On-line Co-op Evaluation System

Software Requirements Specification

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1. Introduction

1.1 Purpose

This Software Requirements Specification (SRS) formally describes the On-line Co-op Evaluation System, herein referred to as "the system." It provides a detailed description of the system to the customer, decomposition of the problem, a basis for the design of the system, and a basis for testing the system once it's completed. It establishes the external interface, functional, and nonfunctional requirements for the system. This document only covers the extensions to the system that are being made to allow student co-op evaluation submission online.

1.2 Intended Audience

This document is intended as a means to understand the system for the:

- Customer
- Prospective users
- Developers
- Faculty advisors
- Other stakeholders

2. Product Description

2.1 Purpose

The Online Co-op Evaluation System was created last year by another Senior Project team. That team only implemented the functionality for employers to submit feedback online, the new system needs to allow students to do that as well. This will eliminate the need for students to mail in paper versions of their co-op evaluations. Academic users will then be able to search and view these submissions online and administrative users can create new forms to be sent to students. They will also be able to generate reports based on these submissions, giving them insight into what students think.

2.2 Users

Students

Students will use the Online Co-op Evaluation System in order to submit evaluations of their co-op experience. They will generally use the system once per quarter while they are on co-op, although they may make changes to their forms at a later time.

OCECS Representatives

OCECS representatives will still use the Online Co-op Evaluation System to do everything the old system did. In addition, they will be able to manage new forms for students to fill out on co-op and generate reports based on data submitted by the students. They will also handle changes to student forms that are requested by departments.

Academic Department Representatives

Academic department representatives will use the Online Co-op Evaluation System to process student evaluation forms. They will use individual form data in order to grade students for their co-op experience. They will also be able to search for a student's past co-op reports and see a history of what has been done.

2.3 Assumptions

The team is making the following assumptions for the project:

- OCECS Administrators have DCE login accounts that will be used for authentication for this system.
- Department users have DCE login accounts that can be used to login and identify their department.
- The hardware shall be supplied by the Co-op Office or use ITS' current hardware.
- The web server can process the input of form data.
- The email server can handle sending over 1000 messages at a time.
- The ITS department will maintain the system after the project has completed.

3. Product Context

3.1 Diagram

The diagram below shows the components of the system and those with which it interacts. They include the ITS DNS (domain name server)/web server, the DCE LDAP server for user authentication, the ITS Oracle database instance for the system's data, and the ITS mail server for sending electronic mail.

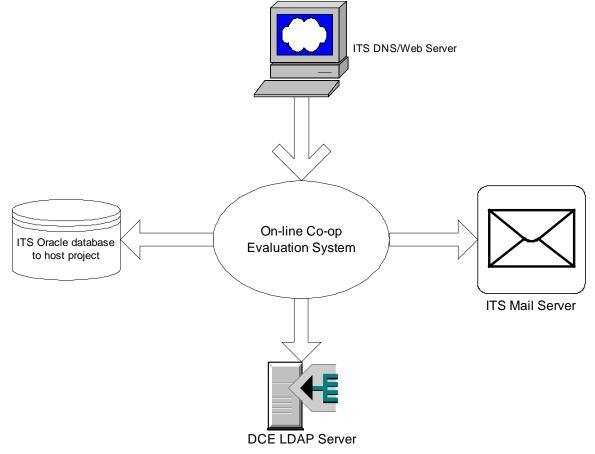


Figure 1 - Context Diagram

3.2 Workflow

The workflow for the additions to the system is shown with the diagram in Figure 2. This diagram shows the tasks that OCECS representatives, students, and department users will use the system for. The users will still be able to perform all the tasks from the original system, but only the new tasks are shown below.

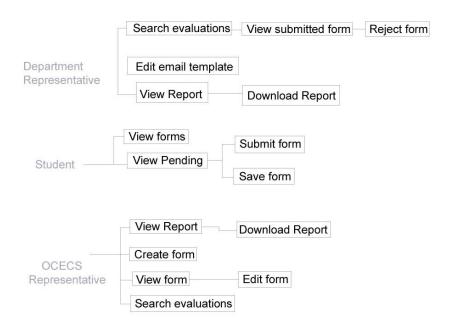


Figure 2 - Workflow Diagram

4. External Interface / Look and Feel Requirements

4.1 External Interface Requirements

The extension should work with all the external interfaces as the existing employer evaluation system in addition to these.

