



Informatics 43

LECTURE 11

“HOW DO WE MAKE SOFTWARE THAT MEETS THE
USER’S NEEDS? (PART 1)”

Last Time

- Every design notation supports an abstraction
- A design diagram is a statement in a language that has a syntax
 - UML diagrams, UI mockups, pseudo code, ER diagrams, architecture diagrams, storyboards, sketches
- Software engineering is the process of building a set of related models that represent the system-to-be.

Today's lecture – **How do we make software that meets the user's needs?**

- Intro: Why User-Orientation (Usability) Matters

Usability is important...



Hope... and Change... and Test!

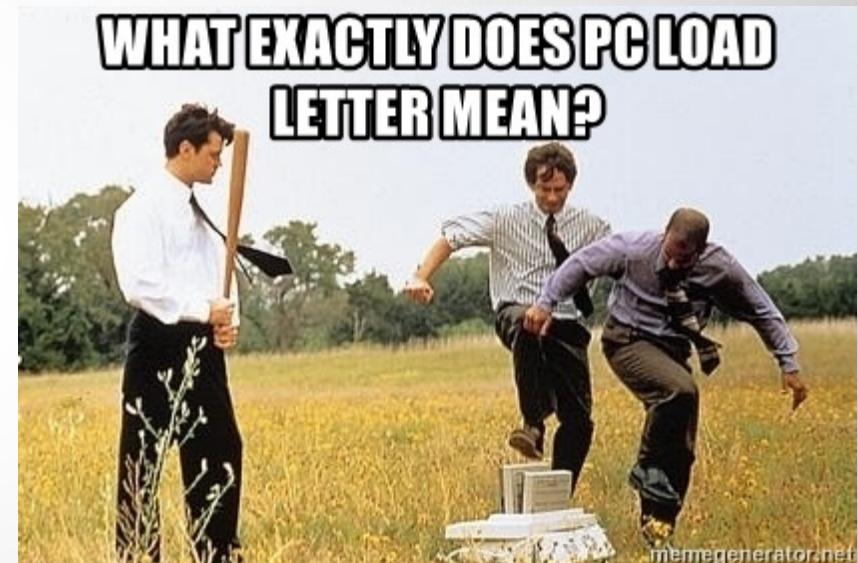
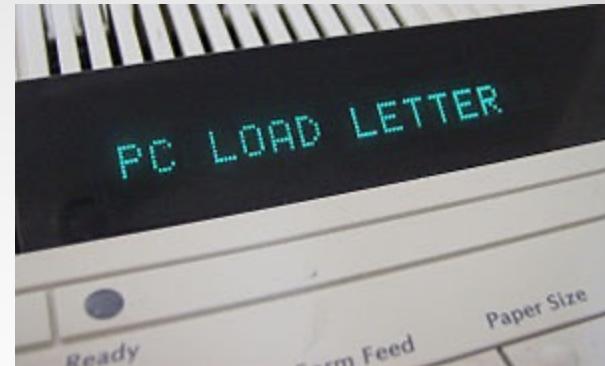
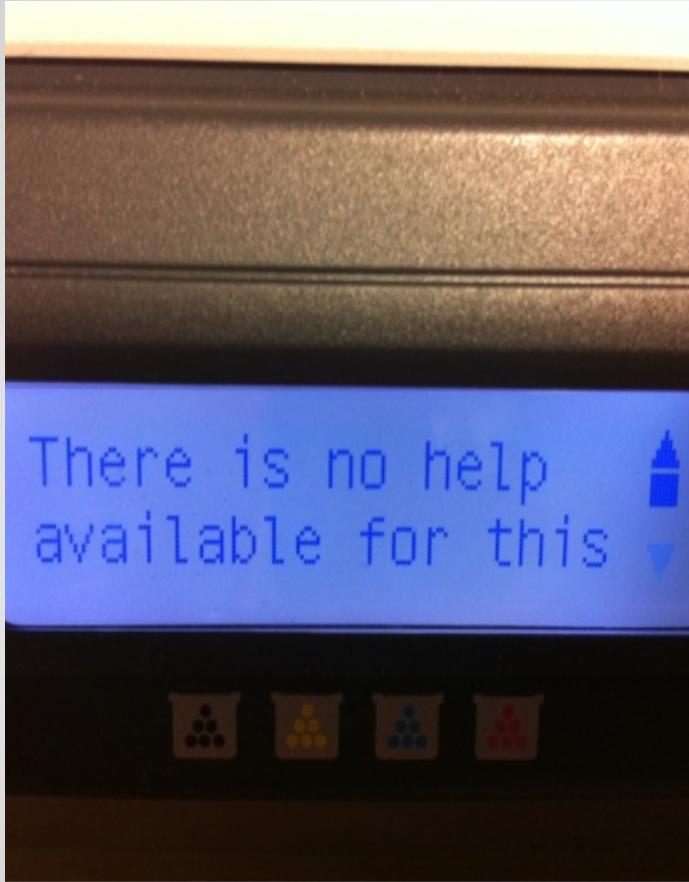


