Deliverable Report

eLC is an essential tool used by schools within the USG school system for posting assignments, grades, lecture slides/videos, and more. However, in many situations, eLC's current functionalities do not always meet the needs of the professors and students. Students and professors resort to external platforms such as Piazza, GroupMe, Tophat, Discord, and Slack to utilize features and functionalities not available through eLC. Often, using these external software gives the professors limited control of the conversation, which may lead to academic dishonesty among the students, general confusion amongst students, or some students missing out on the conversation.

In most cases, faculty resort to these external platforms because the features that fit their teaching style are not available on eLC. In contrast, students gravitate towards other platforms since it conveniently works with their needs e.x group messaging, etc. The problem with eLC is a mixture of poor integration and set features inferred based on the D2L documentation. These issues hinder users (Administrator, Instructors, and Learners) from changing the functionalities to fit their teaching or learning style. Therefore, users resort to other platforms to meet these needs, which will be problematic in the long run because in the case that one of the stakeholders: students, needs to use group messaging, they may resort to GroupMe, where circumstances out of their hands could lead to academic dishonesty. In other instances, some students would be left entirely out of the conversations since they are unaware of external platforms used for discussion or class communications. For the other stakeholders, integrating some of the features mentioned earlier will allow more convenience and fix any issues such as the availability of the platform (up-time). The school does not manage external platforms; therefore, when issues arise, such as

the Piazza servers being down and we need Piazza for in-class discussions. Then it is hard to resolve the problem as soon as possible since UGA or its affiliates do not administer it.

The most straightforward path to making an education system more engaging and relevant to students lies in updating older systems based on the current needs of students and professors. The large-scale implication of eLC's system having poor integration and being feature set down the road is that students rely entirely on external platforms, which disconnects the education system and its primary customer: the student. The current state of eLC affords a user the capabilities to check grades, post assignments, access content, check class lists, post discussions, and take quizzes and tests. Through the navigation bar on eLC, various signifiers communicate to the users the capabilities of the system. However, eLC still falls short since students and professors resort to external platforms.

Ultimately, ensuring that eLC evolves to cater to students' and professors' ever-changing teaching and learning styles will ensure that students are well informed before attending face-face instructions. Addressing the issues of eLC will help students stay engaged in class and boost class participation since students will feel confident and well-informed about all aspects of the course.

A use case to consider in terms of the problem at hand based on the seven stages of action:

A student has a goal in mind:

I am not familiar with anyone in this class; I want to create a group chat with my classmates in order to get to know my classmates and discuss lecture content

Execution:

Plan: The user considers their options, which usually differ depending on multiple factors. In this case, the most popular options are GroupMe and discord. Discord has a

messaging and video/audio chat feature, while group me only facilitates group or direct messaging.

Specify: The user picks one of their options. In this case, they chose to use GroupMe since many students have the app installed, as it is currently the most popular choice.

Perform: The group me admin typically another student creates a group chat for the class and sends an invite to the class by getting the students from the class list on eLC.

Evaluation:

Perceive: The students find a way to communicate and keep each other updated. Creating the group chat makes them feel engaged and secure about their involvement and awareness in class.

Interpret: The students think to themselves that since they are in the class group chat, there is no way they will miss out on any class conversation. Being in a group chat before has proven to them how useful it is when it comes to getting updates from their classmates even when they cannot attend class.

Compare: The student's interpretation of what they perceived leads them, in this case, to believe that they have met their goal.

The primary stakeholders impacted by the problem are students, instructors, and schools within USG that use eLC. The problem mainly impacts students because they may fall into situations where they are unfairly blamed for academic dishonesty.

"If the administration finds that cheating has occurred through a GroupMe chat, anyone in the chat could potentially be held responsible." (Russ)

On another note, it can lead to assignment information leaking, or they may miss out on class information in a less severe scenario. Each stakeholder is impacted differently. In the case of

students and faculty, the solution would prevent many problems down the road while also allowing for convenience. If the schools integrate these features, it will make their platform(eLC) more usable and versatile.

GroupMe, Discord, and Slack are all popular group messaging systems. However, none of these solutions have the functionality that solves our exact problem by integrating a group/direct messaging, customizable discussion board, and video/audio call into eLC. GroupMe is a popular solution for group messaging with classmates because it is convenient, more casual, and is cross-platform with iOS, Android, and Windows. Slack, Discord, and GroupMe are all oriented towards businesses, gamers, and students, respectively. However, Slack has included a channel functionality that makes separating into groups easy and a group video feature, which would benefit our problem. The Journal of Literacy and Technology writes, "When students use GroupMe, they have a tendency to engage in cognitive thinking (e.g., considering audience, tone, formality)." The journal even mentions that researchers encourage using platforms like GroupMe to promote literacy learning and business-minded ways of speaking and thinking. Incorporating group messaging functionalities into eLC would provide the other apps' benefits without the accessibility and miscommunication problems.

A disadvantage to these other solutions is that they are an external source; therefore, they are not always suitable for use in an educational setting. They are not ideal because the nature of an external source makes it more tedious to find other students in your class and organize them into groups for a group project. This is because the only way to join any of these groups, except for Discord, is through an invite; therefore, if a student joins a class late or the invite-only email does not reach them for some reason, they end up getting excluded.

