Human-Computer Interaction IS4300

I4 – Swing!

Due Now

- Implement a Java applet to provide online ordering for your favorite restaurant. The interface need not be functional, but the controls should be laid out on the page in such a way that it could actually work if completely implemented.
- Minimum requirements. Your interface need not implement the entire menu, but must contain at least the following:
  - Two JLabels, one with an icon.
  - Two JButtons, one with an icon.
  - One JButtonGroup with at least 3 JRadioButton options (with toggling functional).
  - Two JCheckBoxes.
  - One JComboBox with at least two items.
  - One JTextField
  - One JPanel with a titled border enclosing at least one other component.
  - One tool tip on one component.
  - One Menu with at least two options.

Team Projects

due Monday (no class) **T3**

- Convert task scenarios and hierarchical task analyses into a conceptual design.
- Metaphors.
  - Make a list of possible interaction metaphors for your interface (per the examples in class). For each of your task scenarios list at least two options for interaction metaphors and some of the implications of your choice.
- Concrete Use Cases.
  - Expand each of your Essential Use Cases from T2 into a Concrete Use Case (per Stone Fig. 8.18 pg. 163), including functions, links, objects, and constraints. Abstract these into a Container Diagram (per Stone Fig. 8.19 pg. 163).
- At this stage you should still be focused on the abstract steps of each task, including user input and system output actions, but should not be thinking about the details of your interface's appearance yet.
- What to Post. Your report should include your list of possible interaction metaphors (at least 2x6), Concrete Use Cases and a Container Diagram.

3

Stone Chapter 13

Choosing interaction elements: software components

Text

Serif
Amasis MT
Bodoni
Book Antiqua
Bookman
Century Schoolbook
Clarendon
Garamond
Georgia
New York
Palatino
Times

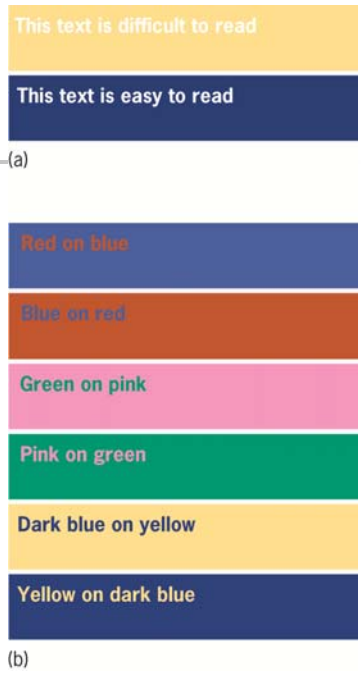
Avant Garde
Helvetica
Bodoni
New York
FranklinGothic
Tahoma
Garamond
Times

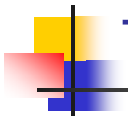
Sans Serif
Arial
Avant Garde
FranklinGothic
Futura Book
Gill Sans
Charcoal
Impact
Helvetica
Monaco
Tahoma
Verdana

Color

Remember 5-8% of users are likely to be color blind.

(usually red/green)





Text

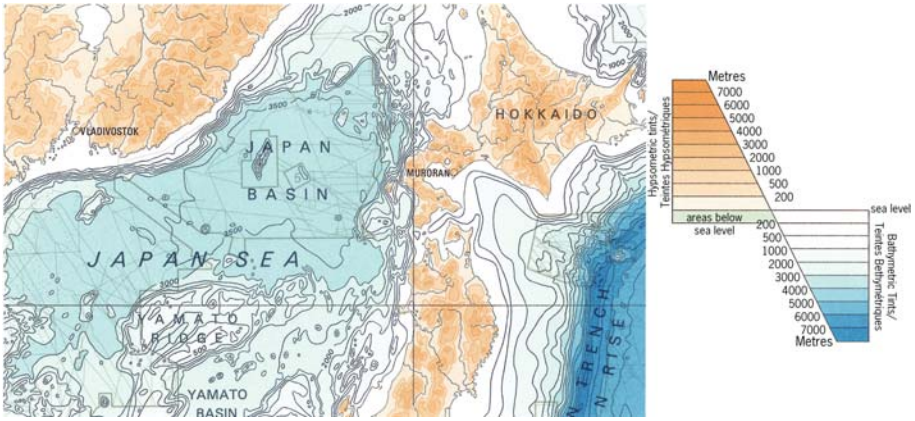
- Line length ~60 chars / 8-12 words
- Left-justified
- Lines with distinct thoughts, or that end on grammatical boundaries are best

