

This course is about interaction design, the practice of designing interactive computer systems, environments and services. Interaction design focuses on something that the traditional design disciplines do not often explore: the design of system behavior. Interaction design is also an inherently humanistic enterprise. It is concerned most significantly with satisfying the needs and desires of the people who will interact with a product or service. This course presents a particular approach to interaction design called the Goal-Directed Method. The premise of this approach is that when a designer focuses on people's goals – the reason why they use a product in the first place – as well as their expectations, attitudes, and aptitudes, they can devise solutions that people find powerful and pleasurable. Comprised of equal parts insight, methodology and design tips, this course builds the skills necessary for the effective design of interactive systems.

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## Audience

- Systems Designers
- Programmers
- Project Managers
- Usability Analysts
- Anyone interesting in improving user's interactions with computer systems

## Prerequisites

- None

## Course Length

- Three Days

## Learning Objectives

- Understand the principles of goal-directed design.
- Identify beginner, intermediate and expert users.
- Understand the principles of qualitative research.
- Use personas and goals to model users.
- Define requirements using personas and scenarios.
- Identify good design principles and patterns.
- Understand the roles of platform, posture, orchestration and flow in effective interaction design.
- Understand the concept of excise and identify instances of excise in system designs.
- Understand how to design good behaviors into systems.
- Understand the principles and practices of good visual interface design.
- Identify best practices in implementing features such as searching, undo, file saving and data entry.
- Understand the principles of effectively using pointing devices, windows, controls, menus, toolbars and dialogs.
- Complete a design for a case study exercise using the principles of goal-directed interaction design.

## Teaching Methods

- Lecture
- Discussion
- Case study exercise

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## Course Outline

### Part 1: Understanding Goal-Directed Design

#### Goal-Directed Design

- Planning and Designing Behavior
- Recognizing User Goals
- The Goal-Directed Design Process

#### Implementation Models and Mental Models

- Implementation Models
- User Mental Models
- Mechanical-Age vs. Information-Age Represented Models

## **Beginners, Experts and Intermediates**

- Perpetual Intermediates
- Designing for Different Experience Levels

## **Understanding Users: Qualitative Research**

- Qualitative vs. Quantitative Research
- Interviewing and Observing Users
- Other Types of Research

## **Modeling Users: Personas and Goals**

- Why Model?
- Personas
- Goals
- Constructing Personas

## **The Foundations of Design: Scenarios and Requirements**

- Scenarios: Narrative as a Design Tool
- Requirements: The “What” of Interaction Design
- Requirements Definition Using Personas and Scenarios

## **From Requirements to Design: The Interaction Framework and Design Refinement**

- The Design Framework
- Refining the Form and Behavior
- Design Validation and Usability Testing

## **Part 2: Designing Behavior and Form**

### **Synthesizing Good Design: Principles and Patterns**

- Interaction Design Principles
- Design Values
- Interaction Design Patterns

### **Platform and Posture**

- Posture
- Designing Desktop Software
- Designing for the Web
- General Design Principles

### **Orchestration and Flow**

- Flow and Transparency
- Designing Harmonious Interactions

### **Eliminating Excise**

- GUI Excise
- Stopping the Proceedings
- Common Excise Traps
- Reducing Excise from Navigation

## Designing Good Behavior

- Designing Considerate Products
- Designing Smart Products

## Metaphors, Idioms, and Affordances

- Interface Paradigms
- Further Limitations of Metaphors
- Building Idioms
- Manual Affordances

## Visual Interface Design

- Art, Interface Design, and Other Design Disciplines
- The Building Blocks of Visual Interface Design
- Principles of Visual Interface Design
- Principles of Visual Information Design
- Consistency and Standards

## Part 3: Designing Interaction Details

### Searching and Finding: Improving Data Retrieval

- Storage and Retrieval in the Physical World
- Storage and Retrieval in the Digital World
- Relational Databases vs. Digital Soup

### Understanding Undo

- Users and Undo
- Designing an Undo Facility
- Types and Variants of Undo

### Rethinking Files and Save

- What's Wrong with Saving Changes to Files?
- Problems with the Implementation Model
- Designing with a Unified File Model

### Improving Data Entry

- Data Integrity vs. Data Immunity
- Auditing vs. Editing

### Pointing, Selecting, and Direct Manipulation

- Direct Manipulation
- Pointing Devices
- Selection
- Drag and Drop
- Control Manipulation
- Object Manipulation

### Window Behaviors

- Full-Screen Applications
- Multi-Paned Applications

- Designing with Windows

## Controls

- Avoiding Control-Laden Dialog Boxes
- Imperative Controls
- Selection Controls
- Entry Controls
- Display Controls

## Menus

- Menus: History and Current Perspective
- Optional Menus
- Menu Idioms

## Toolbars

- Toolbars vs. Menus
- Toolbars and Toolbar Controls
- Evolution of the Toolbar

## Dialogs

- Appropriate Uses for Dialog Boxes
- Modal Dialog Boxes
- Modeless Dialog Boxes
- Four Different Purposes for Dialogs
- Managing Content in Dialog Boxes

## Errors, Alerts, and Confirmation

- Error Dialogs
- Alert Dialogs
- Confirmation Dialogs
- Replacing Dialogs: Rich Modeless Feedback

## Designing for Different Needs

- Graduating Users for Beginners to Intermediates
- Personalization and Configuration
- Help