

# Designing Effective Web Sites

## *How Academic Research Influences Practice*

- Joe Valacich
- Eller Professor of Management Information Systems
- June 25, 2012



# Basic Rules of Webpage Design and Layout

- Your website should be ...
  - easy to read
  - easy to navigate
  - easy to find
  - consistent in layout
  - quick to download
- *Is there more to it than this?*
- *Are there right vs wrong ways to design an interface?*
- *Usability (speed, accuracy, etc.) is one approach to assess... Are there others?*

# Using Behavioral Theories to Inform Design

- Some prior and ongoing projects...
  - *Influencing impulse buying behavior*
  - *Influencing organizational / product quality perceptions*
  - *Influencing customer relationships*
  - *Personalizing the online experience*
  - *Detecting emotions of online users*
  - *Enhancing team performance*
  - *Designing emergency response dashboards*

# *Influencing impulse buying behavior*

- A sudden and immediate purchase with NO pre-shopping intentions
- Three crucial conditions necessary for this behavior to occur:
  1. Need for a highly *affective* response
  2. With minimal *cognitive* deliberation
  3. Leading to *reactive behavior*

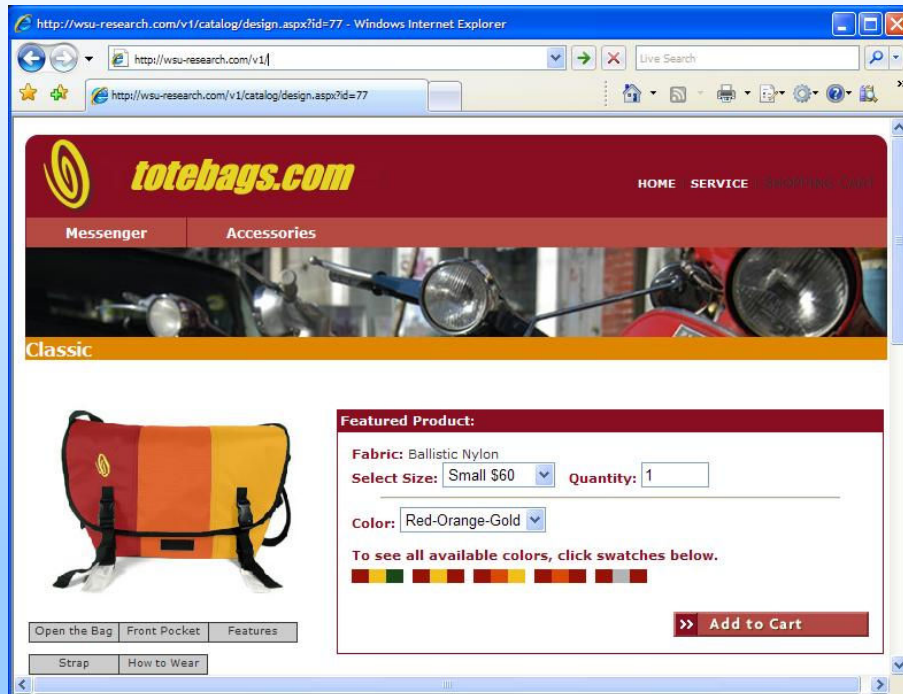
# Research Design (1 of many studies)

- Laboratory experiment
  - 2 x 2 design
- 216 undergraduate students
  - Average age: 20.6 years
  - 50% male
- Manipulations
  - Mood Relevant Cues (e.g., visual appeal)
  - Task Relevant Cues (e.g., task focus features)

		Task-Relevant Cues	
		Low Quality	High Quality
Mood Relevant Cues	Low Quality	Interface v1	Interface v3
	High Quality	Interface v2	Interface v4



# Low Quality Cues



# High Quality Cues



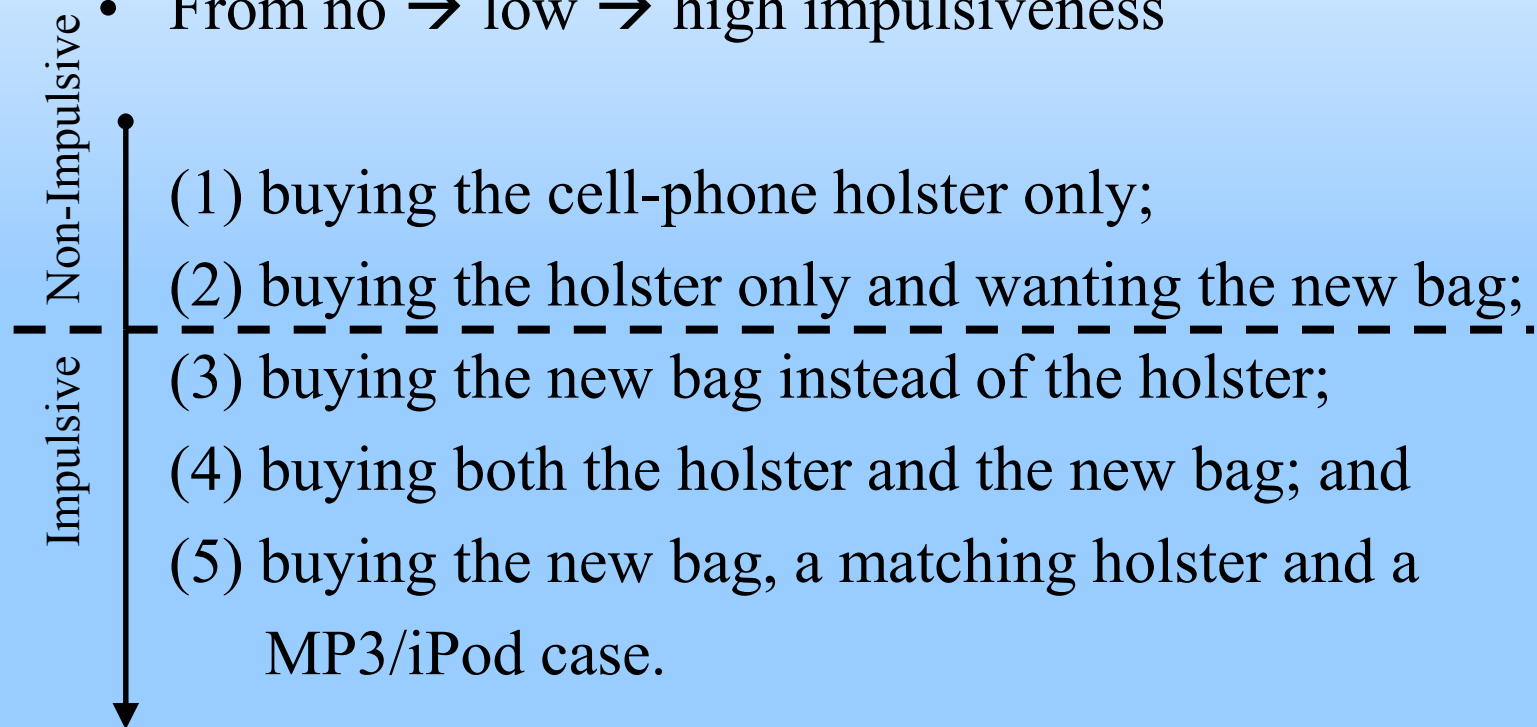
# The Scenario

- Bob/Mary recently bought new cell-phone
- Purchase of cell-phone holster
  - Plans on spending no more than \$15
  - But has enough to splurge a little
- Goes to website to check on holster
  - Sees new bag
  - Case for MP3/iPod device



