HCI
Assignment #1

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Paper Reading

Enhancing UX Evaluation Through Collaboration with Conversational AI Assistants

Inclusive Interactive System Design: Image-Schematic Metaphors Across Age Groups

Investigation Report

Paper Reading

Enhancing UX Evaluation Through Collaboration with Conversational AI Assistants

PART #1

Introduction

Why UX Evaluation Needs AI?

- Traditional UX evaluation is **time-consuming** & **labor-intensive**

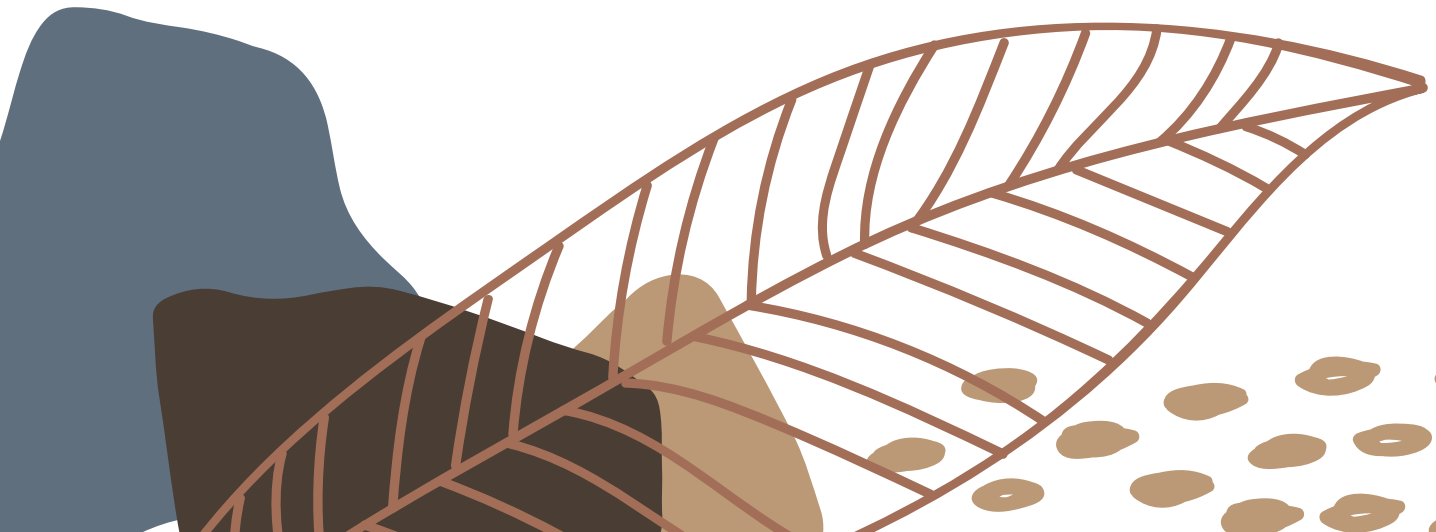
- AI-powered assistants can provide **automated usability insights**

Key Question:

When should AI insights be introduced?

Background & Related Work

- AI has been explored in usability testing through **machine learning**, **NLP**, and **sentiment analysis**.
- However, these methods often **lack contextual understanding** and **require human oversight**.
- Prior studies suggest that proactive AI interactions can enhance efficiency and trust, but the timing of AI-generated insights has not been fully explored.



