
Introduction

- Modern technology and commerce permit global distribution of products, services
- User diversity: Ever increasing variety of group demographics and individual needs/wants
- Traditional user-interface design and usability disciplines: Improve performance and productivity
- User-experience (UX) design issues: Even more complex and challenging
- Culture analysis offers a way to understand, even measure, differences and similarities of UX

Some Definitions: User Interface and Information-Visualization

- User-interface components
  - Metaphors: Essential concepts in words, images, sounds, touch
  - Mental Models: Organization of data, functions, tasks, rules, of people at work or play, static or mobile
  - Navigation: Movement through mental models via windows, dialogue boxes, buttons, links, etc.
  - Interaction: Input/output techniques, feedback
  - Appearance: Visual, verbal, acoustic, tactile
- Information visualization/sonification
  - Visualizations of structures and processes
  - Abstract vs. representational
  - Classical: Tables, forms, charts, maps, diagrams
  - Innovations: Hyperbolic browser, Tree maps, Table lens

Some Definitions: User-Experience (UX) Design

- Enlarged scope of objectives for products/services
  - Usable: Efficient, effective, satisfying (ISO definition)
  - Useful
  - Appeal, delight, fun, engagement, emotions, branding
- Experience covers all stakeholder “touch-points”
  - Buyer, customer, user, learner, expert, advocate, staff, investor
- Focus on content, brand, emotions
- Evaluation techniques shift
  - Ethnographic analysis, shadowing, as well as focus groups, tests
  - Underlying emotional motivations of “non-rational” customers
  - Users involved within socio-cultural context

User-Experience Spaces: Opportunity Spaces

I-ware = Me-ware, My-ware
You-ware = Love-are
Fun-ware
Buy-ware = Sell-ware
Be-ware
Culture as a Context and Technique

- Culture interested in large-scale and small-scale group behaviors (rituals), leaders/followers, values, artifacts, signs
- Many culture models exist as bases for analysis, design, evaluation
- Culture analysis related to semiotics/semiologie, the science of signs: what do things “mean”
- Culture affects every aspect of development
- Culture-centered design seems “inevitable”

UX Development Process + Culture and Globalization Awareness

- Plan: brainstorming
- Research: technology, design issues, strategies
- Analyze: user profiles, use scenarios, prototypes
- Design: content, applications, brand, storytelling
- Implement: scripting, coding, final production
- Evaluate: focus groups, user tests, heuristic evals.
- Document: guidelines, patterns, specifications
- Train: courseware, tutorials, mentoring
- Maintain: continuing client relations

Design

- Becomes embedded in group and local cultures
- Implies that “meaning” derives both from the designer and what the user brings to the artifact
- Culture-studies suggest that in the era of instant, global media, cultures are always being affected and evolving
  - Remember: Chinese culture was not always “Confucian”
- As with communication (you cannot “not communicate”), you cannot escape being biased culturally
- All objects are cultural objects

Focusing: the Web

- Global
- Immediate communication, interaction, and UX
- Web = Cultural artifact
- Need for greater understanding of “localization”
- Localization issues far beyond translation

In a trans-global economy, should every Website look like this?

Which Website for Saudi Arabia is Better?
Examples: South Africa, India
- Many races, ethnic groups, languages
- Many challenges, but also opportunities

Example: A Present from India

Example: Food-Shopping Menus

International Issues
- Geographic, political, linguistic
  - Example: ISO CRT-color, icon, and UI standards
  - Example: Canadian bilingual requirements
  - Example: Currency, time, physical measurements

Intercultural
- Religious, historical, aesthetic:
  - Example: Calendars, Le weekend = Thu/Fri in some Muslim states
  - Example: Color/type/signs/terms

[Wall Street Journal, 21 Jan 04, p B7]
Lecture: Cross-Cultural User-Experience Design

