

Assignment M2

CS6750 Human Computer Interaction

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Abstract—OMSCS has been establishing Georgia Tech as a pioneer in Online Graduate Programs. While that already is the case, the Pandemic-era has put even more focus and importance on enabling virtual modalities of such graduate program offerings. With such a global scale and the number of students OMSCS caters to, any effort to bridge the limitations of Online Graduate programs to actual physical Graduate programs would benefit these models immensely. This discussion is a small step in that direction; introducing a feature to an already existing, tried & tested interface, “Ed”, that will enable a Priority highway for critical attention a student may need from the Professors or TA’s; which in a physical graduate program is almost straightforward.

1 NEEDFINDING EXECUTION 1 - SURVEYS

1.1 Observations

Student-Survey Observation: Long-form survey results placed in [Appendix 7.1](#). Here are high-level observations from the 16 OMSCS students survey responses

- **44%** of students *were not aware of the 72 hours response window as per the course guidelines.*
- **80%** of students *felt the need to ask questions to staff nearing submission deadlines* that would impact the quality of their assignments.
- **93%** from the above, *encountered this situation 1-3 times per course span and the remainder, more than 3 times per course span.*
- **94%** of students that took the survey are *Part-time OMSCS students, having to manage their time livelihood and studies.*
- **88%** of students *usually complete assignments nearing submission deadlines.*
- **100%** of students *suggested they would benefit if there was a way in ED to seek faster response from Staff for any critical questions they may have.*

- 70% liked the design hint created to give them a picture of what the priority highway would mean. 30% suggested alternatives.

1.2 Summarization

With majority of OMSCS students being part-time, splitting their time between their livelihood & studies, almost all of them plan to submit deliverables only nearing the deadlines. Students have invariably felt the need to ask critical questions to staff that would impact the quality of deliverable nearing their submission deadline, that is outside of the 72-hour response window as per the course guidelines, which a large chunk of students were not even aware of.

Being critically mindful of the staff's already jam-packed schedules, users welcome the idea of introducing a controlled avenue through Ed that would provide them with a priority highway to seek faster response from staff. A sample wireframe was included in the survey, just to give an idea of what the feature would mean in this context & was even approved by majority and some suggested design alternatives.

This survey collates critical data inventory of users in this context; It gives an idea of how many students pursue full-time/part-time, exposes their planning/completion timelines of assignments, and gives great insights into their mindset that calls for bridging of limitations of online graduate programs by enabling faster access to Staff, which is almost a given in physical grad programs.

1.3 Biases

Addressing Confirmation Bias:

The survey was staged out to all students of CS-6750 and collected 16 good responses. While more could have been good, this feedback is good enough to move ahead for now with other design-related surveys in future.

Addressing Observer Bias:

The survey was proof-read by my family/friends who attended grad programs and understood the intent of this context. It was streamlined to read more specifically and collect objective data points. The survey alluded to collecting nature of users' grad program participation, identifying their pain points in reaching

their goals in this context and their intent in supporting a feature inclusion in the already tried and tested “Ed” platform.

Addressing Voluntary response Bias:

This survey was shelved from users before they began taking it by not publishing it on Microsoft Forms until the questions were proof-read as mentioned above.

Failure of Addressing Biases:

To paint a picture of the solution for the underlined problem statement, I had to provide a wire-frame sample of a conceptual design to the users. While some users did share their thought processes on how else we could possibly tackle the problem statement, the majority agreed with the wireframe design straightaway. This could have tunnel-visioned their thought processes and limited the extensibility of the proposed solution or their proposal of design alternatives.

2 NEEDFINDING EXECUTION 2 – INTERVIEW

2.1 Observations

The following high-level tabulated [transcript](#) of the responses from a member of Staff posted on Microsoft Forms enables data inventory collection for

Primary Users at the other end of this design integration – Staff that use Ed.

Secondary Users in context – Staff that represent Grad program administering

Question	Answer
Do you agree, Online Graduate programs are perhaps limited compared to Physical Graduate programs in the way of Students' direct interaction with Staff?	Yes
On an average, how many hrs per day do you spend reading and answering Students' questions? (8hrs being your maximum work time)	6-8 Hours on an average
Do you employ a priority list in order of which questions are addressed?	Yes, there is a workflow to prioritize the order of our addressing

Question	Answer
Do you agree with this - life/work can get in the way of students and cause delays with respect to their planning of assignments/submissions that are bound by deadlines week-over-week?	Absolutely, yes
Would it help you (and the OMSCS program) if students have a way to catch your attention faster with their questions that think are critical via 'Ed'?	Yes, it would
Would your answer to the above change if each student is given a limited priority pass (say 2 for example) over the span of a course?	Yes, prioritization enabled by the Ed interface would be beneficial

2.2 Summarization

Staff acknowledge Online Graduate programs are perhaps limited compared to Physical Graduate programs in the way of Students' direct interaction with Staff. Staff also unanimously agree that life can get in the way of students' progress and cause delays to their planning of assignments/submissions that are bound by deadlines week-over-week, and hence support any effort to bridge this resource gap. Staff spend 6-8 hours each day in trying to answer students' questions and do employ a workflow to prioritize questions already, but they support the idea of a limited priority pass (priority highway) given to students to catch staff's attention faster on "Ed" which is a tried and tested platform they already use to communicate with students and broadcast course content.

2.3 Biases

Addressing Observer Bias:

The questions (available in Appendix) were, proof-read by me and streamlined to read more specifically and collect objective data points. NO design pointers were suggested before-hand to allow for expansiveness of the thought-process of the interviewee.

Addressing Voluntary response Bias:

These questions were shelved from users before they began answering by not publishing it on Microsoft Forms until the questions were proof-read as mentioned above.