| Requirement ID | EI-1 |
|-------------------------|--|
| Requirement Type | Software Interfaces |
| Description | Interface with DCE for user validation purposes via LDAP |
| Source | MN 1-6-2005 |
| Fit Criterion | The system can authenticate user logon credentials via DCE |
| | for students. |
| Priority | High |
| | |
| Requirement ID | EI-2 |

| Requirement Type | Communications Interfaces |
|-------------------------|--|
| Description | Interface with ITS mail servers. |
| Source | Statement of Need |
| Fit Criterion | The system can send mass email via the ITS mail server. This |
| | will involve sending both messages to single users and |
| | messages to groups of users. |
| Priority | High |

| Requirement ID | EI-3 |
|-------------------------|---|
| Requirement Type | Data format |
| Description | The data generated by reports needs to be exportable into a |
| _ | format that that OCECS and academic department users could |
| | import into a spread sheet. |
| Source | MN 12-7-2004 |
| Fit Criterion | Many users like to work with the data in a spreadsheet to draw useful data from it. This means that the data should be |
| | exportable into a comma-separated text file or other Excel- friendly format. |
| Priority | High |
| | |

| Requirement ID | EI-4 |
|-------------------------|--|
| Requirement Type | Communications Interfaces |
| Description | Method for getting student info from co-op database |
| Source | MN 2-8-2005 |
| Fit Criterion | The system should have an automated way of getting a student's information from the OCECS database into the student co-op evaluation database. |
| Priority | High |
| | |

4.2 Look and Feel Requirements

The extension should satisfy all the previous look and feel requirements as well as these.

| Requirement ID | LF-1 |
|-------------------------|--|
| Requirement Type | Look and Feel Requirements |
| Description | The interface should not rely solely on colors to highlight |
| | things that need attention. |
| Source | MN 2-8-2005 |
| Fit Criterion | Some users of the system may be colorblind, so there should |
| | be a way to highlight items that need attention in some ways |
| | other than simply changing their color. |
| Priority | High |
| | |
| Requirement ID | LF-2 |
| Requirement Type | Look and Feel Requirements |

| Description | Tables should be consistent with respect to what columns are |
|---------------|---|
| | displayed |
| Source | MN 3-14-2005 |
| Fit Criterion | Search results for evaluations should be ordered alphabetically |
| | by student last name. Returned data should be sortable by a |
| | column by clicking on the column header in their browser. |
| | The system should also show whether the evaluation is saved, |
| | submitted, or pending. |
| Priority | High |

5. Functional Requirements

The extension of this system should contain all the existing functionality in the employer evaluation system in addition to these.

| Requirement ID | FU-01 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-1 |
| Description | Students need to be able to login with their DCE account |
| Source | Statement of Needs |
| Fit Criterion | Students should be able to authenticate with the system using |
| | their DCE accounts. |
| Priority | High |

| FU-02 |
|---|
| Functional |
| UC-9 |
| The system needs a way to alert students that they have |
| something to do. |
| MN 12-7-2004 |
| The system should send students an email to alert them that |
| they need to take some action in the system. These emails can |
| tell the student about things such as upcoming deadlines, |
| incomplete forms, or new forms to fill out. |
| High |
| |

| Requirement ID | FU-03 |
|-------------------------|--|
| Requirement Type | Functional |
| Use Case ID | UC-9 |
| Description | Emails should be staggered to reduce load on the email server. |
| Source | MN 1-6-2005 |
| Fit Criterion | The emails that the system sends out for alerts and |
| | notifications should be done at an off-peak time and staggered |
| | so as not to overwhelm the mail server. |
| Priority | High |

| Requirement ID | FU-04 |
|-------------------------|------------|
| Requirement Type | Functional |
| Use Case ID | UC-5 |

| Description | Email notifications should be viewable by departments |
|---------------|--|
| Source | MN 2-1-2005 |
| Fit Criterion | Departments should have the ability to view the contents of a |
| | section of the email to students and to generate a test email. |
| Priority | Medium |

| Requirement ID | FU-05 |
|-------------------------|--|
| Requirement Type | Functional |
| Use Case ID | UC-2 |
| Description | System should send confirmation message to students |
| Source | MN 12-14-2004 |
| Fit Criterion | After a student has successfully submitted their co-op evaluation, the system should email that student a |
| | confirmation message and display a confirmation message on screen. |
| Priority | High |

| Requirement ID | FU-06 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-9 |
| Description | System should log email dates |
| Source | MN 2-8-2005 |
| Fit Criterion | The system should keep a log of what emails were sent to |
| | students so that administrators can see when the last action on |
| | an evaluation was. |
| Priority | High |

| Requirement ID | FU-07 |
|-------------------------|--|
| Requirement Type | Functional |
| Use Case ID | UC-7, UC-8 |
| Description | Forms will need new question types |
| Source | MN 2-1-2005 |
| Fit Criterion | Forms will need to support the same types of questions as the existing employer forms. There is also a new question type, the double likart, which allows comments. There are also essay questions where the text is captured. |
| Priority | High |