7

Text

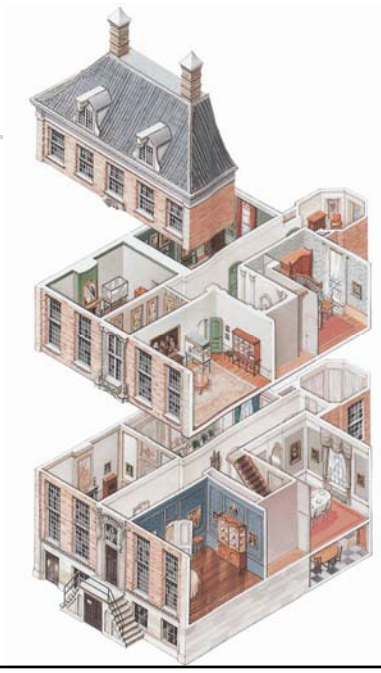
- How do you make sure that
  - Your font is legible?
  - Your color choices have appropriate contrast?
  - Your text makes sense?

Color

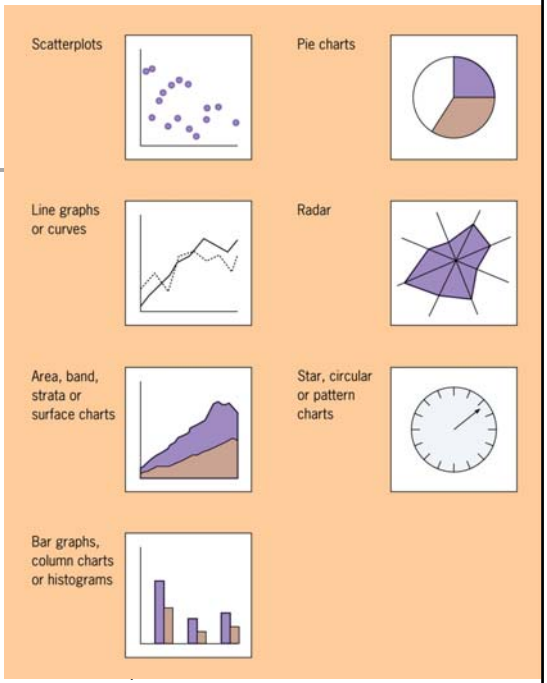


Images

- Can be very difficult to describe in words



Images: Graphs



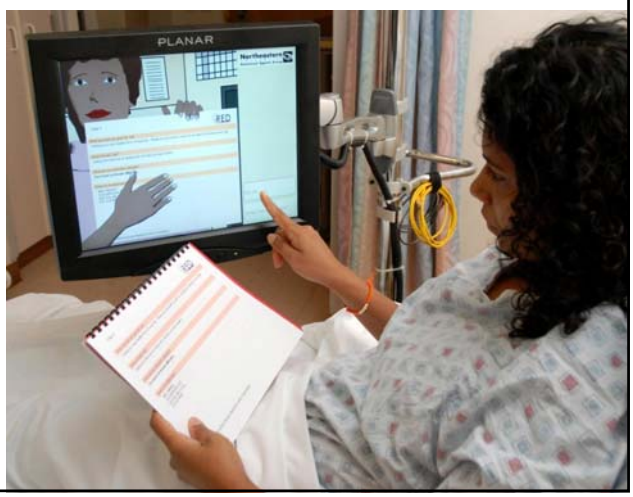
Sound

- When important?
- How do you design good sounds?

