

Building Interactive Systems

INTEGRATE

Module Introduction

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What is the INTEGRATE module?

Learning Goals

- Devise a "big picture" system that you will design, prototype, and evaluate
- Integrate system components in principled ways
- Practice human-centered systems thinking, design, and evaluation
- Gain teamwork and hands-on research experience
- Learn how to articulate and present contributions

Logistics

- Teams of 4–5 students
- Six milestones
- Key interim deliverables:
 - Design presentation, Prototype demo
- Key final deliverables:
 - Paper, video

Timeline

→ Week 1

→ Week 2

→ Week 3

→ Week 4 - **Teams**

→ Week 5

→ Week 6 - **Concept**

→ Week 7

→ Week 8 - **Design**

→ Week 9

→ Week 10

→ Week 11

→ Week 12 - **Prototype**

→ Week 13

→ Week 14 - **Testing**

→ Week 15 - **Final**

Key Milestones

- **Week 4:** Form teams around rough topic
- **Week 6:** Present conceptual design
- **Week 8:** Present concrete/detailed design
- **Week 12:** Demo prototype, evaluation plan
- **Week 14:** Testing findings
- **Week 15:** Final report, video submission

Scope

Your project has to meet the following requirements:

- It must be larger than a component/HACK assignment
- It has to bring together, i.e., "integrate," components for sensing, modeling, decision making, action/representation
- It must meet the two key "interactive system" requirements
- It must be evaluated for performance, usability, and/or satisfaction

Themes to Seed Project Ideas

Brainstorm **[technology]** + **[domain]** pairs

Technologies

- Augmented reality
- Conversational interfaces
- Adaptive environments
- End-user programming
- Mobile/wearable interfaces

Domains

- Accessibility
- Learning/education
- Task assistance
- Manufacturing, warehouse work
- Driving, navigation

Next Steps

- Form teams, pick a team name (Wisconsin small-town name)
- Communicate over Teams:
 - Team name
 - Team members
 - Tentative *technology + domain* pair