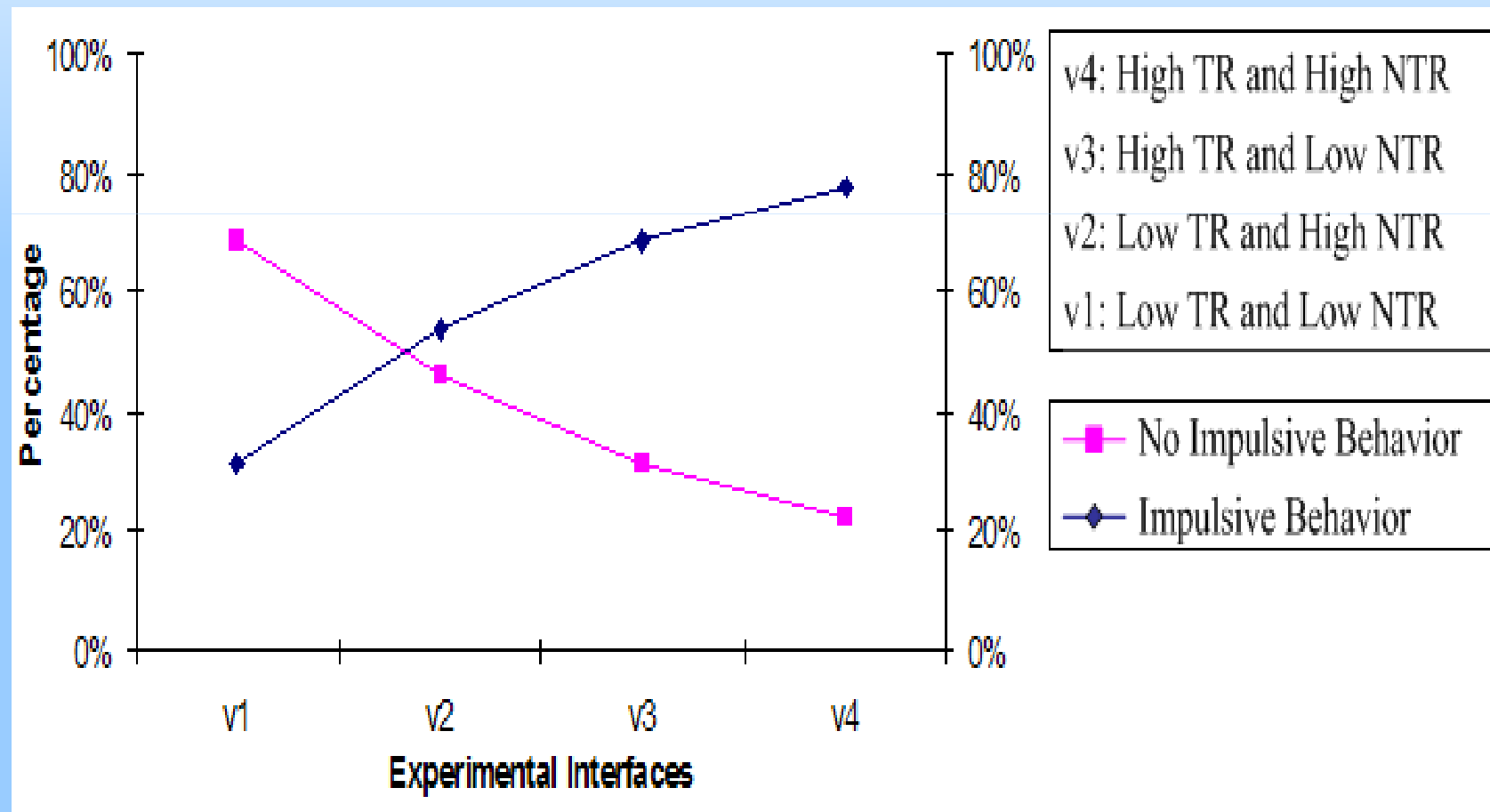
# Measuring Impulse Buying

- Five purchase decision alternatives
- From no → low → high impulsiveness

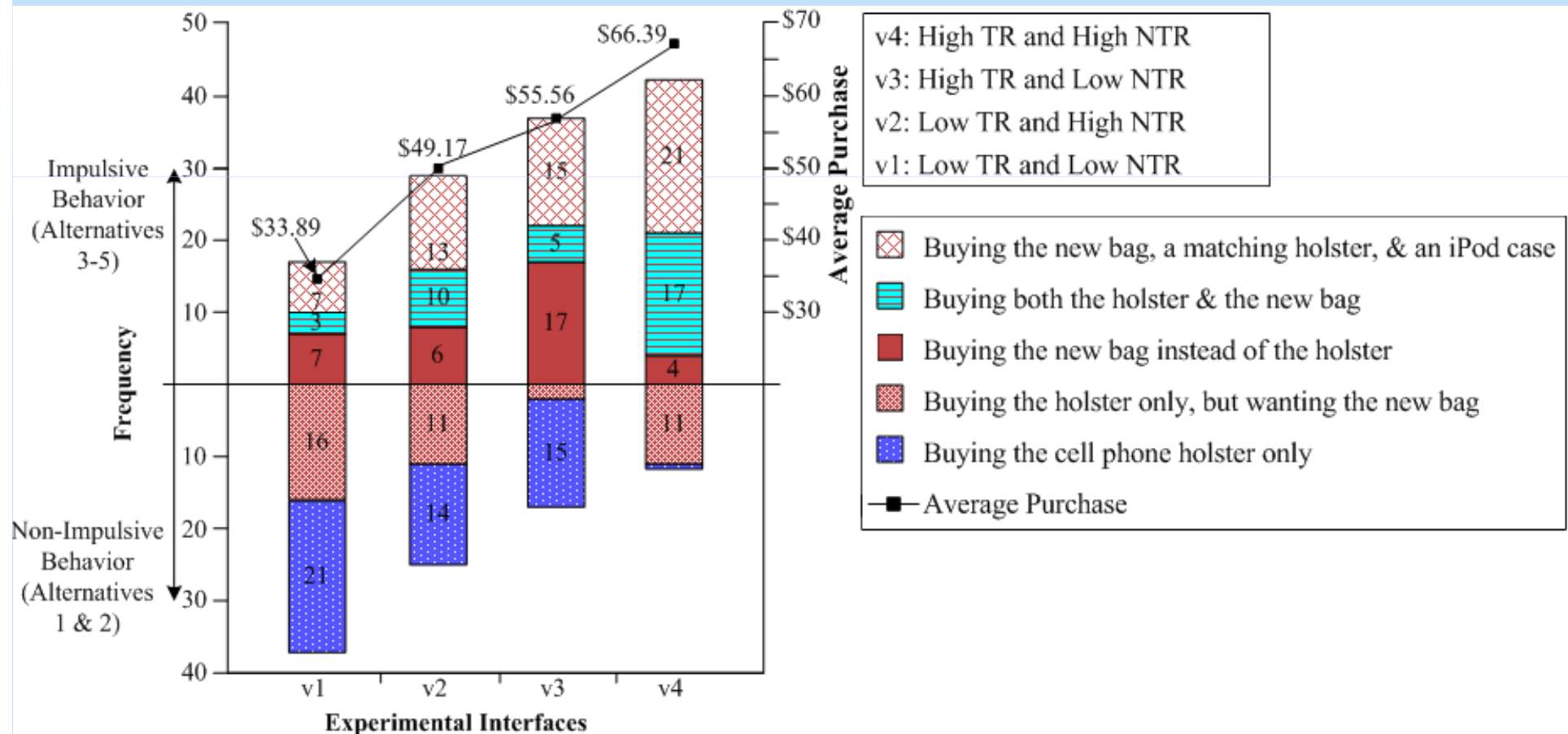




# Subject's Impulsive and Non-Impulsive Purchases by Experimental Interface



# Impulsiveness Score and Average Purchase by Experimental Interface



## Related Publication

- Parboteeah, D.V., Valacich, J.S., & Wells, J.D. (2009) The Influence of Website Characteristics on a Consumer's Urge to Buy Impulsively. Information Systems Research, 20, 60-78.
- Wells, J.D., Parboteeah, D., and Valacich, J.S. (2011). Online Impulse Buying: Understanding the Interplay Between Consumer Impulsiveness and Website Quality. Journal of the Association for Information Systems, 12(1), Article 3.

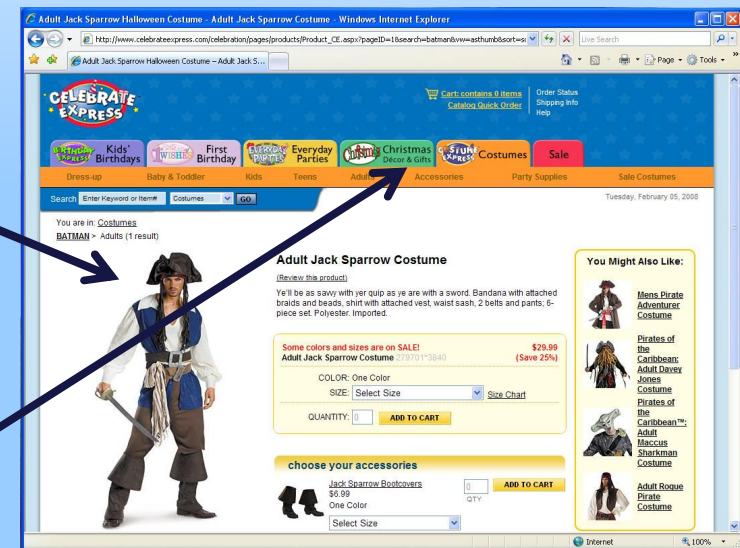
# *Influencing organizational / product quality perceptions*

- Intrinsic Cues

- Product attributes that cannot be manipulated without also altering the physical properties of the product
- Example: “How good is this costume material?”

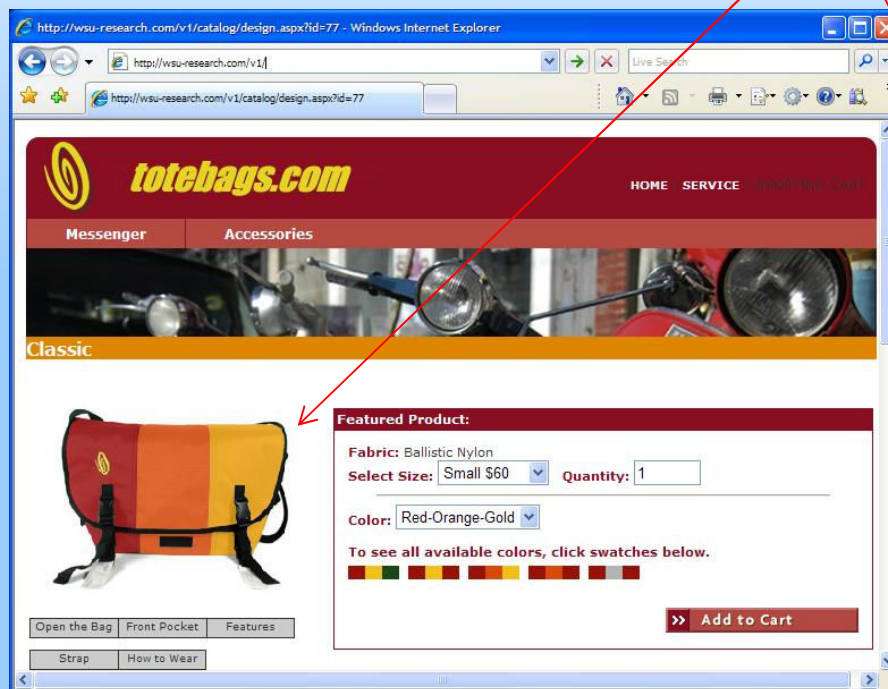
- Extrinsic Cues

- Product attributes that are not part of product (e.g., price, packaging)
- Example: “This is a nice looking website!”



# *Influencing organizational / product quality perceptions*

Simple Question: Which is the higher quality totebag?



# Examples of Intrinsic Vs. Extrinsic Cues

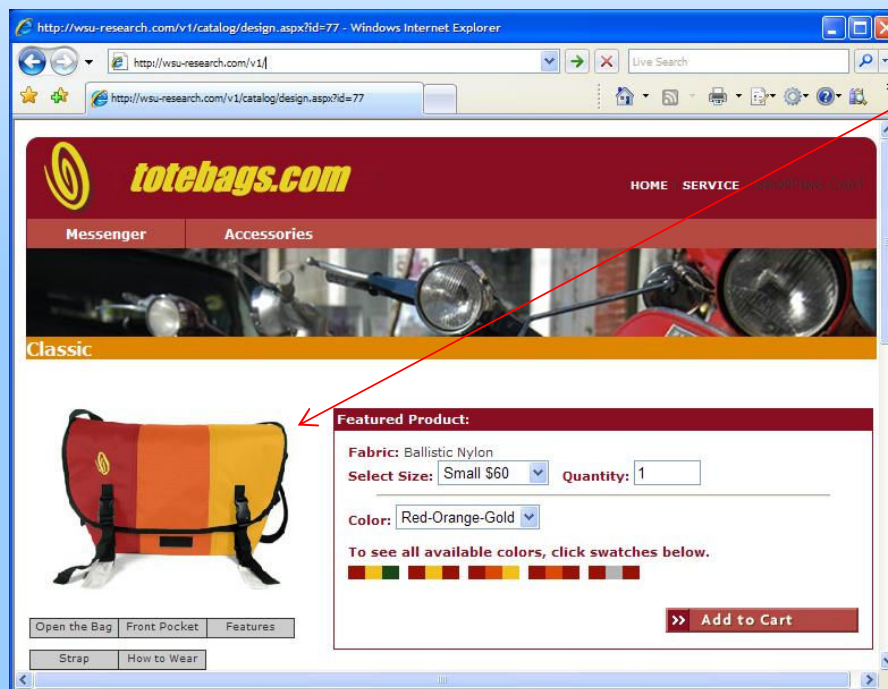
- Intrinsic include...
  - Material quality
  - Design
  - Size and weight
  - Fit of clothing
  - Taste / smell of meal
  - Quality of service
  - Etc...
- Extrinsic include...
  - Brand
  - Reputation
  - Price
  - Warranty
  - Packaging
  - Aesthetics
  - Etc...



When intrinsic product attributes are not readily available or when consumers are not confident in their ability to assess these attributes, consumers will rely more on extrinsic product attributes.

# Basic Experimental Design

Control the Intrinsic Cues (i.e., Product Characteristics)  
Vary the Extrinsic Cues (i.e., Website Characteristics)



# What the research shows...

- All organizational web sites send a signal to your customers
- Signals influence perceptions of organization quality and credibility
  - Good Website → Good Organization
- Perceived organization quality and credibility influence product perceptions
  - Good Organization → Good Products
- Perceived organization and product quality influence purchases
  - Good Organization, Products → Purchase!

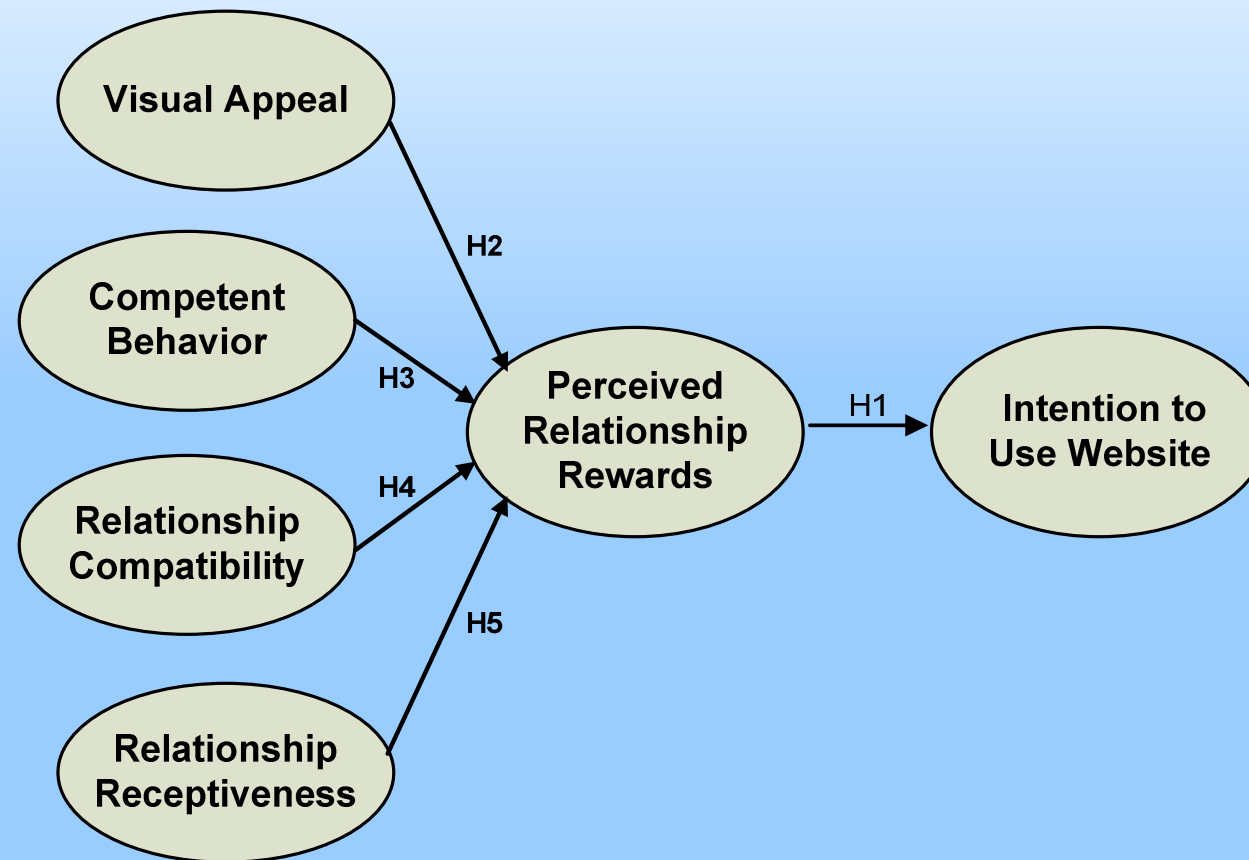
## Related Publication

- Wells, J.D., Valacich, J.S., & Hess, T. (2011). What Signal are you Sending? How Consumer-Facing Technology Influences Perceptions of Quality. MIS Quarterly, 35(2), 373-397.

