Collaboration in Makerspaces

Steven O’Shields

Advisor: Dr. Summers

Department of Mechanical Engineering,
Clemson University
What is a Makerspace

- A **makerspace** is a physical location that serves as a meeting space and houses the community’s design and manufacturing equipment [1].

- On-campus examples include:
  
  - EIB 135
  - Watt Center 112, 3D printers
  - Cook Lab machine shop
How are Makerspaces Designed

- Facility has support staff [1]
- Align access to facility with student schedules [1]
- Open environment to promote collaboration [1-4]
  - Promotes awareness of activities, projects, interests [1]
  - Dialogue and idea exchange in a public venue between diverse teams [1,3]
  - Promotes resource sharing [5,6]
- “…a technology and space for engaging curiosity, creativity, and collaboration.” [7]
- Maker movement described as “…a cultural norm of sharing designs and collaborating.” [8]

Does not answer in what way collaboration occurs.
Collaboration in Makerspaces

● RQ1: How does a team of users collaborate in a makerspace?

● RQ2: When does a team of users collaborate in a makerspace?

● RQ3: Why does a team of users collaborate in a makerspace?

● Cameras to record student teams use EIB 135
  – Observe “how,” “when,” and provide insight into “why”

● Integrated camera-monitor network called MakerView [9]
Collaboration in Makerspaces – EIB 135

Makerspace Collaboration

Working table

Whiteboard

Storage

Toolbox

Machining tools

Working tables

TV
Conclusion

- How, when, and why collaboration occurs in makerspaces not well defined
- Case study to observe and answer research questions

Future Work

- Specify and install cameras
- Begin having design teams use the makerspace more often
  - Creative Inquiry
  - ME4010
Questions?


CEDAR
CEMSON ENGINEERING DESIGN APPLICATIONS AND RESEARCH

stoshie@g.clemson.edu
cecas.clemson.edu/cedar