MIT Department of Architecture, IAP 2019
4.S14 Transensational Objects: Studio on Inclusive Design

Instructors:
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When: January 14 - January 31, Mon to Fri, 10am – 1pm
Credits: 6
Location: MIT International Design Center (IDC), MIT bld. N52, room 337
Level: G (Undergraduate students are welcome with permission of instructors)

Course Description

Design pedagogies tend to prioritize vision over other senses. This vision-centric approach often neglects aspects of accessibility and inclusivity in the ways that we experience space. Transensational objects studio will act as a platform to explore how visual spatial experiences that are inaccessible to the blind can be expressed in non-visual modalities. Students will identify spatial problems related to the everyday lives of blind or visually impaired individuals: how do blind people orient themselves in space? How do they experience everyday activities and objects? Using the campus of the Perkins School for the Blind as a site of intervention, students will develop auditory and/or tactile objects of inclusive design –transensational objects– to address these questions. The proposed objects can vary in scale and type, ranging from wearables and interfaces to design objects and spatial installations. The design process will be guided by the method of sensory correspondence: students will devise rules for translating visual properties into tactile or sound properties in order to design inclusive spatial experiences. Students will have the opportunity to test their prototypes on the Perkins campus while receiving on-site feedback from Perkins students and specialists. The studio will culminate in a public exhibition and discussion addressing broader questions of sensory engagement and
accessibility in design. Transensational Objects is a graduate level studio, however undergraduate students are welcome with permission of the instructors.

Schedule

Day 01 (01/14) Introduction
   Exercise 01 - Introductory assignment on inclusive design
   Working Session - Students work individually
   Review 01 - Presentation solutions to introductory assignment

Day 02 (01/15) Research
   Lecture 01 - Sensory correspondences and inclusive design
   Working Session - Student team formation & brainstorming
   Exercise 02 - Framing the problem, proposals - three application scenarios.

Day 03 (01/16) Field Research
   Field Work 01 - Workshop at the Perkins School for the Blind in Watertown
Day 04 (01/17) **Research**  
**Working Session** - Refine and define ideas for exercise 02

Day 05 (01/18) **Presentation and Feedback**  
**Review 02** - Presentation & review of exercise 02. Guest reviewers.  
**Exercise 03** - Model and produce three first working prototypes

[Monday 01/21 - MLK Day]

Day 06 (01/22) **Prototyping**  
**Tutorial 01** - 3d Modeling  
**Tutorial 02** - Fabrication / Shop Training  
**Working session** - Exercise 03

Day 08 (01/23) **Prototyping**  
**Tutorial 03** - Programming & Embedded electronics 1  
**Working session** - Exercise 03

Day 09 (01/24) **Prototyping**  
**Tutorial 04** - Programming & Embedded electronics 2  
**Working session** - Exercise 03

Day 10 (01/25) **Presentation**  
**Review 03** - Presentation of concept prototypes & research background and rules.

Days 11-12 (01/28-01/29) **Final Production**  
**Working session** - Refine project

Day 13 (01/30) **Field Evaluation**  
**Field Work 02** - Workshop at the Perkins School for the Blind in Watertown.

Day 14 (01/31) **Final Presentation**  
**Review 04** – Public exhibition & discussion. Final Deliverables: 1 final working prototype (object, installation or software application). Three presentation posters showing: 1) Research, 2) Rules of Correspondence, 3) Final object. 1 video of final working prototype. Preliminary prototypes. Guest reviewers TBD.

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**Completion Requirements:**
Completion of each of the exercises, rigor in process and clarity in representation, as well as the overall progress of the semester (including attendance) will be fundamental to completing the course.

**Evaluation Criteria and Grading:** The following criteria will be used for the evaluation of student’s work, both in terms of helping their progress and in final grading. (01) Concept: How clearly is the student articulating the conceptual intentions? (02) Translation of Concept: How well is the student using their concept to develop a design response to given problems? (03) Representation Appropriateness: How well matched is their choice of representational means to their intentions? (04) Representation Quality: How accomplished are they with drawing, modeling, digital representation, etc? To what degree does their representations convey what they ought to? (05) Oral Presentation Skills: How clearly are they presenting their ideas orally, whether at their desk, in class discussions, or to a more formal jury? (06) Participation in Discussions: How actively and how constructively are they involved in class discussions, both formally and informally? (07) Response to Criticism: How do they effectively take advantage of criticism from instructors, classmates and outside jurors? (08) Auto-Critical Skills: To what extent are they able to critique their own work regularly and effectively? (09) Attendance – see below.

**P: Pass** - Project is well researched, diligently pursued, and successfully completed. Student pursues ideas and suggestions presented in class and puts in effort to resolve required projects. Project is complete on many levels.

**D: Poor** - Project is incomplete. Basic skills including graphic skills, model-making skills, verbal clarity or logic of presentation are not level-appropriate.

**F: Failure** - Project is unresolved. Minimum objectives are not met. Performance is not acceptable. This grade will be assigned when you have excessive unexcused absences.