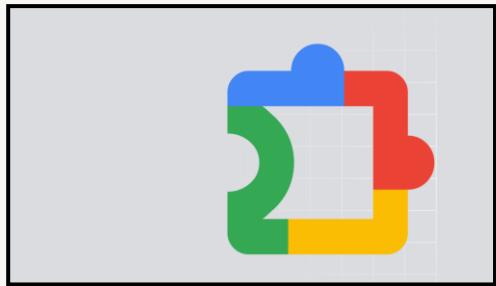


UX Research Portfolio

Grayson Butcher, PhD

UX Researcher | Behavior Scientist

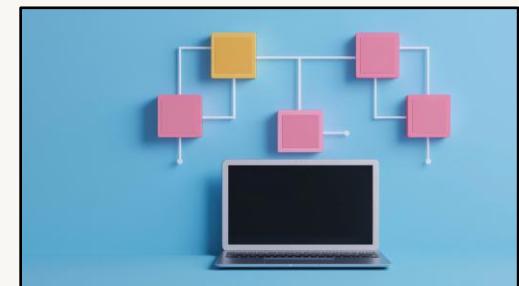
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Case Study 1:
Chrome
Extension



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Mentoring
Program



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Behavioral
Scoring App

Case Study 1:

Designing a Google Chrome Extension



How I helped a startup clarify positioning, remove adoption blockers, and increase usability for their brand-new Google Chrome extension.

Problem to Solve

Web browsing can be boring or tedious, and users want small moments of delight while online. My role was to help this chrome extension understand how to provide personalization without disruption, specifically what would make their app feel enduringly delightful *and* non-intrusive for new customers.



The research I conducted had the following goals:

1. Validate user understanding and valuation of extension, compare product value to existing alternatives.
2. Define MVP scope and surface critical usability friction points
3. Establish clear roadmap for product refinement and pricing

Approach to Solution

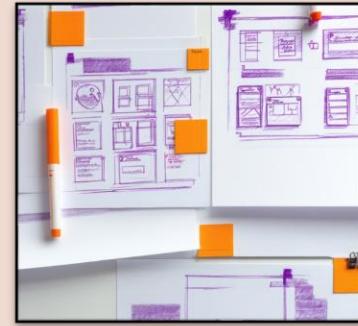


Stakeholder
Interviews

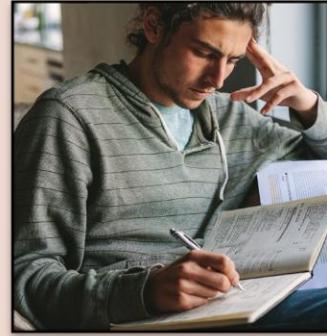


Competitive
landscape

Discovery



Usability
testing



Diary Studies

Design

Delivery

Insights

- Users loved the concept and their willingness to pay was heavily moderated by pricing model and availability of free tier.
- Users got stuck activating or using extension due to friction with chrome store or web-based use.
- User expectations often conflicted with existing avatar controls.
- Users didn't understand the AI customization options and failed to maximize the value provided.