Speaker: Aaron Marcus, President, AM+A

Example: Color Sets

- Sacred Colors

Example: High- vs. Low-Chroma Colors

Example: Flag’s Colors Refer to Cultures, Religions, Histories

Example: Political Colors

- USA
  - Blue/red = liberal/conservative states

- International
  - Iran: Pink = advocates of women’s rights/reforms
  - Ukraine: Orange = pro-West
  - Lebanon: Cedar = anti-Syrian independence-minded Lebanese
  - Iraq: Voters in first free elections (with upraised finder)

Aesthetics: Dionysus/Apollo

- Cultural preferences exist for color, layout, textures, and patterns
- Europe/USA/Indian architecture, painting, sculpture exhibit typical preferences
- Traditional vs. popular styles:
  - Japan: Highest = B+W, asymmetric balance
  - Specific attitudes: Body parts, Harel, Prabhu research in China, Japan [IWIPS99 Proc.]

Localization

- Small-scale communities with preferred jargon, signs, rituals:
  - Affinity group example: USA Saturn owners
  - Social group example: Japanese housewives
  - Web group example (geo-dispersed): MP3.com
  - Not lifestyle groups: Clausen, Faded Mosaic, 2000
  - Resources: LISA, Hoft, Sapient.com, etc.

Business Challenges: How to Account for UX and Culture?

- Determine optimum characteristics: Relies on market and user data
- Assist and appeal to target markets: Achieves short-term and long-term success
- Avoid too many variations: Wastes time and money
Culture Models and Culture Dimensions

- Kluckhohn and Strodtbeck: Value orientations
- David Victor: Cultural features
- Edward Hall: Context and time
- Fons Trompenaars (including Parson's Pattern Variables): Riding the Waves of Culture
- Geert Hofstede: Culture dimensions
- Ruth Benedict, Patterns of Culture, 1939

Kluckhohn and Strodtbeck: Value Orientations, 5 Existential beliefs

- Character of human nature (good, evil, mixed; changeable or given)
- Relationship to nature (mastery, harmony, mastered by)
- Time (past, present, future orientation)
- Human action (doing, being, becoming)
- Relationships to others (individualism, lineality, collectivity)

Victor, Hall, Trompenaars: Other Theoretical Bases

- Structure of language and culture
- Context: Focus on verbal/ nonverbal communication; information in explicit code or in physical environment
- Time: Focus on past/ present/ future; one/ many things at a time
- Additional existential dimensions

Geert Hofstede’s Cultural Dimensions

- Cultures and Organizations: Software of the Mind, Geert Hofstede, McGraw-Hill, 1997
- Hofstede examined IBM employees in 50 countries, 1978-83; analyzed statistical data
- Culture: Patterns of thinking, feeling, acting programmed by a particular group, not “refinement of the mind,” civilization
- Differences of cultural manifestations: rituals, symbols, heroes/heroines, values

Hofstede’s 5 Dimensions of Culture

- Power-distance
- Collectivism vs. individualism
- Femininity vs. masculinity
- Uncertainty avoidance
- Long- vs. short-term orientation

Issues with Hofstede’s Culture Model

- Old data, pre-post-modern (no emphasis on media, sociology of culture, politics of culture)
- Corporate subjects only
- Assumes one culture per country
- Assumes fixed, unchanging relationships
- Gender roles, definitions debatable
- Seems too general, stereotypical
- Use widespread, but debated, even condemned
1. Power Distance (PD)

- Extent to which less powerful members expect, accept unequal power distribution
- High PD countries
  - Centralized power in few hands; tall hierarchies
  - Ideal boss = benevolent autocrat, good father
  - Subordinates expected to be told what to do
- Low PD countries
  - Subs and Supers consider each other equals
  - Changeable roles; decentralized, flat hierarchy

Key Differences: High Power Distance

- Inequalities expected and desired
- Theory: Less powerful dependent on more
- Reality: Polarization of dep vs. counterdep
- Parents teach obedience; are respected
- Teachers: Initiate, give wisdom, respected
- Orgs hierarchical, centralized; big salary range
- Boss = benevolent autocrat; subords reactive
- Mgr. privileges, status expected, popular

