UNC Graduate School:

Improving guidance for newly accepted students

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Table of Contents

Executive Summary

Problem Definition

The setting:

Every year, 2,500 new graduate students enroll at the University of North Carolina, Chapel Hill. When they are accepted, these new students navigate a challenging and, at times, confusing collection of online systems in order to accomplish the various tasks they need to complete and deadlines they need to meet in order to enroll, register for classes, and begin their studies.

Problem description:

The UNC Graduate School Admitted Students webpage features an online checklist for newly admitted graduate students. The Graduate School's correspondence with students is limited, and the information students need is clicks and logins away from the checklist. Further, the list is overwhelmingly comprehensive and wordy, making it difficult to determine the importance of any given item. This text-heavy design also makes the list very unapproachable from an accessibility standpoint (e.g. visually impaired students, students with special needs, or anyone who is in a hurry).

Newly accepted graduate students may also be preoccupied with moving and finding housing and work while they prepare for school. Hard to find deadlines (health forms, transcripts, etc.) can fall through the cracks amidst the flurry of activities that a new student needs to accomplish before class starts. Last-minute completion of tasks ultimately leads to bottlenecks through the onboarding process. It creates extra work for UNC employees as students rush to submit necessary paperwork by a deadline.

Project objectives:

By following the path of a graduate school applicant awaiting their decision until their arrival on campus, we were able to identify several pain points and commonly occurring breakdowns. We used several models to identify strategies for improving the new student experience, while also reducing work for administrators.

Based on our findings and general impressions, we decided to focus on the Newly Admitted Students webpage. This page is the first link an accepted student is likely to click, and it is not structured in a way that is attractive or helpful. Our goals were to:

- Improve usability, accessibility and readability of webpage
- Make necessary links easy to find (e.g. clustered near the top)
- Redesign webpage with information chunked
- Highlight important links
- Consolidate text to reduce confusion
- Develop an FAQ page or section within the newly accepted students page

While this will not resolve all the challenges of starting graduate school at UNC, we believe that a cleaner, more usable landing page will help to better guide students and smooth out the rough edges. Since the existing page is crafted in WordPress, it is a fairly simple process for the Graduate School to implement any design changes.

Methods:

We met with The Graduate School regarding their current system for sharing critical, time-sensitive information with newly admitted students, focused primarily on the newly accepted students page. We asked whether University policy and/or state law impacts what information The Graduate School displays on their webpages. The Graduate School informed us that these entities do not regulate webpage content.

We sent out a survey to our fellow graduate students using the free, online tool SurveyMonkey. Questions included:

- How clear was online guidance of your enrollment?
- Did you encounter any problems enrolling in classes? If yes, please explain
- I felt prepared for all enrollment deadlines (deposit, transcripts, health forms, etc.)
- If you did encounter a problem, please share your story:
- At any point prior to beginning class, did you contact UNC for assistance?
- If so, who did you contact? Was your problem easily resolved?
- Would you be willing to speak with us in greater depth about your experience?

We gathered and analyzed screenshots of existing 'Newly Accepted Students' webpages from the graduate schools of other large universities to determine the 'best practices' for this type of page.

Using a 'grad school candidate' persona, we built a journey map that tracks the enrollment process from receiving the acceptance letter to beginning classes. To better understand this process, we created the persona, Steven M.:

> *Steve M. has just been accepted to a graduate program at UNC-CH. He is a substitute teacher and a part-time insurance agent and has been unsatisfied with his work and would like to do something more meaningful. He is in his early 30's and enjoys biking, books, video games and hiking.*

We then modeled out his admissions process using a journey map that tracks his actions, thoughts, feelings, and challenges of becoming a graduate student:

- Opening his acceptance email
- Paying his deposit and ordering his transcripts
- Setting up his ONYEN and online profile
- Submitting his health forms
- Applying for financial aid and in-state tuition
- Registering for classes and beginning school

We generated activity models to track the actions of a new student as laid out by the current Newly Accepted Students page of The Graduate School at UNC-CH. We also created flow models to visualize the various communication flows that new students must initiate and monitor before their program begins.

We created an artifact model of The UNC Graduate School's newly admitted students page. The data accumulated from the graduate student surveys and The Graduate School Admitted Student webpage was text-heavy. Consequently, we created word clouds in order to visualize the data in digestible format.

Findings:

A significant number of the students we surveyed and interviewed described problems related to deadlines and class registration, particularly discovering a registration hold on their accounts when attempting to register for classes. Although not universal, many respondents were surprised to find holds on their accounts, not realizing that they needed to send official transcripts to The Graduate School before they could enroll in courses.