16

Generated Speech

- demo

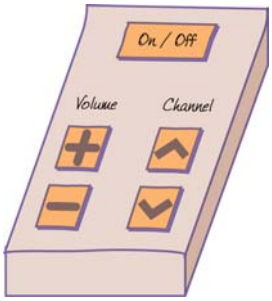


Stone Chapter 14

Moving from choosing components into design areas

Combining Interaction Devices and Software Components

- Simplicity is the key



14

Principles of Good Layout

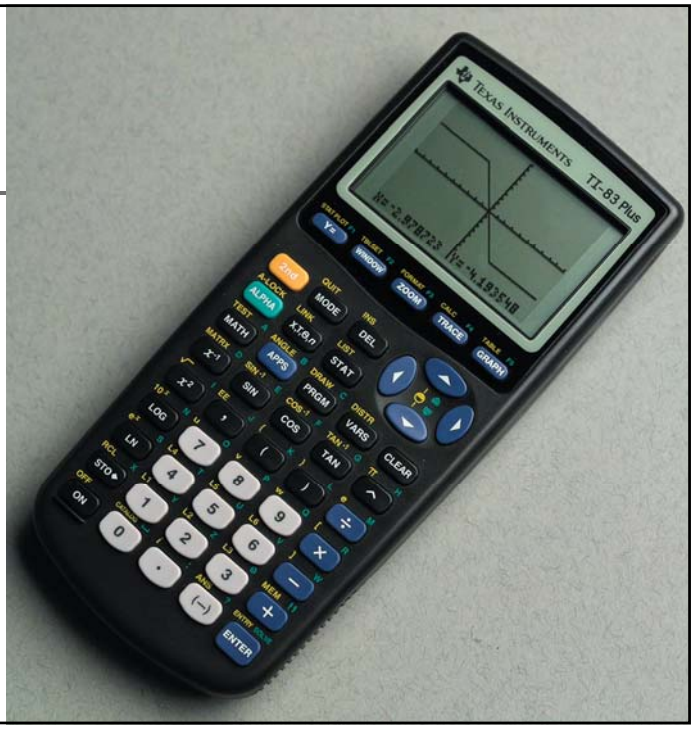
- Separate the Currently Active Components
- Emphasize Important Components
  - Color, type size, positioning, animation
- Use White Space Effectively
  - Spaces and gaps are important
- Make the Controls Visible
  - Function of controls must be obvious
- Balance Aesthetics and Usability
- Create Natural Groupings

How to create “natural groupings”?

- Card sort!

21

Critique



What Is a Design Area?

- Graphical user interfaces (GUIs)
- Web pages
- Embedded systems, such as handheld devices

New “design areas”
touch tables

24

New “design areas”
ubiquitous computing

25

Design Guidelines

- See course Resources page for Java Look and Feel Design Guidelines
- Stone Ch 9

27

Ch 15 – Tokairo Case Study

DRIVERS' DAILY WORKSHEET (Dedicated Contracts)

NAME	DRIVER NO	LOCATION	DATE	START TIME	FINISH TIME	HRS

VEHICLE NO.	TRAILER NO.	LOAD NO.	FROM	TO	RETURN TO	CUSTOMER NAME	CUSTOMER NO.	K/Ms	P/L

DETAILS OF JOURNEY

DRIVING PERIOD AT WHEEL						
FROM		TO		TOTAL		ODO
HRS	MIN	HRS	MIN	HRS	MIN	READING
TOTAL ON TIME						

LOADING DETAILS

LOAD NO.	LOADING DOCUMENTS	WEIGHT	PRODUCT	P/L

DELIVERY DETAILS

LOAD NO.	DELIVERY DOCUMENTS	WEIGHT	PRODUCT	CODE
SUB TOTALS				
L.O.B.				
TOTALS				

BREAKS	FROM	TO

DELAYS	FROM	TO	REASON	CODE
1ST LOAD				
2ND LOAD				
3RD LOAD				
4TH LOAD				
SUPERVISOR'S SIGNATURE FOR PAYMENT				

		HRS	MINS
MAINTENANCE			
DOCUMENTATION			
PRE LOAD			
LOADING			
DISCHARGE			
EARLY START			
DRIVING TIME	1ST LOAD		
	2ND LOAD		
	3RD LOAD		
	4TH LOAD		
	TOTAL PAY TIME		

ODOMETER READING

VEH NO.	START	FINISH	TOTAL	DERV.	OIL	LOCATION

Remarks .....

