

# Patterns of Requirements Gathering for a CIS Capstone Course

*TREO Talk Paper*

**Carey Cole, MS**

James Madison University  
colec@jmu.edu

**Devin Boehmer**

boehmedm@dukes.jmu.edu

**Thomas W. Dillon, PhD**

James Madison University  
dillontw@jmu.edu

**Diane Lending, PhD**

James Madison University  
lendindc@jmu.edu

## Abstract

A group project for a capstone course that simulates a real-world application development activity requires the students to meet with an external client to understand and gather the new system's requirements. From these requirements the students then create the software necessary for the information system. Because the process of requirements gathering for an information systems project is critical, our CIS faculty have placed a special emphasis on the requirements gathering process designed to improve student's abilities (Ezell, Lending, Kruck, Dillon, & May, 2016).

During the fall semester of 2017, eight groups of six student were required to gather requirements for the capstone project. The stakeholders for the new system and those that the students were to gather requirements from, fell into three groups; a CIS instructor, a health science professor serving as content expert, and employees of the volunteer non-profit agency that would benefit from the project's outcome.

After the student capstone project, members of each student group were interviewed to learn who, when, and how requirements were gathered during the requirements gathering process. Data from the interviews showed several findings. The communication between student teams and stakeholders fell into four communication methods; in-person, phone call, email, and on-site visit. In addition, we identified four other requirements gather issues; (1) communication time line, (2) the sources of the requirements that were gathered, (3) number of sources, and (4) depth of requirements understanding.

Our results showed that successful project teams met once a week or at least occasionally during the project, made occasional phone calls, weekly email correspondence, and a site visit. Less successful project teams met with the stakeholders between zero and one time, made one phone call, two or fewer emails and probably no site visits. Surprisingly, written materials and verbal directions encouraged the student teams to engage the "client" or other stakeholders (CIS instructor and health science professor) when necessary. In addition, successful teams began to communicate with stakeholders earlier, did not ask the members of other teams for requirements, identified one or two primary requirements' sources and were able to gain a better depth of understand of the system needs.

Our findings provide a base of understanding of our students when engaged in simulated requirements gathering activities. We will use these finding to design teaching strategies to enhance requirements gathering learning activities.

## References

Ezell, J.D., Lending, D., Kruck, S.E., Dillon, T.W., & May, J.L. 2016. "A plan to improve learning of requirements elicitation in an IS curriculum," in *Proceedings of the 2016 ACM SIGMIS Conference on Computers and People Research*, June 2-4, 2016, Alexandria, VA, edited by Morgan, A. & Quesenberry, J., ACM, June 2, 2016.