User-centered design works!

- Simple
- Inexpensive
- Higher sales
- Higher satisfaction
- Higher efficiency
- Benefit will shift from conversion (first-time customers) to loyalty (repeat customers)

But sometimes it is not used!

Usability Fail



Usability matters!

“A user interface is well-designed when the program behaves exactly how the user thought it would.”

-Joel on Software

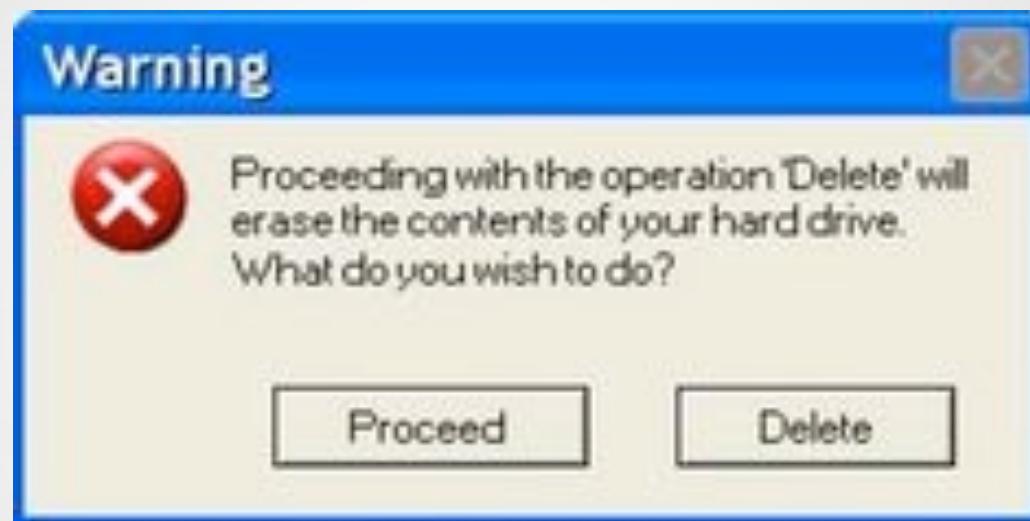
“A GUI should provide GUidance!”

- <http://halloffshame.gp.co.at/qtime.htm>

“Focus on the user, and all else will follow.”

