Incubating the Next Generation of Offshore Outsourcing Entrepreneurs

Olly Gotel
Assistant Professor
+1 212 346 1014
ogotel@pace.edu
Pace University
School of Computer Science and Information Systems
One Pace Plaza, New York, NY 10038, USA

Christelle Scharff
Assistant Professor
+1 212 346 1016
cscharff@pace.edu

Sopheap Seng
Lecturer
+855 12 682 493
sopheap.seng@itc.edu.kh
Institute of Technology of Cambodia
Blvd Pochentong, BP 86
Phnom Penh, Cambodia

Abstract
The impact of intense media and political spotlight on Information Technology Offshore Outsourcing on Computer Science education requires us as faculty to re-examine the skills and roles that our future graduating Computer Scientists will need to employ and play in a global workplace and, perhaps more importantly, to prepare them for this. We have chosen to begin to do this by simulating an offshore outsourcing software development project scenario for our students in a capstone Software Engineering course for undergraduate Computer Science students. This project creates a globally distributed team composed of students from Pace University, NY, USA and from the Institute of Technology of Cambodia, Phnom Penh, Cambodia.

1. Motivation

Imagine what the impact of intense media and political spotlight on IT Offshore Outsourcing (ComputerWorld, 2005) has been on Computer Science students in this country (Ferguson, Huen, Henderson & Kussmaul, 2004; Ferguson, Kussmaul, McCracken & Robbert, 2005). Not so long ago, Computer Science students were practically guaranteed an entry-level computer programming job after graduation, a job typically accompanied by a well-defined technical career path. These students now see these entry-level jobs migrating to India (or the next service-providing country to come along), and many students find it difficult to see both where and how they may have a role in this new model of distributed software development. IT Offshore Outsourcing is something that is here to stay while there are cost-savings to be made by businesses, so this requires us as faculty to re-examine the skills (SkillProof, 2005) and roles that our future graduating Computer Scientists will need to employ and play in a global workplace and, perhaps more importantly, to prepare them for this. We have chosen to begin to address this requirement by simulating an offshore outsourcing software development project scenario for our students.

2. Simulating IT Offshore Outsourcing in the Classroom

This semester, we have changed the nature of the group project in the capstone Software Engineering course for undergraduate Computer Science. Traditionally, the group project would unite a team of two to four Pace University students to work on a small but realistic software development project. This time, Pace University students are also working with a group of comparable students from the Institute of Technology of Cambodia. This means that we have teams of six to eight students, each team comprised of students from both countries. We have set up the projects so that: (a) the Cambodian students act as customers and end-users – they know the problem the proposed system is to tackle, the environment it is to operate in and have the authority to accept the work of the developers (or not); and (b) the Pace University students act as developers – it is their responsibility to "capture" the requirements for the system from the other half of the team, propose design options, build the selected design and test the eventual system, while also handling requirements changes (note the important reversal of conventional onshore / offshore roles in this scenario). Software development is an iterative and incremental process that relies on good communications and regular feedback. We are therefore closely controlling and monitoring aspects of the project relating to cultural differences, time and space complications, and choice of communications tool for sharing project artefacts and coordinating project activities.

3. Incubating IT Offshore Outsourcing Entrepreneurs

In this simulated IT Offshore Outsourcing setting, students will acquire the technical knowledge (Cheng, DeSouza, Hupfner, Patterson & Ross, 2004) and the softer skills (e.g. the management, leadership, decision-making and communication skills) that are needed to thrive in a globally distributed and multi-cultural working environment (Coar, 2004; Olson & Olson, 2004). The experience is designed to raise student awareness of the issues associated with working in this manner and to provide early (i.e. safe) exposure to successful, and not so successful, working practices and tools. An additional objective is to provide students with a more balanced and first-hand view of the advantages, disadvantages and potential of IT Offshore Outsourcing than is commonly portrayed in the popular press. We believe that this understanding will be essential if we are to prepare world-class engineers, managers and entrepreneurs who are not only able to work in such a setting in the future, but are able to realize the benefits from so doing (Penn State College of Engineering, 2005).

References

Cheng, L., De Souza, C. R. B., Hupfer, S., Patterson, J., & Ross, S. (2004). Building Collaboration into IDEs. ACM Queue, December/January 2003-2004.

Coar, K. (2004). The Sun Never Sets on Distributed Development. ACM Queue, December/January 2003-2004.

ComputerWorld Outsourcing Knowledge Center. (2005). *http://www.computerworld.com/ managementtopics/outsourcing*

Ferguson, E., Huen, W., Henderson, P. B., & Kussmaul, C. (2005). IT Offshore Outsourcing: Impact on CS/IS Curriculum. ACM SIGCSE'05, pp 260-261, February 23-27, St. Louis, Missouri, USA.

Ferguson, E., Kussmaul, C., McCracken, D., & Robbert, M. A. (2004). Offshore Outsourcing: Current Conditions & Diagnosis. ACM SIGCSE'04, pp. 330-331, March 3-7, Norfolk, Virginia.

Olson, J. S., & Olson, G. M. (2004). Culture Surprises in Remote Software Development Teams. ACM Queue, December/January 2003-2004.

Penn State College of Engineering. (2005). World Class Engineer. *http://www.engr.psu.edu/AboutCOE/ worldclass.asp*

SkillProof web site. (2005). New York State IT Job Market Update. *http://www.skillproof.com*, February 2005.