

IFSM 303 Human Factors



"Error: Keyboard not attached.
Press <F1> to continue."

Topics

Introduction

Teacher / Students

Introduction to Human Factors

The Start Button



"What does the Start button do - isn't the computer already running?"

"Why should I press the Start button to turn the computer off?"

"Why do I select Taskbar when I want to add a program link to the Start menu?"

Click and Drag

Sometimes

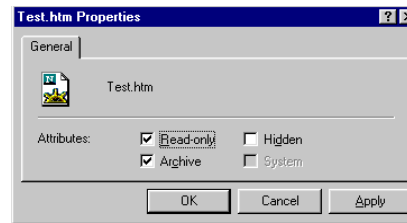
Move, Copy, or Shortcut

Right Click Menu

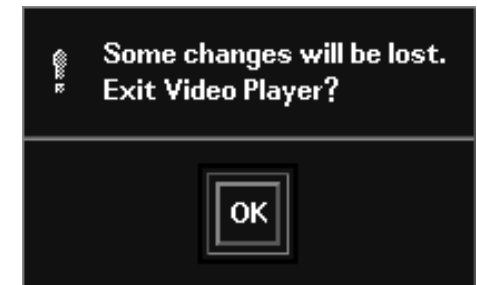


OK vs. Apply

What's the difference?



What would you do?



Population Stereotyping Exercise

Write down your *FIRST* Answer

There is no right or wrong

Don't ask / talk to anybody

Don't look at their answers

Introductions

Your Name

Your Grade Level

Your Job

Your Computer Background

One of your Favorites

College Numbering Schemes

Level	Grade
100	Freshman
200	Sophomore
300	Junior
400	Senior

You should take courses in order...

What I Expect...

Serious Attitude

Attendance / Promptness

Participation

Do your own work

What you will get...

...If you work hard!

An understanding of HCI

Skills needed to develop good user interfaces.

**University of
Maryland
University
College**



Student's Expectations

Student's Responsibilities

Student's Expectations

You can expect that your Maryland teacher will be academically qualified to teach the course in which you are enrolled.

You can expect that all University of Maryland faculty members will have been thoroughly briefed before they step into the classroom.

You can expect that the Asian Division will provide various forms of academic support.

You can expect complete, accurate information about your academic status and your progress toward certificates and degrees.

Student's Expectations

You can expect that your teacher will begin his or her course by explaining clearly what will be covered in each class, what work you will have to do, and how that work will be graded.

You can expect that for each three-credit course you will receive 48 classroom hours of instruction, which is more than at many colleges in the United States.

You can expect to be able to speak to a Maryland administrator whenever you have a question, compliment, or complaint, or when you need advice.

Student's Responsibilities

The University expects you to be serious about learning.

Maryland would rather not have you enroll if you are looking for a "free ride." Maryland lecturers do not "water down" courses because you attend class after a full working day.

Student's Responsibilities

Maryland lecturers expect you to work hard in their courses.

In practical terms this means that two hours of preparation and study outside of class will probably be necessary for each hour in class.

Thus, be careful about telling a Maryland lecturer, "I don't have time to study for your course." We ask lecturers to listen sympathetically but not to lower their standards.

Student's Responsibilities

Maryland faculty expect you to be concerned about how well you write, for they know that clear writing is associated with clear thinking.

They also know how vital written communication is in today's world. And they know, too, that people are judged by how well or poorly they express themselves in writing.

Student's Responsibilities

Maryland lecturers expect you to come to class.

Because the essential points of the course are presented, explained, and discussed in the classroom, regular attendance is one of the most important keys to academic success. If you know that you will have to miss many classes, perhaps you had better wait until the following term to enroll. And when you miss a class, remember that you are still responsible for the material.

Student's Responsibilities

You are expected to read the current Asian Division Catalog and to understand its contents.

The Catalog is the single most important source of information about the Maryland program.

