CS 102 *Spring 2020/21*

Project Group **G2C**

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Criteria	TA/Grader	Instructor
Presentation		
Overall		

~ LabConnect ~

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UI Design Report

(version 0.1)

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1 Introduction to LabConnect

LabConnect is a developing project that aims to make education more productive for students, and more efficient for teaching staff, among other benefits. The feature list compiled for the sake of this goal includes items such as:

- Queueing system for live sessions to optimize wait times and student-TA communication
- Dashboard designed with a pragmatist mindset, to lessen confusion as much as viable
- Instructor panel where new assignments can be added with great flexibility
- Analysis view for students and teaching staff alike, to monitor course progress
- Announcements board where the teaching staff can reach out to students with ease
- Simple one-to-one messaging capability for the sake of light written communication
- Note-taking panel for students to take concise notes regarding individual assignments

- Detailed view of submission versions where students and the teaching staff can observe automated testing results

Though the above is not an exhaustive list of features, it does nonetheless capture the gist of the features this project proposes in order to undertake its goal of optimizing the assignment portion of a computer science course. For a more extensive summary of this project, refer to the requirements report published earlier.

2 Disclaimer Regarding the UI Design Report

The document herein contains details and illustrations from 12 application views in total, but certain disclaimers have to be made regarding the accuracy of these illustrations. LabConnect is planned to be a web application, built with established modern web design paradigms in mind. However, web pages, particularly those that strive to be designed responsively for the sake of usability on a distinct range of devices, are not easy to make *static* prototype designs of. Along with this factor, another aspect affecting the UI design process is the fact that as LabConnect is an application with a large volume of interaction between people, which may take place at severely differing times, an unavoidable need to display certain elements only in very specific instances appears. In other words, the project at hand is of such nature that it cannot be *accurately* put on display before an actual development of the interface, via the use of dynamic web technologies such as CSS and JavaScript, is in process.

As a side note, the development of the interface also depends directly on the implementation of the feature set, as the need for elements on the page will originate from the structures designed on the server application side of the project, which are highly liable to change as the back-end code undergoes development. An example of this phenomenon is the analysis view presented to the users, which is dependent highly on core features being implemented first, because only then can the data to be put on display be ascertained, and the interface thereof finalized.

The UI design of LabConnect was completed with the above considerations in mind, which is to mean that the design was developed for the sake of having a guide to refer to when the necessity arises, rather than being developed for the impractical sake of being an accurate finalized version of the interface. We believe that this approach will prove to be more advantageous in the long term.

3 Map of the Application's Views

4 User Interface Designs of Application Views

4.1 User-agnostic Views

This subsection illustrates the pages of LabConnect that are intended to remain mostly unchanged regardless of the user's account level in the system (i.e., student, TA, instructor).

4.1.1 Dashboard

4.1.2 Messages

4.2 Student-specific Views

This subsection illustrates the pages involved in the user experience of a student account.

4.2.1 Assignment Details

4.2.2 Assignment Submission

4.2.3 Analysis

4.2.4 Announcements

4.2.5 Notes

4.3 TA-specific Views

This subsection illustrates the pages involved in the user experience of a TA account.

4.3.1 Assignment Submission

4.3.2 Ongoing Live Session

4.4 Instructor-specific Views

This subsection illustrates the pages involved in the user experience of an instructor account.

4.4.1 Announcements

4.4.2 Instructor Panel

4.4.3 Analysis

5 Final Remarks

The user interface of LabConnect was designed while being conscious of the experiences we have been undergoing for the past two semesters of CS courses. The same care that we had put into compiling a list of features that we thought would alleviate many of the issues we had observed, was put into designing an interface such that users would not be facing the interface as an obstacle at any point during their usage. Striving to remain as simple and to-the-point as possible, as the UI design matures throughout the development timeline, the plan is to continue to have a focus on being UX-oriented. The design we have formulated is by no means unique, as countless web applications adopt quite similar interfaces. However, rather than being seen as detrimental to the creativity of this design, we consider this wide usage to be a testimony of the design being a viable option for user satisfaction. Additionally, many users may be content with the advantage of being familiar with the interface from the very start.

Also, for the sake of coverage, another point to address is our decision of basing our design on a dark color scheme. Though we are concerned that the psychological association of lighter colors with professional-looking reputable websites may surprise some users upon their initial visit, we also firmly recognize that the programmers of our day have a strong preference towards interfaces with colors that do not stress the eye. Considering the fact that our project caters

quite specifically to a user base consisting of programmers, we think that picking a lighter color scheme would have been frustrating to the overwhelming proportion of users who will be using this website among their otherwise dark-themed workspace. Alas, we have determined it most sensible to put our efforts into developing a dark-mode interface, though we may choose to add the option of switching to a light-mode theme in the later stages of the project's development.