

CMPSCI 520
Homework #2
Assigned: September 15, 2008
Due: September 29, 2008

1. Learning Management Systems (LMS) are ubiquitous on college campuses. On this campus, we use SPARK (currently running Blackboard Learning System Vista Enterprise, formerly WebCT Vista 4). Information on SPARK can be found at <http://www.oit.umass.edu/spark/faculty/tutorials/index.html>.
 - a. We classified stakeholders into several categories (Customer, End User, Developer, Management, Innocent Bystander). For these and other categories you may suggest, identify stakeholders in the UMass SPARK LMS system. Be specific, e.g., Registrar not “administrator.”
 - b. SPARK “went live” a few semesters back, replacing a number of (but not all) legacy systems that had previously provide some the LMS services and functions (e.g., older versions of WebCT, websites, etc.). Characterize as high or low risk: requirements, design, development and coding, integration, deployment, schedule, budget, staffing, training.
 - c. Many campuses are moving to “open source” LMS such as Moodle and Sakai. What are the advantages and disadvantages to using such LMS?
2. Consider the following software “qualities”: reliability, maintainability, portability, testability, traceability, correctness, robustness, fitness of purpose, performance, security, availability, functionality, usability, modifiability, portability, reusability, integrability, testability, conceptual integrity, correctness, completeness.
 - a. For each, tell whether it is an internal and/or external, product and/or process quality.
 - b. Draw a directed graph where each node Q_i is a quality and each directed edge (Q_i, Q_j) means that quality Q_i contributes to quality Q_j . What does the graph tell you about the relative importance of the qualities? What does a cycle in the graph imply?

Submitting Homework, you may:

- Email your homework to me (adrion@cs.umass.edu) in text, MSWord, PDF or some other format that I can print. Homework submitted via email must have a postmark before 4 pm on the date the homework is due.
- Turn in written/printed solutions to the CMPSCI front office on or before 4 pm on the due date to Michelle Eddy.
- FAX your homework (definitely not recommended) to 413-545-3729 before 4 pm on the due date.
- **Do not drop off homework in my office or mailbox nor at our or Wendy Cooper’s office. We cannot guarantee receipt if you do not email the solutions or drop them off with Michele.**
- **Unless you have obtained prior approval for an extension, 5 pts/day (or part thereof) will be deducted from your score.**