Human Computer Interaction
CE 382

Course Instructor: Vincent M. Nofong, Ph.D.

July 24, 2024

Introduction

Outline

- Who I am
- Course Information and Outline of CE 382
- Expected Learning Outcomes
- Rules
- Chapter Two: Establishing Requirements

Introduction

About me

- Name: **Vincent M. Nofong, PhD**
- Email: **vnofong@umat.edu.gh**
- Personal Website: https://vincentnofong.com/
- Uni website: https://www.umat.edu.gh/staffinfo/staffDetailed.php?contactID=385
- Office hours (Working days): **09:00 am - 16:00 pm GMT**
- Research interest: **data mining, trend prediction, classification, bioinformatics, artificial intelligence, machine learning**

Introduction

Course Information (CE 382)

- Credit hours: **3**
- Attendance: **10**%
- Continuous Assessment: **30**%
    - Quizzes - two or three
    - Group assignment - one (application development)
    - Group presentations
- End of Semester: **60**%

Introduction

Course Outline (CE 382)

1. Interaction Design
2. Establishing Requirements
3. Prototyping
4. Data Gathering and Analysis
5. Cognitive Aspects of Design
6. Social and Emotional Interactions
7. User Interfaces
8. Evaluations

Introduction

Expected Learning Outcomes (CE 382)

Students should understand and be able to:

1. Explain the characteristics of good and bad interaction design and use them to evaluate HCIs

2. Explain the characteristics of users that influence HCI and use them to inform user interface development

3. Explain, analyze and develop interaction evaluations

4. Explain and develop requirements for interaction design

5. Construct interactions using evaluation-based iterative process for directing the design of user interfaces.

Introduction

Reference Materials

1. Preece, J., Rogers, Y. and Sharp, H. (2023), Interaction Design: Beyond Human-Computer Interaction, John Wiley & Sons Ltd, Hoboken, U.S.A., 6th Edition, 716 pp. - slides are based on this reference

2. Lazar, J., Feng, J. H. and Hochheiser, H. (2017), Research Methods in Human-Computer Interaction, Morgan Kaufmann, Burlington, U.S.A., 2nd Edition, 560 pp.

3. Shneiderman B., Plaisant C., Cohen M. and Jacobs, S. (2016), Designing the User Interface, Pearson Publishers, 6th Edition, 616 pp.

Introduction

Rules

1. Feel free to ask questions in class, unless they are too "personal".
2. Students should not be late for lectures or practicals.
3. Students should attend all lectures and practicals.
4. **In case you are unable to attend lectures or will be late, send me an email - at least 30 minutes before lectures.**
5. Students should do and submit all assignments before the given deadline.
6. Unless otherwise permitted, students should not use their mobile phones in class - note usage of Laptops/Desktops is permitted.

HCI CE 382
Chapter Six: Social and Emotional Interactions

Course Instructor: Vincent M. Nofong, Ph.D.

July 24, 2024

Social and Emotional Interactions

Social Interaction in the Digital Age

- Humans are social beings, engaging in various forms of interaction in everyday life.
- Social technologies have emerged to facilitate social connections even when physically apart.
- **Importance of Social Interaction**
  - **Building Relationships**: Social interactions foster connections, trust, and a sense of belonging.
  - **Communication and Collaboration**: Effective communication enhances teamwork and cooperation.
  - **Emotional Well-being**: Social interactions contribute to happiness, support, and emotional fulfillment.

Social and Emotional Interactions

Social Interaction in the Digital Age

- **Negative Impact of Social Technologies:**
    - **Shallow Interactions**: Superficial connections and a decrease in meaningful face-to-face interactions.
    - **Distraction and Addiction**: Excessive use of social technologies can impact productivity and well-being.
    - **Privacy and Security Concerns**: Sharing personal information and potential risks of online interactions.

- Social technologies have transformed the way we interact, offering both opportunities and challenges.

- Finding a balance between online and offline interactions is essential for social well-being.

Social and Emotional Interactions

Social Interaction in the Digital Age

Questions Raised by Social Technologies:

- Are in person conversations being superseded by social media interactions?