Key Differences: Low Power Distance

- Inequalities minimized; interdependence
- Parents/children treat/ed as equals
- Teachers treated as equals; co-initiate
- More educ person has less authority values
- Flatter hierarchies in organizations
- Decentralization popular; narrow salary ranges
- Subs consulted; few privileges/status symbols
- Boss = resourceful democrat

Implications for Global UXDesign: Examples for High Power Distance

- Structured, guided access to information
- Emphasis on larger social/ moral order (e.g. nationalism/ religion brought into Web context)
- Focus on expertise (authoritative content) and leaders (rather than customers/employees)
- Integrated security, unhidden “restrictions”
- Importance of certifications, awards, logos
- Social role used to organize information (e.g. special managers’ sections)

Examples of PD Index (PDI) in Web

Contrasting University Websites:
- Malaysia (PDI rating of 104; highest in Hofstede’s index)
  - www.uum.edu.my (Universiti Utara Malaysia)
- Netherlands (PDI = 38; 40/53)
  - www.tue.nl (Technische Universiteit Eindhoven)

Examples: University Home Pages
Examples: University Home Pages

Contrasting University Websites 2003:
- Panama (PDI = 95)
  - www.utp.ac.pa (Universidad Tecnológica de Panamá)
- Netherlands (PDI = 38; 40/53)
  - www.tue.nl (Technische Universiteit Eindhoven)

Examples: University Home Pages

Univ. Tecnológica de Panamá, 2003, Panama PD = 95


Individualism vs. Collectivism in Societies

- Individualism: Ties between individuals loose: everyone expected to look after one’s self or his/her immediate family (nuclear families)
- Collectivism: People from birth integrated into strong, cohesive in-groups, which continue to protect them in exchange for unquestioning loyalty (extended families)

Power Distance vs. Individualism-Collectivism

- Low Power Distance Index
  - Japan
  - Brazil
  - Mexico
  - Singapore
- High Power Distance Index
  - USA
  - Italy
  - France
  - South Africa
  - Japan
  - Brazil
  - Mexico
  - Singapore

Examples of Individualism vs. Collectivism

- Work: Personal time, freedom, challenge vs. training, physical conditions, use of skills
- Extrinsic vs. intrinsic motivation at work: Conditions, material rewards vs. work itself
- Family: Honesty/truth vs. harmony
  - Talking vs. not talking
  - Guilt cultures vs. shame cultures
  - Self-respect vs. face
- Education: private vs. public schools

Key Differences: Individualism

- Individual soc/econ interests over collective
- Right to privacy; private opinions expected
- Laws and rights same for all
- Restrained state in economy; high GNP/capita
- Political power of voters; press freedom
- Individual self-actualism = ultimate goal
- Ideology of freedom

Key Differences: Collectivism

- Collective soc/econ interests over individual
- Group(s) invade private life, opinions
- Laws/rights per group; state controls press
- State dominates economy; low GNP/cap
- Political power of interest groups
- Harmony and consensus = ultimate goals
- Ideology of equality

Implications for Global UX Design: Individualism

- Focus on maximizing personal achievement ("Expect the extraordinary")
- Materialism and consumerism demonstrate individual success
- Controversial/argumentative speech and extreme claims encouraged ("truth")
- Images of youth/activity rather than age/wisdom ("doing," not "being")

Implications for Global UX Design: Collectivism

- Individual roles downplayed (e.g. product shown on its own); focus may be on group
- Personal goals often intrinsic
- Preference for socially supportive and constrained claims; controversy discouraged because of its tendency to divide people (relationships, not truth)
- Respect for tradition (historical focus)

Examples of Individualism/Collectivism on the Web

National Parks:

- Individualism: United States (IDV = 91; highest rating)
  - www.nps.gov/glba/evc.htm (Glacier Bay National Park)
- Collectivism: Costa Rica (IDV = 15; 46/53)
  - www.tourism-costarica.com/ (National Parks of Costa Rica)
Examples: Website Home Pages