Class Schedule

Tuesday/Thursday, 1830-2135
Two Friday Makeup Classes

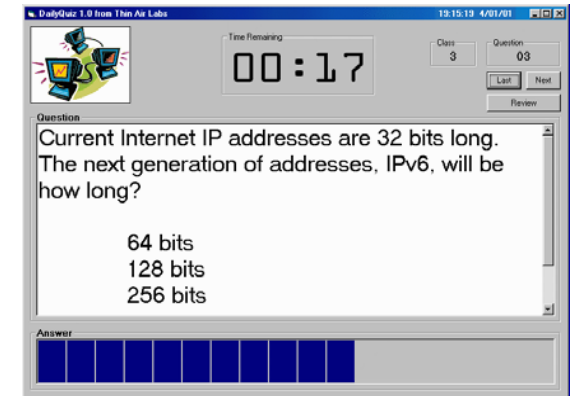
3 Computerized Exams

A lot of reading / discussion

Paper / Projects

Daily Quiz - 5 Questions
Start of class, no makeups

Daily Quiz



Class Notes

Website - www.thinairlabs.com

Lot of additional information

Check Often

Links to programs, references

Mailing List
Your First Graded Assignment!

Course Notes

Course notes online - PDF Format
Acrobat readers available for many machines

Laptops in class - Notes, Software
Your Toolkit

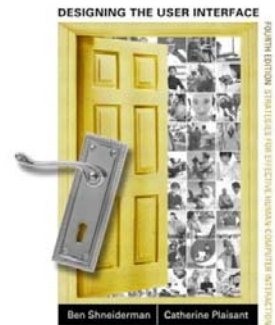
In Class Labs

Book - Required

Ben Shneiderman
Catherine Plaisant

Designing the User Interface
(4th Edition)

ISBN: 0321197860
© 2004

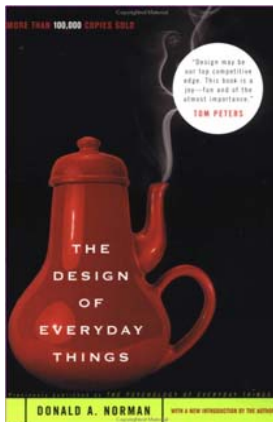


Book - Recommended

Donald Norman

The Design of
Everyday Things

About \$12 on Amazon



Warnings

I am **NOT** responsible for any hardware
/ software / data loss

You are only to experiment in contained
environments

Don't bug the Lab people

Don't wait until the last minute
Especially for Certification Exams!

Towards Certification

CIW Site Designer
Some Human Factors, Mostly Web

Haven't Really found Any...
Will keep looking

If you find something, let me know

A bit about the class

Lots of experiments

Each class - Assistant

Works with teacher during break

Homework - Analyst

Results due in the next class

More about the class

Groups Size?

Class Experiments

Prototype Project

Programmers?

Bring in news articles

Current, Relevant

Discuss during experiments

Other ideas?

What do you want to learn?

Shameless Plug

Seoul Computer Club

www.seoulcc.org

2nd Saturday of each month

USO at Camp Kim

Across from Gate 1

HCI in the News

TECHNOLOGY

A mobile page turner

Cell phone technology meets literature in Japan

Monday, March 21, 2005 Posted: 10:23 AM EST (1523 GMT)

TOKYO, Japan (AP) -- Your eyes probably hurt just thinking about it: Tens of thousands of Japanese cell phone owners are poring over full-length novels on their tiny screens.

In this technology-enamored nation, the mobile phone has become so widespread as an entertainment and communication device that reading e-mail, news headlines and weather forecasts -- rather advanced mobile features by global standards -- is routine.



Improvements in liquid-crystal displays and features such as automatic page-flipping, make reading a mobile novel more enjoyable than you'd imagine.

Introduction

The Human Computer Interface

What is a User Interface?