| Requirement ID | FU-08 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-2, UC-3, UC-7, UC-8 |
| Description | Each department can have its own form for students to fill out. |
| Source | MN 12-2-2004, MN 2-1-2005 |
| Fit Criterion | Each department can have a custom form for students to fill |
| | out. These forms will contain questions from the co-op office |
| | and questions from the department. The Co-op Office |
| | administrations will be able to edit the forms for each |
| | department. |

| Priority | High |
|-------------------------|--|
| | |
| Requirement ID | FU-9 |
| Requirement Type | Functional |
| Use Case ID | UC-2 |
| Description | Students should be able to save partially completed forms |
| Source | MN 12-14-2004 |
| Fit Criterion | When an incomplete form is submitted, it will be saved so that |
| | the student can return and complete it at a later time. When |
| | the student returns to a saved form, the questions remaining |
| | should be highlighted using both text color and a marking. |
| | The questions could be un-highlighted as they are filled out. |
| Priority | Medium |

| Requirement ID | FU-10 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-3 |
| Description | Students should be able to see past evaluations |
| Source | MN 12-14-2004 |
| Fit Criterion | Students should be able to view past co-op evaluations that |
| | they have submitted as well as evaluations that their |
| | employers have submitted about them. They should be in the |
| | same place, so that they can both be viewed at the same time. |
| Priority | High |

| Requirement ID | FU-11 |
|-------------------------|--|
| Requirement Type | Functional |
| Use Case ID | UC-3 |
| Description | Students should be able to check if employers have submitted |
| _ | evaluations yet |
| Source | MN 12-14-2004 |
| Fit Criterion | Students should be able to use the system to see if their |
| | current employer has submitted an evaluation for their current |
| | co-op yet. |
| Priority | High |

| Requirement ID | FU-12 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | N/A |
| Description | Employer forms should not be stored twice |
| Source | MN 2-1-2005 |
| Fit Criterion | In the existing employer evaluation system, both the saved |
| | version and the submitted version of an employer's evaluation |
| | are stored in the database, which is causing the database size |
| | to grow unnecessairly. It would be nice if this could be fixed. |
| Priority | Low |
| | |
| Requirement ID | FU-13 |

| Requirement Type | Functional |
|-------------------------|--|
| Use Case ID | UC-5 |
| Description | Administrators should be able to view and modify department |
| | email templates. |
| Source | MN 2-8-2005 |
| Fit Criterion | Co-op administrators should be able to view the email |
| | templates that departments set up to use as well as change the |
| | text. |
| Priority | Medium |

| Requirement ID | FU-14 |
|-------------------------|--|
| Requirement Type | Functional |
| Use Case ID | UC-4, UC-6 |
| Description | Search should support partial names |
| Source | MN 3-7-2004 |
| Fit Criterion | When performing a search, users should be able to enter a |
| | partial name and get a list of all students that match it. |
| Priority | High |

| Requirement ID | FU-15 |
|-------------------------|--|
| Requirement Type | Functional |
| Use Case ID | UC-4, UC-6 |
| Description | Users should be able to search employer evaluations by |
| | company |
| Source | MN 3-7-2005 |
| Fit Criterion | Users doing a search should be able to search for employer |
| | evaluations by company name. |
| Priority | High |

| Requirement ID | FU-16 |
|-------------------------|--|
| Requirement Type | Functional |
| Use Case ID | UC-4, UC-6 |
| Description | Users should be able to search for students by student ID |
| | number |
| Source | MN 3-7-2005 |
| Fit Criterion | Some departments don't use DCE for anything and only |
| | reference students by their student ID numbers. The system |
| | needs to support searching for students by both student ID and |
| | DCE account. There are privacy concerns since the student ID |
| | number is usually that student's social security number. |
| Priority | High |

| Requirement ID | FU-17 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-4 |
| Description | Department users should be able to reject forms |
| Source | MN 3-7-2005 |

| Fit Criterion | After a form has been submitted, a department user can review it and optionally reject it. If a form is rejected, it's status should be set back to saved and an email should be sent to that student telling them that their form has been rejected. |
|---------------|--|
| Priority | High |

| Requirement ID | FU-18 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-6 |
| Description | The system shall allow OCECS representatives to create |
| | reports containing data from submitted evaluations. |
| Source | Statement of Need |
| Fit Criterion | A report may be generated that contains data from submitted |
| | evaluations. |
| Priority | High |

| Requirement ID | FU-19 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-6 |
| Description | System should be able to generate reports based on student |
| | data |
| Source | MN 3-7-2005 |
| Fit Criterion | Reports should be able to group likart scale data over a specified range, view student work reports by specified grouping (e.g. all in a specific quarter), select groupings of quarters instead of just one quarter, export the data into a spreadsheet, and get a summary of information for one student. |
| Priority | High |