National Parks 2003:

- Individualism: United States (IDV = 91; highest rating)
  - www.nps.gov (National Park Service)
- Collectivism: Panama (IDV = 11; 51/53)
  - www.panamatours.com/Rainforest/Rainforest_intro.htm (Panama National Parks)
3. Femininity vs. Masculinity

- Distinction: Genders vs. gender roles
  - Generally: Assertiveness vs. modesty
- Traditional Gender Roles
  - Men: Assertive, competitive, tough
  - Women: Home/children, people-oriented, tender

Masculinity vs. Femininity

- Masculinity: Distinct gender roles
  - Men: assertive, tough, focused on material success
  - Women: modest, tender, concerned with quality of life
- Femininity: Gender roles overlap
  - Both men and women = modest, tender, concerned with quality of life

Masculinity Index Values for Selected Countries

- 95 Japan
- 79 Austria
- 62 USA (South Africa = 63)
- 53 Arab countries (great variations)
- 47 Israel
- 43 France
- 39 South Korea
- 05 Sweden

Power Distance vs. Masculinity

- Japan
- Italy
- South Korea
- Singapore
- Norway
- Sweden
- Finland
- USA

Traditional Masculine Work Goals

- Earnings
- Recognition
- Advancement
- Challenge

Traditional Feminine Work Goals

- Manager: Good working relation with direct supervisors
- Cooperation: Work with people who cooperate well
- Living area: Live in desirable location for one’s self and family
- Employment security: Have security and be able to work for as long one wishes
Implications for Global UX Design: Masculinity

- Traditional gender/family/age distinctions emphasized; work tasks/roles given preference
- Mastery most important; Websites designed for exploration and control
- Games/competitions held grab attention
- Artwork may be utilitarian/instrumental

Implications for Global UX Design: Femininity

- Gender/work roles blurred
- Mutual exchange and support more important than mastery; Website should be task-oriented and provide quick results for limited task
- Poetry/unifying values may focus attention
- Natural images, traditional art, soft focus used to generate emotional/aesthetic appeal

Examples of Masculinity/Femininity on the Web

Gender-oriented sites:
- Masculinity: Japan = 95 (highest MAS)
  - woman.excite.co.jp - women’s site
  - www.toko.com - site for young adults
- US = 52 (15/53)
  - www.chickclick.com
- Femininity: Sweden = 5 (lowest of 53 nations)
  - se.excite.com

Excite/Japan for Males, Females

- USA: Chickclick.com for chicks
- Sweden/Excite: no gendered sites

USA and Sweden
Examples of Masculinity/Femininity on the Web

Gender-oriented sites 2003:
- Masculinity: Japan = 95 (highest MAS)
  - www.excite.co.jp - women’s site
  - www.nike.jp/women - nike women’s site
- US = 52 (15/53)
  - www.nike.com
- Femininity: France = 43 (35+36/53)
  - www.excite.fr
- South Korea = 39 (41/53)
  - www.nike.co.kr

Excite for Males, Females

- Japan: Male/General
- Japan: Female
- Korea: General

4. Uncertainty Avoidance

- Feeling threatened by uncertain/unknown
- Fear/risk vs. anxiety: Known vs. unknown
- Countries vary in formality, punctuality, certainty requirements
- Extreme uncertainty creates intolerable anxiety; law, religion seek to reduce it
- Intolerance of ambiguity = variant of uncertainty avoidance

Low Uncertainty-Avoidance Countries

- Quiet, easy-going, indolent, controlled, lazy
- What is different is curious (or ridiculous)
- Schools: students respect plain language, accept teacher who says, “I don't know”
- Definitions of clean/dirty; safe/dangerous differ widely by country

High Uncertainty Avoidance Countries

- People seem busy, emotional, aggressive, active
- Shun ambiguous situations; look for structure that makes events interpretable and predictable, prepared to engage in risky behavior to reduce ambiguities, like starting a fight, instead of waiting
- Equate dirty and dangerous tightly
- What is different is dangerous
- Schools: Expect teachers to be experts with all the answers
Implications for Global UX Design: High UA

