. Non-submission automatically implies non contribution which is equivalent to a grade of zero (0) for that assignment regardless of actual effort done.

Learning Plan

LO	Topics and Readings	Week(s)	Learning Activities
LO1	**Course Orientation** Syllabus ● MCOs ● Class Policies **Introduction to HCI** The Birth of HCI ● Why bother and study HCI? ● Good and Bad HCI	1	● Examples of Good & Bad HCI ● Examples of Good & Bad HCI ● Good & Bad HCI
LO1 LO4	**Design Thinking** SDLC vs UX Design Process vs Design Thinking ● Stages and Deliverables ● Roles and skillsets **Understanding People** Client Brief ● Overview of different Research Methods ● When to do research? **Designing your User Research** Identifying Goals and Target Participants ● Writing Interview Questions ● **Discussion of Design Challenge** ● **Discussion of Design Journey Task 1**	2	● Design Thinking ● Interview Questions ● Interviewing
LO1 LO4	**Conducting User Research** Contextual Inquiry ● Guidelines in Conducting Successful Interviews ● Making Good Observations **Analyzing Data** Goals of Data Analysis ● Group Interpretation ● Work Models ● Other Data Analysis Methods	3	● Contextual Inquiry ● Group Interpretation ● Work Models ● **Due: Design Journey Task 1**
LO1 LO2 LO3	**Deep Dive** Affinity Diagramming ● Mental Models ● Personas ● Customer Journey Mapping ● User Stories ● Brainstorming ● Scenarios ● **Discussion of Design Journey Task 2**	4-5	● Affinity Diagram ● Persona ● Customer Journey Mapping ● Brainstorming ● Scenarios
LO1 LO2 LO3	**Organizing Content - Part 1** Information Architecture ● Categories ● Patterns ● Labels and Languages ● Organization Structures	6	● Design Challenge 1 ● Categories & Organization ● Examples of Good & Bad IA ● Examples of Good & Bad Navigation ● **Due: Design Journey Task 2**
LO1 LO2 LO3	**Organizing Content - Part 2** Card Sorting ● Navigation ● Mapping Schemas ● Validating your IA ● **Discussion of Design Journey Task 3**	7	● Card Sorting ● Validate your IA ● **Due: Design Challenge Proposal**
LO1 LO2 LO3 LO4	**Prototyping - Part 1** Wireframing ● Zoning, Grids & Frameworks	8	● Wireframing ● **Due: Design Journey Task 3**
LO1	**Prototyping - Part 2** Low and High-Fidelity Prototyping ● Tools	9	● Low-Fidelity Prototyping ● Examples of Good and Bad Interface

LO2 LO3 LO4	**Interface Design** Visual Design ● Design Patterns ● Usability Heuristics **● Discussion of Design Journey Task 4**		Design ● Examples of Good and Bad Interface Design ● Heuristics
LO2 LO3 LO4	**Qualitative and Quantitative Evaluation** Defining Goals and Metrics ● Methods ● Usability Tests ● Tools ● Preparing and Conducting Tests	10-11	● Usability Test **● Due: Design Journey Task 4**
LO2 LO3 LO4	**● Presentation of Design Challenge Prototypes**	12	
LO4	**● Design Challenge Revalida**	13-14	

Teaching Methods/Strategies

- Lectures
- Homeworks
- Discussions
- Film Showing
- Presentations
- Case Studies
- Experiments
- Design Challenge

Other Out-of-Class Activities

Activity Description	No. of Hours
Design Thinking Workshop & 29 Toys	3.0
User Experience Workshop	3.0
Visiting Professor Talk by Prof Aaron Quigley	2.0
Design Journey Tests	3.0
Design Disruptors Screening (by InVision (™)	2.0

References

Calvo, R.A. & Peters, D. (2014). Positive Computing: Technology for Wellbeing and Human Potential. Cambridge, MA: MIT Press.