-Google

Usability Fail

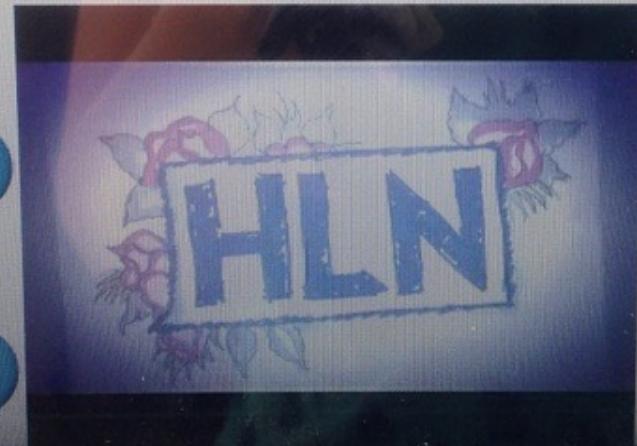


WANT RECEIPT?
YES OR NO

NO

Help

Yes

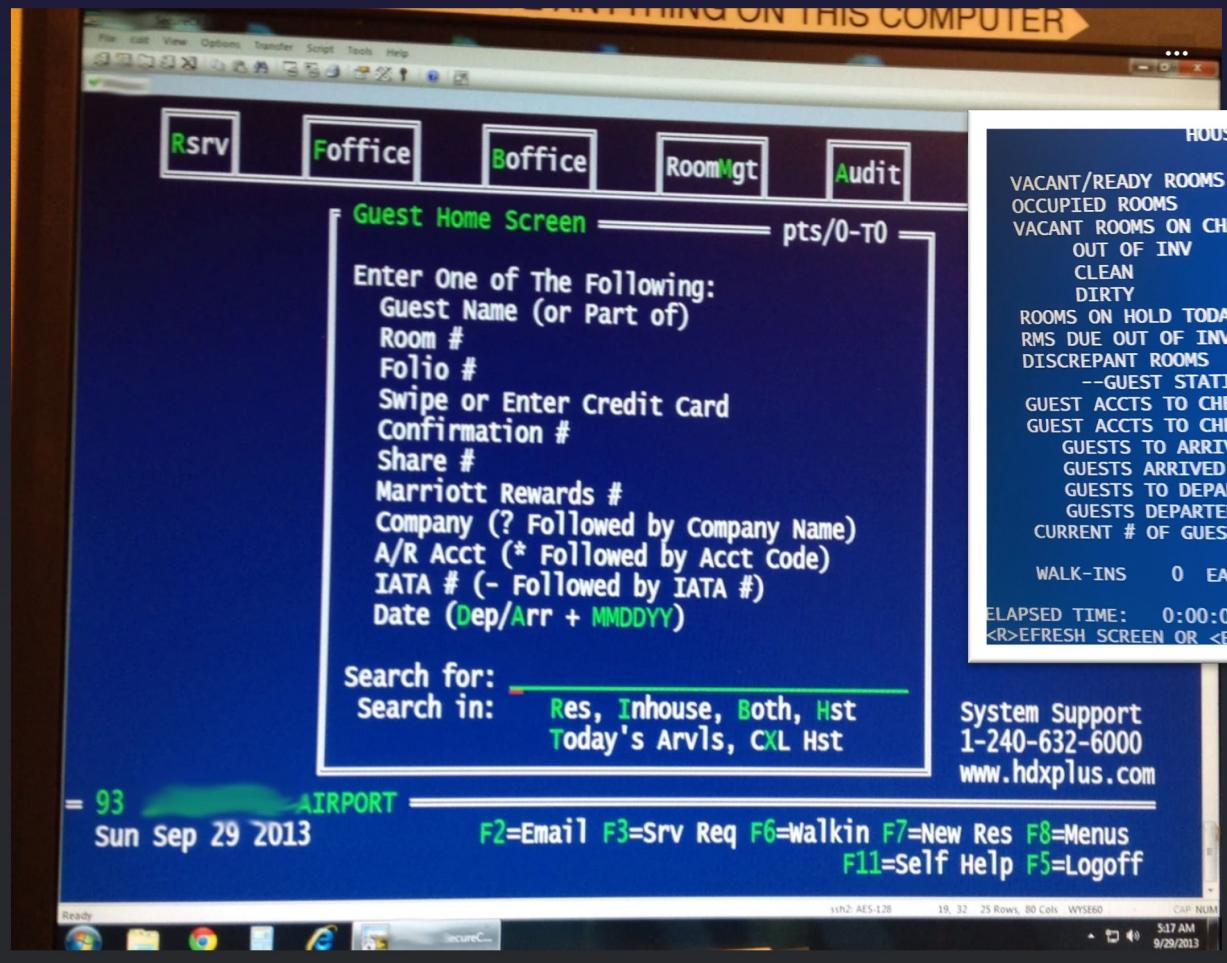


Marriott is a Multi-Billion Dollar Company, But This is What Their Hotel Management System Looks Like

Next >

3,507 Views • September 29 2013

...



HOUSE COUNT DISPLAY	COMPLEX
05/04/19 10:51:46	11
VACANT/READY ROOMS	0
OCCUPIED ROOMS	442
VACANT ROOMS ON CHANGE	2
OUT OF INV	0
CLEAN	0
DIRTY	2
ROOMS ON HOLD TODAY	0
RMS DUE OUT OF INVENTORY	0
DISCREPANT ROOMS	0
--GUEST STATISTICS--	
GUEST ACCTS TO CHECK-IN	11
GUEST ACCTS TO CHECK-OUT	4
GUESTS TO ARRIVE	19
GUESTS ARRIVED	2
GUESTS TO DEPART	4
GUESTS DEPARTED	4
CURRENT # OF GUESTS	567
WALK-INS	0
EARLY DEPT	1
--ROOMS RESERVED--	
C	0
1	0
2	0
3	0
4	2
5	3
S	0
ALL	11
ELAPSED TIME:	0:00:00.335
<R>EFRESH SCREEN OR <ENTER> TO EXIT	

