Multitouch Tables for Collaborative Learning
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Motivation

Benefits of Multitouch in the Classroom
- Collaborative Learning
- Learning by Doing
- Knowledge Sharing

Barriers to Adoption
- Price
- Portability
- Modularity

Solution

Hardware
- Modular components afford easy upgrades and cost effective repairs
- Lightweight materials allow for greater portability

Software
- Digital card activities
  - Leverage flash card paradigm, with digital functionality
  - Encourage collaborative learning & knowledge sharing
  - Interchange content based on topic
  - Support multi-user card interactions
- 4 interaction gestures
  - Describe associations between elements
  - Linking, Combining, Sequencing, Mapping

Laboratory Study (In Progress)
- Do students find multitouch tables more fun, engaging, and satisfying than mouse-based games?
- Can students complete activities more quickly with a multitouch table than a mouse?
- What interaction styles emerge through the use of multitouch tables?
- What do students remember about the content displayed on a multitouch table?
- Does multitouch technology as a learning tool provide advantages over existing technology?
  - Possible advantages: Greater engagement, repetition, cultural references, interaction, and retention

Future Work
- Identify and implement gestures and activities appropriate to target populations
- Create educator toolkit to support custom content creation
- Explore alternative hardware solutions

Formative Intervention
Demonstrated with 14 elementary students (3rd - 5th grade) at a summer camp
- Noted importance of pressure sensitive input when dragging
- Observed enthusiastic response from students during interaction
- Received suggestion to include auditory feedback to improve user experience

Affiliations

VirginaiTech
BETHEL COLLEGE