Department of Software Engineering **Building 70-1690** **Phone: (585) 475-5461**	**Senior Project Proposal** **UNDERGRADUATE**

Project Title:	Online Peer Evaluation
Organization:	RIT Online Learning
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Background Information

The RIT Online Learning department promotes the use of collaborative learning as one of the most effective teaching and learning strategies faculty can incorporate in their courses (see http://www.co-operation.org/pages/cl-methods.html for a meta analysis on student achievement). The new RIT myCourses course management system includes "group" features that help facilitate online group interaction so faculty and student group members can stay connected conveniently throughout a group project life cycle. Wikis, blogs, email and similar tools can also facilitate online collaboration.

A key feature that is missing is some sort of online peer evaluation to help inform faculty early in the collaboration process of any situations that may need intervention. There are many ad hoc ways for faculty to collect anonymous peer feedback on group projects and you can review a long list of these at the end of this proposal.

For additional information about collaborative learning, these two web sites are excellent resources:

> National Institute for Science Education
>
>> http://www.wcer.wisc.edu/archive/cl1/CL/default.asp
>
> Cooperative Learning Center – University of Wisconsin
>
>> http://www.co-operation.org/index.html

Project Description

Online peer evaluation is essentially an anonymous online survey and the RIT Clipboard system has been used for this (see http://clipboard.rit.edu/takeSurvey.cfm?id=2FN2QC for example). Survey systems do provide the necessary structure for gathering peer evaluations but lack good reporting and are clumsy to set up. For example, in the Clipboard survey above the instructor would have to make a separate survey for each student in the class, and then through email or message board announce to each group the links for each member of the class. Students would then need to complete a separate survey on each of their group members. The clumsiness of current approaches prevents frequent use of peer evaluation and it is often only used at the end of a project to assist in assessing individual components of the group grade. But the best use for peer evaluation is early in the project when there is still time for students to change their behaviors and complete a successful project. An easy and simple online peer evaluation tool

would allow for peer assessment part way into the project and at the end without burdening faculty and students in the process..

Ideally, the instructor would create the necessary structure by submitting a single list of groups and group members, and ultimately the best solution is to utilize the existing group structures already defined in the myCourses course management system. Once the surveys are complete, the instructor would have summary results for each student that they can then review to see if there are problems that suggest intervention. Ideally, the instructor would get a summary level report first that would allow group comparisons and highlight students with especially low or high evaluations. Following are some thoughts on each of the key components of the proposed online peer evaluation system organized around Setup, Evaluation, and Reporting.

Setup – Creating the Group Structures

Ideally the system would take advantage of group structures already in myCourses, but since an online peer evaluation tool might also be useful with other online collaboration systems a generic setup using RIT Computer Accounts as the key would be a satisfactory starting point. The instructor would need to supply a list of groups with members RIT Computer Account. The Gradebook feature of myCourses may facilitate gathering this information since it can be sorted by Group and can be exported to a CSV file or copied and pasted. The RIT Computer Account can be set by faculty to be one of the fields displayed in the Gradebook (see figure – RIT Computer Account follows name).

Evaluation

There are many examples for peer evaluation assessment and I would encourage the team to review the ones provided at the end of this document to get a sense of the range of evaluative responses faculty might look for in peer evaluation. Initially it would be sufficient to use the questions in the Clipboard survey example provided earlier, but ultimately the instructor should have the flexibility to add, delete, and edit their own questions.

Since students will be evaluating each of their peers, it would also be useful to use a scale response that allows students to see a column or row for each of their peers and to click a 1-5 rating for each student. This would allow students to quickly compare each peer as they complete the form and facilitate quick completion of the form. Faculty might want a toggle to allow students to evaluate their own performance or to prevent students from entering scores for themselves.

Reporting

Faculty need to quickly see if some groups score lower or higher than others. This can be a simple sorting option from highest to lowest group scores based on a summary of responses or

based on a specific question such as "Please rate your group in general on a scale of 1-5." They also need to have highlighted individual scores that are significantly lower than the group average. Low individual scores and low group scores would suggest that the faculty look more closely at the online group interactions and perhaps intervene if appropriate with a private email to the student or group suggesting ways to get the project back on track. Students also need feedback on their progress from peers. Although "comments" might be reserved for faculty eyes only, summary statistics and possibly public comments could be shared with individual students. The system needs to authenticate on the RIT Computer Account and keep track of who has completed the evaluations, but the individual responses from students should be kept anonymous.

Technical Constraints & Assumptions

1. Authenticate on RIT Computer Account
2. Browser independent
3. Batch process groups and membership
4. Secure web access
5. Allow for same student in multiple courses using system
6. Evaluate integration with myCourses

Project Scope

The first step for the project team would be to review some of the Peer Evaluation Examples below to evaluate the range of possible approaches in peer assessment. From this exercise they can work with Online Learning to develop specifications for the Setup, Evaluation, and Reporting modules. A specification document for the system design should be provided to Online Learning for review as a first deliverable. The goal will be to develop a working prototype for use mid-quarter Spring Quarter. The prototype can be based on a fixed set of questions, but the Setup Module and Reporting Module should be reasonably full featured.

Department of Software Engineering Required Deliverables

1. Project website holding all work products and project artifacts maintained in the project account on the se.rit.edu web server
2. Project plan, schedule and process methodology definition prepared by the end of week 3 of the Winter term.
3. Tracking report for at least two product/process metrics appropriate to the project and development methodology. Tracking reports updated on the project website at least every two weeks.
4. Interim status and final project presentations
5. Project poster and presentation at "SE Senior Project Day"
6. Project technical report

Sponsor & Project Expected Deliverables

We would like a design specification document to review in Winter Quarter, and a prototype to evaluate Spring Quarter. Online Learning will survey any students and faculty involved with the prototype to provide project evaluation information by the end of Spring Quarter.

Peer Evaluation Examples

JMC 3333 Group Project Peer Evaluation Form
Confidential Group Project Peer Evaluation
Portfolio Project: Peer Evaluation Form
Portfolio Project: Peer Evaluation Form
Group Projects:: Organizing and working with groups in projects
Peer Evaluation Form for Draft Slides and Outline
SHM - Group Peer Evaluation Form
PEER EVALUATION FORM
Group Projects Peer Evaluation
http://www.student.cs.uwaterloo.ca/~cs445/project/groupEvals.shtml
Peer Evaluation Form
University of Alberta Libraries
Part IV: Teaching Ideas and Advice
408R Peer evaluation form
Group Lesson Peer Evaluation
Peer Evaluations
Peer Evaluations
TL Forum 95: Kirkpatrick and Fuller - the challenge of peer assessment
Peer ratings
Accounting Resource Center
Econ 101 Peer Evaluation
ISYS 464, Sections 1-3, Spring, 2005 (Beckman): Peer Evaluation Form
film music peer evaluation form
http://arapaho.nsuok.edu/~landry/peerreviewexample.htm
Confidential Peer Evaluation Sheet PROJECT
2Learn.ca Project Centre--Getting Started--Peer Evaluation
Peer Evaluation
SPARK - Self & Peer Assessment Resource Kit
MIS 3790 - Peer Evaluation Guidelines
Peer Evaluation Form