We believe that transcript problems could be alleviated with a more concise, action-driven web page that emphasizes the importance of starting the transcript process early. To this end, we have drafted a prototype page based on the combined understanding of The Graduate School website's overall layout, effective design principles, industry best practice, user feedback and given system requirements.

Existing System Overview

The current system is driven by the student (as it should be) but limited guidance impacts the student's success. Although this current system addresses relevant information that students wish they had known before starting school, it is very word-heavy, resulting in the information going unnoticed or unread.

Journey Map

Steven M.
Age: 33
Substitute teacher, insurance agent

Hobbies/ likes:

Journeymap representing the student's path from acceptance to arrival at UNC

|	receive acceptance letter	pay deposit	order transcripts	set up accounts	Thrive (health registration)	Finances	Register for classes	begin class
Doing	opens email	signs acceptance form, pays $250	contacts previous schools, makes sure they know to send transcripts to the graduate school	ONYEN HEELMAIL DUO	Vaccine records get vaccines, if needed login to ConnectCarolina	Check/apply for Residency status Prepare FAFSA and studentloans.gov acc't complete MPA	consult advisor or school contact check for registration holds fill your shopping cart	Register for orientation housing/student life update your address get OneCard
thinking	did I get in? should I accept?	how should I pay for this?	I already had to get these sent to myself to apply!	This is tedious	where can I find my vaccines?	will I get a job? How much is tis gonna cost?	what should I take? did I get waitlisted?	there's so much here!
feeling	excitement 😊	anxious 😟	frustration 😠	bored... 😐	curious 😕	worried 😟	excited 😊	enthusiastic 😊
opportunities	this is their first look at UNC's website since being accepted	one student expressed distress over trying to get this waived	is there a way to use the previously ordered transcripts?	gamification of system?	reminders to encourage meeting the [soft] June deadline	Recommend a conversation with GFIC?	heads up that registration is coming	make a good first impression
barriers	website is very word heavy	feels like something that can wait, if you're not sure	Cost and time delay if sent to undergrad offices		Finding vaccine records, 'soft deadline'	Undetermined is an unclear term for we will charge you an extra $10,000	May not be assigned advisor prior to early registration	
touchpoints/ insights	Some students receive false rejections?	Some students stressed over how to pay.		ONYEN will be your email address	Tips for finding vaccine records	Maybe a welcome letter from GFIC?	Give more notice for early registration,	
recommendations	Improve function and language of website		Many students submitted official transcripts for their app. Can we find a way to recycle them?	Show students how to have an alias email	Reward meeting the early deadline (free UNC T-shirt?)	Tips for finding former addresses for nomads/ older students		

Our journey map shows the process from the perspective of a new student and identifies opportunities for improvement as well as pain points. The pain points echoed some of the complaints we heard in our survey results.

Findings:

- Word-heavy website
- Unclear urgency with paying $250 deposit upon admission
- Lengthy directions on site explaining how to request official transcripts undermines the emphasis of avoiding a registration hold.
    - Additional confusion may be due to the fact students have already requested official transcripts as part of the application process. The application process requires submitting 'unofficial transcripts,' however, most postsecondary schools only offer the option to request official transcripts.
- A 'soft deadline' for submission of health forms creates uncertainty in required timeliness of forms.
    - Can be tempting for those who are procrastinators as well as for those who may overestimate the amount of time they have to complete certain tasks

- o Can be chaotic for students who are gathering files last minute
- The admission letter states your residency status but classifies it as 'tuition status' creating jargon-based confusion, particularly when tuition status is 'undetermined.'
  - o Steven M. will likely assume this means the University hasn't received payment information
- The webpage and external (non-UNC) emails do not inform the student of impending registration times which can lead to a registration hold if they have not already requested their transcripts. It also means they may not have looked at classes and chosen a desired schedule or consulted their advisor.

