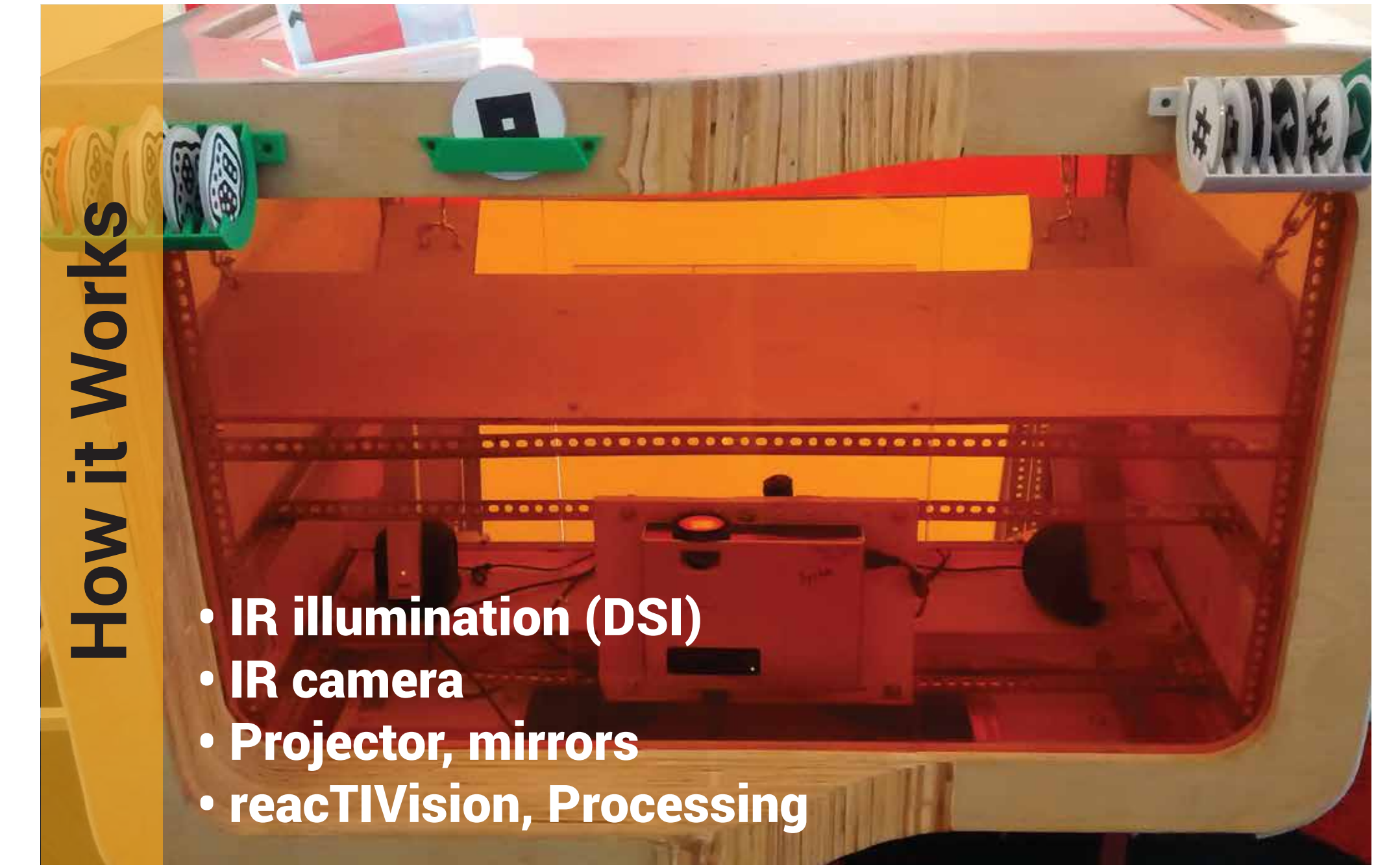
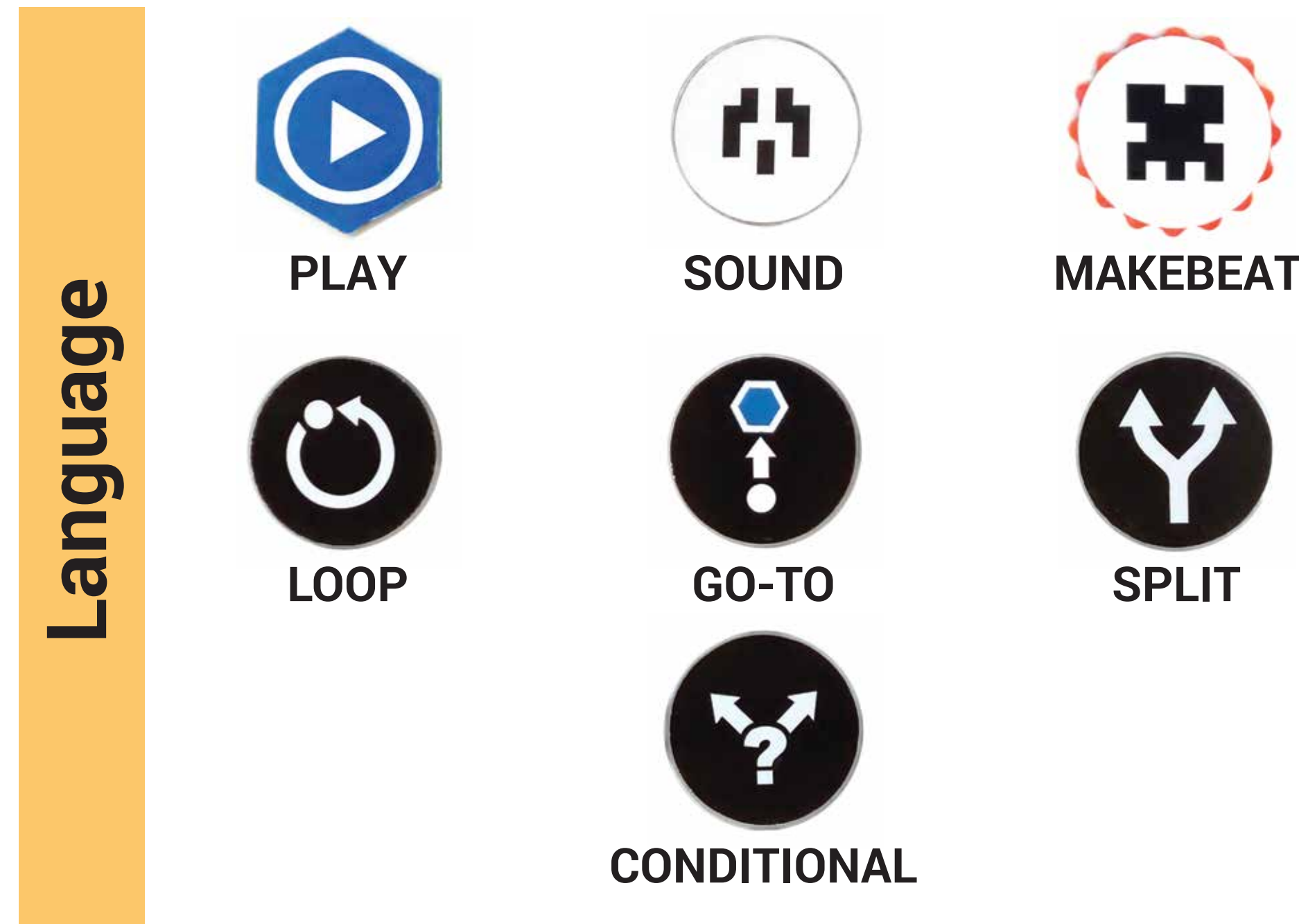