System Support
1-240-632-6000
www.hdxplus.com

ssh2: AES-128 19, 32 25 Rows, 80 Cols WYSE60 CAP NUM
5:17 AM 9/29/2013

UI Generator

File Export

Template Name: RS3001M Load en_US

TinPanel

- cust_inf_pl
- JTabbedPane1d
 - fin_infp
 - fin_inf2p
 - fin_inf3p
 - JPanel12dp
 - JPanel112d
 - JPanel1121d
 - int_cat_sp

Customer Information

Account No.:		Customer No.:		RM Code:	
Product Type:		Account Type:		Status:	
ID No.:		Closing Date:		A/C Branch:	
Opening Date:		Resident:			
Staff:	<input type="checkbox"/>				

Financial Information Interest Rates Static Information Other Financial Information Address and Contact Information

Details

CR Interest final spread:

DR Interest final spread:

CCY	Amount
-----	--------

TextField Rule

Layout:

X	170
Y	20
Width	120
Height	18
Visible	1
Enable	0

Specific

Default Text	<input type="text"/>
Positive Mask	##0.000000
Negative Mask	##0.000000
Field Length	0
Field Mnemonic	<input type="text"/>
Field Index	0

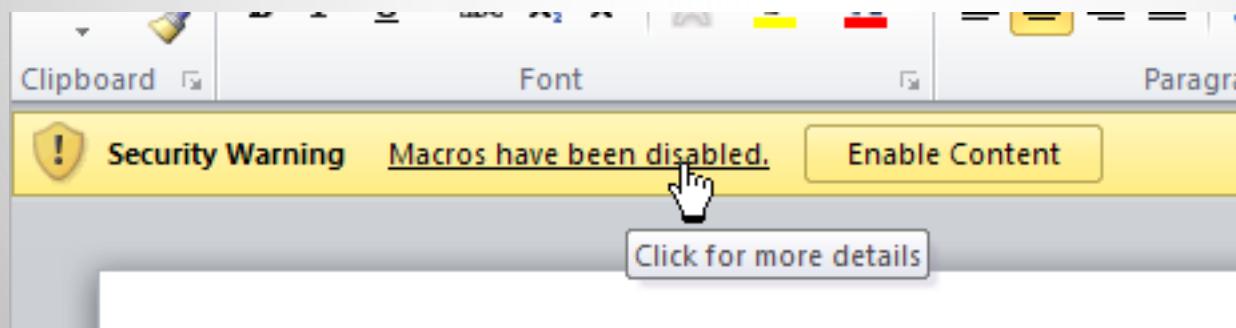
Others

Horizontal Alignment	Right
Vertical Alignment	Top
Multilingual	SBCS
Field Default	<input type="text"/>
Field Option	<input type="text"/>
Field Type	Balance String
Accelerator	<input type="text"/>

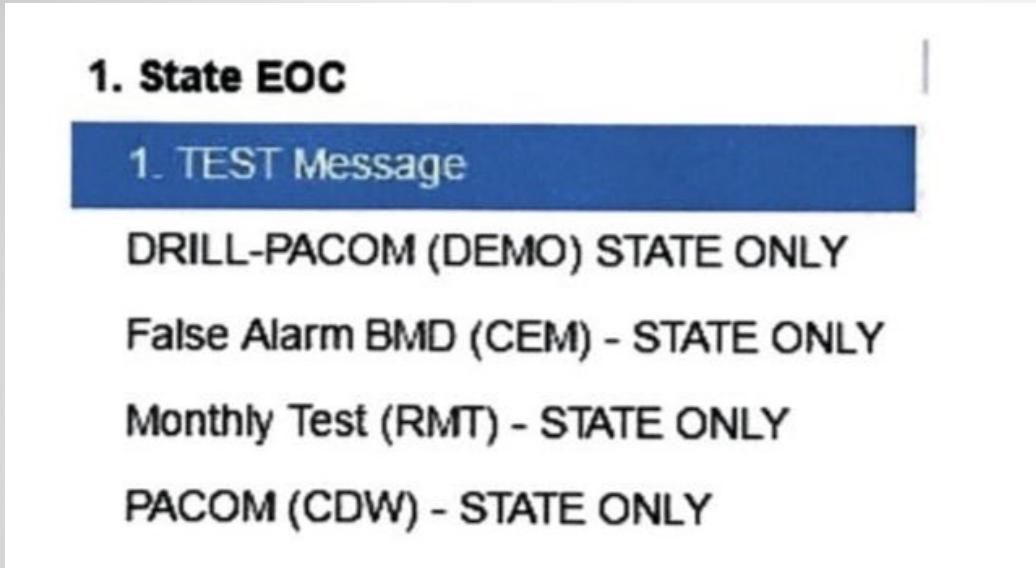
Y	20	Positive Mask	##0.000000	Vertical Alignment	Top
Width	120	Negative Mask	##0.000000	Multilingual	SBCS
Height	18	Field Length	0	Field Default	<input type="text"/>
Visible	1	Field Mnemonic	<input type="text"/>	Field Option	<input type="text"/>
Enable	0	Field Index	0	Field Type	Balance String
				Accelerator	<input type="text"/>

