

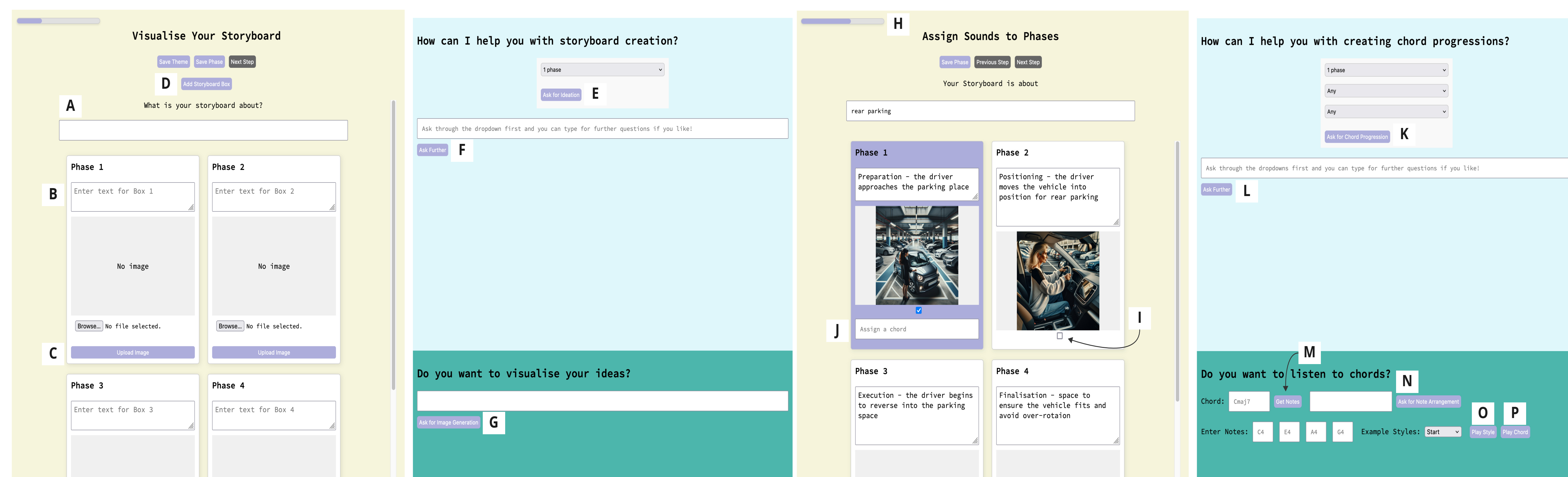
Scenario-Based Design to Envision How GenAI Can Support Sound Design Practices

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Prototype system. Web-based prototype through two scenarios that includes four applications of generative AI and four supporting features

A) Storyboard theme B) phase theme C) Image for phase description D) Add phases E) Initiate storyboard ideation F) Further inquiry G) Image generation H) Progress bar I) Checkbox for chord assignment J) Chord input K) Initiate chord generation L) Further inquiry M) Note components N) Initiate note arrangement O) Play styles P) Play chord



Practitioner Scenario. Two Scenarios developed from the key practitioners in sonic interaction design, sound and UX designer (A) Nia as a Sound Designer (B) Yuna as a UX Designer