Social and Emotional Interactions

Social Interaction in the Digital Age

Questions Raised by Social Technologies:

- Are in person conversations being superseded by social media interactions?
- How many friends do you have on Facebook, LinkedIn, WhatsApp and so on versus real life?
- How much do they overlap?
- How are the ways that we live and interact with one another changing?
- Are the established rules and etiquette still applicable to online and offline?

Social and Emotional Interactions

Social Interaction in the Digital Age

Conversational Mechanisms and Rules (1/5)

- Conversations involve various mechanisms and "rules" that guide the flow of interaction.
- Example of Face-to-Face Conversation:
    - **Mechanism 1: Mutual Greetings**:
        - A: "Hi there"
        - B: "Hi!"
        - C: "Hi"
    - **Mechanism 2: Small Talk**:
        - A: "All right?"
        - C: "Good, how's it going?"
        - A: "Fine, how are you?"
        - C: "OK"

Social Interaction in the Digital Age
Conversational Mechanisms and Rules (2/5)

- Conversations involve various mechanisms and "rules" that guide the flow of interaction.
- Example of Face-to-Face Conversation:
  - **Mechanism 3: Exchanging Personal Updates:**
    - B: "So-so. How's life treating you?"

Social and Emotional Interactions

Social Interaction in the Digital Age

Conversational Mechanisms and Rules (3/5)

- Conversational rules provide a framework for understanding how conversations unfold.

- **Rule 1 (Turn-Taking)**: The current speaker chooses the next speaker by asking an opinion, question, or request.

- **Rule 2 (Self-Selection)**: Another person decides to start speaking without being directly prompted.

- **Rule 3 (Continuity)**: The current speaker continues talking until they choose to end their turn.

Social and Emotional Interactions

Social Interaction in the Digital Age
Conversational Mechanisms and Rules (4/5)

- Other conversational rules that help coordinate conversations:
    - **Backchanneling**: Backchanneling involves using verbal and non-verbal cues to signal attention and encourage the speaker to continue. E.g. of backchanneling cues: "Uh-uh", "Umm", "Ahh".
    - **Following**: Following refers to the ability to understand and respond appropriately to the ongoing conversation.
    - **Farewell Rituals**: Farewell rituals are used to signal the end of a conversation and indicate the intention to leave. E.g: "Bye then", "See you", "Yeah, bye", "See you later".

Social and Emotional Interactions

Social Interaction in the Digital Age

Conversational Mechanisms and Rules (5/5)

- Other conversational rules that help coordinate conversations:
    - **Implicit Cues**: Implicit cues are non-verbal signals that indicate a person's readiness to end the conversation. E.g.: looking at the watch, fidgeting with coat and bags.
    - **Explicit Cues:** Explicit cues involve direct verbal communication indicating the desire to end the conversation. E.g.: "Oh dear, look at the time", "I must go", "I'm running late".

- Understanding these conversational rules can help in analyzing and improving communication dynamics.

- Awareness of these rules can enhance conversational flow and avoid interruptions.

Social and Emotional Interactions

Social Interaction in the Digital Age
Breakdowns in Conversation

- Breakdowns in conversation can occur when there is a misunderstanding or miscommunication between speakers.
- When a speaker's statement is misunderstood, they may repeat their statement with emphasis to clarify their intention.
- Tokens are linguistic devices used to indicate confusion or the need for clarification. E.g.: "Eh?", "Huh?", "What?"

Social and Emotional Interactions

Online Conversations: Understanding Dynamics and Breakdowns

- Online conversations have become increasingly prevalent in our digital age.
- Do the same conversational rules apply in online conversations?

Social and Emotional Interactions

Online Conversations: Understanding Dynamics and Breakdowns

- Online conversations have become increasingly prevalent in our digital age.
- Do the same conversational rules apply in online conversations?
- While some rules may still be relevant, the online context introduces new dynamics and norms.
  - **Breakdowns in Email Conversations**: often repaired by providing clarification or using emoticons to convey emotions.
  - **Breakdowns in Instant Messaging**: typically repaired through quick clarifications or using emojis to express emotions.
  - **Breakdowns in Texting**: repaired by sending follow-up messages to correct errors or provide additional context.
  - **Breakdowns in Videoconferencing**: repaired by reconnecting

Social and Emotional Interactions

Social Interaction in the Digital Age

Remote Conversations

- Remote conversations refer to interactions between individuals who are physically separated.
- Various applications have been developed to facilitate remote conversations.
    - E.g.: videoconferencing, instant messaging, and chatrooms.
- Remote conversations offer unique advantages, such as overcoming geographical barriers and enabling real-time communication.
- Despite their benefits, remote conversations also pose challenges, including technological constraints and potential for misinterpretation.

