User Interface Design

1

User Interface Design - Purpose

- Show a mock-up to the user and get sign-off approval
- Create a prototype to show a few features (functional requirements) of the application.

2

User Interface Design

- Types of user interfaces:
  - ☐ Output design for secondary actors
    - Examples: Inventory Report, Approval Notification
  - ☐ Screen design to catpure input and display output for both primary and seconary actors
    - Examples: Create Customer Account, Generate Sales Report, Create New Part

3

Output Report Design

- Types of reports, based on who sees them:
  - ☐ *Internal report*
    - Used within an organization.
    - Example: audit trails.
    - The primary consideration is usefulness.
  - ☐ *External report*
    - Goes to entities outside of the organization.
    - Examples: customer statement, W-2 forms, a report to stockholders.
    - Additional considerations: legal reqts, public image.

4

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Output Report Design

- Types of reports, based on the type of information they contain:
  - ☐ *Summary report*
    - A summary of important totals.
    - Example: Aged Trial Balance Summary.
    - Summary reports are often printed as the last page of another report, or can be printed alone.
    - Usually produced for management or accounting.

5

Output Report Design

- ☐ *Detailed report*
  - Each individual transaction or record is listed.
  - Examples: audit trails, sales reports, customer listing.
- ☐ *Exception report*
  - Picks out only the unusual items to report.
  - Example: Delinquency Report.
  - "Management by exception"
  - Cheaper, easier to use.

6

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Output Report Design

- Types of reports, based on timing:
  - *Scheduled report*
    - Produced on a specific time schedule: daily, weekly, annually, etc.
  - *On demand/on request report*
    - Delivered only as needed.
    - Sometimes immediately (if you can produce it from the PC on your desk) or sometimes soon (perhaps overnight if it must be requested from the data center).

7

Output Report Design

- Types of paper used in reports
  - Pre-printed forms.
  - Stock paper.

8

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Output Reports

- Pre-printed forms
  - Custom designed and pre-printed, usually by a print shop.
  - Constant information (headers, company logo, etc.) is already printed before the report is printed.
  - Can vary the number of copies, paper size, colors of paper and ink, etc.
  - Used primarily for external reports, like W-2 forms, checks, and customer statements.

9

Output Reports

- Can order pre-numbered, pre-printed forms when each form must be accounted for.
  - Example?
- Stock paper
  - Blank paper.
  - The application program generates constant info like headers, company name, etc., and prints it along with the rest of the report.

10

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Output Reports

- Stock paper vs. pre-printed paper
  - ☐ Stock paper is cheap, pre-printed forms are expensive.
  - ☐ With pre-printed forms, you must:
    - Store lots of different forms in the vicinity of the printer.
    - Change the paper on the printer each time the form changes, which is not trivial with an impact printer.
    - Throw out the old forms if any information like address or telephone number changes.

11

Output Report Design

- Hints for designing output reports
  - ☐ Use a standard format throughout the system for headers, dates, logo, etc.
  - ☐ Use appropriate spacing, like double vs. single spacing.
    - Double spacing increases legibility for wide-line reports or reports that are used often.
    - Single spacing is cheaper for narrower reports or reports that are used less frequently.

12

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Output Report Desogm

□ **Group related information**:

Sue Smith   312 Annie Glidden, DeKalb,
    Illinois 60115

account balance $43.00   class rank =
    senior

major = computer science   GPA = 4.0

versus

Sue Smith   senior, GPA = 4.0

312 Annie Glidden   major = computer science

DeKalb, Illinois 60115   account balance $43.00

13

Output Report Design

□ **Optionally**, use *group indicator*; control fields print only when they change.

□ Not using group indicator...

State	County	City	Salesperson
IL	DeKalb	DeKalb	Smith, Sue
IL	DeKalb	DeKalb	Blow, Joe
IL	DeKalb	Sycamore	Jones, John
IL	DeKalb	Sycamore	Brown, Bob
KY	Logan	Bowling Green	Johns, Joan

14

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Output Reports

☐ Using group indicator...

State	County	City	Salesperson
IL	DeKalb	DeKalb	Smith, Sue
			Blow, Joe
		Sycamore	Jones, John
	Lee	Dixon	Brown, Bob
KY	Logan	Bowling Green	Johns, Joan

15

Sample Report

Trucks List by Status

Truck Status	Serial Number	Description	Make	Model	Year	Rental Rate
Available						
	513232	America's Best Pick-Up Truck	Chevy	Silverado	2010	$60.00
	512124	Freightliner	Freightliner	FXZ	2000	$30.00
	512123	Monster Truck	MonsterInc	MT1234	1998	$50.00
Reserved						
	512126	Ford F250 Super Duty	Ford	F250	2007	$55.00
	512121	Toyota Tundra Double	Toyota	Tundra	2008	$30.00
	513263	Ford F-150	Ford	F-150	2010	$100.00
Returned						
	512122	Merk Dod	Merk	MK	2005	$20.00

Thursday, March 22, 2012   Page 1 of 1

16

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