Failure of Addressing Biases:

I may not have had enough interview responses to address Confirmation Bias. Owing to the time at hand and participation trail, the interview was not performed with optimal number specified, 5, as per the course guidelines.

3 NEEDFINDING EXECUTION 3

The initial round of need finding could not be fit in the context of Ethnography as underlined earlier in my M1. Ethnography may become more prominent when an initial prototype is introduced in this case. This context will switch to “Think-Aloud”, but this could not be exercised yet due to time constraints.

4 DATA INVENTORY

All data inventory categories have been tabulated as below *for better legibility*.

Category	Attribute	Finding
Users	Who are the users?	OMSCS students are staff that use ED for HC-675c GaTech’s online course delivery platform.
	What are the User Types?	Ed is used by 2 Primary User types – 1) Students that use Ed for course Content 2) Staff that use Ed for course administering Secondary User type – Staff also represent Online Graduate program committee benefitting from the ease of program delivery
	What are the types of students?	Majority of students are Part-time working professionals
	User Expertise level?	Novice and Expert levels in both Student and Staff are possible
Environment	Where are the users?	OMSCS students strewn all over the world

Category	Attribute	Finding
	What is the environment?	<p>1) Students using Ed to clarify/post questions/posts to Staff that impact the quality of their submissions within deadlines.</p> <p>2) Staff who address Students' questions based off of a workflow that prioritizes their responses.</p>
	What are the types of students?	Majority of students are Part-time working professionals
	User Expertise level?	Novice and Expert levels in both Student and Staff are possible
Context	What is the Context?	Students seeking response from Staff on ED nearing submission deadlines that may impact quality of deliverable working in an online education setting via Laptop, Tablet Smartphone)
	What else is competing for user's attention?	General day-to-day activities like Eating, answering a phone call, pausing to stretch etc.
	Impact of this to the interface	The user's attention does not really cause any derailment in the way the interface would have been being used. The scope of the interaction with the interface is only as mentioned above in the context specification.
Goals	What are the user goals?	<p>1) Students seeking response from Staff on ED nearing submission deadlines that may impact quality of deliverable</p> <p>2) Staff needing to catch the students' attention faster to respond to limited priority highway exercised by students</p>
	What are they trying to accomplish?	1) Students to use a limited pass option to reach staff faster to seek critical responses relating to their submissions to meet their deadlines. 2) Staff to respond to the former, therefore, bridging the gaps that the online grad program structure alludes to.
Needs	Right now, what do they need?	1) Students need an option on ED to flag their question as CRITICAL that will catch Staff's eye on their prioritization workflows. 2) Staff need this integrated with their existing workflow on ED to serve students better.

Category	Attribute	Finding
	What are the physical objects?	A mechanism to update ED UI to provide a priority highway option for Students, that also keeps track of the number of chances available to reach Staff on Priority.
	What Information do they need?	Course/submissions related information from Staff
	What collaborators do they need?	Students need Ed application team to endow this feature update, staff to align with the feature availability.
	What are their tasks?	1) Students to post question/posts on Ed and flag an option available to signify criticality
	What are they doing physically, socially, cognitively?	Users are physically working on their computers using Ed interface, cognitively thinking about gathering or posting responses to questions that they are articulating
Tasks		

5 REQUIREMENTS

5.1 Domain

Ease of access to Professors/TAs for Online grad students, to bridge the limitations of online programs compared to physical grad programs.

5.2 Definition

Re-using the abstract that serves as definition here - OMSCS has been establishing Georgia Tech as a pioneer in Online Graduate Programs. While that already is the case, the Pandemic-era has put even more focus and importance on enabling virtual modalities of such graduate program offerings. With such a global scale and the number of students OMSCS caters to, any effort to bridge the limitations of Online Graduate programs to actual physical Graduate programs would benefit these models immensely. This discussion is a small step in that direction; introducing a feature to an already existing, tried & tested interface, “Ed”, that will enable a Priority highway for critical attention a student may need from the Professors or TA’s; which in a physical graduate program is almost straightforward.

5.3 Success

Success is when an OMSCS student can access staff's intellectual content as easily as in physical master's grad programs where geographic proximity is a given. A small step towards this is to be facilitated by 'Ed' in this context of discussion.

6 CONTINUED NEEDFINDING

6.1 Questions and their methods

Questions	Need finding methods
With this problem statement confirmed, how are students getting around this limitation now?	Survey & Interview
How much time is this workaround costing Students?	Survey & Interview
Can this be achieved by better time-management, or this really an issue?	Think Aloud
Any other ways of achieving the goals stated above that may include augmentation to the very way the program is structured?	Survey & Interview
What does the prioritization workflow used by Staff currently entail?	Ethnography
How can this feature disrupt or improve Staff's experience?	Ethnography/Interview
Design alternatives for the Ed feature that students would suggest?	Survey & Interview
Design alternatives for the Ed feature that staff would suggest?	Survey & Interview
Design alternatives for the Ed feature that Ed application infrastructure team would suggest?	Survey & Interview

7 APPENDICES

7.1 Appendix: Survey Results

https://forms.office.com/Pages/AnalysisPage.aspx?AnalyzerToken=wopc3Tpqrzlsbrjsnwn-IHjKwv5pBWGo3&id=u5ghSHuuJUuLem1_Mvqgg4fIPD17LPhCsIPwmVHw_KIUNjM2UEtPUloxMzkzRjhENEIxTElQVU9ZVi4u

7.2 Appendix: Interview Transcript

https://gtvault-my.sharepoint.com/:x/g/personal/srao374_gatech_edu/ET3hrLNNWHRPpI4B22JBgHUBAdIfsIqVt_OTJjdn6mBubA?e=o7RWra