Social and Emotional Interactions

Social Interaction in the Digital Age
Remote Conversations: Early Videophone and Visualphone

Early British Telecom's Videophone

An Early Mobile Visualphone developed in Japan

Social and Emotional Interactions

Remote Conversations: Current Videoconferencing

- Videoconferencing platforms like Teams and Zoom have transformed the way we communicate, offering seamless transitions between conversations and collaborative work.
- However, they also present unique challenges that impact users' experiences.

Social and Emotional Interactions

Remote Conversations: Current Videoconferencing

- Videoconferencing platforms like Teams and Zoom have transformed the way we communicate, offering seamless transitions between conversations and collaborative work.
- However, they also present unique challenges that impact users' experiences.
  - **Zoom Fatigue** (identified by Bailenson (2021)): Excessive amounts of close-up eye gaze during videoconferencing can lead to mental exhaustion and strain.
  - **Cognitive Load**: Videoconferencing requires intense cognitive load, as individuals need to process both verbal and non-verbal cues simultaneously. This increased cognitive demand can contribute to mental fatigue and reduced attention span.

Social and Emotional Interactions

Social Interaction in the Digital Age

Reading Assignment:

- The impact of Facebook and Twitter
- The Skype success
- Coordination Mechanisms
- Awareness Mechanisms
- Designing technologies to support awareness

Not examinable

Social and Emotional Interactions

Social Interaction in the Digital Age
Notification Systems

- Allow users to initiate communication and share relevant information with others, rather than being constantly monitored.

- They provide updates on shared objects and the progress of collaborative tasks, enhancing communication and collaboration within teams.

Social and Emotional Interactions

Social Interaction in the Digital Age
Notification Systems: Benefits

- **User Empowerment**: Users have control over when and how they notify others, promoting autonomy and agency.

- **Information Sharing**: Notification systems facilitate the sharing of updates, changes, and important insights with team members.

- **Task Progress Tracking**: Users can stay informed about the progress of collaborative tasks and have a clear overview of the project's status.

Social and Emotional Interactions

Social Interaction in the Digital Age
Notification Systems: Design Considerations

Social and Emotional Interactions

Social Interaction in the Digital Age
Notification Systems: Design Considerations

- **Clear and Intuitive Interface:** Notification systems should have a user-friendly design that allows for easy navigation and understanding.

- **Customization Options:** Users should have the ability to customize their notification preferences to suit their communication needs.

- **Privacy and Security:** Ensuring the confidentiality of notifications and protecting user data is essential.

Social and Emotional Interactions

Emotions and Behavior in HCI

- Emotional interaction explores how users feel and react while interacting with technologies.
- Affective computing aims to recognize, interpret, and respond to human emotions through technology.
- Understanding emotional responses helps design elements trigger specific emotional reactions in users.
- Designing for happiness, fostering trust, and motivating learning are essential considerations.
- Emotionally responsive interfaces adapt to users' emotional states and provide appropriate feedback.
- User-centered emotional design prioritizes users' needs, preferences, and emotional well-being.

Social and Emotional Interactions

Emotional Interaction in the Digital Age
Emotional Interaction in User Experience

- Emotional interaction involves understanding and addressing human emotions, such as happiness, sadness, annoyance, anxiety, frustration, and motivation.

- Translating emotional knowledge into various aspects of the user experience is essential for impactful design.

- Achieving emotional interaction in design is challenging due to the dynamic nature of human emotions.

- Emotions can be influenced by various factors, making emotional design complex and context-dependent.

Social and Emotional Interactions

Emotional Interaction in the Digital Age

Activity: Understanding Emotions in Online Shopping (1/3)

- Consider your emotions when buying a big ticket item online (e.g., refrigerator, vacation, computer).