- Keep it simple
- Results/implications of actions need to be revealed
- Make attempt to prevent looping/becoming "lost in cyberspace"
- Constraints/task animations/models should be used to reduce "user error"
- Carefully encode meaning through multiple redundant cues

Implications for Global UX Design: Low UA

- Complexity and risk valued: don’t protect users from failure
- Less effort put into controlling navigation
  - Links open new windows
  - OK to take people out of original site
- Help system focuses on information; task orientation secondary
- Coding of color/shape/texture cues used to maximize information; need not be redundant

Examples of Uncertainty Avoidance on the Web

Airline Companies:

- Belgium = 94 (5+6/53)
  - www.sabena.com
- UK = 35 (47/53)
  - www.britishairways.com

Examples: Airline Home Pages

Airline Companies 2003:

- Belgium = 94 (5+6/53)
  - www.sabena.com
- UK = 35 (47/53)
  - www.britishairways.com
Examples: Airline Home Pages

Sabena

British Airways

Comparison of UA for 2003 Websites

- Travel booking pane
  - Sabena, Belgium: 19
  - British Airways, United Kingdom: 16
- Outside the travel booking pane
  - Sabena, Belgium: 23
  - British Airways, United Kingdom: 43
- Culture differences survives design improvements!

5. Long vs. Short Term: Confucian Dynamism

1. Stable society requires unequal relations
2. Family is prototype of all social organizations
3. Virtuous behavior to others = not treating others as one would not like to be treated
4. Virtue re one’s task in life = trying to acquire skills and education, working hard, being frugal, being patient, persevering

Long-term orientation (LTO) Ranking for Some of 23 Countries

01 China
04 Japan
17 USA
22 Nigeria
23 Pakistan

Virtue vs. Truth

- Rokeach Value Survey (RVS) vs. Chinese value survey (CVS)
- “...the Indian and the Chinese minds seem to take a position different from the Western one when it comes to the need for defining Truth.”
- Search for truth (belief-oriented) vs. search for virtue (practice-oriented)

Comparing Studies of Culture

- Three dimensions appear across all cultures: power distance, individualism-collectivism, masculine-feminine
- Fourth dimension depends on culture:
  - Western: UA = search for truth
  - Eastern: Confucian dynamism, or long-term orientation = search for virtue
Implications for Global UX Design: Long-Term Orientation

- Practice more important than theory
- Accomplishing the task sufficient; expertise not required
- Personal network provides resources for achievement

Examples of Long/Short-Term Time Orientation on the Web

Siemens:
- Germany = 31 (14/23)
  - www.siemens.com/de
- China = 118 (highest LTO)
  - www.siemens.com.cn

Examples: Germany and China

Siemens Germany          Siemens China

Examples: Siemens

Siemens Pakistan
Siemens Germany
Siemens China

Summary: China vs. Germany

- China (Long-term time orientation):
  - Soft focus
  - Warm, fuzzy images
  - Timeless, classic design
  - Emphasis on people images
- Germany
  - Design that is appropriate just for now (will be outdated in a certain amount of time)
  - Concentration on showing task or product
  - Function, mastery, organization-oriented
Lecture: Cross-Cultural User-Experience Design
Speaker: Aaron Marcus, President, AM+A

How to Work with Cultural Models: Examples from China and Germany

- Chong, Salvendy study of Chinese/US mental models

Corporate Global Website Design and Culture

- AM+A Study of 12 Corporate Websites+ Culture

Websites Analyzed

- “Mature” company Websites with parallel content in multiple countries
- Consumer (B2C) and business-to-business (B2B) sites

<table>
<thead>
<tr>
<th>Business</th>
<th>US</th>
<th>EU</th>
<th>Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAPIENT (S)</td>
<td>Siemens (SI)</td>
<td>Hitachi (HIT)</td>
<td></td>
</tr>
<tr>
<td>Progesoft (P)</td>
<td>SAP (SAP)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>McDonalds (Mc)</td>
<td>IKEA (IKE)</td>
<td></td>
</tr>
<tr>
<td>CocaCola (COC)</td>
<td>Mercedes (MER)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(MIC)</td>
<td>Mauta (MAZ)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Method: One Culture Model’s Dimensions vs. UI Components