# *Influencing customer relationships*

- Stage Theory (Levinger 1980)
  - Attraction/Acquaintance
  - Build-Up
  - Continuation/Consolidation
  - Deterioration
  - Ending
- EC Attraction (prerequisite for other stages)
  - Initial Appeal
  - Stops at Intention
  - More than positive appraisal
- Research Approach
  - Translate specific aspects of the theory into interface design components

# EC Attraction Model (eCAM)







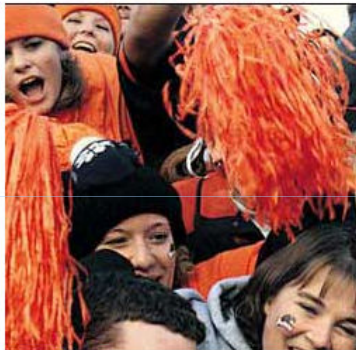
**PAC-10TEES.COM**

[Home](#) [All Tees](#) [All Accessories](#) [Service](#) [Show Cart](#)

Home

# Welcome!

To The Best Custom  
Shirt Site Ever.



Featured Items

## Add Custom Slogan

Customize your T-shirt further by adding a Slogan. [\[more\]](#)

Item# 216  
\$3.99



## White T-Shirt

Here is your basic custom T-Shirt with your favorite PAC-10 match-up. [\[more\]](#)

Item# 012  
\$17.99



Categories

[All Shirts](#) [Accessories](#)

[\[For category descriptions, click here\]](#)

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To The Best Custom  
Shirt Site Ever.



Featured Items



White T-Shirt  
\$17.99

Categories

[All Shirts](#) [Accessories](#)

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# eCAM Results

- We were able to increase attraction, and downstream adoption by modifying the web interface
- Strong support for website personalization based on relationship stage
- Stage Theory works in this context as well!

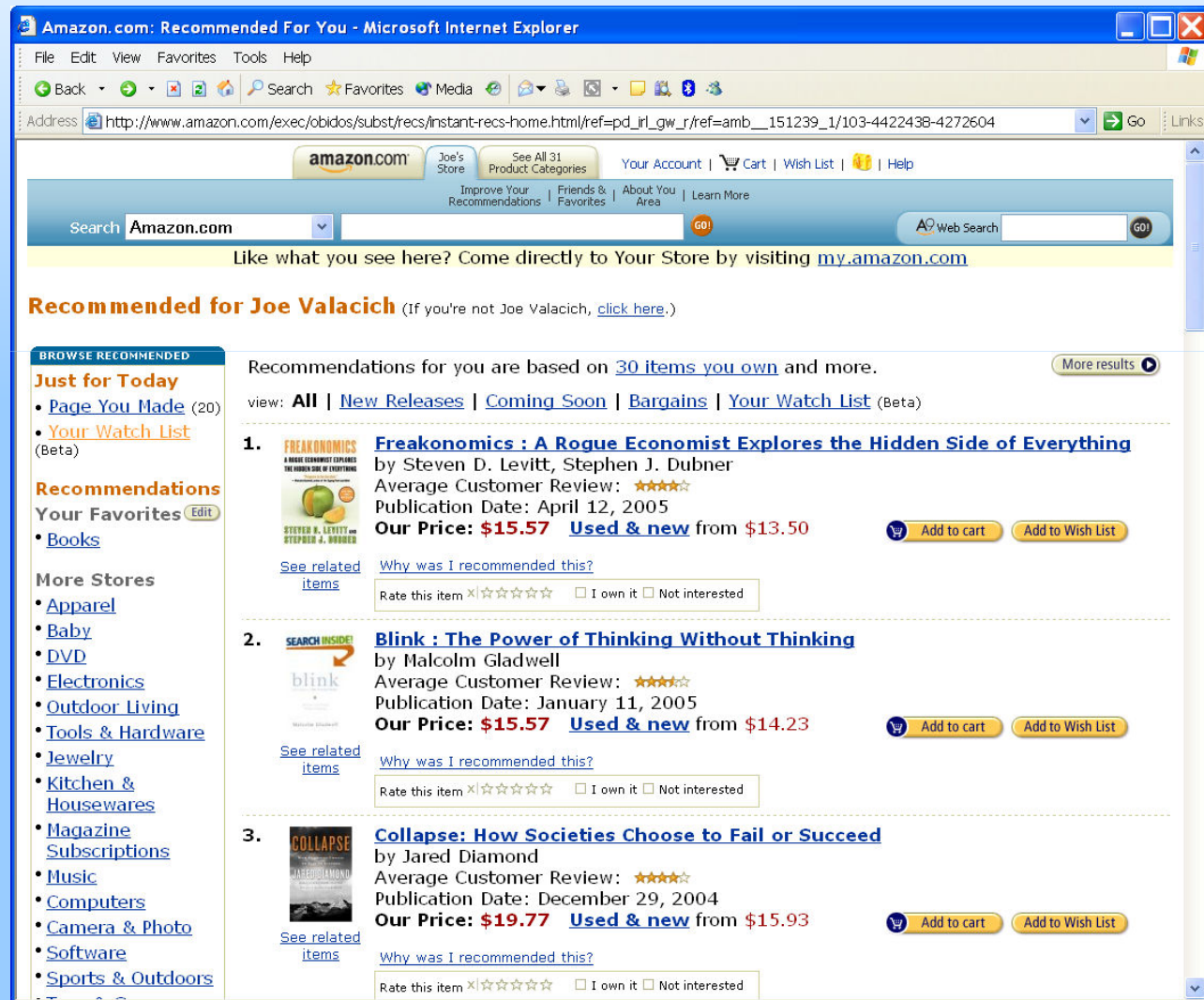
# Related Publication

- Campbell, D.E., Wells, J.D., & Valacich, J.S. (in press). Breaking the Ice in B2C Relationships: Understanding Initial Perceptions of Websites with the eCommerce Attraction Model. Information Systems Research.
- Campbell D.E, J.D. Wells, and J.S. Valacich (2009) “Diagnosing and Managing Online Business-to-Consumer (B2C) Relationships: Toward an eCommerce B2C Relationship Stage Theory,” AIIS Transactions on Human-Computer Interaction, (1) 4, pp. 108-132.

## *Personalizing the online experience*

- Web interfaces have often suffered from the inability to satisfy the multiplicity of users' needs.
- Different users come to the same site and are performing a different task.
- Companies such as Amazon, eBay, and Google employ technology to customize web content based on **past behavior**.

# Personalization 1.0



Amazon.com: Recommended For You - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print

Address [http://www.amazon.com/exec/obidos/subst/recs/instant-recs-home.html/ref=pd\\_lrl\\_gw\\_r/ref=amb\\_\\_151239\\_1/103-4422438-4272604](http://www.amazon.com/exec/obidos/subst/recs/instant-recs-home.html/ref=pd_lrl_gw_r/ref=amb__151239_1/103-4422438-4272604) Go Links

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Like what you see here? Come directly to Your Store by visiting [my.amazon.com](http://my.amazon.com)

**Recommended for Joe Valacich** (If you're not Joe Valacich, [click here.](#))

**BROWSE RECOMMENDED**

**Just for Today**

- [Page You Made](#) (20)
- [Your Watch List](#) (Beta)

**Recommendations**

**Your Favorites** [Edit](#)

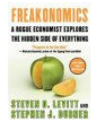


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by Steven D. Levitt, Stephen J. Dubner  
Average Customer Review: ★★★★★  
Publication Date: April 12, 2005  
**Our Price: \$15.57** [Used & new](#) from \$13.50 [Add to cart](#) [Add to Wish List](#)  
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Average Customer Review: ★★★★★  
Publication Date: January 11, 2005  
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## Personalization 2.0