The point of contact between the human and the machine

Light Switches

Water Taps

Door Handles

Dashboard on your Car

Fast Forward on the VCR

Human-Computer Interaction

Human

the end-user of a program

the others in the organization

Computer

machine the program runs on

Interaction

user tells computer what they want

computer communicates results

User Interface

Part of program that allows user to interact with computer user to carry out their task

HCI = design, prototyping, evaluation, & implementation of user interfaces (UIs)

Why Study User Interfaces?

Major part of work for programs approximately 50%

Bad UIs cost

Money - 5% increase in satisfaction results in an 85% increase in profits

Lives

User interfaces are hard to get right

People are unpredictable

Why do we create bad UI's?

1. We don't care?
2. We don't possess common sense?
3. We don't have the time?
4. We still don't know what really makes a good design?

Objectives of a Good Design

100% Productivity

0% Errors

Benefit of Good Design

Based on 4.8 Million screens

Additional Secs.	Add. Person Years
1	.7
5	3.6
10	7.1
20	14.2

One Study found 1 screen redesign could save \$20,000 per year.

A Brief History

1970 Mouse

1973 Xerox Alto



A Brief History

- 1984 Apple: Lisa and Macintosh
- 1985 Windows 1.0
- 1987 X-Windows / IBM CUA
- 1988 NeXT NeXTStep - 3d icons
- 1989 Windows 3.0
- 1992 Windows 3.1
- 1994 HTML / Netscape
- 1995 Windows 95
- 1998 Windows 98
- 2000 Windows 2000

The Human Computer Interface

Screen
Commands
GUI

Keyboard

Pointers

System Engineering Goals

To improve quality of life

Generate Positive Feeling of
Success
Competence
Mastery
Clarity

US Military Standards for HCI

Achieve Required Performance

Minimize Skill, Training Time

Achieve Reliability

Foster Design Standardization

Goals

Proper Functionality
 Reliability
 Availability
 Security
 Data Integrity
 Standardization
 Integration
 Consistency
 Portability
 Schedules and Budgets

What does this sign mean?**System Concerns**

Time to Learn
 Speed of performance
 Rate of Errors by Users
 Retention over time
 Subjective Satisfaction

Motivations for HCI Designs

Life Critical Systems
 Industrial and Commercial
 Phone: .8 reduction saves 40 mil
 Office, Home, and Entertainment
 Exploratory, Creative, Cooperative

Human Diversity

Snowflake Theory
 Vs.
 The Myth of Fingerprints

More Diversity

Physical
 Cognitive and perceptual
 Personality
 Cultural and International
 Disabilities / Elderly

Physical

Height
 Weight
 Hearing
 Eyesight
 There is no "Average" User

Physical

Design of Workstation
 Work Surface and Display Height
 Clearance under for legs
 Work Surface width and Depth
 Adjustability of heights and angles for chairs / surfaces
 Posture
 Arm, foot, palm rests
 Chair Casters

Cognitive

Short Term Memory
 Long Term Memory
 Problem Solving
 Decision Making
 Attention and Set
 Search and Scanning
 Time Perception

Perceptual



Perceptual

Arousal and vigilance
Fatigue
Perceptual Load
Monotony and Boredom
Sleep Deprivation
Anxiety and Fear
Aging
Circadian Rhythms

Personality

Personality Types

Myers-Briggs Type Indicator
Extroversion vs. Introversion
Sensing vs. Intuition
Perceptive vs. Judging
Feeling vs. Thinking

Cultural and International

Character Sets
Left-to-Right, Top-to-Bottom
Date and Time Formats
Numeric and Currency Formats
Weights and Measures
Telephone Numbers & Addresses
Capitalization and Punctuation
Colors

Disabilities / Elderly

Making it easier to access
Power switch in the front
Screen Format
Speech Recognition
Speech Output
Braille Output Devices

Overcoming Fear

Areas to Explore

Reducing Anxiety

Graceful Evolution

Input Devices

Online Assistance

and many, many more...

End of This Lesson