- Used Hofstede’s model, but could use any other

<table>
<thead>
<tr>
<th>PD</th>
<th>IDV</th>
<th>MAS</th>
<th>LTA</th>
<th>UI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metaphor</td>
<td>Mental Model</td>
<td>Navigation</td>
<td>Interaction</td>
<td>Appearance</td>
</tr>
</tbody>
</table>

Example: Power Distance vs. Metaphors

- Siemens Website: Personal images vs. official buildings
- Netherlands (PD 38) Malaysia (PD 104)

Metaphor for “Home”: the face / eyes of a person
Metaphor for “Home”: an official building
**Example: Power Distance vs. Navigation**

- **Sapient Website:** amount of options provided
  - Germany (PD 35)
  - India (PD 77)

<table>
<thead>
<tr>
<th>Germany</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open access, multiple options</td>
<td>Restricted access and choices, prescribed routes</td>
</tr>
</tbody>
</table>

**Example: Femininity/Masculinity vs. Appearance**

- **Mercedes Benz Website:** Use of “soft” design
  - Sweden (MAS 5)
  - Germany (MAS 66)

<table>
<thead>
<tr>
<th>Sweden</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Softer edges and shapes</td>
<td>Clear structure, no cuteness</td>
</tr>
</tbody>
</table>

**Power Distance Patterns**

- Patterns found
  - All countries not putting a picture on the front page have low PD value.
  - The eight countries with the highest PD value show a picture of a male person.

**Collectivism vs. Individualism**

- Patterns found
  - The “individualism” of the pictures at the PeopleSoft Website increases with the amount of IDV value.
  - The arrangement of the pictures of the low IDV countries is very symmetrical.
  - Among the 15 lowest rated countries regarding IDV, there are no people shown on the Siemens localized Website imagery, but one can find images of people in those countries that have a higher ID.

**Another Approach: Best-of-Breed Culture Dimensions**

- Surveyed: 11 Authors in 9 Sources
  - Adler, Nancy J.
  - Condon, John C.
  - Hall, Edward T.
  - Hofstede, Geert
  - Kluckhohn, F. R.
  - Parsons, Talcott
  - Strodtbeck, Fred
  - Trompenaars, Fons
  - Victor, David A.
  - Wright, Quincy
  - Yousef, Fathi S.

- Published survey
  - Baumgartner, Masters thesis
  - Marcus, Baumgartner, APCHI 2004 Proceedings, Summary

**29 Dimensions in 9 Sources**

- Achievement vs. ascription
- Activity orientation
- Affective vs. neutral
- Authority conception
- Context
- Degree of power
- Economic progress
- Experience of technology
- Face-saving
- Gender roles
- Human nature orientation
- Individualism vs. collectivism
- Instrumental vs. expressive
- Internal vs. external control
- International trade, community
- Long vs. short time orientation
- Meaning of life
- Non-verbal communication
- Political decentralization
- Power distance
- Property
- Resources
- Space
- Specific vs. diffuse
- Technological development
- Time orientation
- Time perception
- Uncertainty avoidance
- Universalism vs. particularism
Best-of-Breed Dimensions Based on Surveying 57 experts

- Context
- Technological development
- Uncertainty avoidance
- Time perception
- Authority conception
- All others ranked, for use when time, money, circumstances permit further analysis

Where do We Go from Here?