- Reflect on the different emotions experienced during an everyday online shopping activity for products like a new phone, washing machine, or vacation.

Social and Emotional Interactions

Emotional Interaction in the Digital Age

Activity: Understanding Emotions in Online Shopping (2/3)

- The process starts with the realization of needing or wanting the item, followed by the desire and anticipation to purchase it.
- Exploring numerous websites, comparison sites, reviews, and recommendations generates joy or frustration during the decision-making process.
- The thrill of selecting a product may be followed by the shock of its cost, leading to disappointment if affordability is an issue.
- Revisiting options and seeking expert advice may evoke annoyance and mistrust in sales assistants.

Social and Emotional Interactions

Emotional Interaction in the Digital Age

Activity: Understanding Emotions in Online Shopping (3/3)

- The struggle continues, causing tiredness and increased frustration during the search for alternatives.
- Relief ensues once a decision is made, but the online payment process can induce anxiety and concern about data accuracy.
- Doubts and second-guessing arise after completing the purchase, causing uncertainty about the chosen product.

Social and Emotional Interactions

Emotional Interaction in the Digital Age

Designing Interfaces to Match and Influence Emotions

- Can interfaces be designed to match or change our emotions? Should they aim to improve how we feel?
- Understanding the continuous fluctuations in our moods and feelings is crucial in interface design.
- How can interfaces keep track of our emotional states and respond appropriately?
- Certain moods may align better with specific interface designs, impacting the overall user experience.
- Designing for various emotions like happiness, anger, sadness, boredom, or focus requires thoughtful consideration.

Social and Emotional Interactions

Designing Interfaces to Match and Influence Emotions:

Design Considerations:

- **Emotional Alignment**:
  - Match the interface design with the user's current emotional state.
- **Visual Cues**:
  - Use color, animations, and graphics to evoke specific emotions.
- **Interaction Styles**:
  - Adapt interactions to suit different emotional contexts.
- **Personalization**: Offer customization options to let users tailor the interface based on their preferences.
- **Emotional Feedback**: Provide emotive responses to user actions, reinforcing positive emotions.
- **Mindfulness and Empathy**: Design interfaces that promote well-being and empathy towards users.

Social and Emotional Interactions

Designing Interfaces to Match and Influence Emotions: Challenges

- **Real-time Emotional Tracking**: Implement technology to gauge user emotions accurately.
- **Ethical Considerations**: Ensure respect for user privacy and consent when dealing with emotional data.
- **Cultural Sensitivity**: Emotions can be interpreted differently across cultures; consider inclusivity.
- **Emotional Regulation**: Balance positive emotional influences without manipulating or exploiting users.
- **User Acceptance**: Address concerns about emotional surveillance and manipulation.

Designing Interfaces to Match and Influence Emotions: Designing for Specific Emotions

- **Happy**:

Social and Emotional Interactions

Designing Interfaces to Match and Influence Emotions: Designing for Specific Emotions

- **Happy**: Vibrant colors, playful animations, and positive affirmations.
- **Angry**:

Social and Emotional Interactions

Designing Interfaces to Match and Influence Emotions: Designing for Specific Emotions

- **Happy**: Vibrant colors, playful animations, and positive affirmations.
- **Angry**: Simplified interfaces to minimize frustration and calming elements.
- **Sad**:

Social and Emotional Interactions

Designing Interfaces to Match and Influence Emotions: Designing for Specific Emotions

- **Happy**: Vibrant colors, playful animations, and positive affirmations.
- **Angry**: Simplified interfaces to minimize frustration and calming elements.
- **Sad**: Gentle animations, comforting colors, and supportive content.
- **Bored**:

Social and Emotional Interactions

Designing Interfaces to Match and Influence Emotions: Designing for Specific Emotions

- **Happy**: Vibrant colors, playful animations, and positive affirmations.
- **Angry**: Simplified interfaces to minimize frustration and calming elements.
- **Sad**: Gentle animations, comforting colors, and supportive content.
- **Bored**: Engaging visuals, interactive elements, and surprise features.
- **Focused**:

Social and Emotional Interactions

Designing Interfaces to Match and Influence Emotions: Designing for Specific Emotions

- **Happy**: Vibrant colors, playful animations, and positive affirmations.
- **Angry**: Simplified interfaces to minimize frustration and calming elements.
- **Sad**: Gentle animations, comforting colors, and supportive content.
- **Bored**: Engaging visuals, interactive elements, and surprise features.
- **Focused**: Minimal distractions, clear hierarchy, and task-oriented layouts.