| Requirement ID | FU-20 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-4, UC-6 |
| Description | System should support searching on multiple criteria |
| Source | MN 3-14-2005 |
| Fit Criterion | The search page should allow users to search on multiple selected majors, search by company, and be able to search based on submitted evaluations, saved evaluations, pending evaluations, or all evaluations. |
| Priority | High |

| Requirement ID | FU-21 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-10 |
| Description | |
| | The system should support storing waived co-ops |
| | |
| Source | MN 3-14-2005 |

| Fit Criterion | The system should support departments waiving a co-op. It |
|---------------|--|
| | should store a default page for waived forms and display the |
| | name of who authorized the waiver as the co-op contact name. |
| Priority | Low, not implemented |

| Requirement ID | FU-22 |
|-------------------------|---|
| Requirement Type | Functional |
| Use Case ID | UC-1 |
| Description | Student page should show remaining co-ops |
| Source | MN 3-14-2005 |
| Fit Criterion | The student view page should display how many co-ops a student has left to do. If the student is a senior and has co-ops left, it should display an alert telling them that they still have co-ops to complete. |
| Priority | Low |

6. Non-functional Requirements

6.1 Performance

The extension to the system should satisfy the same performance requirements as the original system and the new additions should be hinder the system's performance.

6.2 Safety

The extension to the system should satisfy all the original safety requirements in addition to these.

| Requirement ID | SA-1 |
|-------------------------|---|
| Requirement Type | Safety |
| Description | The system shall prevent users from accidentally losing the |
| | data they have entered before it's submitted. |
| Source | Assumption |
| Fit Criterion | The system shall provide confirmation if a user cancels an |
| | operation before submitting data or navigating to a different |
| | page. |
| Priority | High |

6.3 Security

The extension should meet all the security requirements of the existing employer evaluation system in addition to these.

| Requirement ID | SE-1 |
|-------------------------|--|
| Requirement Type | Security |
| Description | The system should not allow students to view other student's |
| | evaluations |
| Source | Assumption |

| Fit Criterion | Students should only be able to view their own evaluations and not those of other students. |
|---------------|--|
| Priority | High |

6.4 Legal

The extension should meet the same legal requirements as the existing employer evaluation system. There are no new legal requirements for the system extension.

6.5 Cultural and Political

The extension should meet the same cultural and political requirements as the existing employer evaluation system. There are no new cultural or political requirements for the system extension.

6.6 Quality Attributes

The extension should meet the same quality requirements as the existing employer evaluation system in addition to these.

| Requirement ID | AV-1 |
|-------------------------|--|
| Requirement Type | Availability |
| Description | The system shall be online for 23 hours a day, 7 days a week |
| Source | Assumption |
| Fit Criterion | During testing the system stays online for 23 hours a day, 7 |
| | days a week. The system is allowed to do down for 1 hour a |
| | day for maintaince. |
| Priority | High |

| Requirement ID | AV-2 |
|-------------------------|---|
| Requirement Type | Availability |
| Description | The system shall be available from any computer with an |
| | internet connection |
| Source | Assumption |
| Fit Criterion | |
| Priority | High |

| Requirement ID | MA-1 |
|-------------------------|---|
| Requirement Type | Maintainability |
| Description | The system shall need no more than 1 hour a week of |
| | maintenance, not including importing of data |
| Source | Assumption |
| Fit Criterion | At no point will more than an hours worth of maintance need |
| | to be done to the system. The new changes to the system |
| | should not require more maintaince time than this. |
| Priority | High |

| Requirement ID | EX-1 |
|-------------------------|---|
| Requirement Type | Expandability |
| Description | The system shall allow new evaluation forms to be added |

| Source | Assumption |
|---------------|---|
| Fit Criterion | The system should allow co-op administrators to add new |
| | forms to the system for a specific department. |
| Priority | Medium |

| Requirement ID | SY-1 |
|-------------------------|---|
| Requirement Type | Scalability |
| Description | The system shall allow new colleges to be added to the system |
| Source | Assumption |
| Fit Criterion | New colleges can be added to the system |
| Priority | High |

| Requirement ID | SY-2 |
|-------------------------|---|
| Requirement Type | Scalability |
| Description | The system shall allow new departments to be added to the |
| | system |
| Source | Assumption |
| Fit Criterion | New departments can be added to the system |
| Priority | High |

6.7 Business Rules/Relevant Facts

The extension will need to take into account the same relevant facts and business rules as the existing employer evaluation system in addition to these.

| Requirement ID | BR-1 |
|-------------------------|--|
| Requirement Type | Relevant Facts |
| Description | A student on co-op must have their co-op registered with the |
| | Co-op Office to be able to fill out evaluations online. |
| Source | Assumption |
| Fit Criterion | If a student is registered, there should be a co-op evaluation |
| | form in the database waiting for them to fill out. |
| Priority | High |