- Redo previous studies using alternate models
- Rethink development steps, e.g., evaluation
- Rethink UI components, e.g., metaphors
  - New approaches proposed for China, India
- Rethink platforms, e.g., mobile devices
  - Sony-Ericsson Wukong, proposals for new Chinese metaphors
- Consider additional sources of insight
- Educate corporations/professions/users re culture
  - UN Bookstore: no books on culture models, only tourist interest
  - Many studies, theories, books do not include culture

Chinese vs. American Use of Metaphors, Mental Models

USA: Inferences, categories; classify by functions, analyze components, infer common features

Chinese: relations, contexts; classify by interdependence within wholes, rely on subjective experience without sharp difference of self/others, facts/concepts

Longer performance times for Chinese with USA organization, and similarly for USA with Chinese

Example: Contrasting Sorting Styles

<table>
<thead>
<tr>
<th>Sorting by thematic groupings</th>
<th>Sorting by Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kitchen</td>
<td>Appliances</td>
</tr>
<tr>
<td>Cooking</td>
<td>Major</td>
</tr>
<tr>
<td>Microwave, rice cooker, ...</td>
<td>Microwave,</td>
</tr>
<tr>
<td>Cleaning</td>
<td>Small</td>
</tr>
<tr>
<td>Dishwashing liquid, scouring pad, ...</td>
<td>Toaster, blender, ...</td>
</tr>
<tr>
<td>Small appliances</td>
<td>Laundry</td>
</tr>
<tr>
<td>Toaster, blender, coffee maker, ...</td>
<td>Washer, ...</td>
</tr>
<tr>
<td>Food handling</td>
<td>Personal</td>
</tr>
<tr>
<td>Sandwich bags, paper plates, ...</td>
<td>Shaver, ...</td>
</tr>
<tr>
<td>Bedroom</td>
<td>Home/personal fashion</td>
</tr>
<tr>
<td>Bedroom ...</td>
<td>Bedding ...</td>
</tr>
<tr>
<td>Appliances ...</td>
<td>Toaster, ...</td>
</tr>
<tr>
<td>Clothing ...</td>
<td>Blender, ...</td>
</tr>
<tr>
<td>Dresser ...</td>
<td>Coffee maker, ...</td>
</tr>
<tr>
<td>Bathroom ...</td>
<td>Washing machine, ...</td>
</tr>
<tr>
<td></td>
<td>Cleaning, ...</td>
</tr>
<tr>
<td></td>
<td>Paper/plastic products, ...</td>
</tr>
</tbody>
</table>

Resulting Differences: Thematic vs Functional Info Structures

- Lower error rates for USA with functions, for Chinese with thematic structures
- Better memory performance for Chinese with thematic
- Better performance (speed, accuracy) time for Chinese using thematic
- Better performance for Chinese using concrete metaphors

UX Evaluation and Culture: How does Culture affect...

- User profiles (personas) and scenarios?
  - Culturally appropriate people, tasks, stories
- Testing, questionnaires?
  - Culturally appropriate people, tasks, test environments, questions, techniques
- Video monitoring and ethnographies?
  - Culturally appropriate persons, inquiries, behaviors, environments
- Measurement of objective and subjective “facts”?
  - Culturally appropriate collection, emotional reactions
### Challenges to the Classic Culture Models

- Ethnographic approaches
  - Local groups, behaviors, "situated practice,"
- Post-modernism, media studies, sociology of culture, production of culture, politics of culture
  - Critique of sociological phenomena, e.g., power, inequality, social construction of technology, other patterns of social organization
  - Michele Lamont, Princeton Univ., contemp. sociological theory: [http://www.princeton.edu/~sociolog/grad/courses/fall1995/soc502.html](http://www.princeton.edu/~sociolog/grad/courses/fall1995/soc502.html). Towns in two countries more similar than town to city in each country or two cities to each other...
  - David Brain, New College, Florida, sociology of culture course: [http://www.ncf.edu/brain/courses/culture/culture_syl05.htm](http://www.ncf.edu/brain/courses/culture/culture_syl05.htm)

### Additional Sources of Insight into UX and Culture

- Persuasion
- Trust
- Intelligence
- Personality
- Cognition

### Dimensions of Persuasion

- Reciprocation
- Consistency
- Social validation
- Liking
- Authority
- Scarcity