Norman, D. (2013). Design of Everyday Things: Revised and Expanded. New York: Basic Books.

Rogers, Y., Sharp, H. & Preece, J. (2007). Interaction Design: Beyond Human-Computer Interaction. Chichester: WIley [QA 76.9 H85 P75 2007]

Johnson, J. (2010). Designing with the Mind in Mind: Simple Guide to Understanding User Interface Design Rules. Burlington, Mass: Elsevier Science [QA 76.9 U83 J637 2010]

Online Resources

***** Online Classes

Human-Computer Interaction by Scott Klemmer, Stanford University. https://class.coursera.org/hci/lecture

Introduction to Human-Computer Interaction Design by Scott Klemmer, Open Classroom. http://openclassroom.stanford.edu/MainFolder/CoursePage.php?course=HCI

***** Reading Assignment

Carroll, John M. (2014). Human Computer Interaction - Brief Intro. In Soegaard, Mads and Dam, Rikke Friis (eds.). *The Encyclopedia of Human-Computer Interaction*, 2nd Ed. Aarhus, Denmark: The Interaction Design Foundation. Available from https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/human-computer-interaction-brief-intro#chapter_start

Cockton, G. (2014). Usability Evaluation. In Soegaard, Mads and Dam, Rikke Friis (eds.). *The Encyclopedia of Human-Computer Interaction*, 2nd Ed. Aarhus, Denmark: The Interaction Design Foundation. Available from https://www.interaction-design.org/literature/book/the-encyclopedia-of-human-computer-interaction-2nd-ed/usability-evaluation

Donath, J. (2014). The Social Machine: Designs for Living Online. Cambridge, MA: MIT Press. Book overview available at http://vivatropolis.org/SocialMachine/index.html and http://mitpress.mit.edu/books/social-machine. Watch video "Media Lab Conversations Series: Judith Donath" at http://www.media.mit.edu/video/view/judith-2014-06-12

Hinckley, K., and Wigdor, D. (2012). Input Technologies and Techniques. *The Human-Computer Interaction Handbook - Fundamentals, Evolving Technologies and Emerging Applications*, Jacko, J., (ed.) Taylor & Francis. Available from http://research.microsoft.com/en-us/um/people/kenh/All-Published-Papers/Input-Technologies-and-Techniques-HCI-Handbook-3rd-Edition.pdf

Nielsen, J. (1995). 10 Usability Heuristics for User Interface Design. Available from https://www.nngroup.com/articles/ten-usability-heuristics/

Soegaard, M. (2014). Interaction Styles. In Soegaard, Mads and Dam, Rikke Friis (eds.). *The Encyclopedia of Human-Computer Interaction*, 2nd Ed. Aarhus, Denmark: The Interaction Design Foundation. Available from https://www.interaction-design.org/literature/book/the-glossary-of-human-computer-interaction/interaction-styles

Software Tools

- InVision
- Figma
- Humaaans Digital Library
- Asana, Notion, Trello

General Policies

- All University policies on attendance, cheating, use of electronic devices, proper attire, eating, among others will be enforced. Refer to the Student Handbook for the details of these policies.
- Aside from these policies, standard Course policies as enumerated below will also be enforced. Additional class policies may be provided by the instructors handling the course.
- All requirements (assignments, project deliverables) are to be submitted 15 minutes from the start of classes. Late submissions of project deliverables will entail 10 points deduction per day for that requirement. Project deliverables will no longer be accepted after 3 days from the stated deadline.
- Missed class activities (e.g. cases, exercises, short quizzes) cannot be made up without an official university excuse notice slip.
- The student who missed class session(s) is expected to catch up on the lecture/discussion himself/herself, by contacting his/her teacher or by asking his/her peers to find out the materials that he/she had missed.
- Policies on Academic Honesty of the DLSU Student Handbook must be observed at all times. (Link: http://www.dlsu.edu.ph/offices/mco/publications/student_handbook/default.asp)

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