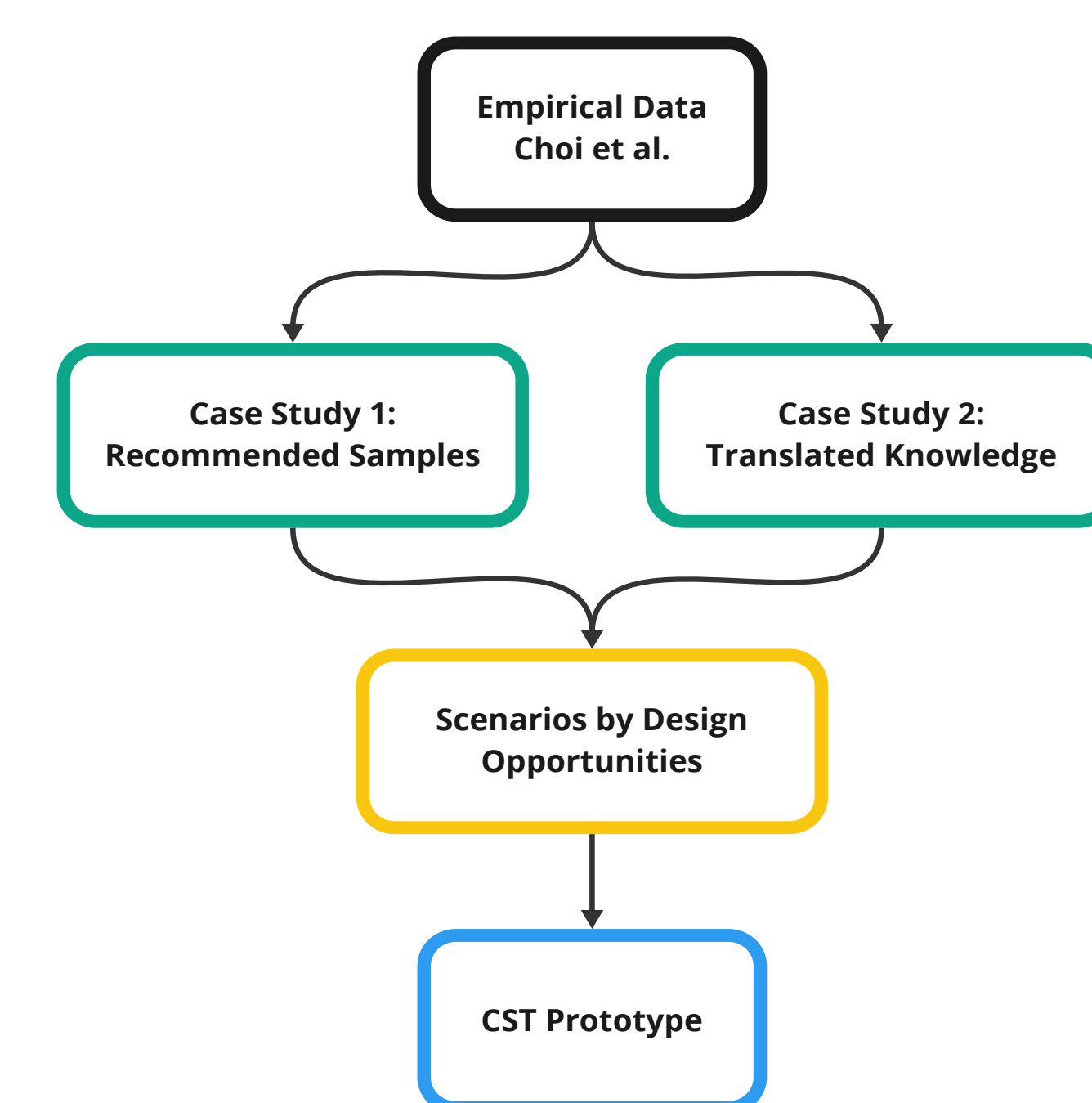
Sound Designer



UX Designer



Study Design. Practitioner scenarios by domain challenges for CST prototyping



Introduction

Overview

\Tonal Cognition Embodied music cognition is a focus in sonic interaction design, with tonal cognition inducing behaviour by tension and release.

\Creativity Support Tool Challenges for practitioners were identified through related CST evaluation (Choi, Andres, and Martin, 2024).

\Generative AI The Challenges can be supported through GenAI, sample suggestion by plain input, integrated into CST.

\Method Case studies for domain challenges (Andres et al., 2020), scenario-based CST design (Wolf, 2019), CST prototyping, and reflection for future research and CST development.

Design

Case Studies

\Recommended Samples Samples as initial setting; How might GenAI offer recommendations for logic formation in storyboards and chord progressions?

\Translated Knowledge Musical knowledge for understanding principles; How might GenAI interpret plain language inputs and translate them into relevant musical knowledge?

Scenarios

\Sound Designer Nia creates sounds, in the automotive industry, based on team input, drawing on her hobbyist musical background.

\UX Designer Yuna plans auditory designs, in the home appliance industry, with a focus on user cognition, despite minimal musical knowledge.

Prototype

Overall System

- AI-powered CST for practitioners in storyboards and chord progression creation.
- Node.js web using the GPT-4o-mini, with tone.js for sound synthesis and tonal.js for tonal music elements.

Function

- **AI Applications** Ideation for writing the storyboard, generating chord progression, creating note arrangements, and visualising story phases.
- **Supporting Features** Note interpretation of chord, chord listening, options for advanced users, and an onboarding section.

Discussion

Initiating Conversation for Image Generation

Users select options in plain language, and the tool translates them into key factors for generating AI-driven storyboard images like storyboard and chord creation.

Storyboard with Sub-Phases in Horizontal Order

The storyboard process could improve with sub-phases and a horizontal layout, enhancing detail for UX and aligning with cognitive flow.

Enhanced Automation and Detailed Tuning

The tool could improve with automated chord listening, intuitive controls for octaves and inversions, and expanded libraries for refining other musical factors.

References

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