DAILY PRE-SHIFT VEHICLE CHECKS

VISUAL		PHYSICAL	
Coolant	Fuel	Brakes	Lights
Tyres	Wheelnuts	Horn	Steering
Product Leaks	Oil	Fifth Wheel/Coupling	Wipers

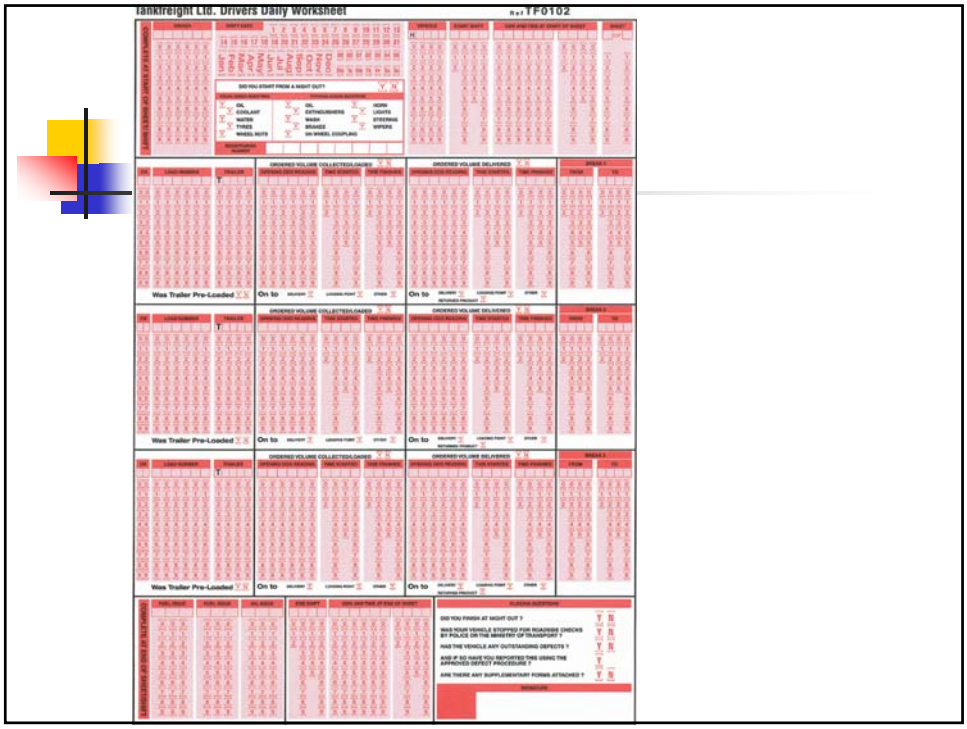
Extinguisher(s): Indicator in Green

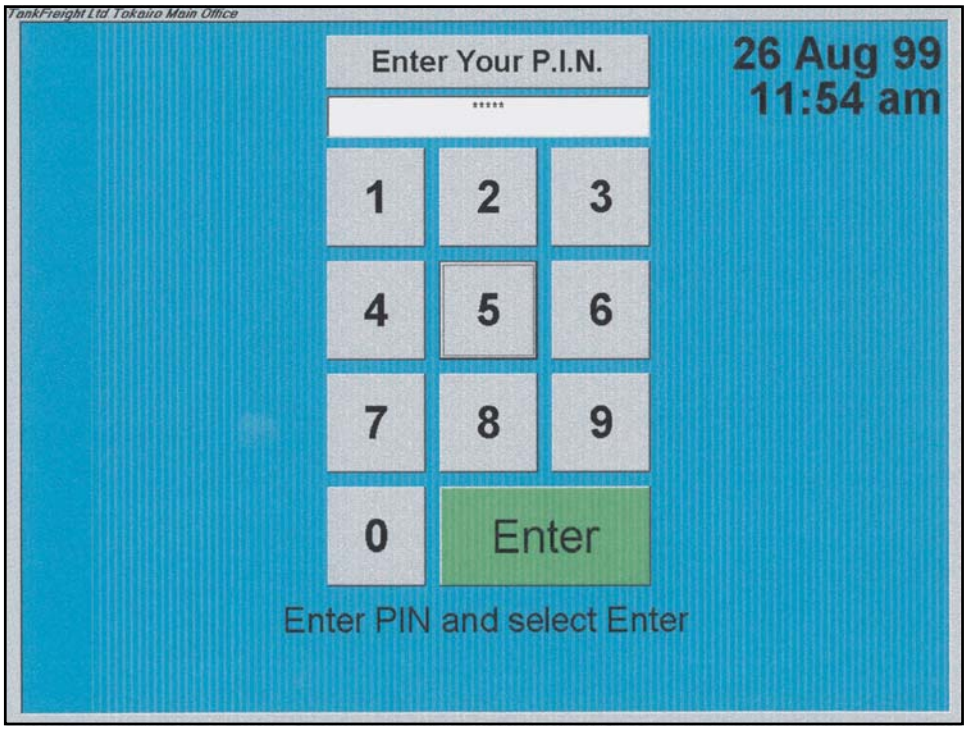
Signature To Confirm Daily Checks Done & that during the shift that either:

(a) No Defects Reported.....
or
(b) Defect Notice Completed.....