6.8 User Documentation

| Requirement ID | UD-1 |
|-------------------------|--|
| Requirement Type | User Documentation |
| Description | The user manual must be consistent in all wordings and |
| | grammar. |
| Source | Assumption |
| Fit Criterion | All references to the same concept or item will use the same |
| | terminology. No mispelled words shall be found. |
| Priority | Med |

| Requirement ID | UD-2 |
|-------------------------|--------------------|
| Requirement Type | User Documentation |

| Description | The user manual will contain a getting started section to describe the setup process. |
|---------------|---|
| Source | Previous user manual |
| Fit Criterion | Users can setup the system without problems by using the provided manual. |
| Priority | Med |

| Requirement ID | UD-3 |
|-------------------------|---|
| | |
| Requirement Type | User Documentation |
| Description | The user manual will be broken into sections to separate |
| | operations and tasks that are implemented by the system. |
| Source | Assumption |
| Fit Criterion | The manual is organized and users can easily perform any |
| | task, which will be evaluated by a survey. |
| Priority | Med |
| | |
| Requirement ID | UD-4 |
| Requirement Type | User Documentation |
| Description | The user manual will need to be updated to describe the new |
| | functionality added to the system. |
| Source | Assumption |
| Fit Criterion | The manual is organized and users can easily perform any |
| | task, which will be evaluated by a survey. |
| Priority | Med |

6.9 Design and Implementation

| Requirement ID | DI-1 |
|-------------------------|--|
| Requirement Type | Design Constraint |
| Description | ITS requires use of Java |
| Source | MN 12-2-2004 |
| Fit Criterion | ITS requires the use of Java for this project. They use JBoss as |
| | the Java Application Server, and want this project to use it as |
| | well. |
| Priority | High |
| | |
| Requirement ID | DI-2 |
| Requirement Type | Design Constraint |
| Description | User Authentication |
| Source | MN 12-2-2004 |
| Fit Criterion | The system will use DCE accounts for authentication when |
| | logging in. |
| Priority | High |
| | |
| Requirement ID | DI-3 |
| Requirement Type | Implementation Constraint |

| D | Detchere herbend | | |
|-------------------------|---|--|--|
| Description | Database backend | | |
| Source | MN 12-2-2004 | | |
| Fit Criterion | ITS requires the use of Oracle for the database. They will | | |
| | provide the team with an Oracle database. | | |
| Priority | High | | |
| | | | |
| Requirement ID | DI-4 | | |
| Requirement Type | Implementation Constraint | | |
| Description | Build System | | |
| Source | MN 12-2-2004 | | |
| Fit Criterion | ITS requires ANT scripts to build and deploy the system. | | |
| Priority | High | | |
| | | | |
| Requirement ID DI-5 | | | |
| Requirement Type | Implementation Constraint | | |
| Description | Use of client-side functionality | | |
| Source | MN 12-2-2004 | | |
| Fit Criterion | The system should not rely on JavaScript or cookies for | | |
| | important functionality since they are both a security and | | |
| | reliability concern. All state should be stored on the server | | |
| | side. | | |
| Priority | High | | |
| v | ~ | | |
| Requirement ID | DI-6 | | |
| Requirement Type | | | |
| Description | Hosting | | |
| Source | MN 12-2-2004 | | |
| Fit Criterion | ITS will maintain the server that is running the web server and | | |
| | database. | | |
| Priority | High | | |
| | | | |

8. New Problems in Existing Customer Environment

With any new system, there is always the potential for creating new problems in an existing environment.

- 1. The On-line Co-op Evaluation System will impact the Co-op Office because they will need to analyze the data submitted by students. They will also need to work more closely with departments in order to customize co-op evaluation forms. They have already made process changes in order to accommodate using the existing system, so the change will not be as radical for them. The OCECS representatives will need to become familiar with the changes made to the system, but since they are already familiar with the current system it will be easy to adapt.
- 2. With changes made to the system, it will get a lot more traffic with students visiting the site. Additionally, the database will grow in size each quarter as it stores all the student evaluations. ITS will be in charge of maintaining this

system and they will have to determine if the current hardware is not meeting expectations.

- 3. Forms are allowed to be edited, and academic departments can request that OCECS representatives make changes to their existing forms. However, once a form has been delivered to students to fill out, the form for that quarter cannot be changed.
- 4. Academic departments will be affected by this new system, since it will replace the current paper submissions. Academic users will need to be trained in the use of the new system and begin using the new system for evaluating student work reports instead of doing it on paper.

9. Cutover

There is already data in the employer database, and we need to integrate the student database with that. The team has been given a copy of the employer database and has been making structural changes to it. These changes will be given to ITS to incorporate into the production database.

10. Risks

The On-line Co-op Evaluation System has several risks associated with the project. Earlier risks were listed in the old SRS document, and risks that are specific to the extension of the system are listed here.