Social and Emotional Interactions

The Complex Relationship between Emotions and Behavior

- Emotions and behavior are interconnected in intricate ways.
- How does anger impact concentration? Does happiness influence risk-taking behaviors?
- Emotions can influence decision-making, cognitive performance, and daily actions.
- Angry individuals may focus better or become more distracted.
- Happiness could lead to increased risk-taking, like spending more money.
- Understanding the complex interplay between emotions and behavior is crucial for human-computer interaction design.

Social and Emotional Interactions

Emotional Interaction in the Digital Age

Emotional Dynamics: Automatic vs. Conscious Emotions

- Emotions vary in duration and complexity.
- They can be categorized into automatic and conscious emotions.
- Automatic emotions are rapid and short-lived, like a sudden fit of anger.
- Conscious emotions develop slowly and endure over time, such as jealousy.
- Automatic emotions dissipate quickly, while conscious emotions linger and may require reflection for resolution.

Social and Emotional Interactions

Emotional Design Model

1. **Visceral Design: Aesthetics and Sensory Appeal**
   - Focuses on making products visually attractive, tactilely pleasing, and appealing to the senses.
   - Emphasizes the first impressions and emotional reactions to the product's appearance, texture, and sound

2. **Behavioral Design: Usability and Functionality**
   - Focuses on the product's ease of use, functionality, and practicality.
   - Aligns with traditional usability principles to ensure efficient and effective interaction.

3. **Reflective Design: Meaning and Personal Value**
   - Explores the emotional and personal significance of the product to the user.
   - Considers the deeper connections, memories, and emotional experiences associated with the product.

Social and Emotional Interactions

Emotional Design Model
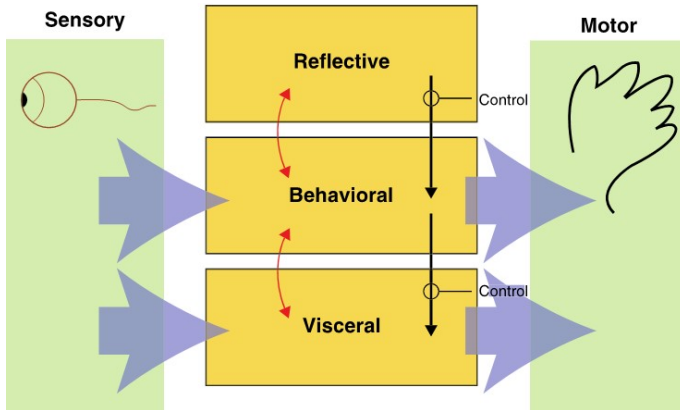
Social and Emotional Interactions

Analyzing Swatch Watch Design Using the Emotional Design Model

- Brilliant colors and wild design elements that immediately catch the user's attention -Visceral Design

- Affordances that make it easy for users to interact with the watch and use its features -Behavioral Design

- Cultural images and graphical elements that evoke deeper meanings and personal connections -Reflective Design

Social and Emotional Interactions

Classification of Emotions through Facial Expressions

- Six Core Expressions
  - **Sadness, Disgust, Fear, Anger, Contempt, Joy**
  - Note: These core expressions can also be detected in text as well. How?
  - Reading assignment: Some literature classify emotions beyond the six above Plutchik's wheel of emotions - not examinable
- AI Detection: Facial expressions are measured based on the presence or absence of:
  - Smiling, Eye widening, Brow raising, Brow furrowing, Raising a cheek, Mouth opening, Upper-lip raising, Wrinkling of the nose

Social and Emotional Interactions

Utilizing Emotional Data in Interaction Design

- Adaptive content based on emotional states:
    - Websites can modify ads, movie storylines, or content to match the user's emotional state
- Emotional support and assistance:
    - In a car system, detecting an angry driver may prompt a suggestion to take a deep breath
- Comprehensive data analysis (e.g. sentiment analysis):
    - Emotional data is not limited to facial expressions, but also includes eye-tracking, finger pulse, speech, and textual analysis (e.g., tweets, Facebook posts)

- Reading assignment - How are emotions detected with technology? -Not examinable

Social and Emotional Interactions

Indirect Emotion Detection: Ethical Considerations

- Emotion detection is not only used for direct emotional responses but also to infer behavior. E.g:
  - Assessing a person's suitability for a job or predicting voting behavior in an election or sentiment analysis from tweets.