AUTHORISED.....

TH 2680/R02


Tankfreight Ltd. Drivers Daily Worksheet
Ref TF0102


TankFreight Ltd Tokairo Main Office
Enter Your P.I.N.
*****
26 Aug 99
11:54 am
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2
3
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5
6
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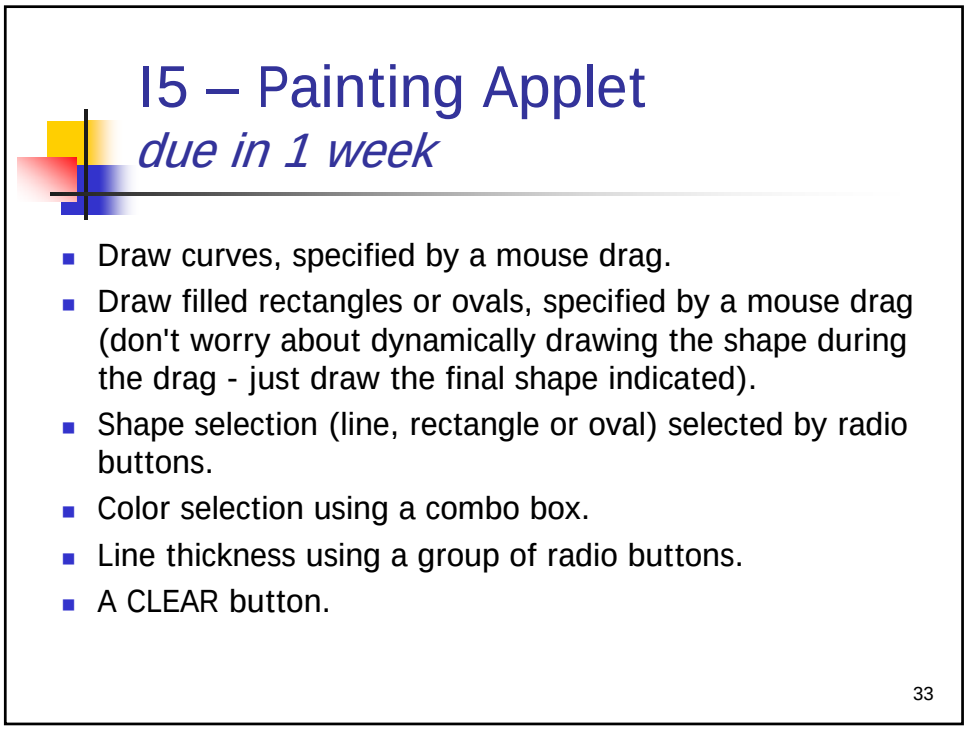
0
Enter
Enter PIN and select Enter