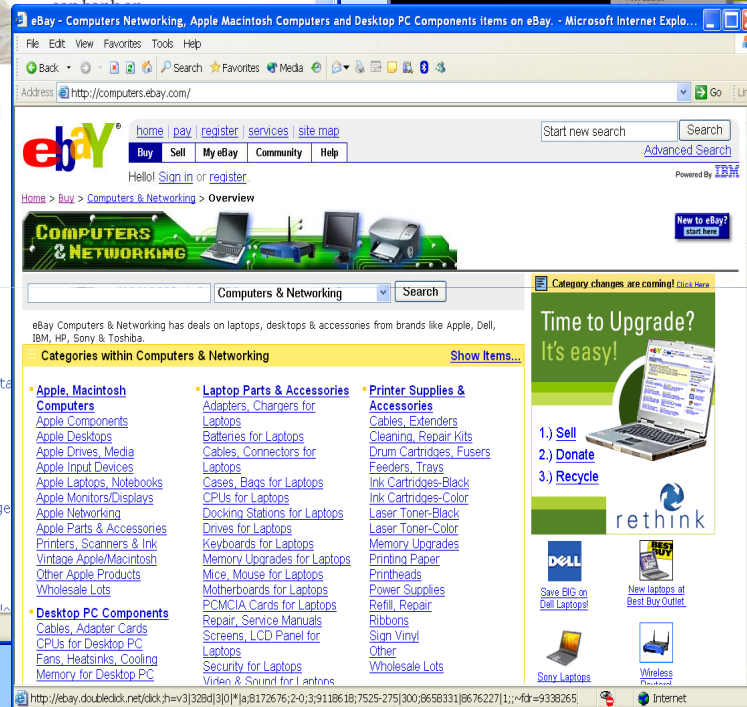
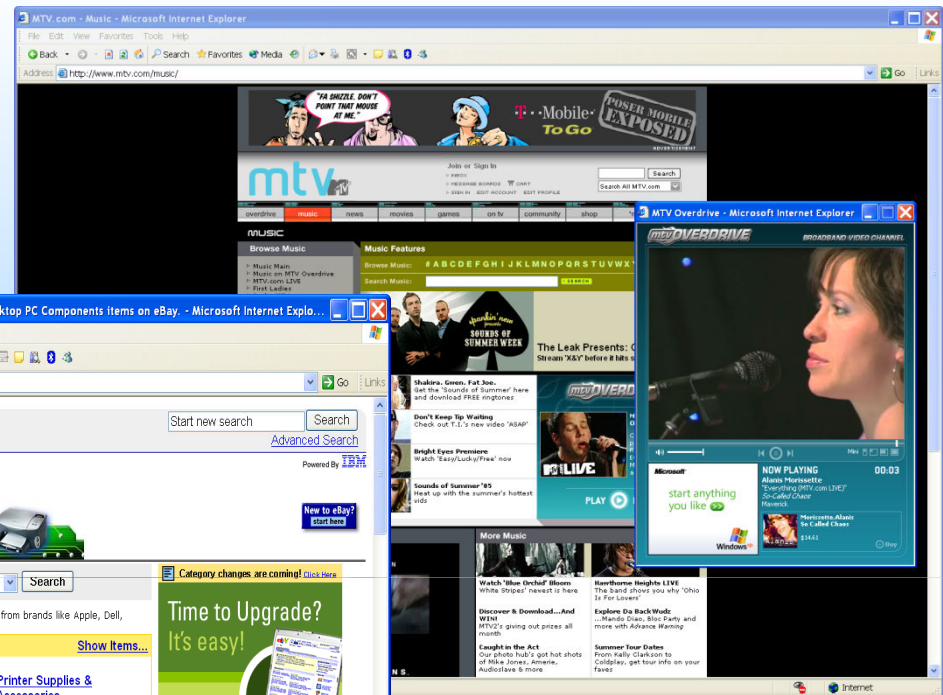
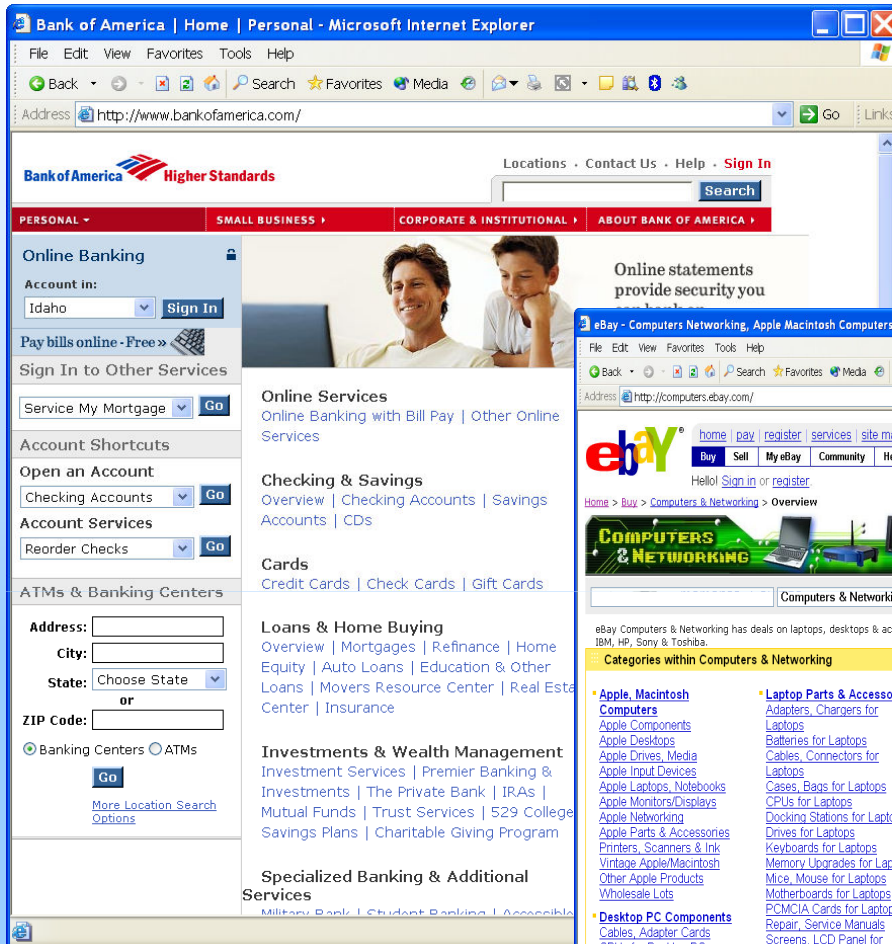
- Goal: Real-time, dynamic tailoring of web interfaces to meet the unique needs of each customer, each time they visit a website.
- Challenge: How do we make sure we personalize correctly?



# Different Websites with Different Purposes

- When visiting a website, consumers are performing a task
- Tasks can be organized along a continuum
  - Goal-directed task (i.e., utilitarian)
    - Fast, clear, efficient...
  - Experiential task (i.e., hedonic)
    - Experiential, entertaining, and gratifying to the senses...





utilitarian

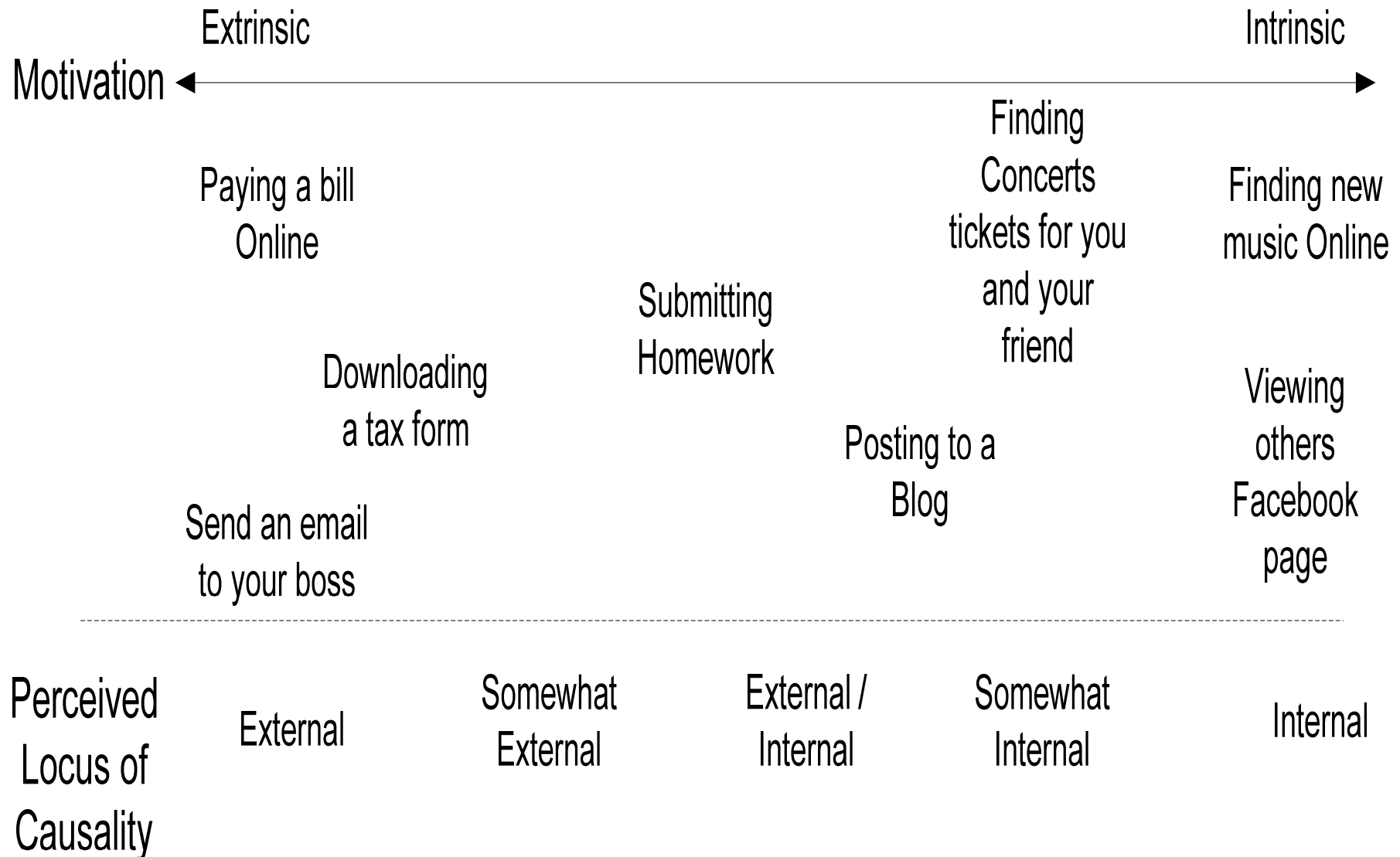
hybrid

hedonic

# Motivation

- Two general categories...
  - Intrinsic – pleasure and inherent satisfaction derived from the activity
  - Extrinsic – performing a behavior because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity
- *Challenge: How to conceptualize motivational mechanisms into the HCI?*