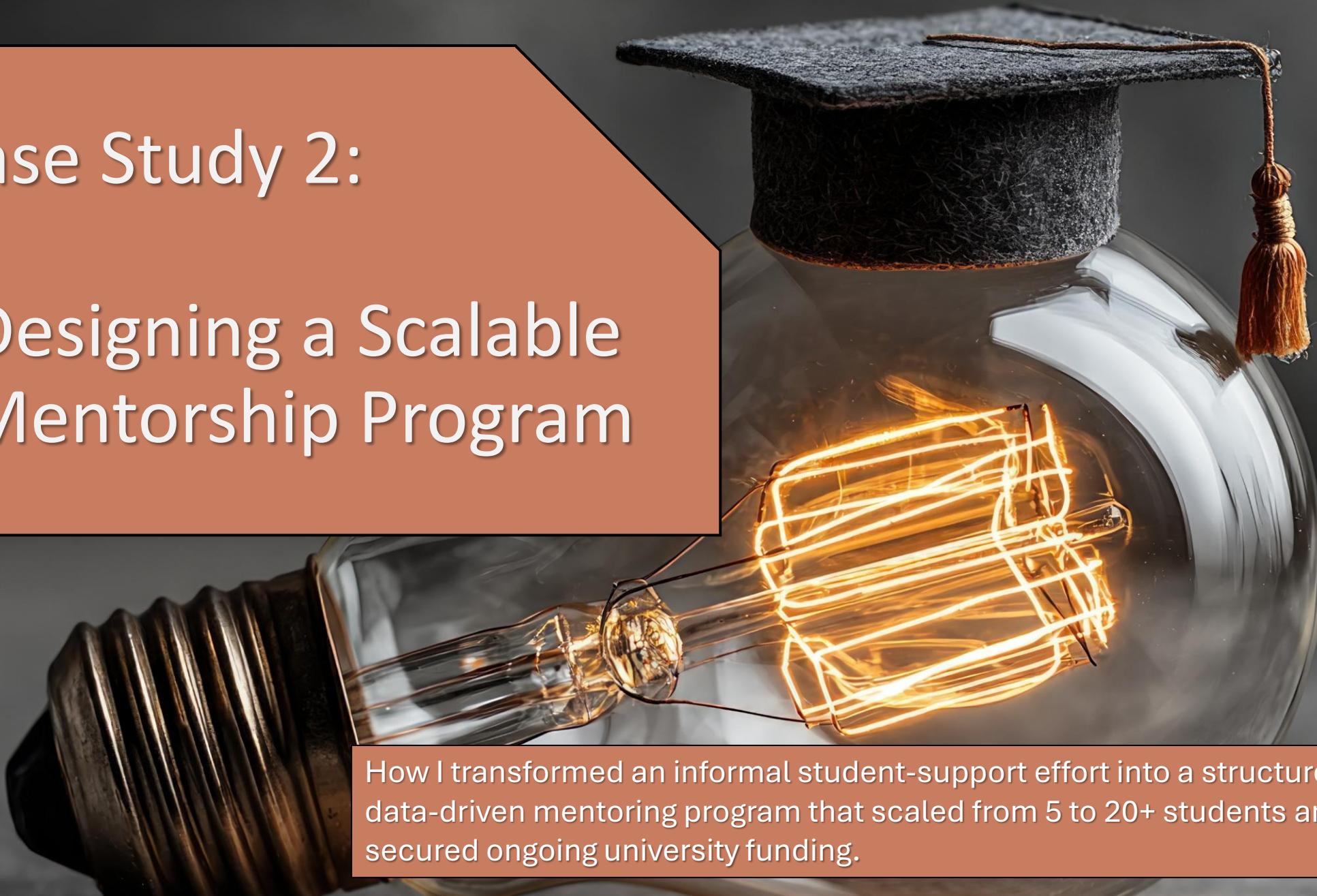
Outcomes

- **Revised MVP scope** to prioritize UX improvements and avatar intuition over advanced messaging features.
- **Updated messaging and pricing model** to emphasize customizability and affordability to address value prop up front.
- **Addressed critical friction points** and delivered sprint-ready recommendations affecting onboarding and customization.
- **Defined success metrics** for tracking use and churn, clarifying future feature and pricing roadmaps.

Case Study 2:

Designing a Scalable Mentorship Program

How I transformed an informal student-support effort into a structured, data-driven mentoring program that scaled from 5 to 20+ students and secured ongoing university funding.



Problem to Solve

Neurodivergent college students were working hard but some still struggled with their academic and personal goals. Few received support, and those who did were struggling with the existing, informal mentoring program. I was tasked with building a better way to support these students.



The research I conducted had the following goals:

-
1. Understand current student experiences, needs, and contextual constraints
 2. Identify the conditions and feedback loops that predict meaningful outcomes
 3. Define measurable outcome and process metrics, and prototype an improvable, data-informed structure for mentoring.