Ethical Concerns:

- Is it ethical for technology to read emotions from facial expressions or social media posts?
- Considerations for privacy and data usage
- Potential biases and accuracy issues in emotion detection algorithms
- Balancing the benefits of personalized experiences with user consent and data protection.

Social and Emotional Interactions

Anthropomorphism in Human-Computer Interaction

- Attributing human-like qualities to non-human objects e.g. cars, computers, household items, etc.
- Commonly used in advertising: dancing butter, animated drinks, talking breakfast cereals, etc.
- Leveraging anthropomorphism to create engaging and relatable interfaces
- Providing a sense of connection and emotional attachment to technology

Social and Emotional Interactions

The Power of User Feedback in Interface Design

- **Welcome Message**:
    - Option 1: "Hello Chris! Nice to see you again. Welcome back. Now, what were we doing last time? Oh yes, Exercise 5. Let's start again."
    - Option 2: "User 24, commence Exercise 5."
    - Which message do you prefer?
- **Feedback on Incorrect Answers**:
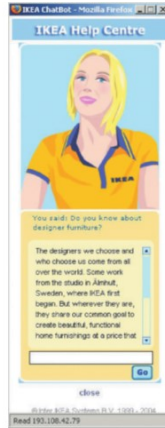   - Option 3: "Now Chris, that's not right. You can do better than that. Try again"
    - Option 4: "Incorrect. Try again"
    - Which message do you prefer?

Social and Emotional Interactions

The Rise and Fall of Virtual Agents: A Tale of Clippy and Anna
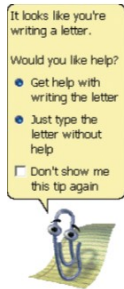
(a) (b)

Social and Emotional Interactions

The Rise and Fall of Virtual Agents: A Tale of Clippy and Anna

Microsoft's Clippy - A Well-Intentioned Desktop Agent

- Introduced as a helpful desktop assistant by Microsoft
- Intended to enhance user experience and aid productivity
- However, Clippy's reception was far from positive
- Clippy faced widespread dislike among users
- Perceived as annoying, distracting, and patronizing
- Its presence often interfered with users' tasks and workflow

Social and Emotional Interactions

The Rise and Fall of Virtual Agents: A Tale of Clippy and Anna

IKEA's Anna - A Virtual Agent with Facial Expressions

- IKEA introduced Anna as a virtual agent to assist customers
- Utilized blinking, moving lips, and head gestures for facial expressions
- Aimed to provide a more interactive and engaging experience

Social and Emotional Interactions

The Rise and Fall of Virtual Agents

Lessons learned from Clippy and Anna

- User preferences and receptiveness matter
- Balancing helpfulness and intrusiveness is crucial
- Implementing subtle and contextually relevant animations can improve user engagement

Designing the Future of Virtual Agents

- Leveraging AI advancements for more intelligent and empathetic virtual agents
- Prioritizing user feedback and preferences to create delightful interactions
- Striking a balance between assistance and user autonomy

Crafting Effective Error Messages: Shneiderman's Guidelines

"The application Word Wonder has unexpectedly quit due to a type 2 error."

Social and Emotional Interactions

Crafting Effective Error Messages: Shneiderman's Guidelines

"The application Word Wonder has unexpectedly quit due to a type 2 error."