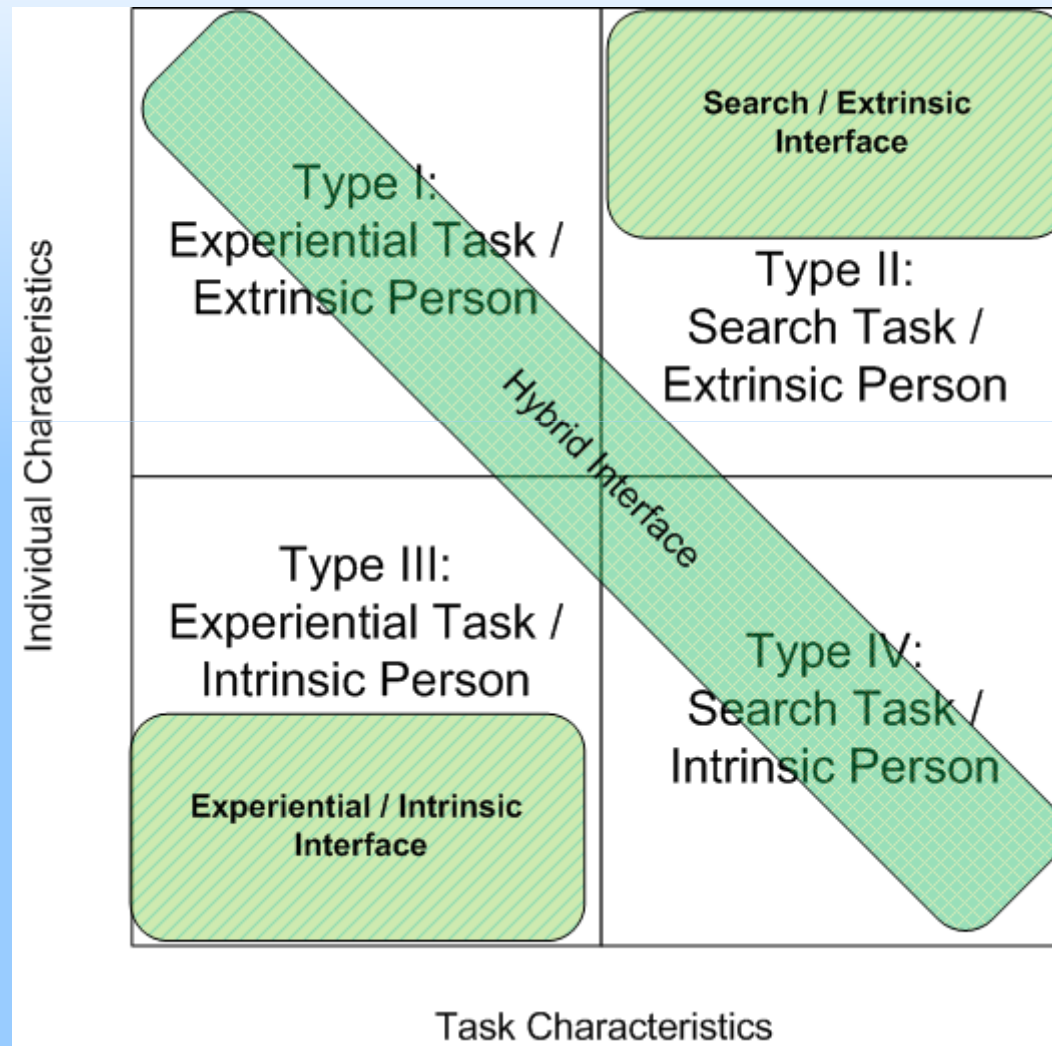
# Examples of certain motivations



# Online Consumer Motivation

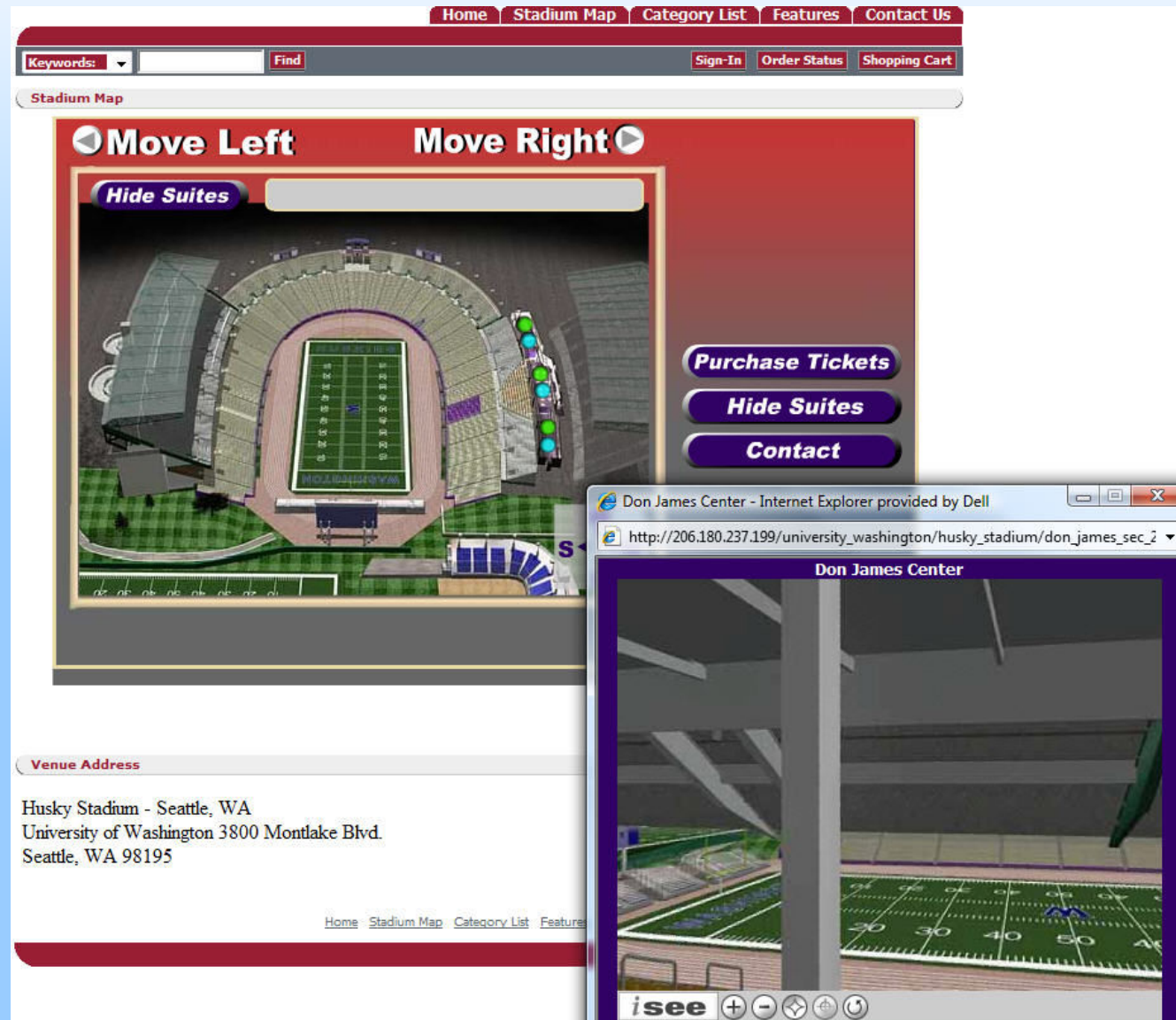
Individual Characteristics	Type I: Experiential Task / Extrinsic Person	Type II: Search Task / Extrinsic Person
	Type III: Experiential Task / Intrinsic Person	Type IV: Search Task / Intrinsic Person
Task Characteristics		

# Online Consumer Motivation





# Experiential Web Site



# Hybrid Web Site

[Home](#) [Stadium Map](#) [Category List](#) [Features](#) [Contact Us](#)

Keywords:  [Find](#) [Sign-In](#) [Order Status](#) [Shopping Cart](#)

[Category List](#) [Stadium Map](#)

- Apple Cup Tickets
  - Bleacher Tickets
  - Don James Center
  - General Admission
  - Lower Deck
  - Upper Deck

[Featured Items](#)

**Don James Suites**  
Don James Center Suites  
[Buy Now](#) [More Info](#)  
Item #DJC4  
**\$149.95**

**General Admission**  
General Admission standing room  
Westside.  
[Buy Now](#) [More Info](#)  
Item #GAW144  
**\$19.95**

**Husky Stadium**  
Seattle Washington



A detailed stadium map of Husky Stadium in Seattle, Washington. The map shows the football field in the center, surrounded by seating sections. The sections are color-coded: blue for the upper deck, yellow for the lower deck, and green for the field. The map includes a compass rose indicating North, South, East, and West. The field is labeled 'HUSKIES SIDELINE' and 'ENDZONE'. The seating sections are numbered, with the top row starting at 37 and the bottom row ending at 50. The map also shows the 'Don James Center' at the top of the stadium.

[Venue Address](#)

Husky Stadium - Seattle, WA  
University of Washington 3800 Montlake Blvd.  
Seattle, WA 98195

[Home](#) [Stadium Map](#) [Category List](#) [Features](#) [Contact Us](#)

# Search Web Site

[Home](#)
[Stadium Map](#)
[Category List](#)
[Features](#)
[Contact Us](#)

[Ticket Information](#)

Tickets are selling out fast.

Max. 6 tickets per customer

After you select the tickets you have 10 minutes to complete the sale or the tickets will be released back to the public.

[Category](#)

Apple Cup Tickets - Lower Deck

[Category Items](#)

Description	Item #	Price/ea.
<b>Lower Deck</b> Section 25 Row L <a href="#">Buy Now</a> <a href="#">More Info</a>	LD254	\$89.95
<b>Lower Deck</b> Section 24 Row G <a href="#">Buy Now</a> <a href="#">More Info</a>	LD124	\$89.95
<b>Lower Deck</b> Section 21 Row T <a href="#">Buy Now</a> <a href="#">More Info</a>	LD144	\$69.95
<b>Lower Deck</b> Section 21 Row U <a href="#">Buy Now</a> <a href="#">More Info</a>	LD411	\$69.95
<b>Lower Deck</b> Section 18 Row P <a href="#">Buy Now</a> <a href="#">More Info</a>	LD5412	\$49.95

[Home](#)
[Stadium Map](#)
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# Search Task

You and a friend want to go to the Apple Cup in Seattle. Tickets have gone on sale this week and the game is very close to selling out.

Your friend has tasked you with buying tickets for the game. They have a couple of constraints though. They are as follows:

- 1 – You need 2 tickets.
- 2 – Anywhere on the North Side of the field.
- 3 – As close to the 50 yard line as possible.
- 4 – You have a total budget of \$60 (\$30 / ticket).

**20 Sets of Tickets with 65 total tickets left**

# Experiential Task

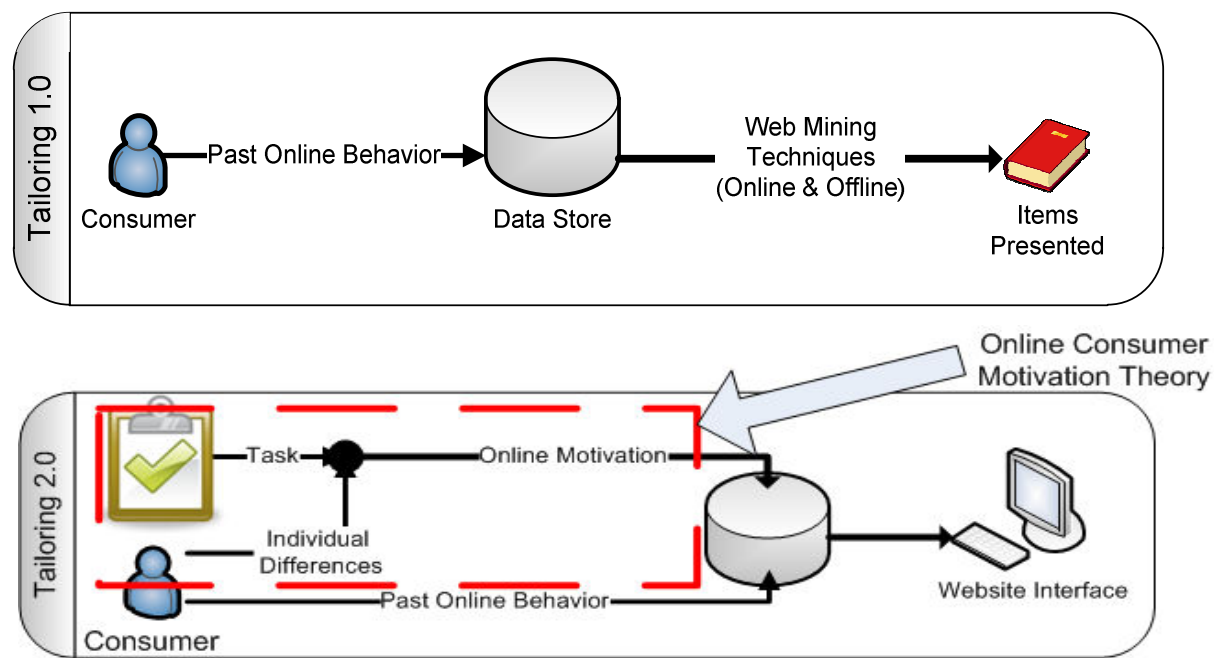
You and a friend have been talking about going to the Apple Cup in Seattle. Tickets have gone on sale this week. You have offered to check out seating possibilities for the game and report back to him.

- Take your time and browse around the website and see what is available and interesting.
- Make sure you check out all the options (location, price, available tickets etc..) as you'll be asked for your recommendation by your friends after you browse the website. You can take notes if need be.

**20 Sets of Tickets with 65 total tickets left**

# Personalization 2.0

Key result: Hybrid interface was consistently least effective.  
Matching task / personality led to best performance.



## Related Publication

- Wright, R.W., Valacich, J.S., & Wells, J.W. (working paper). Online Consumer Motivation: A Task-Technology Fit Perspective. Target: MIS Quarterly.

## Detecting emotions of online users


- Improved customer service → loyal customers, profits, other good outcomes
- Go beyond “looking backwards” via data mining and web analytics to enhance *future* interaction (web design)
- Understand exactly when a customer is upset or frustrated
- Preform “service intervention” in real-time



# Emotion and Mouse Usage

- Emotion can be many types: happy, sad, anger, frustration, etc.
- Raised emotion results in observable motor reactions / changes
- Mouse and keyboard usage changes
  - Establish baselines
  - Observe changes from baselines
  - Understand context of interaction
  - Predict the type of emotion

# Experimental Tasks: Configure Computers and Automobiles

 [New Cars](#) [Used cars](#) [Buying guide](#) [Owners](#) [Fleet](#) [Technology](#) [Timeline](#) [About us](#) [Follow Us](#) [Feedback](#)

**Car Range** [Vans and Campers](#) [Coming Soon](#) [Compare against other manufacturers](#)

**Filter and find your car** ☒ Private Customer ☐ Company car driver [Reset all filters](#)

**Body style**

- ☒ Hatchbacks
- ☒ Coupes
- ☒ Cabriolets
- ☒ Saloons
- ☒ Estates
- ☒ MPVs
- ☒ SUVs

**Price** [£5K](#) [£85K](#)

**Efficiency (MPG)** [15](#) [85](#)

**Performance (0-62 mph)** [20 sec](#)

**Engine Type**

- ☒ Petrol
- ☒ Diesel
- ☒ Hybrid
- ☒ Auto
- ☒ Manual
- ☒ DSG

**Transmission** [INFO](#)

**Seats and space** **Tax & insurance** **CO2 & Bluemotion** **Speed & power** **Engine & drive**

**My Shortlist**

Add the models you are interested in to your shortlist to compare their data

Please select a model to compare

Please select a model to compare

**up!** from £7,995

**Polo** from £9,585

**Golf** from £15,865

**Golf GTI/GTD/R** from £24,650

**New Golf C** from £20,000

**Golf Plus** from £15,840

**Golf Estate** from £18,070

**The Beetle** from £16,490

**Passat Saloon** from £19,305

**Passat E** from £20,000

**Coming soon: New Passat Alltrack**

**New Volkswagen CC** from £24,200

**Scirocco** from £20,065

**New Tiguan** from £20,340

**For** from £22,000

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**Dell recommends Windows® 7.**

