IXDSN210 Interaction Design 2: Systems (SPRING ONLY)

COURSE DESCRIPTION

In a world where data resides in the cloud and access is achieved with various devices used in different contexts, designing in terms of systems is a crucial part of delivering useful and compelling user experiences. However, the value of a systems approach to interaction design problems goes much deeper than the current networked world in which we live and gets at the essential nature of interactivity, communication and information itself. This course will introduce you to formal methods for analyzing systems and help you to see any process you choose as a system of objects, flows and states. You will learn to use observational methods to define systems, and you will practice different techniques for modeling systems including concept maps, system schematics and simple prototypes. You will learn to transform system models into an organized set of discrete transactional experiences by developing scenarios, use cases and wireframes. Finally you will explore the challenges of creating compact and effective functional specifications that communicate both the breadth and the details of your design.

LEARNING OBJECTIVES

1. Understand the value a systems approach brings to interaction design problems. Be familiar with the important thought leaders in the discipline, historical and current, and their contributions.

2. Understand how what a system model is, what it is good for, how to create one, and how to share it with others.

3. Be able to transform a system model into a standard interaction design artifacts such as personas, scenarios, use case, wireframes, prototypes and functional specifications.

1. Introduction
   1. History of System Thinking
   2. Motivation for System Thinking
      1. as alternative to scientific method
         1. independent/dependent vs interdependent
      2. for cases of high complexity & low understanding
      3. when there is need for control
2. The basics of classical systems theory
   1. The definition of a system
      1. Purpose
         1. Fundamental difference to a collection
         2. In natural systems, call this concept ‘Function’
      2. Elements
      3. Relationships
      4. Feedback Loops
         1. Balancing
         2. Reinforcing
   2. Features of a system
      1. All parts must be present
      2. Order of parts matters
      3. Maintains stability via feedback
   3. Types
      1. static
      2. dynamic
         1. open loop
         2. closed loop
            1. 1st Order
            2. 2nd Order
      3. natural vs man-made
   4. Seeing systems
      1. By context
         1. Events
         2. Patterns
         3. Systemic Structures
         4. Mental Models
         5. Vision
      2. By Iterative Inquiry
         1. Function >
         2. Structure >
         3. Process >
         4. Context >
   5. Representing Systems
      1. Behavior over Time
      2. Stocks & Flows
      3. Causal Loops
      4. System Archetypes
3. Systems & Interaction Design
   1. The System Model
      1. Purpose
      2. Elements
      3. Relationships
      4. Feedback Loops
   2. The Interaction Model
      1. Conceptual Model
      2. Object Model
      3. Data Model
      4. Transformations
4. Prototyping
   1. System Diagram
   2. Presentations
   3. Wireframes
      1. Static
      2. Animated
   4. Interactive Prototypes
      1. The User Interface
         1. Layout
         2. Widgets
         3. Visual Design
         4. Transitions
      2. The Application Programming Interface
         1. Behaviors
         2. Classes
         3. Methods
         4. Transactions