Research Methodology

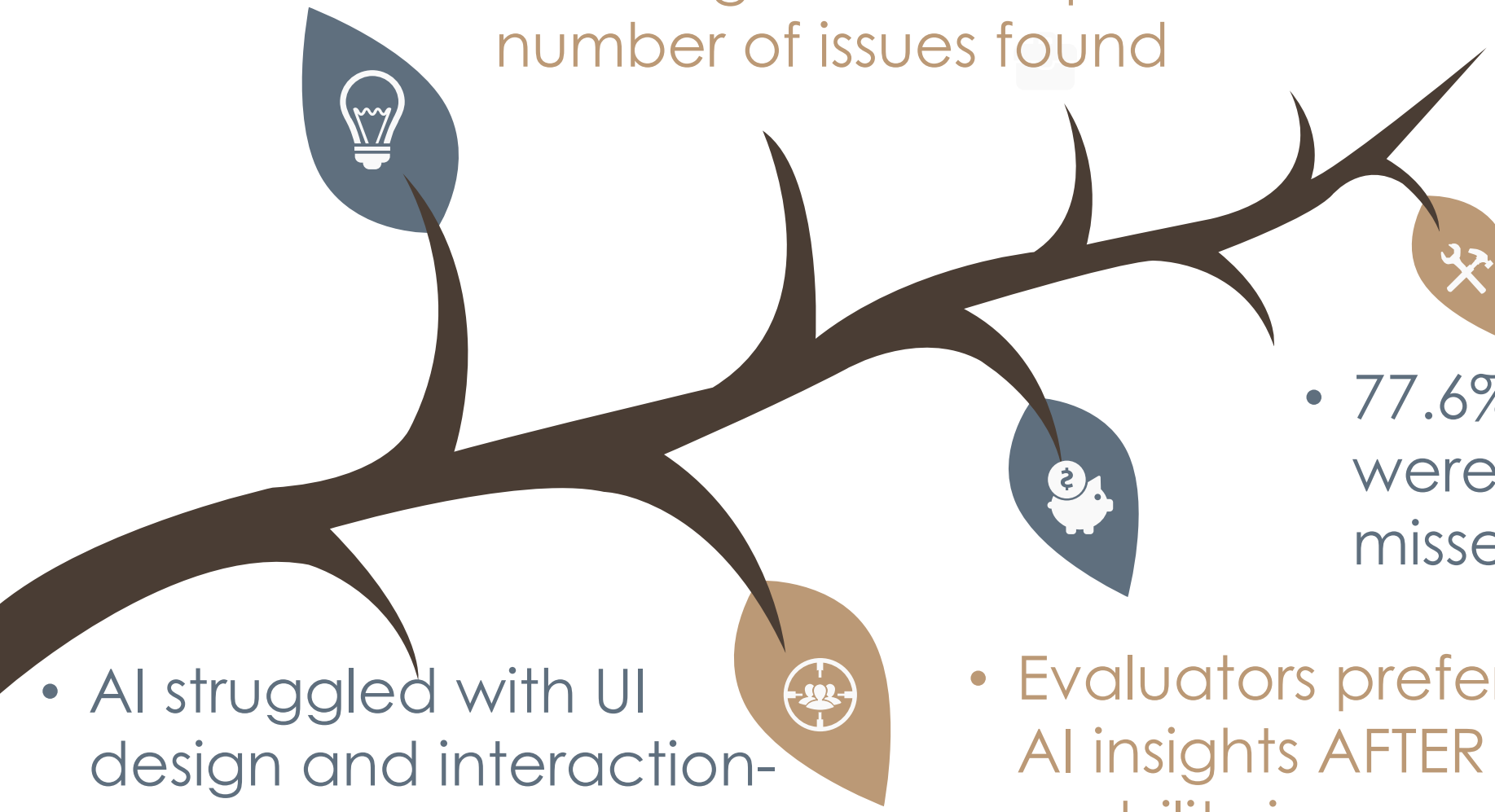
Wizard-of-Oz experiment

- *Participants:* 24 UX evaluators
- *Tasks:* Analyze 3 usability test videos (Website, Mobile, VR)
- *Conditions:* AI insights shown **before**, **during**, or **after** usability issues
- *Metrics Measured:* Number of usability issues found
  AI trust, efficiency, & timing preference
  Participant responses to AI suggestions

Key Findings

When should AI Assist?

- AI timing did not impact the number of issues found



- 77.6% of AI suggestions were accepted (but missed 58.8% of issues)

- AI struggled with UI design and interaction-based issues

- Evaluators preferred AI insights AFTER usability issues

Insights & Implications

AI as a Support Tool, Not a Replacement

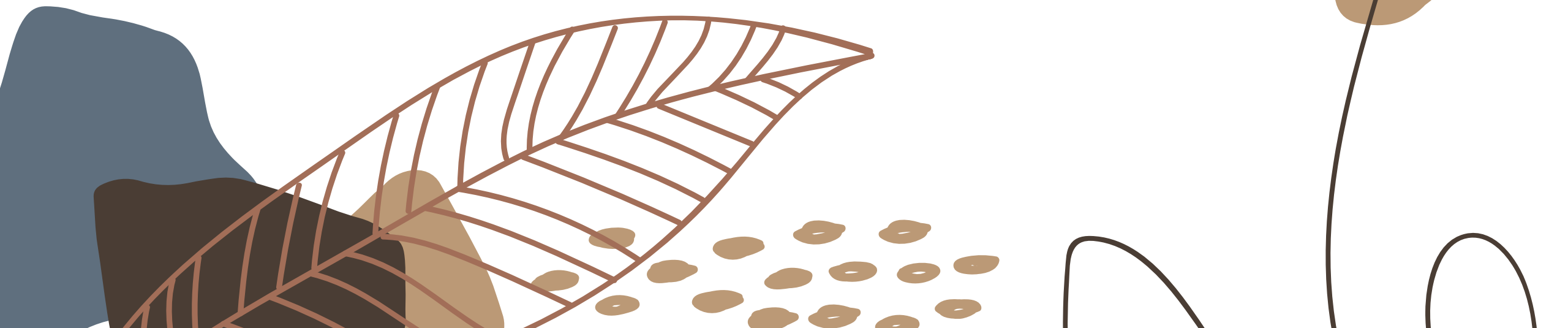
01 ›› AI should validate, not replace, human evaluation

02 ›› **Customization** is key for AI timing in UX workflows

03 ›› AI must improve **contextual understanding**

Conclusion

- Conversational AI can enhance UX evaluation by improving efficiency and trust, but human expertise remains indispensable.
- Future research should focus on multimodal AI, better contextual understanding, and adaptive collaboration strategies.