**Dell Laptop and Notebooks**

**Shop and Compare**

☐ Laptop Screen Size

- ☐ 11 to 14 inches
- ☒ 15 to 16 inches
- ☐ 17 inches & up

**Price**

- ☐ Under \$500
- ☒ \$500 to \$600
- ☒ \$600 to \$700
- ☒ \$700 to \$800
- ☐ \$800 to \$900
- ☐ \$900 & up

**Processor**

- ☐ Intel Core i3
- ☐ 2nd Gen Intel Core i3
- ☒ 2nd Gen Intel Core i5

**Inspiron 15R**

**Processor** 2nd generation Intel® Core™ i5-2430M processor 2.40 GHz with Turbo Boost 2.0 up to 3.00 GHz

**Operating System** Genuine Windows® 7 Home Premium, 64-Bit, English

**Display** 15.6" High Definition (720p) LED Display with TrueLife™

**Memory** 6GB<sup>4</sup> Dual Channel DDR3 SDRAM at 1333MHz

**Hard Drive** 500GB<sup>3</sup> SATA hard drive (5400RPM)

**Optical Drive** 8X Tray Load CD/DVD Burner (Dual Layer DVD±R Drive)

**Video Card** Intel HD Graphics/HD Graphics 3000 with up to 1.6GB Dynamic Video Memory

**Warranty** 1 Year Basic Support

**Weight** 5.84 lbs

**Market Value<sup>1</sup>** \$827<sup>99</sup>

**Total Savings** \$228.00

**Dell Price** \$599<sup>99</sup>

**Total savings include:**

- Dell Inspiron 15R price
- includes \$228 instant discount

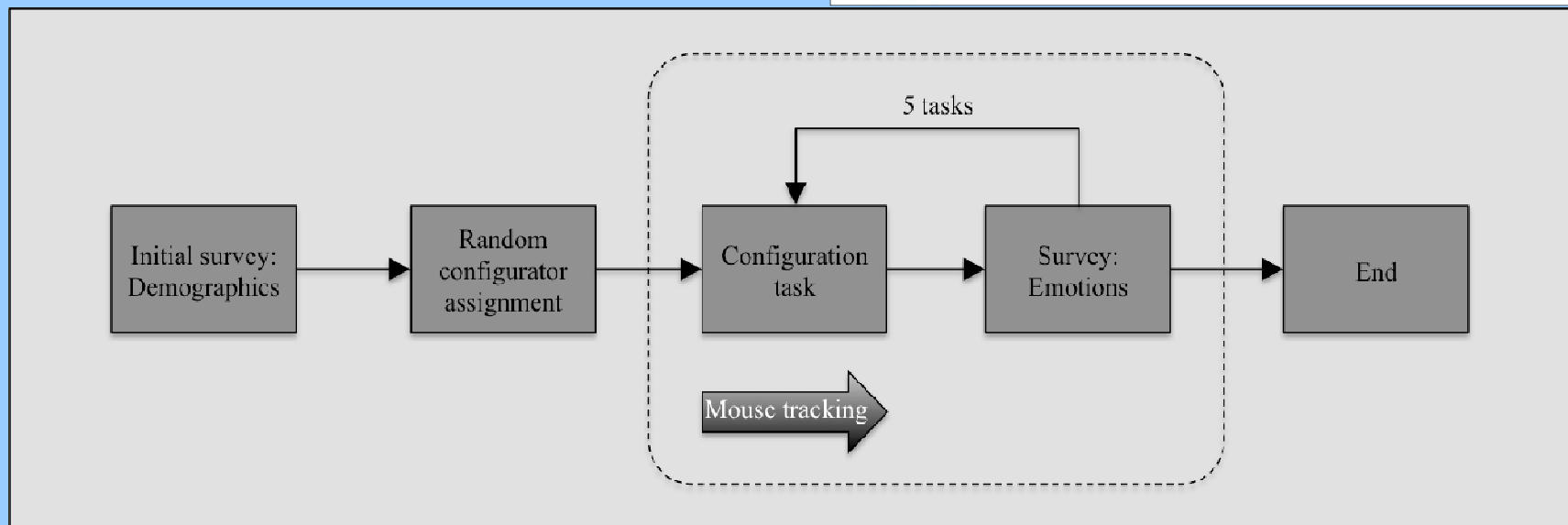
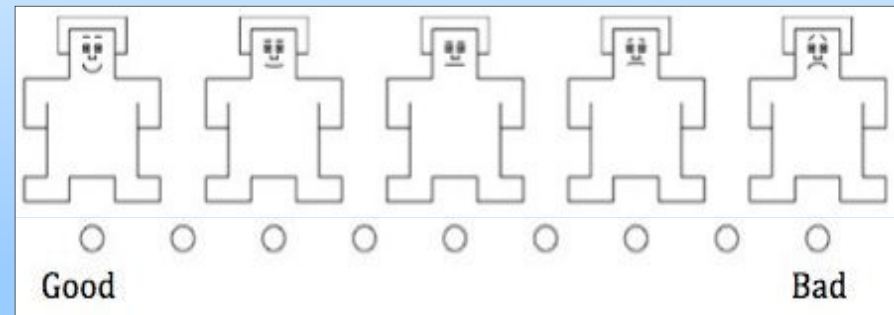
**Estimated Ship Date:** 2/3/2012

**Customize & Buy >**

[Add to Cart >](#)

# Research Design

- Students in HK and Germany
- Repeated measurement of task / emotion survey approaches
- E.g., SAM
  - Self-Assessment Manikin



## Results and Implications

- Changes in mouse movement is highly predictive of emotional changes
- Can be measured in real-time when service event is occurring
- Provides opportunity for *proactive* service intervention
- Many applications: e-commerce, web chat customer service, etc.
- Low cost approach for studying various NeurolS phenomena

## Related Publication

- Weinmann, M., Schneider, C., Hibbein, M. Valacich. J., & Robra-Bissantz, S. (under 1<sup>st</sup> review). From service failures to service recovery: Measuring online consumers' emotions during e-commerce transactions. MIS Quarterly.

# Enhancing team performance

- Motivational Affordance
  - System properties that fulfill users' motivational needs
  - In a short term setting (such as group idea generation), the design principles focusing on cognitive motivational needs—i.e., achievement and competence—appear to be most readily applicable
- *Challenge: How to instantiate aspects of achievement and competence into the design of the HCI?*

# Instantiating the “Need for Achievement” into the HCI

- Providing feedback
  - Allows a person to excel as compared to a standard of excellence
  - Allows a form of competition with one’s self, or against others
- Critical in the “effort → performance → reward” linkage
- Creates a competitive atmosphere
  - upward social comparisons
  - social facilitation
- Corrects unfounded performance perceptions
- Combats social loafing
  - Positive reinforcement for high performers
  - Negative reinforcement for low performers

# Goal Setting as a Motivational Factor

- Goals can...
  - provide standards for self-evaluation
  - motivate people to exert effort
  - Demonstrate Competence

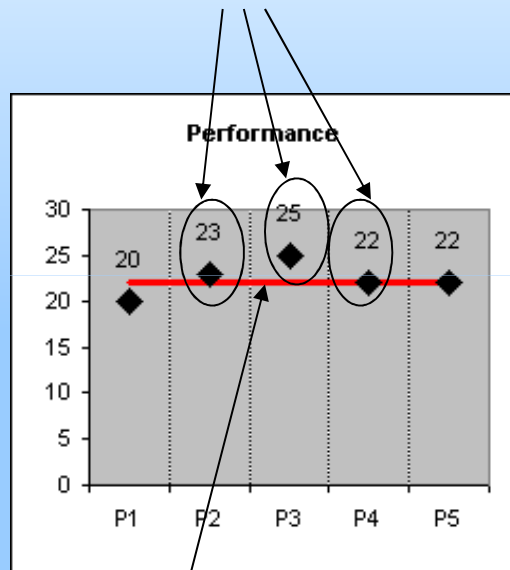


# Combining Performance Feedback and Goal Setting

- Performance feedback aids in assessing progress toward the goal
- How should goals be specified?
  - “Do your best”
    - defined idiosyncratically
    - individuals give themselves the benefit of the doubt
  - Specific goals precondition better performance

# HCI—Explicit Goal / Feedback

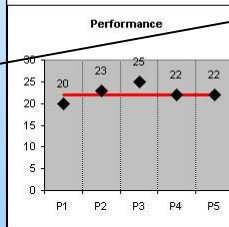
Current individual performances



Performance Goal

Team 2. Agenda: How can we improve the university's parking problem?