Approach to Solution



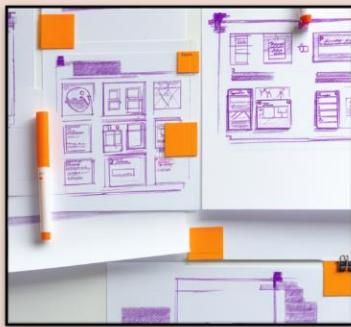
Stakeholder
Interviews +
Benchmarking



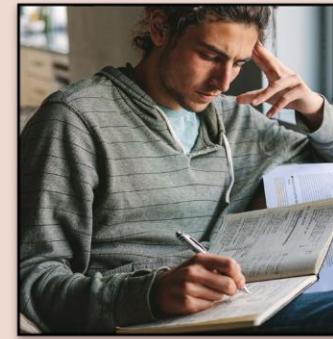
Field Studies



Task Analyses +
Systems Mapping



Prototype
Testing



Diary Studies



Longitudinal
Evaluations

Discovery



Design



Delivery

Insights

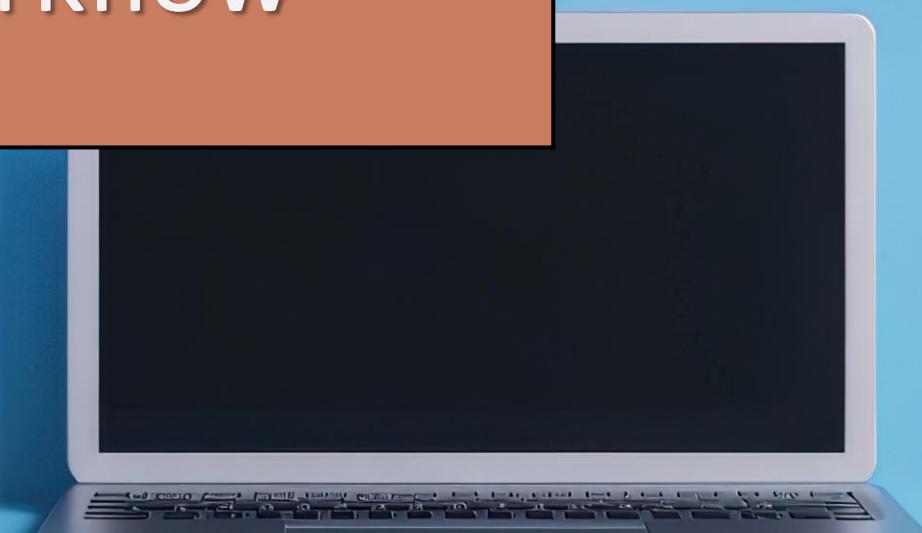
1. **Goal ownership drives engagement.** Explicit, student-led goal-setting produced > 90% attendance and goal progress.
2. **Structure enables autonomy.** Behavior-based logs, visual progress tools, and goals-based feedback improved student goal adherence from 50 to 80%
3. **Scaffolding shapes outcomes.** Templates and metrics reduced off topic drift by > 10 minutes

Outcomes

1. Program scaled from 5 to 20+ mentees
2. GPA rose > 0.3 points for all students
3. Official workplace inclusion funding contract secured + expanded
4. Students reported high satisfaction, greater confidence managing goals, and meaningful progress on connection/community goals.

