67–315
Interaction Design and Technology

"The best way to predict the future is to design it."
— R. Buckminster Fuller

"Fundamentally, interaction design is about how people relate to other people and how products mediate those relationships. It matters little whether the product is a document, an artifact, a computer or a computer program, a service, a business activity, or an organizational environment. All of these classes of products and their specific families of products are open to design thinking that is based on facilitating the relationships among people to reach specific goals and objectives." — Richard Buchanan

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Information
Systems

CarnegieMellon
Design

Syllabus

Overview

There is a symbiotic relationship between design and technology where as technology advances and design is there to make it useful and meaningful in people's lives. This further advances technological development and around and around it goes.

It can be argued that the origins of this relationship began — and the origins of Interaction Design itself — at Xerox PARC (Palo Alto Research Center) in the 1970s. PARC at the time was the heavily-funded, highly experimental, no-boundaries, brain trust research lab in Silicon Valley that created the computer mouse, graphical user interface, object-oriented programming, and laser printing, amongst other things. It was also where the idea of the metaphor in computer interaction emerged — taking complex ideas, tasks, or models, and making them relatable to the user through concepts that could be better understood. It was critical at a time when computing technology was only taken seriously by pointy-headed programmers; the notion of user-centeredness hadn't been conceived. Perhaps PARC could be faulted for not realizing the need for human-centered design, for it was others like Apple and Adobe that brought many of their achievements to market.

Today, there are many disciplines that work in technology, design, and the interface between. Software architecture, human-computer interaction, business development, product design, and engineering, to name a few. Another such discipline is interaction design, which maintains a broad mind about what types of products it creates and how technology is a part of those products, all the while firmly holding human-centeredness as a core value.

In a broader sense, design could be considered the fluid center of many disciplines. It's a perspective and role that serves as creative agent, visionary, advocate for human-needs, for value, and for meaning in our lives. Design could be seen as facilitator of many disciplines in order to advance the human endeavor of shaping our lives and the world. Much of this form-giving is done by using technology in ways that facilitate communication and interaction.

In this class we will explore the relationship of how personal technology can bring meaning to the human experience, the employment of design values in the creation of digital spaces, and the importance of fine craftsmanship and beauty both front and back. A combination of programming, human-centered design attitude, and the craft of interfaces will be supported by lectures, readings, and labs. This course is listed under Information Systems and fulfills one elective requirement in the junior year. 9 credit hours; pre-requisite 67-272 Application Development.

Texts

- *Designing for Interaction* by Dan Saffer — ISBN: 978-0321643391
- *Designing with the Mind in Mind* by Jeff Johnson — ISBN: 978-0123750303
- *Tomorrow's Standards Today* by Brian Hogan — ISBN: 978-1934356685

Instructors

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Objectives

- To explore the human-centered design endeavor for the conception of meaningful digital experiences.
- To employ qualitative research methods to bring about insight and a focused direction.
- To analyze and validate digital concepts through quantitative and qualitative research methods.
- To craft the final solutions in ways that are technically sound, aesthetically professional, user-friendly, and enjoyable to experience.
- To develop skills in management and facilitation, concept development, and direction of design and technical implementation.
- To become familiar with current themes in the interaction design and technology communities through a variety of media and readings.

Outcomes

As a result of this course, we expect you to have a more developed understanding of the project development process, and the grammar of building web sites, understanding emerging web standards, learn state-of-the-art testing methods, and the application of heuristic methods and testing tools. You will also become thoroughly familiar with the design process through discovery, exploration, genesis, and structuring user experience based on insight. This design and development process will hone your research, ideation, management, and implementation skills. The project, student presentations, labs, and other activities have been developed to assess these learning outcomes.

Evaluation

Your final grade will be calculated based on the scale below; grading criteria listed in course rubric.

Territory Maps, Hunt Statement, Discovery		5 points
Explorative & Generative Phase	+	10 points
Evaluative Phase with Wireframes & Documentation	+	10 points
Prototype	+	10 points
Test Plan & Validated Prototype	+	20 points
Final Design	+	15 points
Final Documentation & Presentation	+	10 points
DMiM 5 Slides 5 Minutes Presentations	+	5 points
Attendance, Labs, Quizzes, Homeworks	+	15 points = 100 points

No grades will be discussed over email. No extensions are granted unless a medical note or an email from your academic advisor is provided. Incomplete course grades are generally not granted without an arrangement with the academic dean. *Three absences will result in the loss of a final letter grade; six absences will result in a failure.*

Decorum

Being a studio/lab, your attendance is imperative. The studio environment is one of collaborative work in the creative process with regular feedback. Part of the instructors' role is to guide you through this process. Working off-site is sometimes necessary in research phases but aside from that you are expected to be in each class for the full class time.