Time: 0min 2 0sec

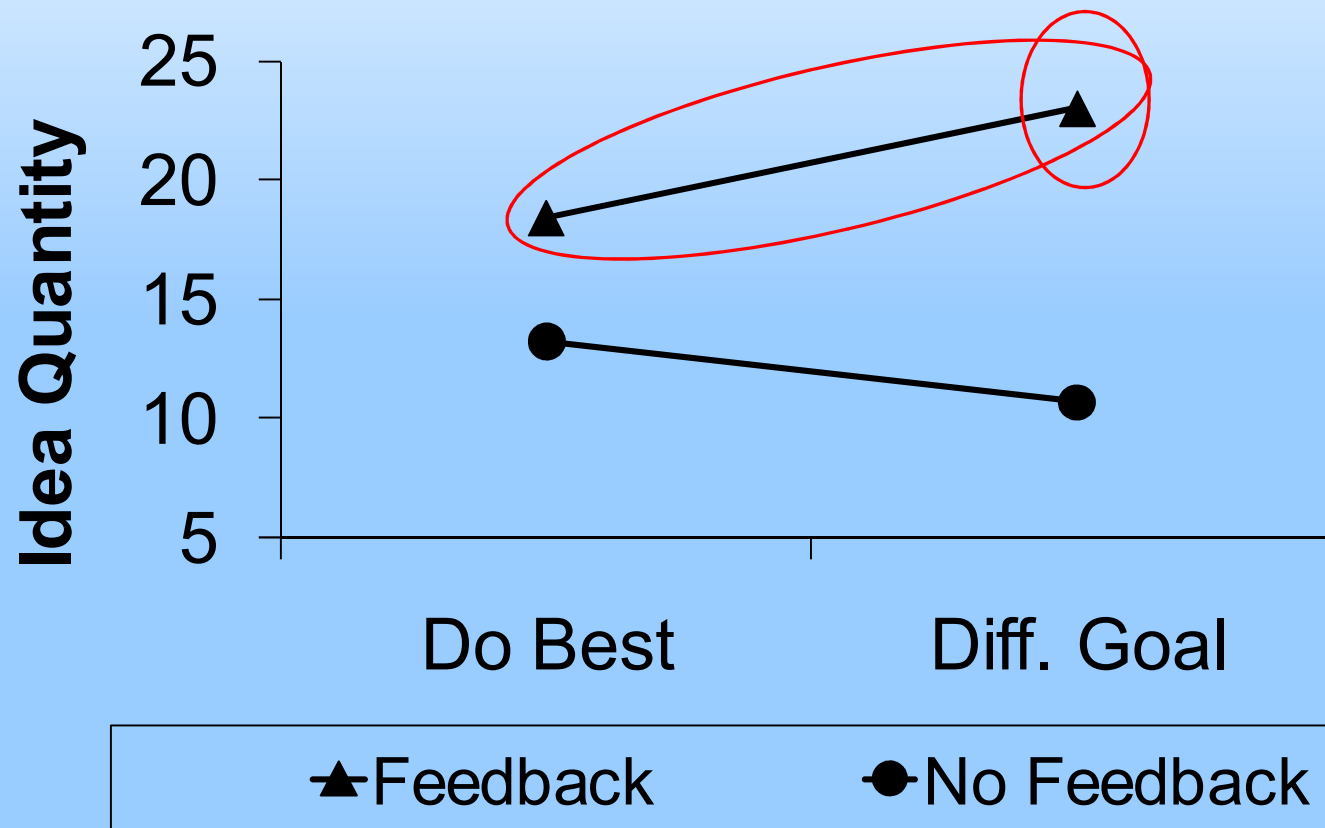


P1: SurfStar  
P2: NorthStar  
P3: Whirlpool  
P4: SilverWing  
P5: MoonBeam

SurfStar: allow people to park in more places  
SilverWing: give priority to people who work on campus like professors  
Whirlpool: lets build the subway.. ok its done  
MoonBeam: subway/monorail/rapid transit  
SurfStar: subways are great  
SilverWing: allow people to drive if they have earned enough points by being involved on campus  
Whirlpool: get rid of busses and build a subway  
SurfStar: teach everyone how to use a motorcycle  
NorthStar: lets just get rid of wsu and then there will be more parking spaces  
MoonBeam: get rid of all parking lots and force people to walk/bus/bike  
SurfStar: less students  
Whirlpool: get rid of Beasley, and the baseball field  
SurfStar: get rid of the golf field and build a parking lot  
NorthStar: get rid of all the monster trucks that drive around down here  
SilverWing: more parking options around the CUB  
MoonBeam: smaller spaces = damaged cars = less cars parking  
Whirlpool: get rid of all wheatfields  
MoonBeam: smaller parking spaces  
SurfStar: have more transportation for students  
SurfStar: get rid of some wheat fields  
NorthStar: have more houses belonging to greek row so it is easier to walk to class  
MoonBeam: I live off campus but dont drive  
Whirlpool: go greek  
SilverWing: maybe more incentives to live on campus and not drive  
Whirlpool: People are already deadly afraid to speed, park, or do anything on campus anyways because of the Parking Nazi's  
SurfStar: make more doms  
NorthStar: doms suck  
MoonBeam: more expensive parking passes  
NorthStar: why not pave everything not yet paved and let people park anywhere  
SurfStar: require that all students live in doms  
SilverWing: maybe increasing parking pass cost so people would be less inclined to drive  
Whirlpool: dont do construction during the school year, cause its hard enough not having that walk way on the side of TODD and Fulmer  
SurfStar: make a parking lot behind the rec center  
SilverWing: I think there is room for more parking lots outside of the rec center  
MoonBeam: larger buses  
NorthStar: make it so campus is not on top of a hill so more people would want to walk  
MoonBeam: pave over more wheat fields  
Whirlpool: tear down everything south of TODD  
SurfStar: reduce tuition  
SilverWing: I still like the idea of parking lots off campus and buses that transport you to them but they would have to run 24/7  
MoonBeam: one big 100 story residential tower in the center of campus  
NorthStar: leave it how it is and deal with it  
Whirlpool: dont let people live off campus

Clear

## Results – Idea Quantity



## Related Publication

- Jung, J.H., Schneider, C., & Valacich, J.S. (2010). Enhancing the Motivational Affordance of Group Collaboration Environments: The Effects of Real-Time Performance Feedback and Goal Setting. Management Science, 56(4), 724-742.

# Design of Emergency Response Dashboards

- Utilize various theories to understand how to better support decision making in *high velocity* environments
  - Time pressure, cognitive fit theory, etc.
  - Visualization theory, color theory, cue summation theory, etc.

Resources and ReportsWorkspaceMap

Available Resources

Police Cars

- WSU (9)
- Pullman (37)
- Whitman (10)
- State (12)

Fire Trucks (21)

Ambulance (59)

SWAT Team (5)

Bomb Squad (4)

HAZMAT (7)

Resources in Use

Police Cars

- WSU (0)
- Pullman (0)
- Whitman (0)
- State (0)

Fire Trucks (0)

Ambulance (0)

SWAT Team (0)

Bomb Squad (0)

HAZMAT (0)

Reported Incidents

HIGHEST PRIORITY

5. PROPFIRE

HIGH PRIORITY

6. MEDEM

7. PROPFIRE

MEDIUM PRIORITY

2. TRFC

8. MEDEM

9. DOMP

LOW PRIORITY

1. DOMP

3. DOMP

4. TRFC

Time Left For Activity

07:57

Incident Description

Property Fire

Fire reported from a farm house in Colfax. Nobody is believed to be inside. No alarms have been reported, but smoke is visible at the scene.

Priority

high

Address

345 Albion Rd., Colfax WA 99111

Dispatch Actions

WSU Police Cars

0

Pullman Police Cars

0

Whitman Police Cars

0

State Police Cars

0

FINALIZE

Fire Trucks

0

Ambulance

0

SWAT Team

0

Bomb Squad

0

Confidence

SUBMIT

HAZMAT

0

## Related Publication

- Ladd, D.A., & Valacich, J.S. (working paper). Do DSSs Bounce? Shattering DSS Decision Quality with Task-Technology *Misfit*. Target: Information Systems Research.
- McNab, A.L., Hess, T.J., & Valacich, J. S. (2011). Designing Emergency Response Dispatch Systems for Better Dispatcher Performance. AIS Transactions on Human-Computer Interaction, 3(1), 26-54.

# ONLINE CONSUMER'S HIERARCHY OF NEEDS

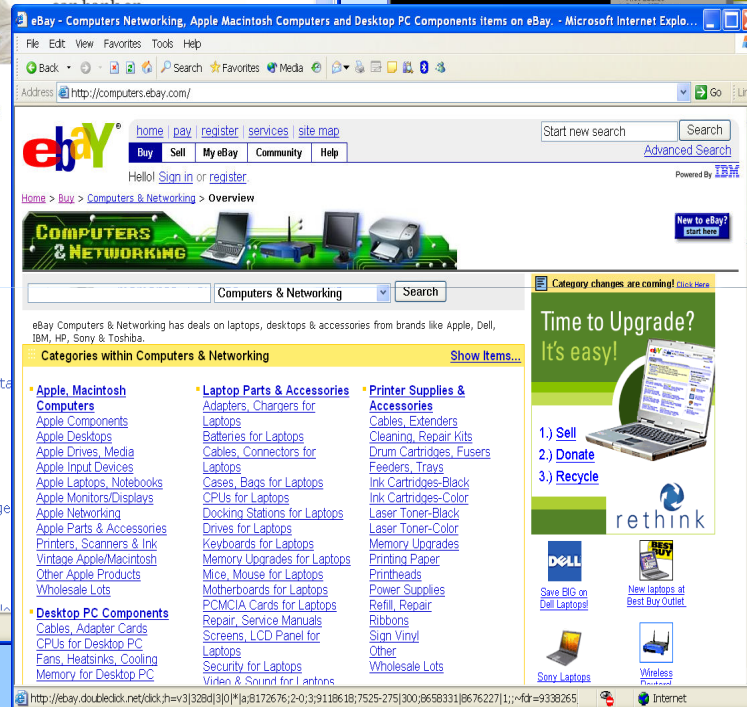
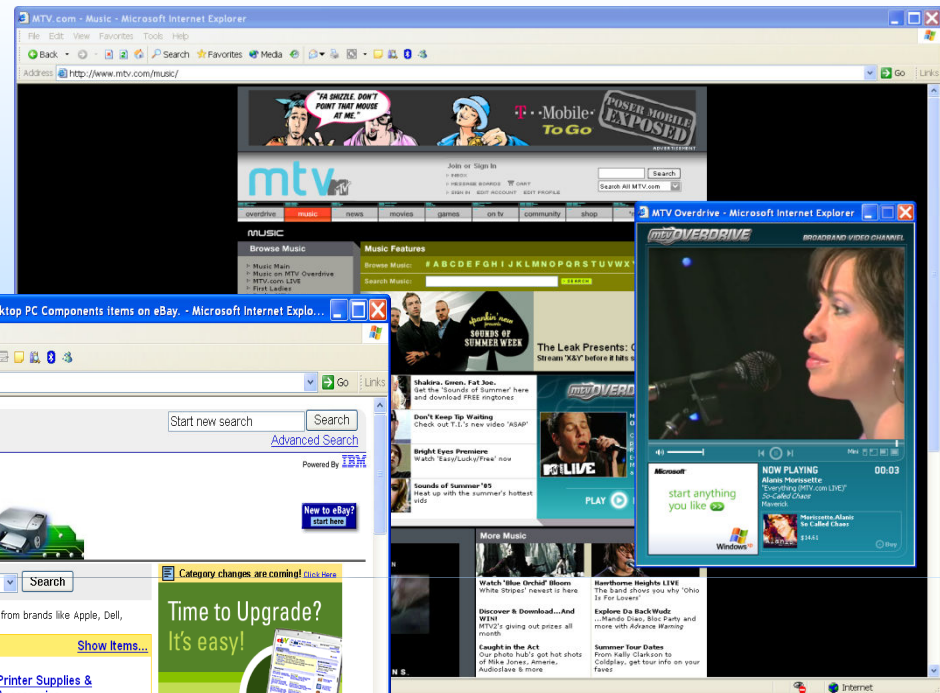
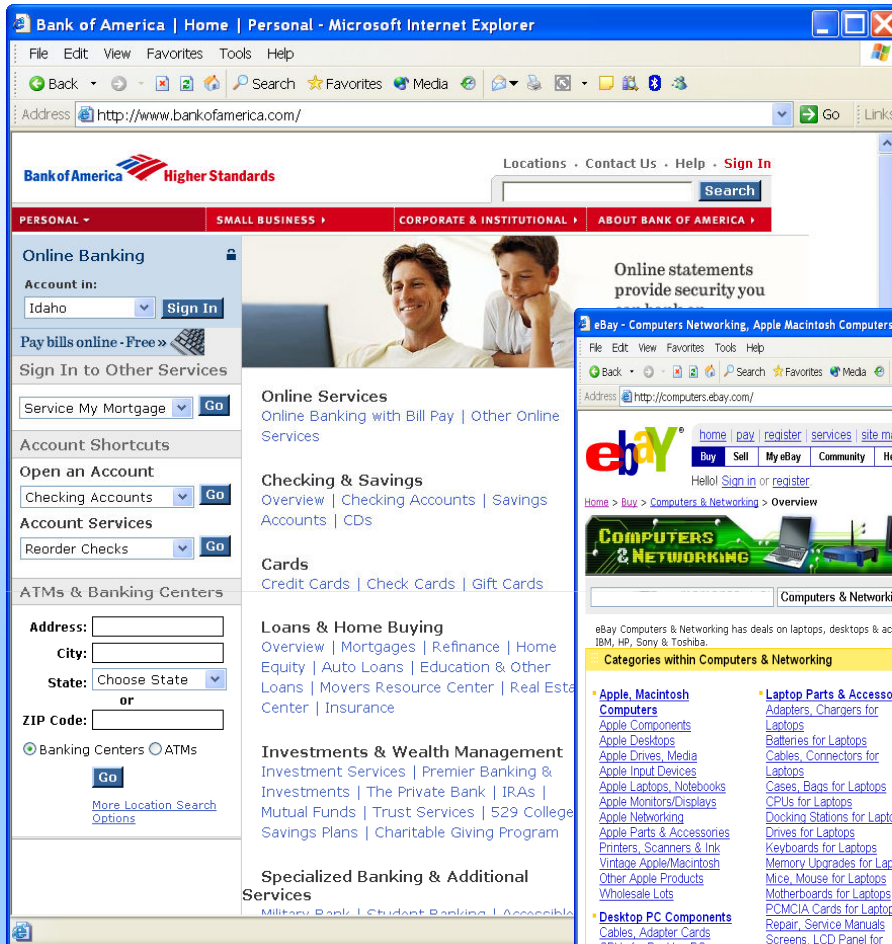
## *PROVIDING GUIDANCE TO DESIGN*

Valacich, J.S., Parboteeah, D.V., & Wells, J.D. (2007). Not All Interface Characteristics are Created Equal: The Online Consumer's Hierarchy of Needs. Communications of the ACM, 50(9), 84-90.