Case Study 3:

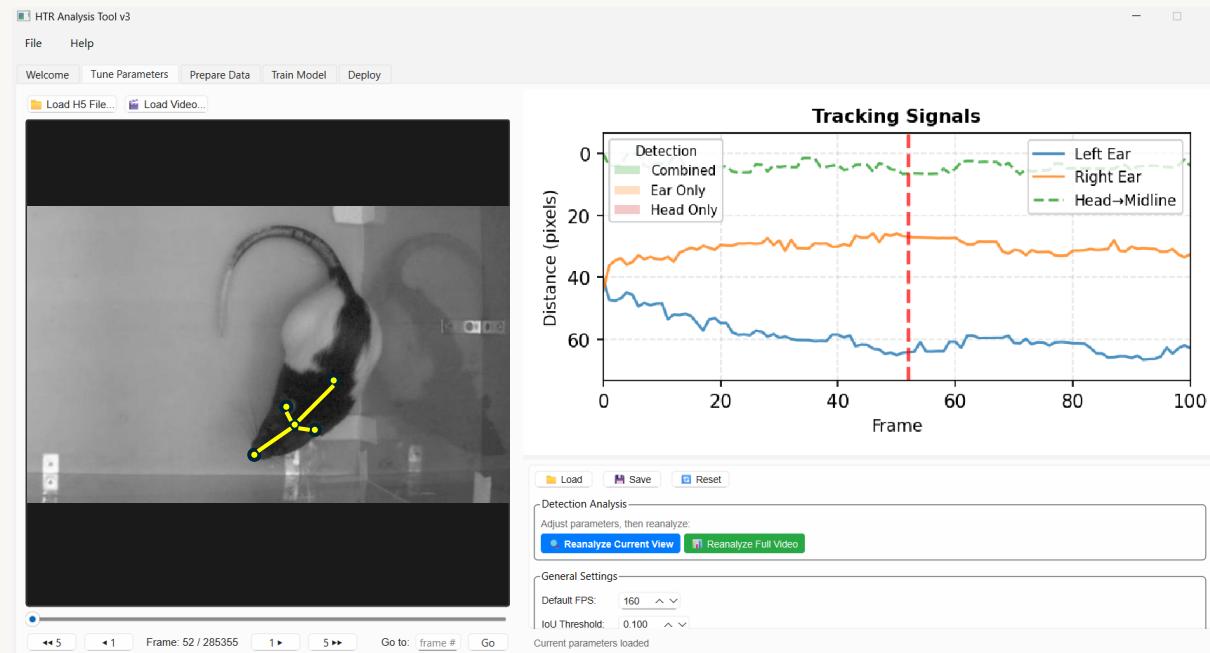
Automating Behavioral Analysis Workflow



How I designed a data analysis workflow that turned hours of manual scoring into an automated, reproducible pipeline.

Problem to Solve

Researchers relied on manual video scoring, an error-prone process taking hours per video. We needed a scalable, transparent system that could automatically and accurately detect subtle, infrequent behavior.



The research I conducted had the following goals:

- Understand how early users interacted with the multi-script version to uncover friction points and ideal workflows.
- 2. Identify and design interface features that make automated tools feel interpretable and credible to non-coding users.
- 3. Use observed pain points and feedback to shape the interface structure, control layout, and visual feedback of the GUI version.

Approach to Solution



Contextual Inquiry



Task Analysis



Usability testing



A/B testing



Qualitative Interviews

Discovery



Design



Delivery

Insights

1. **Streamlined onboarding improves adoption.**
Early GUI tests revealed hesitation during first runs. Reorganizing tabs and adding a visual workflow guide cut setup and execution time by > 50 %.
2. **Clear parameters drive consistency.**
Users often guessed settings. Adding in-app tooltips and concise variable definitions reduced setup errors and standardized training across users.
3. **Real-time feedback enhances flow.**
Progress bars and live status indicators minimized idle uncertainty, making the tool feel faster and more predictable.
4. **Iterative design enabled reliability.**
After three prototype cycles, average setup and run times dropped **50–75 %**, and non-coding lab members could complete full analyses without supervision.

Outcomes

1. The GUI version reduced analysis time from several hours per video to **under 30 minutes** per batch process of 8+ videos.
2. Non-coding lab members could now train and run models independently, expanding automation access across the team.
3. The project is being adopted across experiments as a standardized analysis tool, improving reproducibility and efficiency.
4. The open-source release on GitHub allows others to replicate or extend the approach.