Rui Zhang

Mixed-method UX Researcher

I identify and fix problems for us and our users

Background

- Research methods: Survey Design, User Interviews, Usability Testing, A/B Testing
- Quick, self-starter across disciplines
- Adaptive project management

Specialties

- Cutting edge research on artificial intelligence (AI)
  - Focus on AI communication, trust, and reliability
- Advanced Statistical Analysis (Mixed-effects modeling; regressions; Structural equation modeling

Communication

- Cross-functional collaboration and communication
  - Successful executive level communication
- Create and present deliverables to best communicate actionable research insights

Case Studies

- Benchmarking the **booking web app** for CDK Global
- Usability testing of an **LLM AI Learning/Collaboration Partner** with students aged 12-17
- A/B testing of **AI communication** on human-AI teamwork

CDK

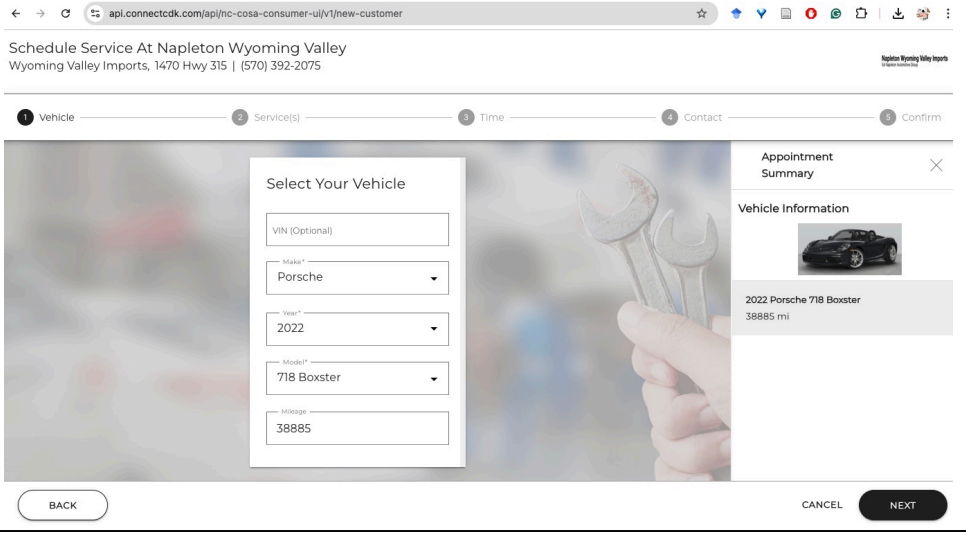
Benchmarking Booking Software

Actionable insights, cross-functional communication, self-learner

I identified the problem in the latest major release that caused a 5% drop in the conversion rate.

COSA Booking App

- Car Online Service Appointment (COSA) booking app with 700K end users
    - Led user experience research for this project
- A major version was recently released, but needed evaluation
- Stakeholders included the Product Manager, UX Researchers, UX Designers, and Software Engineers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Wyoming Valley Imports, 1470 Hwy 315 | (570) 392-2075
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BACK
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NEXT

Research Questions

- What issues do users encounter with the major release?
- How does the major release impact the users' experience with COSA?
  - Does the conversion rate for completing service appointment bookings increase?
  - Do daily booking appointments increase?

Research Process

- Collected technical information about the recent release
- Reviewed research questions and goals with stakeholders
- Performed a benchmarking study using log analysis from Amplitude analytics data
- Identified potential user improvement opportunities
- Presented relevant and actionable insights to stakeholders

Outcomes

- Identified user issues with the latest release
  - 4-5% drop off with IE and Edge browsers
- Explained a data discrepancy in the state of Mississippi
- Confirmed increase in daily bookings with a higher conversion rate

Conversion Rate	Chrome	Safari	Firefox	IE	Edge
Before	25.0%	19.0%	26.0%	**18.2%**	**16.5%**
After	24.2%	18.9%	26.2%	▼ **13.3%**	▼ **12.9%**

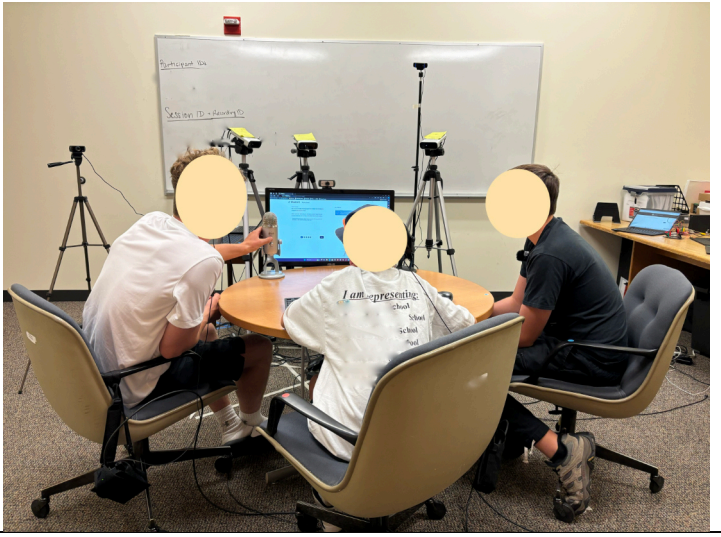
Usability Testing of an AI Learning Partner

Artificial intelligence, vulnerable population, product management

My early market research provided valuable insights that guided product development and improved student success.