TuneTable

@tunetable_gt

Experience and Ownership with a Tangible Computational Music Installation for Informal Learning

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The Study

Research Question: How can children and teenagers informally gain content knowledge in and positive attitudes towards computing through experience and ownership in public settings?

Setting: Museum of Design Atlanta, Georgia, USA.

Participants: Two school field trips with five groups (5-10 participants) of 8-16 year olds.

Task: Explore the table together and create an audiovisual piece for a music album (45 min).

Data collection method: Video snippets and interviews, a new self-developed methodology called "maker interviews".

Data analysis method: Informal video analysis of group discussions inspired by thematic analysis.

Findings

Ownership relates to the motivation for self-learning after being exposed to a learning activity.

Ownership of Code: How can we make TUI interfaces that encourage creativity in computing? How can we motivate self-learning in informal settings?

Ownership through Collaboration: What is the best way to promote egalitarian collaboration? How can the TUI interface promote short-term collaborative learning?

Ownership of the Design: How can we best make visible the design process of a tabletop interface? Should patrons intervene in the tabletop design? How can we make patrons reflect critically on their tabletop artistic work with no intervention?

Ownership of Failure: Should we make the errors visible? How can we support error handling in a tabletop TUI?

Future Work

AISL NSF funded project (4 years): Follow up work from this research supported by NSF.

Ecosystem of technologies, spaces and cultures: The aim is to push the boundaries of informal learning in STEM education, building stronger connections between the learning spaces of the museum, the school, and the home. Technologies involved: TuneTable (Georgia Tech), TunePad (Northwestern University), EarSketch (Georgia Tech).

Innovative collaboration and research on informal learning with museums: Strengthen collaboration, conduct innovative workshops, studies, and exhibitions with MODA and the Museum of Science & Industry (MSI) in Chicago.

Tabletop research: Moving forward TUI technologies (e.g. hardware, software, interaction design, tangible programming language).



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