Activity Models
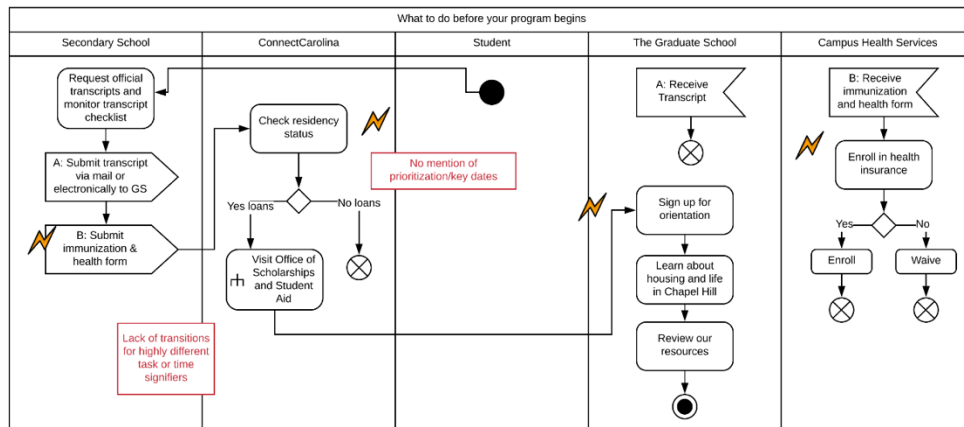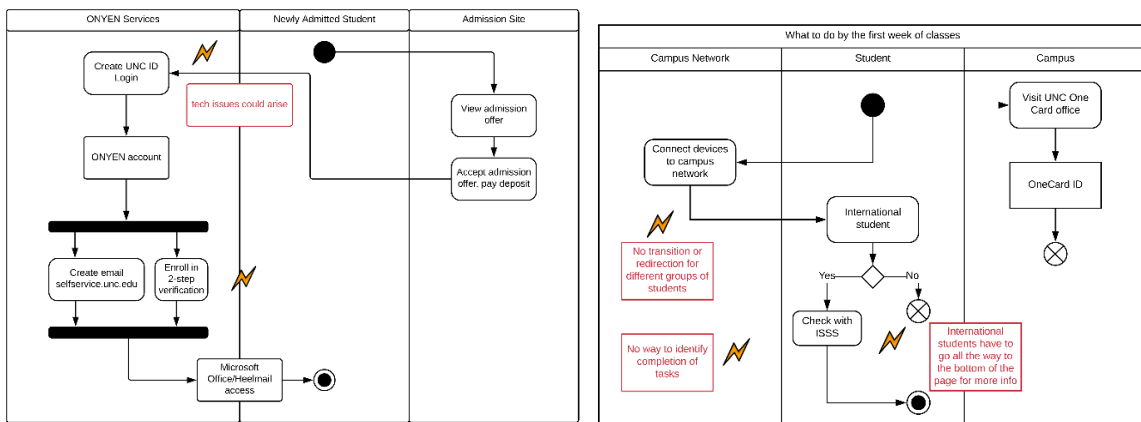
The three activity models show the three main sections of tasks that the newly admitted student must complete prior to the start of class. There are three separate models as opposed to one due to how unreadable the models will be if all the actors and all the activities required are placed in one massive model.

Findings:

- The calendar on the newly accepted students page is the academic calendar for existing students, emphasizing events like spring break and exam periods, and less so admissions deadlines.
- A lot of the breakdowns come from vague deadlines and the lack of understanding of when tasks must be completed.
- There is no available way to save and track your progress through the process as you can during the application process or the residency application process
- For international students, there is the challenge of finding specific instructions along with the implication that they will find help on the newly accepted students page. The page offers little guidance and routes them to ISSS.
- Headings are organized by general time periods not tasks, which can lead to unclear transitions and lack of prioritization of said tasks.