Usability Fail

Office 97



A missile is coming!... (never mind)



1. State EOC

1. TEST Message

DRILL-PACOM (DEMO) STATE ONLY

False Alarm BMD (CEM) - STATE ONLY

Monthly Test (RMT) - STATE ONLY

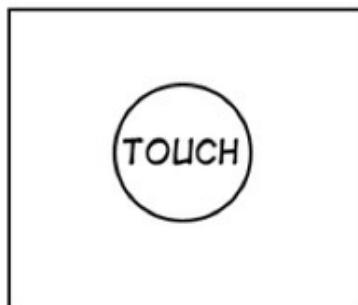
PACOM (CDW) - STATE ONLY

Usability Fail

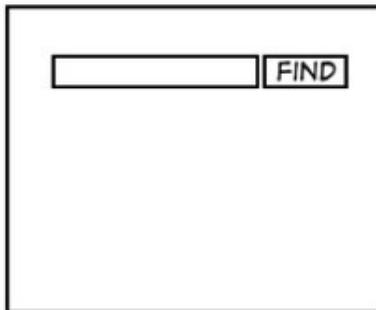


First Impressions Matter!

TYPICAL APPLE PRODUCT...



A GOOGLE PRODUCT...



YOUR COMPANY'S APP...

FIRST NAME:	<input type="text"/>	TYPE CD:	<input type="text"/>	4 - K
LAST NAME:	<input type="text"/>	TQP STAT:	<input type="checkbox"/>	AA2-
SSN:	<input type="text"/>	FT/PT:	<input checked="" type="checkbox"/>	DK9B
ID:	<input type="text"/>	VER:	<input type="text"/>	KKA?
PHONE 1:	<input type="text"/>	CAT CD:	<input type="text"/>	CN3
PHONE 2:	<input type="text"/>	... CITY:	<input type="text"/>	AA-9
ADDR 1:	<input type="text"/>	STATE:	<input type="text"/>	NEW
ACCT #:	<input type="text"/>	ZIP:	<input type="text"/>	DEL
ORD #: ● O O ?				OKAY
				APPLY
				SAVE
				LINDO
				HELP
				DELETE
				EDIT
				SELECT
				BROWSE
				ERRORS

STUFFTHATHAPPENS.COM BY ERIC BURKE

Why is Usability Engineering so Hard?

- Usability design is based on
 - Psychology
 - Cognitive science
 - Aesthetics
 - Art
- Software engineers are generally not the audience of the software they develop!

A New Job Title: UX Designer

- Drawing
- Color theory
- Design basics
- Typography
- Logic
- Art
- History
- Anthropology
- Math
- Programming
- Information architecture
- Research
- Human behavior
- User testing
- Ideation
- Prototyping
- Communication
- Collaboration

Source: <http://www.fastcodesign.com/3062640/google-has-a-solution-for-the-ux-design-education-gap-google>

Attendance Quiz

Usability Fail/Success

Summary

- We use HCI/UCD methods for good reasons
 - Sales increase
 - Performance increase
 - Traffic counts increase
 - Frustration decreases
- It's all about the user!

Next Time

- User orientation, part 2
- 2 short readings for next lecture — see Canvas schedule