HUMAN COMPUTER INTERACTION

System Analysis and Design

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Introduction

Forms and Reports

Formatting

Usability

Design of Interfaces and Dialogues

Review of Bad UI

LEARNING OBJECTIVES

✓Understand the Design of Forms and Reports.
✓Understand Formatting.
✓Understand Usability.
✓Understand the Design of Interfaces and Dialogues.
✓Understand Impact of Poor User Interface Choices

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WHY AUDIT

✓If the user interface is poorly designed, it can:
✓Severely restrict the user's ability to use the system
✓Cause confusion and frustration
✓Cause difficulty in learning how to use the system
✓Cause misunderstanding of what the system is doing and of what the user should do
✓Cause errors
✓Cause difficulties in using the system to successfully complete tasks

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HUMAN-COMPUTER INTERFACE (HCI)

✓ Programmable, or software, interface which enable an end-user (i.e. the person using the computer) to
✓ Access and interact with a computer application system
✓ Make use of the facilities and functions which it provides
✓ Carry out the tasks for which the system has been designed

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FORMATTING

✓ Structuring the presentation of information in a meaningful, and easy to navigate fashion.

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USABILITY

✓ The extent to which an end-user is able to carry out required tasks successfully, and without difficulty using the computer application system

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INTERFACES AND DIALOGUES

✓ Focuses on applying the principles from Forms and Reports on the specific user interaction screens

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BAD USER INTERFACE (UI)

✓ There are many examples of poor UI. We will focus on a few exemplars.

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FORMS AND REPORTS

✓ The difference between a form and a report
✓ Forms typically display information for a single instance of data
✓ Reports typically display multiple sets of data

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FORMS AND REPORTS

✓Fundamental Questions to ask:
✓Who will use this
✓What is the purpose
✓When is this needed and used
✓Where is the form used or seen (Web, Mobile, Printed…)
✓How many people need to use or view

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FORMATTING

✓Fundamental Principle is that properly formatted displays and documents are better:
✓More effective
✓More efficient
✓Better received
✓Fewer misunderstandings or errors

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FORMATTING GUIDELINES

✓Meaningful Titles
✓Clear and Specific titles describing content an use of forms or report
✓Revision date or code so users can know if they have the latest information
✓Current date (Date form or report was generated)
✓Valid Date

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FORMATTING GUIDELINES

✓Meaningful Information
✓Only needed information should be displayed (Think Google Landing Screen)
✓Information provided in usable manner
  ✓Shouldn't need to copy into a spreadsheet and manipulate

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FORMATTING GUIDELINES

✓Balance of Layout
✓Information should be balanced on screen or page
✓Adequate spacing and Margins
✓Data and Entry fields clearly labeled
✓Sufficiently sized fonts (or compliance to browser scaling)

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FORMATTING GUIDELINES

✓Design for Easy Navigation
✓Clearly show how to move forward and backward
✓Clearly show where you are (page 1 of 3)
✓Notify user when final page is reached

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FORMATTING GUIDELINES

✓Color Benefits
  ✓Soothes or Strikes the Eye
  ✓Accents an uninteresting Display
  ✓Facilitates subtle distinctions in data
  ✓Emphasizes logical organization of data
  ✓Draws attention to warnings
  ✓Evokes more emotional reactions

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FORMATTING GUIDELINES

✓Color Problems
  ✓Color pairings may wash out EXAMPLE
  ✓Color fidelity may degrade on different displays (Printed vs Screen vs Projector)

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FORMATTING GUIDELINES

✓Final Caution on Color

✓Managers and Executives instinctively react to RED, YELLOW, and GREEN
  ✓These colors should only be used when trying to convey that red items require **action**, yellow items require **watching**, and green items do **not require attention**

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Slide 19

USABILITY

- ✓ Usability typically refers to:
  - ✓ Speed
  - ✓ Accuracy
  - ✓ Satisfaction
  - ✓ Accessibility

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Slide 20

USABILITY

- ✓ Guidelines for Usability
  - ✓ Consistency
  - ✓ Organization
  - ✓ Clarity
  - ✓ Format
  - ✓ Flexibility

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Slide 21

USABILITY

- ✓ Measures of Usability
  - ✓ Learnability
  - ✓ Efficiency
  - ✓ Error Rate

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USABILITY

✓ Accessibility
  ✓ Does the application support visually impaired or limited hand movement users
✓ Visually Impaired
  ✓ Text to speech options
  ✓ Extreme zoom
✓ Limited hand movement
  ✓ Proper use of the [TAB] key to move around fields
  ✓ Eye motion capture

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INTERFACE AND DIALOGUE

✓ Guidance from Forms and Reports still applies
✓ Interface and Dialogue is an extension of the same principles

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INTERFACE AND DIALOGUE

✓ Guidelines
  ✓ Consistency
  ✓ Shortcuts
  ✓ Feedback
  ✓ Closure
  ✓ Error Handling
  ✓ Reversal (Think Undo and Redo)
  ✓ Control
  ✓ Ease

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INTERFACE AND DIALOGUE

✓ Common Properties of Graphic Interfaces
  ✓ Modality – Can't move to next option until current is populated
  ✓ Resizable
  ✓ Movable
  ✓ Maximize
  ✓ Minimize
  ✓ System Menus – This can be abused if implemented poorly

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EXAMPLES OF BAD UI

✓ https://userinyerface.com/

✓ https://www.mockplus.com/blog/post/bad-ui-design-examples
✓ https://webdesignledger.com/best-examples-worst-ui-designs/
✓ https://cs.stanford.edu/people/eroberts/cs201/projects/2010-11/PsychologyOfTrust/ui3.html
✓ https://www.mockplus.com/blog/post/bad-web-design

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SUMMARY

In this unit you learned how to:

✓ Design Forms and Reports.

✓ Understand Formatting.

✓ Understand Usability.

✓ Understand the Design of Interfaces and Dialogues.

✓ Understand Impact of Poor User Interface Choices

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SUMMARY (CONT.)

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