

# Madison T.S. Goodyear

## Human Factors Engineer (UX Research and Design)

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### Summary

Human Factors Engineer with 7+ years of experience in NASA-funded aerospace research and early-stage startups. Specializes in mixed-method research — from field studies and usability testing to heuristic evaluations and experimental design — with a focus on translating psychological insights into measurable improvements to user and stakeholder performance and satisfaction. Proven track record delivering research that wins recognition (DASC Best of Session x2) and drives concrete design iteration across complex, multi-stakeholder environments.

## Experience

### Human Factors Researcher & Designer (Dec 2018 - Oct 2025)

@ San Jose State Research Foundation In Collaboration with NASA Ames — Mountain View, CA

- Assisted UX research across 6+ field studies evaluating manned and unmanned aerial vehicle (UAV) operator interactions with National Airspace System (NAS) interfaces including moderated sessions, conducted user interviews, and performed qualitative and quantitative analysis on collected data.
- Presented research at the Digital Avionics Systems Conference (DASC) twice, was awarded Best of Session on both submissions.
- Redesigned fragmented UAV fleet management software to function cross-project, consolidating several different lab project workflows into a unified interface informed by iterative field study findings and user feedback.
- Designed, scripted, and executed UAV flight simulations using in-house software to support both live field testing and controlled lab studies, enabling consistent experimental conditions across 6+ studies.
- Authored user-facing support documentation for interfaces, reducing operator onboarding confusion identified in post-study debrief sessions as well as post-study interface support calls.
- Designed an educational UAV game for K–12 schools and public outreach at the Chabot Space and Science Center in Oakland, California.
- Produced and edited field testing video reels used in lab presentations and stakeholder reports.

### Lead UX Researcher & Designer (June 2018 - Dec 2018)

@Ambii — San Jose, CA

- Owned the developmental research and UX design phase of the Ambii product, initially a group music listening platform, from initial discovery through a production-ready interactive prototype.
- Conducted a heuristic evaluation of the product to align stakeholders with my planned research and design vision.

## Research Methods

Usability Testing  
Heuristic Evaluations  
Qualitative Analysis  
Experimental Design  
Contextual Inquiries  
Field Studies  
Cognitive Walkthroughs

## Design Skills

Interaction Design  
Information Architecture  
Prototyping (low-to-high)  
User Flows  
Journey Mapping

- Directed the executive and developer team through moderated usability testing with 5 participants, then synthesized findings into a prioritized usability report identifying several distinct usability issues and actionable remediation recommendations.
- Restructured information architecture based on usability findings, produced paper prototypes of the planned redesign fixing the top usability issues with the product.
- Iterated across multiple design directions, converging on a final interactive prototype that reduced task completion time, interface confusion, and UI clutter.

## Lead UX Researcher & Designer

(Jan 2018 - June 2018)

@ MazeFire — Remote

- Developed the complete research and design plan for MazeFire's core product experience, working directly with the executive and developer team from research strategy through prototype delivery.
- Moderated usability tests with 2 distinct user groups (5 participants each), surfacing key pain points that informed a significant restructuring of the onboarding flow and re-framed the executive team's direction.
- Produced a usability report with severity-rated findings and collaborated with the development team on paper prototypes, then translated this into an interactive Axure prototype through many rounds of iteration.

## Education

### M.S. Human Factors and Ergonomics

(Aug 2016 - Dec 2018)

@ San Jose State University — San Jose, CA

### B.A. Psychology

(Aug 2012 - Aug 2015)

@ California State University Channel Islands — Camarillo, CA

## Recognition

### Awards

- Best of Session — 42nd Digital Avionics Systems Conference (DASC)
- Best of Session — 41st Digital Avionics Systems Conference (DASC)
- NASA Group Achievement Award — UTM - Technical Capability Level-4 Demonstration
- NASA Group Achievement Award — ATD-2 IADS Field Demonstration Team
- Aeronautics Research Mission Directorate (ARMD) Associate Administrator (AA) Award — Technology and Innovation Group Award - ATD-2/IADS Field Demonstration Team

### Conferences

- Digital Avionics Systems Conference (DASC), presenter x2
- Human Factors and Ergonomics Society (HFES) Annual Meeting, presenter
- Games User Research (GUR)
- Seattle Loves Indie Creators Expo (SLICE)
- Washington Interactive Learning Alliance (WILA) Games and Education Industry Collider

## Tools

Qualtrics  
 Google Forms  
 SPSS  
 Figma  
 Axure RP  
 Adobe XD

## Domains

Government  
 Aerospace/Avionics  
 UAV Systems  
 Consumer Applications  
 Early-Stage Startups

## Groups

Human Factors and  
 Ergonomics Society  
  
 Interactive Design  
 Foundation

## Interests

Game Design  
 Urban Planning  
 Biking  
 Exploring Nature  
 Reading  
 Community Building