**RateMyLab Analysis and Design.**

The purpose of the application is to implement a data gathering tool similar to the one described in work by Haden, et al.[[1]](#footnote-1) The system will consist of two user interface programs that are implemented as a web page. Each UI will have a separate ‘landing page’ tied to its own unique URL. The system database will be pre-populated with information at the beginning of each semester for usage in evaluating or rating, laboratory events that are bound to a computer science course. Once the semester has ended, the database will be archived and reset for the next semester’s usage.

Once the system database has been populated, the first time a user of type ‘Student’ or ‘Professor’ access their web URL’s landing page, the system supplied password is submitted. The next action is a screen to allow the user a required ability to change that password into something known only to the individual. From the point forward, each user will only be asked to use the password. If a user’s password is lost, it will require a database administrator’s (DBA) intervention to rectify the event and will cause the user to reset the DBA supplied new password.

For the ‘Student’ user, they will have only one web-based form available for interaction. They will select their indicated lab for rating, potentially individual questions associated with that lab, and a grid as explained by Haden, et al. When the ‘Student’ has selected their evaluation of the lab’s question, they will click a ‘save’ button. If there are additional questions to be rated in the same lab, their web form will automatically advance to the next question. If there is only one question for the lab being rated, then a pop-up message should appear with information indicating their rating survey is complete for the current lab and allow the student to exit the system.

For the ‘Professor’ user, they will have three web-based forms available for interaction. These all depend on a pre-populated set of database tables. The task of pre-populating will be the responsibility of the DBA. The first form will allow a ‘Professor’ to choose how many labs in their course CRN to be evaluated. A ‘Professor’ may have more than one CRN for the given semester, so when they choose a CRN, another list of associated lab CRN indicator is given. From this list, the user will highlight one and click a button to ‘Configure Labs for Rating’ and another webform appears.

This second webform for the ‘Professor’ allows the selected labs to be selected for ratings. In a typical semester, a course is given 14 labs, so the web form should present a vertical list (checkboxes) of ‘Lab1’, ‘Lab2’, … Adjacent to each ‘LabX’ item should be a webform textbox to allow the number of questions to be indicated. Each lab should begin with ‘1’ question as a default value on the webform. There will be one table with the beginning date of the first lab week for the semester. This date will apply to all ‘Professor’ users wishing to use the system. This master table can be set by the DBA and will allow each ‘LabX’ to have an associated date indicating the beginning of the week it is to be completed and rated. Once the choices for labs and how many associated questions are given by the ‘Professor’ user, a ‘Submit and Save’ button will be clicked to go back to the prior form. This allows the ‘Professor’ to select the next lab CRN in their list to configure for ratings capture.

The third webform will allow the ‘Professor’ to view data being collected from the ‘Student’ user’s ratings of each lab/question. The design of this form should allow the ‘Professor’ to select a course CRN associated to them for the current semester, then show the associated lab CRN values. When the user selects one lab CRN, then a button is activated (recently grayed-out) to allow details about that lab CRN to be shown. The resulting view is a list of labs that were previously indicated from the fourteen listed ones and their average rating. If the user clicks a ‘LabX’ in the list and the button, ‘Detailed Ratings’, the data shown is a list of students GSU ID’s and their rating values of the specific lab. If the lab has multiple questions, they will be grouped by question, then individual GSU ID rating values. Otherwise, it is one question and will show the individual GSU ID rating values.

1. Haden, P., Parsons, D., Wood, K., & Gasson, J. (2017, November). Student affect in CS1: insights from an easy data collection tool. In *Proceedings of the 17th Koli Calling International Conference on Computing Education Research* (pp. 40-49). [↑](#footnote-ref-1)