# Many Sites Have Multiple Types of Pages







utilitarian

hybrid

hedonic

# Examples of Utilitarian, Hybrid and Hedonic Websites

Utilitarian Websites	Hybrid Websites	Hedonic Websites
<ul style="list-style-type: none"><li>- Banking sites, e.g., <a href="http://www.bankofamerica.com">www.bankofamerica.com</a></li><li>- Bill paying sites, e.g., <a href="http://www.verizon.com">www.verizon.com</a></li><li>- Travel sites, e.g., <a href="http://www.travelocity.com">www.travelocity.com</a></li></ul>	<ul style="list-style-type: none"><li>- News sites, e.g., <a href="http://www.seattletimes.com">www.seattletimes.com</a></li><li>- Comparison sites, e.g., <a href="http://www.cnet.com">www.cnet.com</a></li><li>- Shopping sites, e.g., <a href="http://www.amazon.com">www.amazon.com</a></li><li>- Auctioning sites, e.g., <a href="http://www.ebay.com">www.ebay.com</a></li></ul>	<ul style="list-style-type: none"><li>- Music sites, e.g., <a href="http://www.mtv.com">www.mtv.com</a></li><li>- Movie sites, e.g., <a href="http://www.movies.com">www.movies.com</a></li><li>- Games sites, e.g., <a href="http://www.shochwave.com">www.shochwave.com</a></li><li>- Gambling sites, e.g., <a href="http://www.flamingoclub.com">www.flamingoclub.com</a></li><li>- Celebrity sites, e.g., <a href="http://www.justinbiebermusic.com">www.justinbiebermusic.com</a></li></ul>

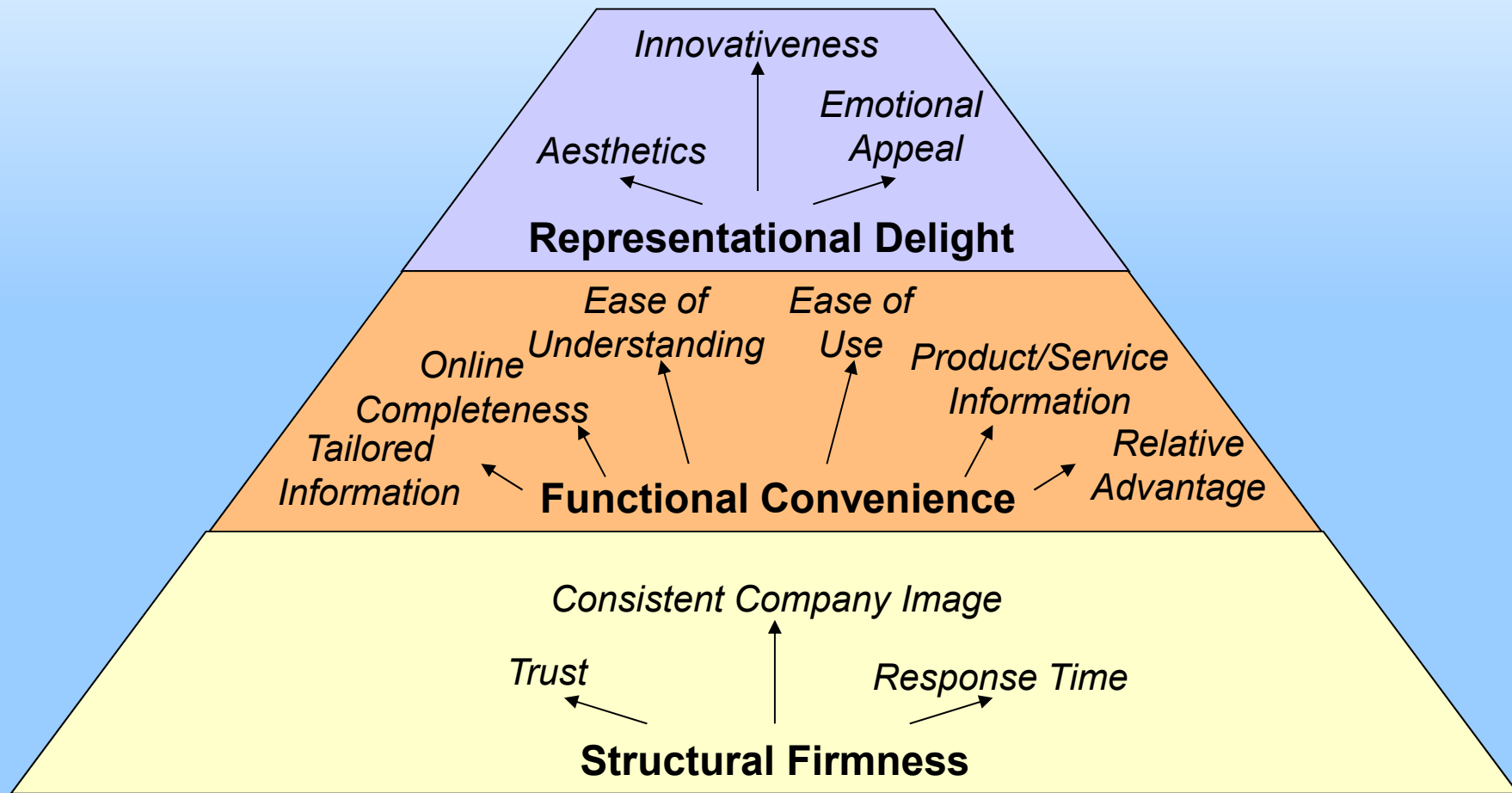
## Implications for Design...

- Website Designers Can Deploy Many Interface Characteristics
  - E.g., sound, animation, graphics, etc.
- How do you decide what features to include on your website?

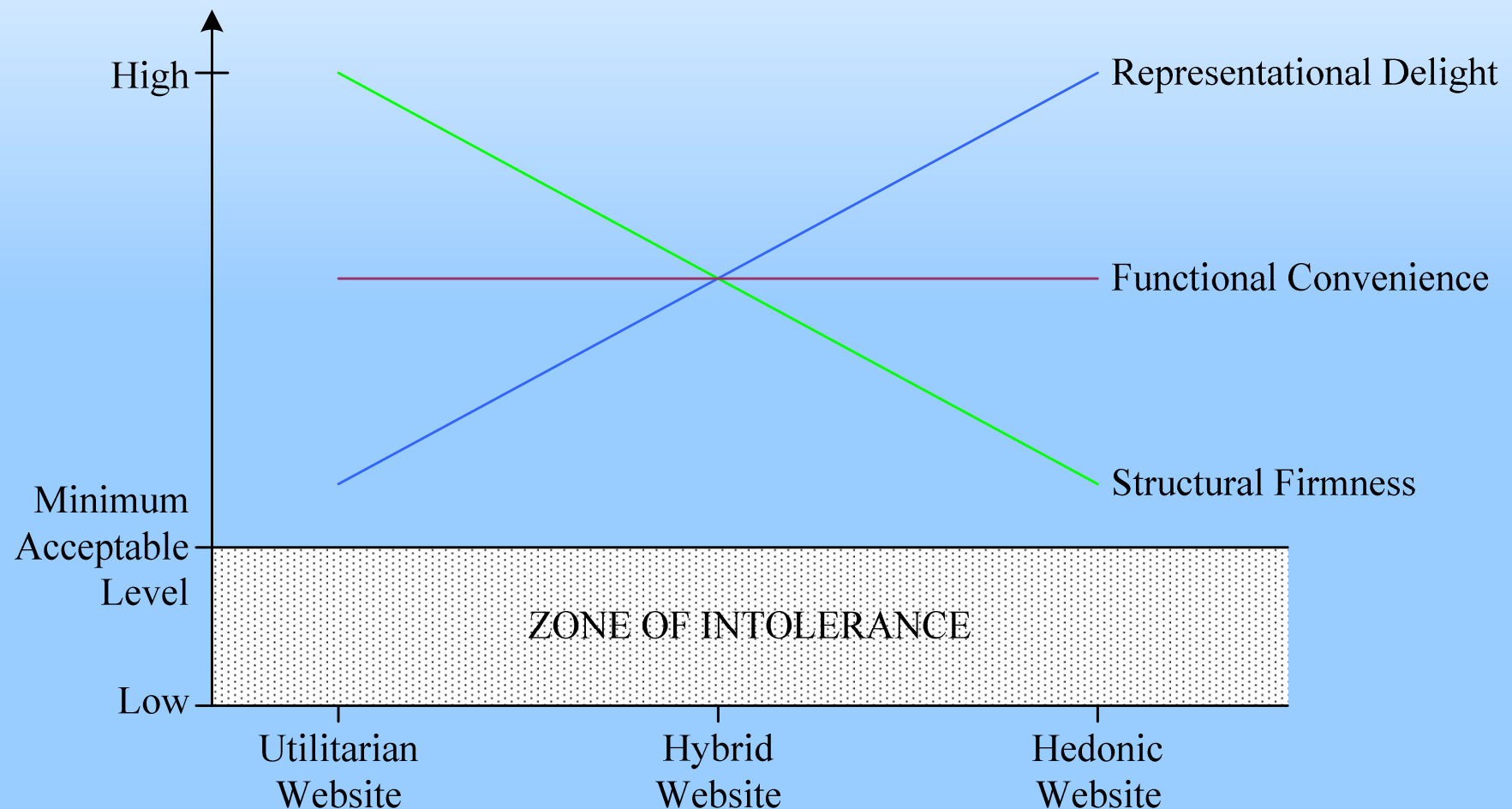
# Categorizing Interface Characteristics

- Representational Delight
  - Features stimulate a consumer's senses.
  - E.g., interface design, layout, graphics, etc.
- Functional Convenience
  - Features that help the consumer's interaction.
  - E.g., ease of use, ease of navigation, etc.
- Structural Firmness
  - Features to assure security and performance.
  - E.g., response time, privacy policies, etc.

# Online Consumer's Hierarchy of Needs

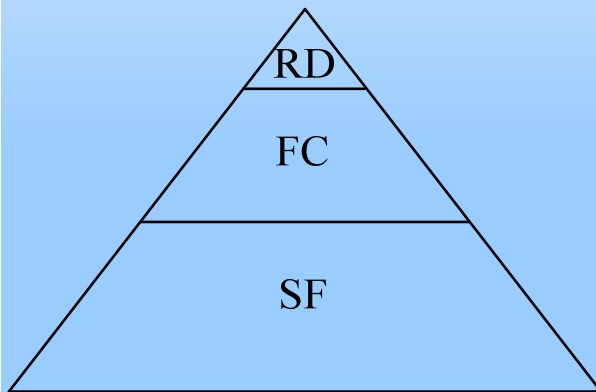


# Different Websites (Pages) Must Focus on Different Design Features

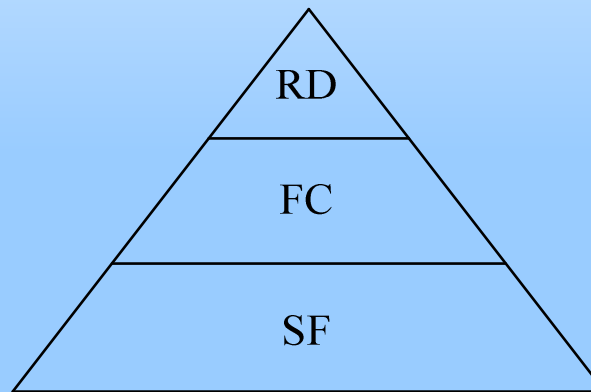


# How to Allocate Design Resources for Different Types of Websites (Pages)

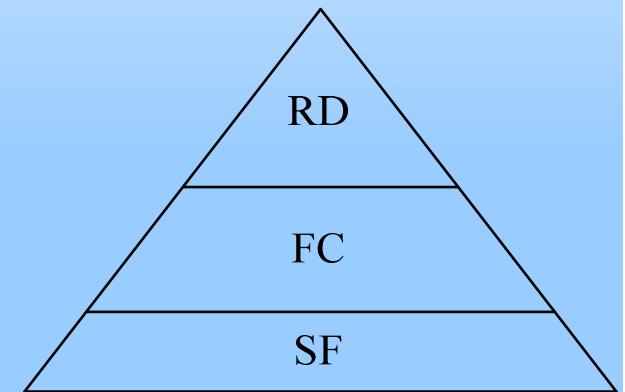
Utilitarian Websites



Hybrid Websites



Hedonic Websites



**Key**

Width of layers signifies relative focus of design resources.

RD = Representational Delight; FC = Functional Convenience; SF = Structural Firmness.

# Conclusions

- There is more to design than making it look nice!
- Must understand why user is there / what they are doing
- Leverage theory to guide design (with testing)
- Insights gained from one context can be applied to countless system environments



Thanks!