Why not instead:

"The application has expectedly quit due to poor coding in the operating system"

Shneiderman's classic guidelines for error messages include:

- Avoid using terms like FATAL, INVALID, or BAD
- Audio warnings
- Avoid UPPERCASE and long code numbers
- Messages should be precise rather than vague
- Provide context-sensitive help

Social and Emotional Interactions

A funny image incorporated into a 404 error message
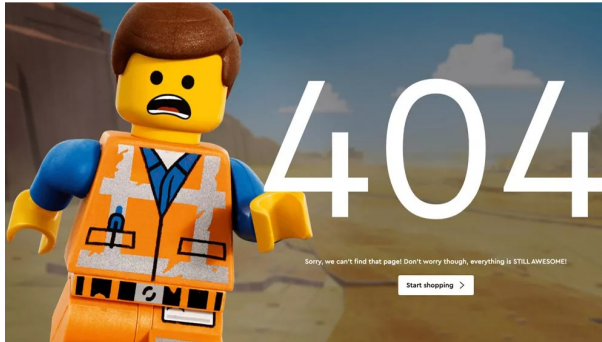
What are the advantages and disadvantages of the above error message?

Social and Emotional Interactions

The Power of Anthropomorphism in Educational Software

- Reeves and Naas (1996) discovered the impact of anthropomorphism in computer interactions.
- Computers that offer flattery and praise in educational software:
  - Result in positive user experiences.
  - Boost engagement and motivation.
  - Encourage students to continue with exercises.
- Anthropomorphism enhances user engagement in educational software.
- Incorporating personalized and positive feedback:
  - Increases user satisfaction.
  - Encourages active participation.
  - Fosters a positive learning environment.

Social and Emotional Interactions

Criticism of Anthropomorphism in User Interfaces

- **Deceptive**: Anthropomorphism may give users false expectations, leading to disappointment or frustration.
- **Anxiety** & **Inferiority**: Human-like characters can make users feel judged/inferior, affecting their confidence and motivation.
- **Impersonal vs. Personal Feedback**: Users may prefer more impersonal feedback, such as "Incorrect. Try again." over character-driven feedback like "Now Chris, that's not right. You can do better than that. Try again."
- **Balance in Design**: Careful consideration of anthropomorphism is necessary to create positive user experiences while avoiding negative impacts.

Social and Emotional Interactions

Dilemma: Should voice assistants teach kids good manners

- Kids interact with voice assistants like Alexa as if they were their friends, often neglecting to use politeness or manners.

- Children may not learn the importance of saying please and thank you, affecting their interactions with technology and potentially transferring to real-life situations.

- **The responsibility lies with parents** and voice assistants to teach good manners and appropriate behavior.

- Note: Recent Research: Studies show that kids differentiate between how they treat voice assistants and how they interact with humans (Alexis Hiniker et al., 2021).

Social and Emotional Interactions

Dilemma: Should computers say they're sorry?

- Would users be as forgiving of computer apologies as they are of each other's apologies?

- How sincere would users perceive the computer's apology after a system crash? E.g.: "I'm really sorry I crashed. I'll try not to do it again."

- Incorporating human-like manners in computer responses may enhance user experience, but sincerity and authenticity should also be considered to avoid potential user skepticism.

Social and Emotional Interactions

Creating Robotic Pets: Design Considerations

- Should robots be plastic-pet-like, cuddly-pet-like, or plastic-human-like?
- Most people enjoy interacting with pets and cuddly toys, making pet-like robots a popular choice.
- While realistic features enhance the emotional experience, some may find human-like robots creepy.

Note:

- Designing robotic pets involves a trade-off between realism and potential discomfort.
- Consider users' emotional experiences and comfort levels to strike the right balance in creating pet-like robotic companions.

Social and Emotional Interactions

Frustrating Interfaces (1/2)

Many causes:

- Application Issues:
    - Application malfunctions or crashes lead to user frustration.
    - System fails to execute users' intended actions.
- Unmet Expectations:
    - User expectations not fulfilled, leading to dissatisfaction.
    - Lack of information hampers users' understanding of the interface.
- Vague and Obtrusive Error Messages:
    - Unclear, obtuse, or condemning error messages worsen frustration.
    - Users struggle to grasp the problem and find a resolution.

Social and Emotional Interactions

Frustrating Interfaces (2/2)

Many causes:

- Design Elements:
    - Garish, noisy, gimmicky, or patronizing interface aesthetics evoke frustration.
    - Aesthetic choices impact user experience negatively.
- Cumbersome Processes:
    - Lengthy and complex task procedures lead to irritation.
    - Discovery of mistakes requiring a restart amplifies frustration.