- 1. **Database data loss:** With databases, there is always the possibility of loosing data, either by corrupted data or by accidental deletion. By creating a backup database, in which copy of the main database will be main on a schedule of some kind, the hopes of always having a current backup database is in the planning. ITS has a backup program they use for databases, which will hopefully prevent any data loss.
- 2. Search Capabilities: Finally the biggest risk in the deployment of the On-line Co-op Evaluation System is that it might now support all the search capabilities the Co-op department may want. The system will contain all possible ways of doing a form search or analysis based on features mentioned by members of the Co-op office before the deployment of the On-line Co-op Evaluation System.
- 3. **Introducing bugs into existing employer system:** Since there is already an existing system in place, there is the possibility of introducing new bugs into the system. To minimize the risk of introducing new bugs, not only should new functionality be testing but all the existing functionality as well.
- 4. **Configuration of existing employer system:** Since none of the current team is familiar with the existing system, the team needs to work closely with ITS to determine how the system is currently configured to get everything set up.
- 5. **Changing Requirements:** The stakeholders may not have a clear idea of how exactly the system should work or what it will look like. The system should be designed with this in mind, since requirements will likely change during development.
- 6. **Difficulty understanding existing employer system design:** The existing system is complex, and the current team is not familiar with it. The original team

left documentation describing how the system works, so time should be allocated to go through this documentation and get an understanding of how things currently work.

- 7. **Integration Problems with existing employer system:** The extensions to the current system are not stand-alone; they will need to be integrated into the existing system. Time needs to be allocated for testing the integration of all the components.
- 8. **Keeping System Secure:** Since some team members are not familiar with Oracle or JBoss, the team should work closely with ITS to ensure a secure environment is created and that it is compatible with the existing security in place.
- 9. **Testing/Debugging:** The system needs to work right, and it needs to do what the users want it to do. Testing should be done on both the functionality level and the usability level.
- 10. **Tight Schedule:** The schedule for the project is aggressive, and it must be completed on time. There are 6 months allocated for the project, and the project must be delivered by then.
- 11. **ITS contact problems:** Since ITS is involved in a lot of aspects of the project, they need to be involved during development for questions and technical issues. If they are unavailable or too busy to respond to requests, that can hurt the project.
- 12. **Design complexity:** The design is fairly complicated, so it needs to be documented for both developers and the future maintainers of the system.
- 13. **Installing tools locally:** Some of the tools that are needed for development may not be free, so the team should spent time looking for tools to use up front and arrange with ITS to have any required software. The team also needs to spend some time using the tools to ensure that they understand them.

11. Costs

There are no costs for us in this project. It is a school-sponsored project; therefore, there is no cost for man-hours of work involved in the development of this project. Hardware for the servers are being provided to us by the Co-op office as well is ITS. All software used is free from companies that do not have license fees or registration fees.

12. Future Releases

Functionality for future releases will go here. At this point, it's not clear what will be needed for future releases.

13. Appendices

13.1 References

- 1. Original Online Co-op Evaluation System SRS
- 2. Statement of Needs
- 3. Notes from meetings with stakeholders

13.2 Use Cases

The use cases here are only for modified functionality. If a use case is not shown here, it is unchanged from the original system.

Use Case ID: UC-1 Use Case Name: StudentLogsOn Primary Actor: Student Goal: To log into the system to take other actions

Pre-Conditions:

• The student has a valid DCE account

Post-Conditions:

- The user is logged on to the system
- The user is at the main page

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|--------------------------------|------|--------------------------------|
| 1 | The user browses to the log on | | |
| | page | | |
| 2 | The user enters the | | |
| | username/password | | |
| 3 | The user submits the | 4 | System verifies that the |
| | information | | username/password is correct |
| | | 5a | System loads the main page |
| | | 5b | System informs the user the |
| | | | username/password is incorrect |

Exceptions: none Use Cases Utilized: none Notes and Issues: none Use Case ID: UC-2 Use Case Name: StudentViewsPendingForms Primary Actor: Student Goal: To view and fill out a Co-op Work Report

Pre-Conditions:

- The user is logged on to the system
- The user has an evaluation to fill out

Post-Conditions:

- o The form information is entered into the database
- The main page is displayed

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|------------------------------------|------|--|
| 1 | The user selects a pending | 2 | The system displays the work report, |
| | work report | | including any answers that the student has already filled out. |
| 3 | The user fills out the work report | | |
| 4a | The user submits the information | 5a | The system stores the information in the database and marks it as submitted. The system then sends a confirmation email |
| 4b | The user saves the information | 5b | The system stores the information in the database but does not mark it as submitted |
| | | 6 | If the user has selected to change co- op information, an email is generated and sent to the co-op office |
| | | 7 | The main page is displayed |