Flow Model

Flow Model for Newly Admitted Student Checklist
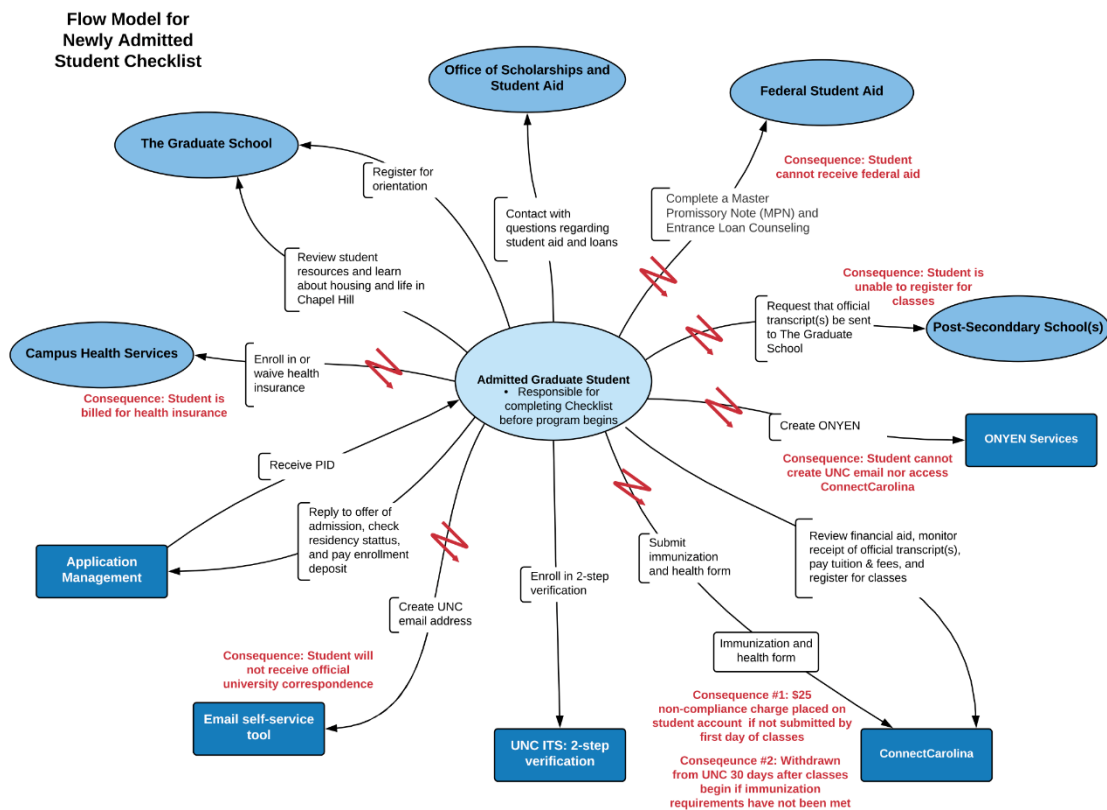
The flow model illustrates the communication flows, breakdowns, and the consequences that students face when breakdowns occur. The success of the newly admitted student webpage depends on how well the page communicates to students the various tasks that they need to accomplish before their programs begin.

Findings:

- The flow model in this report features a newly admitted student as the "focus person." The student initiates communication for every task on the checklist, interacting with offices, such as The Graduate School, and information repositories, such as ConnectCarolina.
- Breakdowns in communications that involve offices:
  - Postsecondary School(s): Student is unable to register for classes if they fail to request transcripts

  - Federal Student Aid: Student will not receive federal aid if they fail to complete Master Promissory Note and Entrance Loan Counseling

  - Campus Health Services: Student will be automatically enrolled and billed for UNC health insurance if they fail to submit a waiver

- Breakdowns in communication that involve information repositories:
  - ONYEN Services: If the student does not setup their ONYEN, they cannot create a UNC email or access ConnectCarolina
  - Email Self Service Tool: If the student does not create their UNC email account, they cannot receive to official University correspondences
  - ConnectCarolina: There are two levels of consequences for failing to submit the Immunization and Health form to ConnectCarolina,
    - #1: $25 non-compliance charge will be placed on the student's account if not submitted by the first day of classes.
    - #2: Per North Carolina state law, students will be withdrawn from the University 30 days after classes begin if immunization requirements have not been met.
- Understanding the degrees of severity for each consequence caused by a breakdown helped us determine what information needed to be emphasized to students in the prototype webpage.

Website Markups

Artifact Model Analysis

Annotations (markups on the website screenshots):

- It is good to have the UNC Home website link to the web so allow the user to easy explore the UNC and UNC Graduate School websites.
- Add some brief introduction about the purpose and information for this web page
- The information is irrelevant to the graduate admission work
- Font size is too small and user might ignore its importance
- Good to add printable checklist
- Good to add hyperlink
- Need a clear key dates for admission steps
- Need highlight
- Good have the highlight
- Doesn't guide to the direct answer
- Need highlight
- Need highlight
- Doesn't need hyperlink for email address
- Doesn't look professional with the * in the web design, it is better to add a new category for health insurance
- This is a repeat information
- Better has visual map and detail address instead the hyperlink

Our markup of the existing website highlights how elements are used and structured on the page in an attempt to identify what works and where improvement can be made. A study of website design summarized that information content, usability, ease of navigation, customization, security and availability are key determinants for website access and loyalty.[1] We analyzed the content against this measure, noting availability, and ease of navigation of the Admitted Students webpage. We evaluated how well the organization of information on the Admitted Students page supports the admissions workflow, whether the page sufficiently highlights critical information, the accuracy of the information, and the level of difficulty in navigating enrollment information as a new student.

Findings:

1. The webpage does not use filter bars to categorize information, preventing new students from quickly accessing enrollment information by topic.
2. The webpage does not adequately highlight key enrollment information.
3. The small font size makes the page difficult to read.
4. Some information featured on the page is unrelated to admissions for newly admitted students.
5. The hyperlink does not direct the student to the answer of the question on the webpage.
6. The color palette is limited and lack of visual tools could fail to attract a user's attention.

