**Testing Results**

**for the**

**SIUE Department of Computer Science**

**CS425 / CS499 Senior Project**

**Software Design and Implementation Courses**

**by**

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**of**

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**Learning Outcomes-Based Assessment Database Team**

Revision 1.0

As Of: April 21, 2013

Change Log:

|  |  |
| --- | --- |
| Revision | Change Note(s) |
|  |  |
| 1.0 | * Initial Release |

Reviewed and Approved By:

Name Signature Date

# 1 Prototype Accomplishments

Below are a list of what resulted from the prototype.

1. Alleviated misunderstandings about terminology (e.g. the team initially confused the terms for “mastery” and “outcomes” and it became evident that the terms we were using were different from what the client expected based off of what the prototype displayed.)
2. Fixed multiple bugs where the database was inconsistent with the GUI(e.g. adding prefilled values to skill\_table, adding the student in class relational table, etc..)
3. The client was able to give valuable feedback for likes and dislikes to the prototype.
4. We obtained input documents from the client when it was realized that we couldn’t import anything (e.g. skills.csv, and a roster generated from blackboard).
5. The team as a whole was able to practice using JavaFX and Java and get a general feel for how the core component GUI would be structured.
6. The prototype served as a valuable indicator to the class, career panel, instructors and overview of what to expect in the final product and gave feedback based upon it.

# 2 Integration Testing Bug Fixes

There were many issues listed below that were found by the teams integration testing that was carried out as the modules of the software were connected.

1. Classes:
   1. Delete student can be clicked on whenever the roster list box is clicked, even if there are no students.
   2. After a student is deleted, no student is selected, but the delete student button can still be clicked.
   3. No confirm dialog to delete a class
   4. After class is created, it becomes selected and the other tabs become enabled. However, in select an existing class, there is no currently selected class.
   5. When a class is selected in select an existing class, and you change to create a new class and back, there is not a selected class.
   6. After a student is added, no student is select, but the delete student button can still be clicked.
   7. When browsing for a student roster, if the window is closed before selecting a file, throws error
   8. Pre-filled outcomes should probably go up to 100, not 99
   9. SelectClass.java (line 47): Should also set the max outcome value for the class in user settings
   10. When reading in the roster, if empty lines are detected at the end of the file, just ignore them and end the reading
   11. File encoding issue for reading in a roster of students
   12. Delete box for deleting a student.
2. Assignments:
   1. Only show options in combo box that the user should be able to do
   2. Current question does not stay selected
   3. When inserting a question into the database, the question name and type are not saved.
   4. Possible error with adding skills to a task. Gave index out of bounds error... cannot seem to get this error again
   5. When Add Assignment button is clicked, the Add Question button automatically becomes enabled even if there aren’t any assignments yet.
   6. When the last assignment is deleted, add question button is still enabled
3. Skills
   1. When closing file chooser it throws error
   2. When deleting a skill, delete all child skills as well
   3. GUI for uploading a roster and skills are different. Decide on one and change it.
   4. Should be able to update a specific skill’s predefined outcome value.
4. Outcomes
   1. Grey out student information? Maybe come up with a better way of displaying it so that the information is labeled.
5. Export
   1. Save TSV as a different file type (i.e. not as an xls file but as a .txt file)
6. All
   1. Progress Bar. Create a new view and call this view whenever something will take a long time to load; send updates periodically to simulate loading.
   2. Need to add the loading message to tasks that take time to complete. (i.e. adding/deleting assignments from a task, refreshing tabs, etc.)

# 3 Acceptance /Usability Test Results

The team will test faculty that will run through a list of instructions each along the way asking them on a 1 – 10 scale how they feel a specific requirement was met. Below are the questions that will be used to evaluate if certain requirements are being met. The bullet points beneath each question is the requirements being tested and will not be included in the survey.

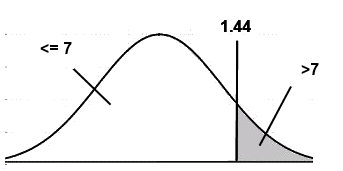
## 3.1 Acceptance Test results

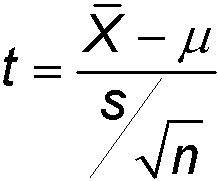
The team devised a statistical analysis of the acceptance testing by setting a benchmark mean of 7 and wanted to verify within a certain level of confidence that a small test group was able to use the software as intended. Each test defines the null hypothesis that the value will be less than or equal to 7 while the alternative hypothesis is greater than 7.

Table 1 - Quantitative Feedback specifically towards a specific set of requirements.



The team received feedback from 6 faculty participants and therefore looked up a t statistic based off of 5 degrees of freedom. To keep the value moderately low the team decided to guarantee a confidence of 90%. The t-statistic with these values is 1.44. The Benchmark Value takes the place of a population mean (i.e. in the formula below). is the average of and s is the standard deviation the samples above.







From this tests the team was able to determine that the assignments & tasks page were the areas that needed the most fixes. Although there were some new fixes that were needed to be applied the majority of issues in both of these interfaces were already being addressed during the test.

3.2 Usability Feedback fixes.

* “Outcomes” was incorrectly labeled “Scores”.
* Added “Forgot Password” functionality.
* Implemented Recent Class functionality.
* Changes to address Assignment & Task screens.