Plagiarism is dealt with in accordance to the Carnegie Mellon University academic standards and policies regarding cheating and plagiarizing. Any instance of copying the work of another student or copying information without proper citation is not acceptable. The student handbook details acts that are considered plagiarism, the channels through which it will be handled, and its consequences.

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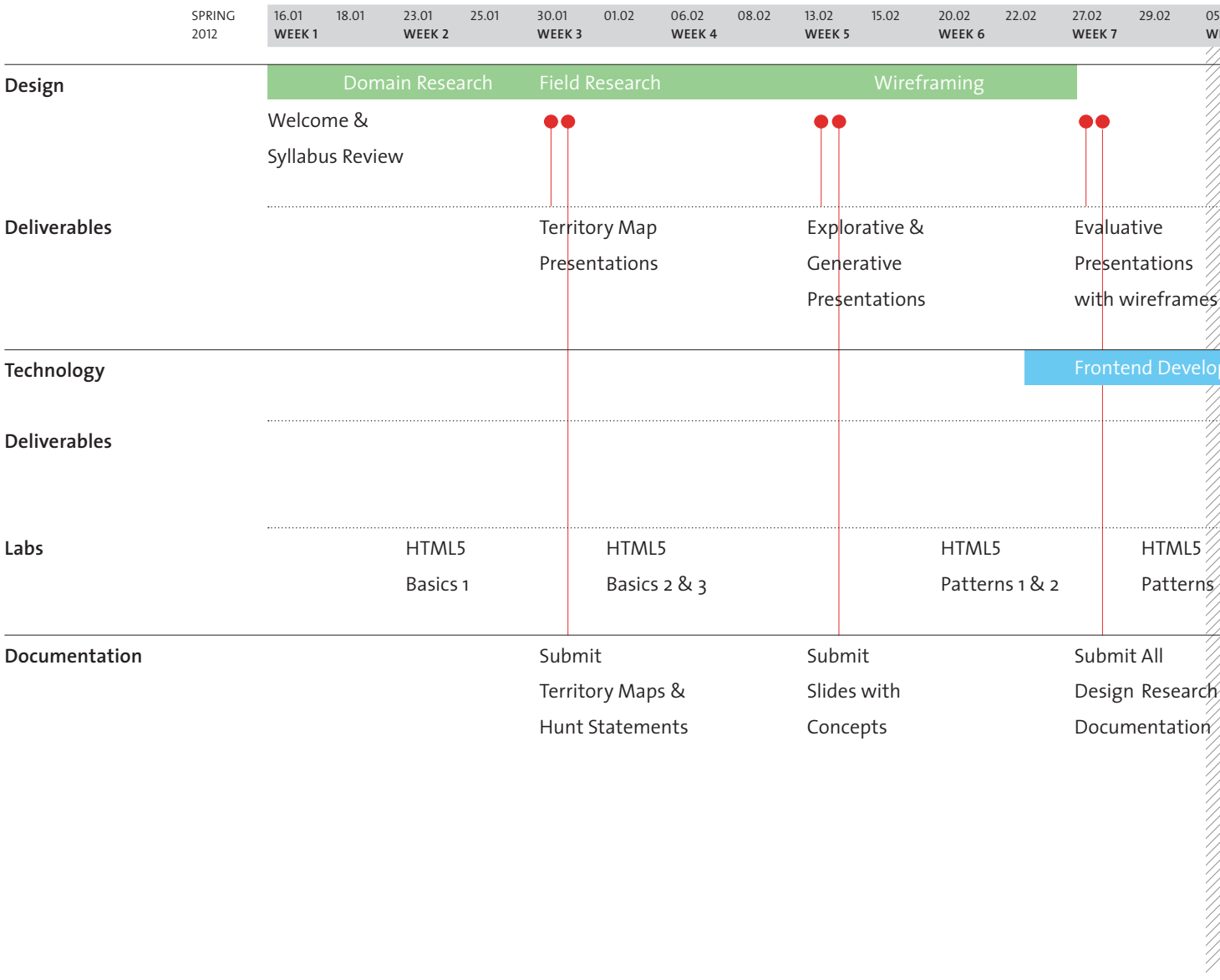
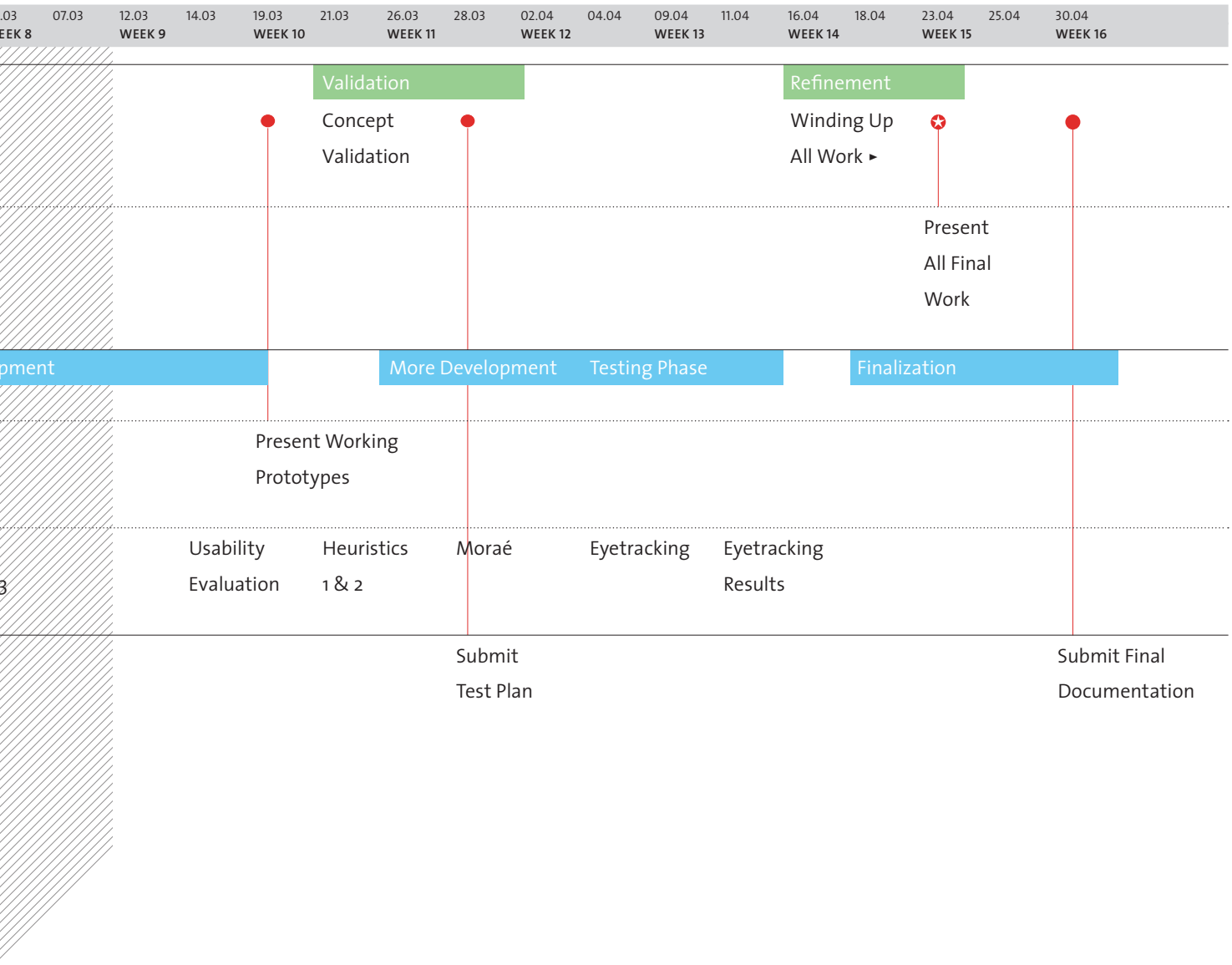
Course Flow

Monday and Wednesday 10:00 AM – 11:20 AM, Room 1185

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04.04
09.04
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WEEK 15
25.04
30.04
WEEK 16
Validation
Concept
Validation
Refinement
Winding Up
All Work ▸
Present
All Final
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More Development
Testing Phase
Finalization
Present Working
Prototypes
Usability
Evaluation
Heuristics
1 & 2
Moraé
Eyetracking
Eyetracking
Results
Submit
Test Plan
Submit Final
Documentation