Exceptions:

- If the user does not have a form to fill out
 - The system does not display a link to pending forms
- If the information submitted is invalid
 - The system displays an error page with the invalid information and returns to the form

Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-3 Use Case Name: StudentViewsSubmittedForms Primary Actor: Student Goal: To view previously submitted evaluations and work reports

Pre-Conditions:

- The student is logged in
- There are submitted evaluations for the student

Post-Conditions:

• The student has seen the evaluations and work reports

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|---|------|---|
| 1 | The user selects to view | 2 | The system displays a list of all the |
| | submitted evaluations | | evaluations and work reports for this |
| | | | student in the database |
| 3 | The user clicks on a specific evaluation or work report | 4 | The system will display the evaluation or work report with the values filled |
| | r - r | | in. |

Exceptions:

- o If the student has no saved evaluations or work reports
- The system will not display a link to any reports or evaluations

Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-4

Use Case Name: ViewEvaluations Primary Actor: Department Representative, OCECS Representative Goal: To obtain a list of submitted evaluations and view them individually if desired

Pre-Conditions:

- The department user is logged in
- The main page is displayed

Post-Conditions:

• The department user has been the evaluations

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|----------------------------------|------|---|
| 1 | The user selects to search | 2 | The system allows the user to input |
| | evaluations | | search criteria |
| 3 | The user enters search criteria | 4 | The system displays a list of all the |
| | for what they want to see | | matching evaluations with a link to see |
| | | | them |
| 5 | User can optionally click a link | 5 | If a specific link is clicked, the system |
| | to see the submitted evaluation | | will display that evaluation to the user. |
| 5a | User selects to reject the | 6a | The system will mark the evaluation |
| | evaluation | | as saved as send an email to the |
| | | | student altering them that it has been |
| | | | rejected. |
| 5b | User selects to return to search | 6b | The search page is displayed again |
| | page | | allowing the user to do another search |

Exceptions:

• The user is not associated with a department in the database

Use Cases Utilized: none

Notes and Issues: none

Use Case ID: UC-5 Use Case Name: EditDepartmentEmailTemplate Primary Actor: OCECS Representative Goal: To change the layout of the email template departments use

Pre-Conditions:

- The user is logged into the system
- The user has the appropriate privileges to edit the template

Post-Conditions:

• The changed template is stored in the database

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|-------------------------------|------|---------------------------------------|
| 1 | The user selects to edit the | 2 | The system displays a list of the |
| | template | | templates that the user is allowed to |
| | | | edit |
| 3 | The user makes changes to the | | |
| | template | | |
| 4a | The user saves the changes | 5a | The changes are saved into the |
| | | | database |
| 4b | The user cancels the edit | 5b | The system does not save the changes |
| | | 6 | The system displays the main page |

Exceptions: none Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-6 Use Case Name: ViewStudentDataReport Primary Actor: OCECS Representative, Department Representative Goal: To generate a report based on feedback from student evaluations

Pre-Conditions:

- The OCECS or academic representative is logged on to the system
- o There are student work reports submitted to generate data from

Post-Conditions:

• The user has seen the report

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|--------------|------|-----------------|
|------|--------------|------|-----------------|

| 1 | The user selects to generate a report | 2 | The system allows the user to enter what criteria they want for the report |
|----|---|----|---|
| 3 | The user enters the report criteria | 4 | The system generates a report based on what they user specified |
| | | 5 | The system displays the report results to the user |
| ба | The user can selects to download the results in a spreadsheet | 7a | The system sends the user the data in a spreadsheet format |
| 6b | The user selects to return to the main page | 7b | The system does not send the user any extra data |
| | | 8 | The main page is displayed |

Exceptions:

- There are no submitted work reports
 An error message should be displayed alerting the user that there is no data

Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-7 Use Case Name: CreateNewForm Primary Actor: OCECS Representative Goal: To create a new form for departments

Pre-Conditions:

• The OCECS representative is logged on to the system

Post-Conditions:

o None

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|-------------------------------|------|---|
| 1 | The user selects the create | 2 | The system displays a list of the forms |
| | forms page | | that this user has access to |
| 3a | The user selects a department | 4a | The system creates a blank form for |
| | and clicks Create Form | | the specified department and quarter |
| 3b | The user selects a department | 4b | The system creates a form for the |
| | and specifies an XML file to | | specified department and quarter |
| | import | | already populated with the questions |
| | | | in the XML file. |
| | | 5 | The system displays the department |
| | | | forms page |

Exceptions:

- Formatting error in the XML file
 - If there is an error in the XML file, the system should display a message and not create a form

Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-8 Use Case Name: EditForm Primary Actor: OCECS Representative Goal: To add, change, or delete questions from an existing form

Pre-Conditions:

- The OCECS representative is logged on to the system.
- The OCECS representative has permission to edit forms

Post-Conditions:

• The changed form is saved into the database

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|---------------------------------|------|---------------------------------------|
| 1 | User selects the forms page | 2 | The system displays a list of all the |
| | | | forms that the user has permission to |
| | | | edit. |
| 3 | The user selects a form to edit | 4 | The system displays the form with |
| | | | links for adding questions, editing |
| | | | questions, or deleting questions |
| 5a | User enters a new question and | ба | The system adds this question to the |
| | clicks Add Question | | form |
| 5b | User selects a question and | 6b | The system deletes this question from |
| | clicks Delete Question | | the form |
| 5c | User edits a question text and | 6с | The system will save any changes that |
| | clicks Apply Changes | | the user made to the question. |
| | | 7 | The system displays the form editing |
| | | | page |

Exceptions:

- If there are no forms for this department or the user is not associated with a department
 - The list is empty.

Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-9 Use Case Name: SendStudentEmails Primary Actor: OCECS Representative Goal: To send reminder emails to students

Pre-Conditions:

• The OCECS representative is logged on to the system.

Post-Conditions:

• Emails are scheduled to be sent

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|---------------------------------|------|---------------------------------------|
| 1 | User selects the Send Email | 2 | The system displays a message telling |
| | page | | the user who will be emailed |
| 3 | User selects to send the emails | 4 | The system schedules the emails to be |
| | | | sent at a later time |
| | | 5 | The system sends the emails at the |
| | | | scheduled time |

Exceptions:

There is a mail server problem
 The emails will be scheduled to be sent later

Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-10 Use Case Name: DepartmentWaiveCoop Primary Actor: OCECS Representative, Department Representative Goal: To waive a co-op for a student

Pre-Conditions:

- The user is logged on to the system.
- The user has permission to waive co-ops

Post-Conditions:

• Waived co-op is stored in the database

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|-------------------------------|------|---------------------------------------|
| 1 | User selects to waive a co-op | 2 | The system adds a default "waived" |
| | | | form as that student's evaluation and |
| | | | work report |
| | | 3 | The system adds the name of the |
| | | | person authorizing the waiver as the |
| | | | co-op contact name |
| | | 4 | The main page is displayed |

Exceptions:

• None

Use Cases Utilized: none Notes and Issues: none

Use Case ID: UC-11 Use Case Name: DepartmentMailStudents Primary Actor: Department Representative Goal: To send an email to students on co-op

Pre-Conditions:

- The user is logged on to the system.
- The user has permission to send mail

Post-Conditions:

• Emails are scheduled to be sent

Main Scenario:

| Step | Actor Action | Step | System Reaction |
|------|-------------------------------|------|---------------------------------------|
| 1 | User selects to send mail to | 2 | The system allows the user to input a |
| | students | | message |
| 3 | User inputs the email message | 4 | The system schedules the emails to be |
| | and selects to send the email | | sent out at a later time |
| | | 5 | The system sends the emails |

Exceptions:

- There is a mail server problem
 - The emails will be scheduled to be sent at another time
- The user is not associated with a department
 - The user will not be allowed to send email

Use Cases Utilized: none Notes and Issues: none

13.3 Glossary

| Name | Aliases | Definition |
|------|---------|--|
| ANT | | A build system maintained by the Apache Foundation that provides a way to manage building and deploying projects |

| Lightweight Directory Access Protocol | LDAP | An online directory service. RIT has an LDAP entry for every DCE account. |
|---|-----------------------------|--|
| Co-op Block | | A period of 10 weeks where a student is working on a cooperative education assignment. A block often lines up with a quarter' schedule. |
| Cooperative Education | Co-op | An assignment in which a student works in his/her field of study for a real-world employer. |
| Distributed Computing Environment Account | DCE account | An RIT computer account, which grants access to online RIT services. |
| Employer Evaluation | Employer Evaluation Form | An evaluation of a student's performance while on co-op, completed by the student's employer. |
| Family Educational Rights and Privacy Act | FERPA | A federal law that protects the privacy of student education records. (Title 20 United States Code § 1232g; 34 CFR Part 99) |
| Information Technology Services | ITS | The department that will be housing and maintaining the system. |
| Likart-Scale Response | | A "bubble" response, in which the evaluator chooses a rating from a given scale. |
| Office of Cooperative Education and Career Services | Co-op Office, OCECS | A department at RIT that is responsible for managing the RIT co-op program. |
| Online Co-op Evaluation System | | The system being developed to replace the current method of processing co-op evaluation forms. |
| Rochester Institute of Technology | RIT | |
| Student Work Report | | The evaluation that a student fills out at the end of a co-op evaluating how well they think they did and how much they learned |
| Text Response | | A form field where an employer may freely enter any amount of text. |