### Dimensions of Trust

- Attraction: Attractive people trusted more
- Dynamism: Activity, e.g., moving hands, text
- Expertness: Relevant skills
- Faith: Belief in predictable future
- Intentions: Revealed objectives and goals
- Localness: Presumed similar values, behavior
- Reliability: Dependable, predictable, consistent


### Dimensions of Intelligence

- Verbal/image comprehension
- Word/image fluency
- Numerical/graphical fluency
- Spatial visualization
- Associative memory
- Perceptual speed
- Reasoning
- Image: Self/Other awareness

_Gardner, Frames of Mind, 1985_

### Dimensions of Personality

- Agreeableness: Attitudes toward other people
  - Trust, honesty, altruism, cooperation, modesty, sympathy
- Extroversion: Energy, enthusiasm around others
  - Outgoing, sociable, assertive, energy, enthusiasm, excitement seeking
- Neuroticism: Emotional reaction to pressure, stress
  - Anxiety, irritability, depression, self-consciousness, moodiness, stress
- Conscientiousness: Organized, persistent in goals
  - Efficient, orderly, dutiful, achievement-oriented, self-disciplined, careful
- Openness: Open to and interested in culture
  - Imaginative, artistic, broad interests, curious, intellect., unconventional

_Dr. Samuel D. Gosling, Psych Res Fndtn, U of TX, NYT, 010305, C1_
Even Cognition Culture-Biased?

- Basic patterns of thought are cultural: Aristotelean "logic" is "European"
- Western "rational" vs. Eastern simultaneous conflicts
- Tests conducted on Japanese, USA participants


UX Issues Related to Culture, 1/4

- Are basics of usability culture-biased? Efficiency, productivity, simplicity, usefulness...for what?
- How can culture models be added to theories of utility, sociability, community, entertainment computing, design?
- How best to map UI components to culture dimensions?
- How can corporations and organizations include more cultural theory in development process?

UX Issues Related to Culture, 2/4

- Online training: Friend/guru? Tradition/skills?
- Interaction styles: informal vs. formal, harmony vs. honesty, sincerity vs. scheming?
- Content: challenging vs. feel-good?
- Rewards: Money vs. group acclaim?
- Conflict: Frequent vs. seldom? Chatroom flaming OK? Clashing opinions OK?

UX Issues Related to Culture, 3/4

- Personal vs. group opinions? China: “Personality”?
- Shame vs. guilt: Personal Webcams, SMS OK?
- Individual vs. collective cultures: role of community, chatroom behavior, hiring sites, coop work sites?
- Management/training? Most for individual, not collective cultures, e.g., honesty and confrontation

UX Issues Related to Culture, 4/4

- Work sites: Task vs. personal relation?
- Different men, women sites/apps? Service orientation?
- Role of advertising, hyperbole? Different in masculine vs. feminine cultures?
- Gender differences for job sites: Careers? Interest in subject? Skills vs contacts?
- Culture difference: Activities outside the home?
- Western vs. Eastern: Truth vs. virtue/practical?

Conclusion: Evolution vs. Revolution in the Future

- Computer-mediated communication and interaction occurs in a culture context
- UX development must account for culture
- Models, methods exist; many research issues
- Design professionals cannot ignore the issues
- Future development of tools, templates, treasure chests of patterns, knowledge
- UX: ultimate merging of sciences and humanities, not C.P. Snow’s “Two Cultures” separately
Lecture: Cross-Cultural User-Experience Design

Speaker: Aaron Marcus, President, AM+A

Resources

- ACM/SIGCHI: chi-intercultural@acm.org, www.HCIbib.org/SIGCHI/Intercultural
- AIGA/Center for Cross-Cultural Design: http://designforum.aiga.org/content.cfm?Alias=crossculturalnode
- American Anthropological Association’s Internet Resources: http://www.aaanet.org/resinet.htm

Selected References, 1/6


Selected References, 2/6


Selected References, 3/6


Selected References, 4/6


Selected References, 5/6

Selected References, 6/6