Many companies integrate chat monitoring into their chat systems with consent; often, they utilize chat services such as those offered by Microsoft teams which allows admins of the organization to set communication compliance guidelines. Referring to the Microsoft teams documentation:

"Communication compliance is an insider risk solution in Microsoft 365 that helps minimize communication risks by helping you detect, capture, and act on inappropriate messages in your organization. Pre-defined and custom policies allow you to scan internal and external communications for policy matches so they can be examined by designated reviewers. Reviewers can investigate scanned email, Microsoft Teams, Yammer, or third-party communications in your organization and take appropriate actions to make sure they're compliant with your organization's message standards." (Robmazz)

If an organization chooses to implement the communication compliance monitoring system, they get voluntary informed consent from their employees through the training offered during the onboarding process. Thus, in our situation, integrating a group/direct messaging feature with a communication compliance policy will allow professors to be at the forefront of the conversations. Hence, students are not in a situation where they are at risk of any misconceptions. These guidelines can serve the user, students, and professors, by setting general expectations and rules already adhered to in academic life.

Discord and Slack conform to a set of guidelines officially set by its developers. The guidelines for Discord serve as rules for interaction with others, rules for content on the platform, and maintaining the platform's respect. Slack's interaction guideline is vague but strict guidelines can be enforced by the organizations utilizing the platform. There are no inherent guidelines, official or unofficial for GroupMe unless some group members decide to enforce them

themselves. Ideally, the guidelines we would implement to serve our users(students and professors) are the school academic honesty policy, accessibility policy, and other principles that uphold the school's standards.

So far, we have explored how eLC's current built-in functionalities do not account for the various learning and teaching styles. Hence to better serve the students and teachers, we propose adding additional functionalities to the eLC platform. Adding additional properties to eLC will not only make the platform versatile but also enhance its usability and user satisfaction. The goal is for the users to use eLC without resorting to an external platform that is not managed by either USG or the University of Georgia. We will incorporate features such as group messaging, video and voice calls, file and image sharing to make communication flow easier among students. To ensure that the user knows what each feature affords, we will add signifiers in the form of icons to the eLC navigation bar to communicate to the user the capabilities of the agent icon. We will incorporate a live discussion board for the administrators, where the instructor can ask students questions during a lecture and get live results. In addition, professors can use this feature to facilitate further group discussions. Students would greatly benefit from these solutions, as students would have more flexible and reliable access to assistance on schoolwork off-campus and additional features that promote better learning. Professors would also benefit by giving their students the assistance they need in a more flexible manner, i.e., off-campus, resulting in smoother face-to-face instruction. This will facilitate collaboration, communication, and engagement in class.

An alternative to this solution would be to use other platforms that meet the needs of the students and the professor. We have explored platforms that professors resort to, such as top-hat, teams, and Piazza. In contrast, students resort to GroupMe, Slack, and Discord. Our solution

encompasses all the features available on these external platforms in one place: eLC. If eLC allows its users to change its capabilities based on their needs, then the platform's adaptability would increase, decreasing the need to use external platforms.

Initially, we had a problem at hand, why do professors and students resort to external platforms, despite the disadvantages and the uncertainty that comes with it?

Thus, our solution came into play: what if we were to offer students and professors all the benefits of using external platforms without the uncertainty and confusion. Thus, our solution is to integrate group/direct messaging features with a communication compliance policy, video/audio calls, and customizable discussion boards into eLC.

Once the components mentioned are integrated, or a prototype is generated to gain feedback. We can measure the solution's success by setting quantifiable goals concerning the problem at hand. We can measure the metrics for our quantifiable goals by measuring the quantitative data in logs and the qualitative result from user research. Our goal is to make eLC more adaptable to the evolving needs of students and professors. Therefore we will determine the metrics to track based on this goal once we begin user research. Since the features mentioned will be integrated into eLC, students and professors will have no choice but to use them; therefore, engagement will not be a significant metric to consider. Instead, we will explore factors such as "user satisfaction" and "task completion rate," which are relevant to our goals because they speak directly to the effectiveness of our users' day-to-day work on eLC.

In addition, there are frameworks to help measure success in design and aid in the metric setting. In order to pick the proper metric setting framework for our problem. We will find what framework makes sense in the context of our problem's and solution's impact on the user.

"Googles HEART Framework, proposed in 2010 by the Google research team and applied

widely in the company, aims at measuring user experience on a large scale with the following

five categories:

- *Happiness: How do people feel about your product? (E.g., Use the survey to track*
  Satisfaction and Ease of use)

- *Engagement: How are people using your product? (E.g. # of 7-day active users, # users*
  starts a new search per day)

- *Adoption: New users (E.g. # of accounts created in the last 7 days)*

- *Retention: Existing users (E.g. % of users who use the feature again)*

- *Task Success: Complete actions (E.g. # of users who can accomplish a task) " (Rodden*
  2015)

This framework would be great once the features are integrated, and we can set up an analytical

dashboard and compare user engagement metrics pre and post-launch. However, since we may

not be implementing our solution and may only end up with a prototype, we can utilize System

Usability Scale (SUS) to measure the Happiness category or "user-satisfaction rate." John

Brooke developed the system Usability Scale;

 "it provides a "quick and dirty" way to assess the usability of a system. It includes ten items in a

questionnaire, and users respond with a Likert scale (Strongly disagree to agree strongly) for

each question:

1. *I think that I would like to use this system frequently.*

2. *I found the system unnecessarily complex.*

3. *I thought the system was easy to use.*

4. *I think that I would need the support of a technical person to be able to use this system.*

5. *I found the various functions in this system were well integrated.*

6. *I thought there was too much inconsistency in this system.*

7. *I would imagine that most people would learn to use this system very quickly.*

8. *I found the system very cumbersome to use.*

9. *I felt very confident using the system.*

10. *I needed to learn a lot of things before I could get going with this system.*

Finally, this will produce a usability score for the features, which we can use to compare the experience before and after the features are integrated." (*Sauro 2011*)

In summation, improving eLC to make it adaptive to the changing needs of its users will prove to be significant in the long run.

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