PART #2

Inclusive Interactive System Design: Image-Schematic Metaphors Across Age Groups

Investigation Report

Introduction

Why Inclusive Design Matters

- Technology is not designed equally for all age groups

- Interaction preferences differ between **younger** & **older** adults

This study explores

How metaphors shape user experience

Research Methodology

- *Participants:* 12 younger adults (ages 18–35)
  12 older adults (ages 60+)

- Each participant completed interactive tasks while describing their thought process. We analyzed their language and behavior to determine which metaphors they naturally used

- *Metrics Measured:* Structured Interviews
  Interactive Tasks

Key Findings

How Age Influences Interaction Metaphors?

- Younger users preferred **motion-based** metaphors (e.g., ‘swipe to move’).

- Older users relied more on **object-based** metaphors (e.g., ‘button presses’).

- Certain metaphors were universally understood, such as ‘More is Up.’

Key Findings

How Age Influences Interaction Metaphors?

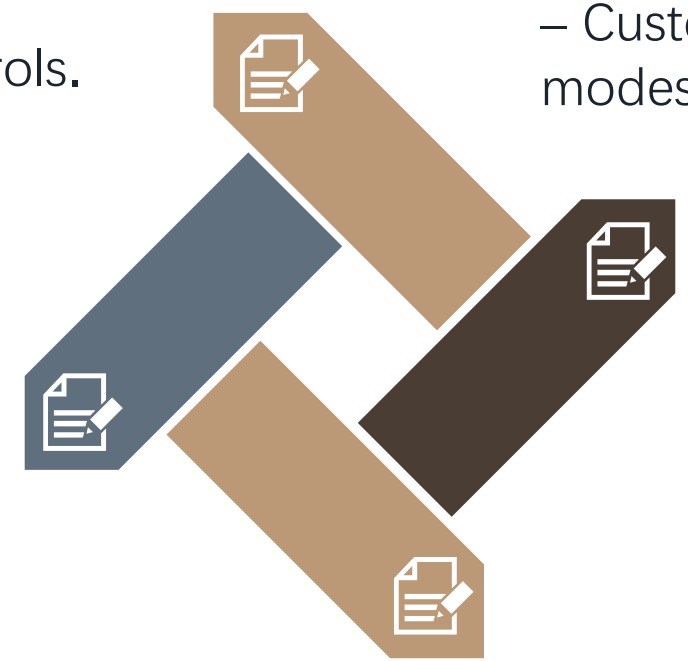
- **Shared Metaphors** – 37 image-schematic metaphors were common across all age groups.
- **Cognitive Load Differences** – Older adults struggled with complex metaphors.
- **Interaction Preferences** – Younger users favored trial-and-error, older users preferred structured guidance.
- **Potential Accessibility Issues** – Some interface elements were too complex for older users.

Design Recommendations

How Can We Design for All Ages?

- **Use Universal Metaphors**
  – E.g., “More is Up” in volume controls.

- **Adaptive Interfaces**
  – Customizable speeds, fonts, guidance modes.



- **Progressive Disclosure**
  – Introduce complexity gradually.

- **Multimodal Feedback**
  – Visual + auditory + haptic cues.

- **Simplify Complex Interactions**
  – Break down multi-step tasks.

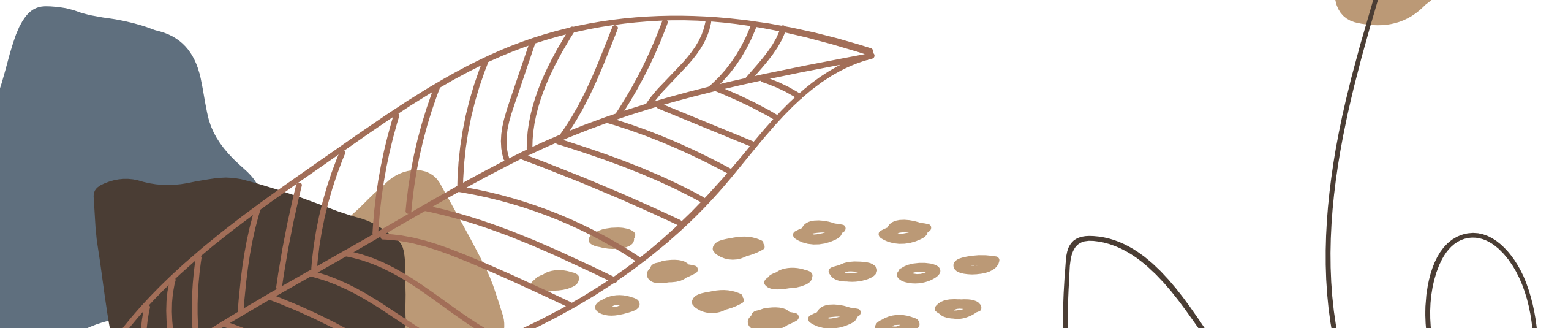
Conclusion

Inclusive design is about making technology accessible to everyone, regardless of age.

Our research highlights the importance of:

- Designing around universal cognitive metaphors
- Providing flexible interaction options
- Continuously testing with diverse age groups

Future research should explore how AI-driven adaptive interfaces can further personalize interaction experiences.



THANKS !