JIA Learning Partner

- Jigsaw Interactive Agent (JIA) provides realtime support for small groups of middle and high school students in collaborative work
    - Led user experience research throughout the entire product design and development process
- Evaluated the usability of JIA to improve the UI and functionality
- Stakeholders included the Project Manager, a UX Designer, Natural Language Processing (NLP) and Multimodal AI Experts, Software Engineers, Learning Scientists, and a Recruitment Manager


I am presenting

Research Questions

- How do users perceive the design and functionality of the AI partner JIA?
  - How can we improve the trustworthiness of JIA?
- What are users' reactions to JIA's support?
  - What issues do users encounter when working collaboratively with JIA?

Research Process

Managed two phases of usability testing:

- Wizard of Oz to test AI partner JIA's interface and interaction design
- Human-in-the-loop to evaluate JIA's collaborative functionality

Usability Testing Procedure

- Group introductions and ice breakers
- Individual learning work
- Collaborative learning work with support from JIA
- Post-survey feedback
- Focus group feedback

Key Metrics

- Reaction to JIA
- JIA's trustworthiness
- Collaborative task performance
- Time spent on task

Many other metrics were also reported...

Positive Feedback

- Users indicated the AI partner JIA's collaboration was helpful and supportive
  - JIA supporting users by asking relevant questions was perceived positively
- Users perceived JIA to be trustworthy (4.2/5)
- Users indicated that the JIA web app was simple and easy to use

Actionable Feedback

- 20% of JIA's message audio notifications were missed during active and rapid conversations
- Ask for help button should accept detailed user input, rather than be a toggleable button
- Personalization of the AI Partner

A/B Testing of AI Communication Styles

Artificial intelligence, statistical analysis, project management

I produced novel insights on AI communication in human-AI collaboration by examining AI's modality, proactivity, and explainability.

AI Communication Style in Rocket League

- Rocket League is an online, team-based, sports game
    - Led three research projects on AI communication—this project focuses on AI's communication modality
- Stakeholders included a Research Supervisor, a Human-Centered Researcher, and a Software Engineer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Research Questions

- How do people collaborate with AI using text vs. visual communication?
- How were team coordination and performance affected?

Research Process

- Proposed research questions based on existing work in the field and refined them with stakeholders given the implementation limitations
- Developed the research plan and collaborated with the software engineer to implement the AI agent
- Conducted pilot tests for AI agent QA, refined the project, and collected data with 100 participants
- Performed statistical analysis using mixed-effect models in R Studio
- Published the results in the prestigious CSCW journal

Key Metrics

- **Demographics**: attitudes towards AI
- **Teammate metrics**: trust, communication quality, performance
- **Team metrics**: workload, performance, viability

Many other metrics were also reported...

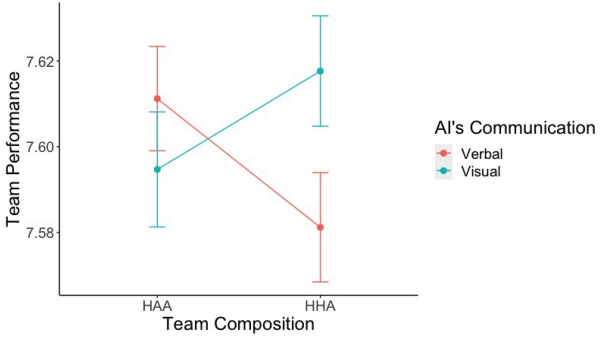
General Outcomes

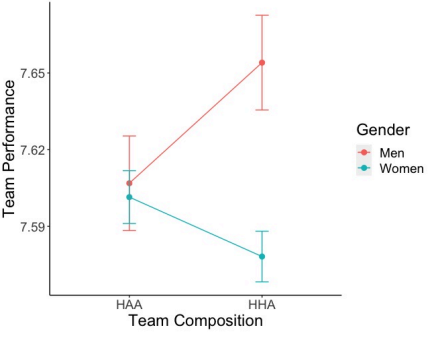
- AI visual communication was rated lower than AI text communication
  - However, AI visual communication contributed to higher team performance
- Users feel more disconnected when collaborating solely with AI teammates
- Gender affects team performance…

Gender Differences

- Women perceive their human teammates to have better individual performance than men
- Women tend to perceive the task to have a higher workload than men
- Men performed better than women with a human and an AI teammate

Comparisons





Overall Conclusion

- Strong background in statistics and mixed-method research grounded in Engineering
- Cross-functional collaboration producing actionable insights
- Specialties in AI user research, with a PhD in Human-Centered Computing

I help you make informed decisions to improve our user experience and our business.

Thank You

Q&A