Crafting the Compelling User Experience
Using a Methodical Software Engineering Approach to Model Users and Design
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<tr>
<th>Time</th>
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<th>Presenter</th>
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<td>09:00 – 9:30</td>
<td>Introduction</td>
<td>Carolyn</td>
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<td>9:30 – 10:30</td>
<td>Discovery phase</td>
<td>Carolyn</td>
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<td>10:30 – 11:00</td>
<td>Coffee break</td>
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<td>11:00 – 12:30</td>
<td>Design 1 – Abstract Design &amp; Exercise</td>
<td>Didier</td>
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<td>12:30 – 2:00</td>
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<td>2:00 – 3:30</td>
<td>Design 2 – Realization &amp; Exercise</td>
<td>Didier</td>
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<td>3:30 – 4:00</td>
<td>Coffee break</td>
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<td>4:00 – 4:45</td>
<td>Case Study</td>
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<td>4:45 – 5:30</td>
<td>Conclusion</td>
<td>Carolyn/Didier</td>
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Scope of User Experience

Traditional focus:

- Human-Computer Interaction (HCI) Focus
- Widening focus of the IBM Ease of Use Team

### Traditional Focus:

- Advertising
- Pre-Sales Inquiries
- Terms & Conditions
- Ordering
- Distribution
- Packaging
- Setup & Installation
- Documentation
- Learning to Use
- General Use
- Defect Support
- Non-defect Support
- Upgrades/New Versions
- Post-Sales Follow-up
- Disposal
Scope of the User Experience

Total User Experience

- Ease of Use Messages
- Web Site & Telemarketing
- Out-of-box Experience
- Learning and Usage
- Assistance and Support

Advertising
Pre-Sales Inquiries
Terms & Conditions
Ordering
Distribution
Packaging
Setup & Installation
Documentation
Learning to Use
General Use
Defect Support
Non-defect Support
Upgrades/New Versions
Post-Sales Follow-up
Disposal
Scope of concern: Total User Experience

Process scope:
- Discovery phase
- Design phase
- Development phase
- Deployment phase

Method:
- Object, View, Interaction design
End-to-End Approach

- User-Goal Analysis
- Scenarios & Stories
- User Objects
- User Tasks
- Abstract Views
- Presentation Views
- Deployment Feedback
- Implementation Fidelity Reports
- View Maps
- Post-Deployment User Satisfaction

Crafting the Compelling User Experience: Introduction
UCD Phases

**Discovery**
Determine who are the real users.
Determine their goals.

**Design 1 - Abstract**
Find the objects that user expect when performing the tasks.
Determine how users should interact with these objects.

**Design 2 - Realization**
Realize the user experience abstractly specified in Design 1
Address environmental and technical issues

**Development**
Ensure fidelity with the design

**Deployment**
Design the deployment user experience
Monitor user response.
Look and feel are the tip of the user experience iceberg.

Drivers Analysis

UI Toolkit and Style Guides

Desktop and application objects

Need for a formal architectural approach.

Crafting the Compelling User Experience: Introduction
UI Architecture

**Architecture**

Orderly arrangement of parts to achieve some desired effect.

**Computer Architecture**

The conceptual elements of a system, their roles, and relationships.

**UI Architecture**

The conceptual elements of a system *that are perceivable by users*, their roles and relationships.

Architectures are often described using models.
Models

Model
A schematic description of a system, theory, or phenomenon that accounts for its known or inferred properties and may be used for further study of its characteristics.

User Interface Model
Conveys essential aspects of use:
- Conceptual – entities & relationships
- Interaction - user controls

Benefits
- Rigor and precision
- Pattern recognition → reuse
- Communication → visual and memorable
Crafting the Compelling User Experience: Introduction

A simple model of a radio

Naive User's Model
A more complex model of a radio

Astute User's Model

RF Amplifier → Mixer → IF Amplifier → Detector → Audio Amplifier → Speaker

Antenna → Local Osc. → Tuning Control → Volume Control
Benefits

Understanding
- Facilitates purchase and optimized use
- Aids problem determination
- Enables modifications and enhancements

Communication
- Visualize key elements, roles, and relationships
- Memorable
- Ensure a common level of understanding
Three Key Interface Models

Designer's Model

- Things
- Appearances
- Interactions

Needed for users’ tasks
Three Key Interface Models

Users’ Models

- Beliefs
- Goals
- Emotions
- Superstitions

Designer’s Model

- Things
- Appearances
- Interactions

Needed for users’ tasks
Three Key Interface Models

Users’ Models

- Beliefs
- Goals
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- Superstitions

Designer’s Model

- Things
- Appearances
- Interactions

Needed for users’ tasks

Implementer’s Model

- Data structures
- Toolkits
- Algorithms
- Libraries
Three Key Interface Models

The Goal
Object Model – View Separation

Designer's Model

View Model

Object Model

User

Crafting the Compelling User Experience: Introduction
Object Model – View Separation

Designers' Model

View Model

Object Model

Reservations

Guest name

No. in party

In

Out

Credit card

Smoking

Non-smoking

Hotel

Room

Guest

User engineering

User
Abstract and Presentation Views

Abstract View

Reservation View

Guestname: String, 20  
PartySize: Number, 1, 99  
DateIn: Date  
DateOut: Date  
CreditCard: String, 15  
Smoking: T/F

Presentation Views

Rendering detail
Themes
Visual priority
Device specifics

View content – elements
User interactions
Inter-view navigation

Crafting the Compelling User Experience: Introduction
# Key Terms

<table>
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<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td><strong>Goal</strong></td>
<td>A result to be accomplished independent of how it is achieved.</td>
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<tr>
<td><strong>Task</strong></td>
<td>A set of activities performed to accomplish a goal.</td>
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<tr>
<td><strong>Strategy</strong></td>
<td>A specific plan for performing tasks to accomplish a goal.</td>
</tr>
<tr>
<td><strong>User</strong></td>
<td>A person who experiences the interface being designed.</td>
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<tr>
<td><strong>Role</strong></td>
<td>A related set of tasks performed by a user.</td>
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<tr>
<td><strong>Scenario</strong></td>
<td>A narrative describing how users accomplish their goals.</td>
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Unified Modeling Language

Entities

User (Actor)

Objects & Views
(Classes)

Properties (Attributes)
And
Actions (Operations)

Question Group

Small Business Likes Help

- Number of Employees = "50-499"
- Likes more information = "Yes"
- PC Expertise = "Low"
- Job Department = "Various"
- Triggers to purchase = "Business infrastructure upgrade"
- Price sensitivity to = "Differences between laptops and desktops"
- Memory abilities = "Medium to high"
- Expectations = "Range of rarely met to sometimes met"
- Problem-solving attitude = "Easily distracted"
- Well being based on control = "Not that important"
- Enjoyment of technology = "Not that much"
- Learning style = "Tends to prefer a class"
- Technology & Social interaction comfort level = "Relatively high"
- Frequency of Internet use = "High"
- Geographical location influences = "North America"
- Attitude toward technology = "Neutral"
- Age range = "20-45"
- Physical mobility = "High"
- Visual acuity = "Slightly impaired"
- Auditory ability = "High"
- Native language = "Various"
- Reading speed = "Range is average to relatively fast"
- Education level = "Majority Masters"
- Typing skills = "Good to excellent"
- Computer experience = "3-5 years"

Question Group

- def = "A collection of questions"
- Group name
- Next()
- Previous()
Crafting the Compelling User Experience: Introduction