Event Handling in Swing
32

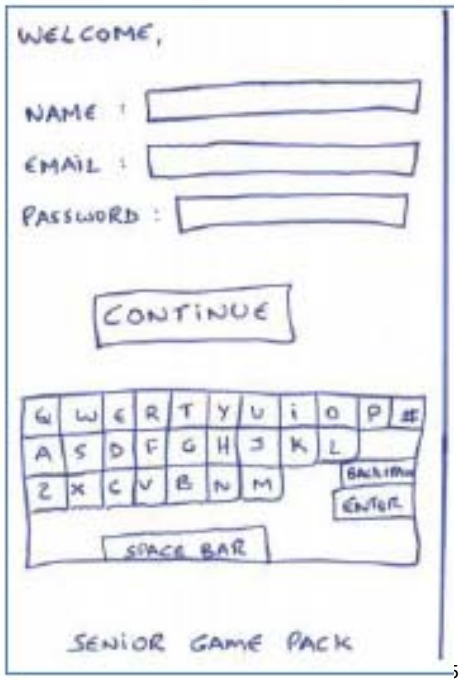

I5 – Painting Applet
due in 1 week
Draw curves, specified by a mouse drag.
Draw filled rectangles or ovals, specified by a mouse drag (don't worry about dynamically drawing the shape during the drag - just draw the final shape indicated).
Shape selection (line, rectangle or oval) selected by radio buttons.
Color selection using a combo box.
Line thickness using a group of radio buttons.
A CLEAR button.
33

T4 – Design Sketches
Start Monday

- Brainstorm a variety of different interface designs, taking into account your interaction metaphors from T3, and sketch them by hand on paper or a whiteboard. Then choose one that seems the most promising.
- **Design alternatives.** Provide at least 3 rough sketches of design alternatives you considered, and describe how you settled on your final design.
- **Preliminary interface design**. A preliminary design consists of one or more sketched windows or dialog boxes, along with the menus and controls that the user manipulates.
- **Storyboards**. For each of your Concrete Use Cases, describe how your preliminary interface would be used to perform the task. Use rough sketches to illustrate how the interface would look at important points in the task.
- ***Hand-drawn sketches are encouraged***.

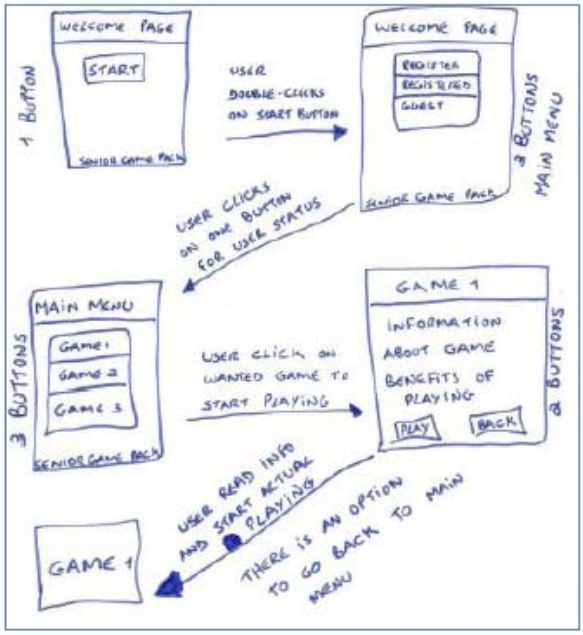
34

Interface design



Storyboard

for each of your 6 tasks



To Do

- No Class Monday 10/8
- BUT, due 10/8
  - T3 – Conceptual design
- THEN START
  - T4 – Design sketches
- For next class Read
  - Design guidelines (Stone Ch 9).
  - GUI Design (Stone Ch 16).
  - Java Tutorial Layout managers (Border, Flow, Grid)
- Homework
  - I5 – Swing Event handling – due in 1 week (next class meet)

37