Survey Data

Survey data were contextualized and filtered to gauge the level of satisfaction of current graduate students as they went through the newly admitted student process.

Survey Findings:

How well do you remember the process of enrolling as a graduate student at UNC?
Answered: 30   Skipped: 0

I felt prepared for all registration deadlines (deposit, transcripts, health forms, etc.)
Answered: 30   Skipped: 0

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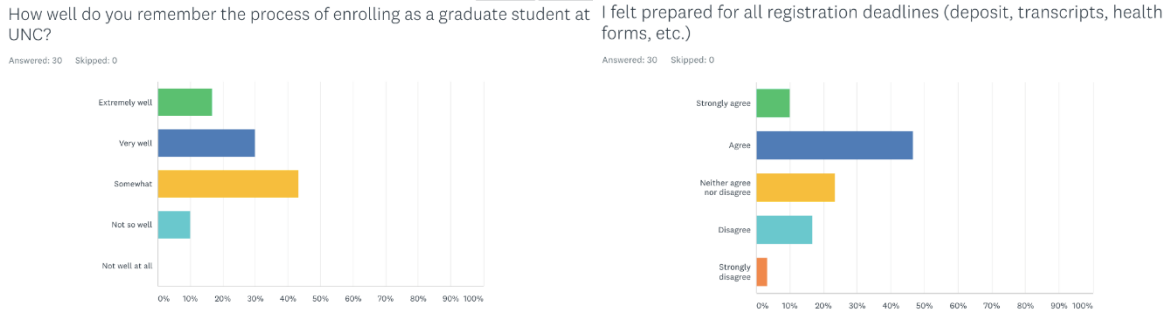
[1] Tarafdar, M., & Zhang, J. (2008). Determinants of Reach and Loyalty — A Study of Website Performance and Implications for Website Design. *Journal of Computer Information Systems*, *48*(2).

Findings suggest that there is a small percentage of students who felt completely unprepared for deadlines, but 20% of respondents expressed some trouble with deadlines.

Comments from the survey about deadlines:

"I was not prepared for the health form deadline, but this was partly my responsibility for not tracking when it was."

"Having to wait for transcripts as a student who was already established at the university was EXTREMELY frustrating."

"I was not assigned an advisor in time for the semester and it was a little difficult to navigate alone."

"I went into grad school straight out of undergrad, so I had to wait until I graduated to send in my transcripts. That meant that I couldn't do anything official (officially accept the offer, register for classes, get more information about advising or my program's specifics) until after my May graduation date. That was part of the reason I couldn't get into classes I needed, and no one would take an unofficial transcript as a placeholder, the whole process was very frustrating."

"I think it was nice to have multiple reminders."

"There wasn't a clear checklist of everything I needed to do especially as an international student."

"I have an unfair advantage since I went here for undergrad and am familiar with the system"

"Y'all got no problems sending tons of email for when you want money but everything else was like a find-and-seek game online"

"Deadlines could have been communicated better."

"Health forms weren't a problem because student health emailed us immediately and repeatedly about it."
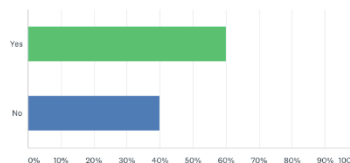
How clear was online guidance of your enrollment?

Answered: 30   Skipped: 0
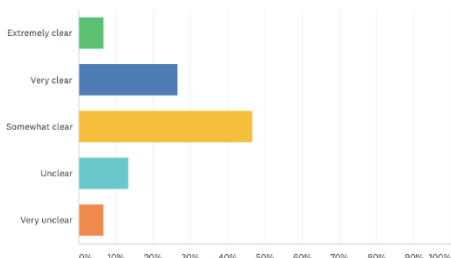
At any point before you arrived on campus, did you contact UNC via phone or email for assistance? If so, why?

Answered: 30   Skipped: 0

Comments from surveys about enrollment:

"Every required class became full immediately. Introductory, fundamentally important courses in the program were and still are broadly unavailable."

"As a dual BS-MS student I had to wait longer than other incoming students to register for classes. This is counter-intuitive, as the dual program allowed me to complete a semester of credits ahead of time, placing me a semester ahead of my peers."

"It was a bit hard figuring out what to sign up for."

"There was a hold placed on my account but it was quickly resolved."

"But I had help from my friends who were already in grad school"

"There were no spots left in any classes I needed to take for the first semester. Most of them were still available for me to take, but I had to contact the school and do some wheeling and dealing to get into any relevant courses."

"The ConnectCarolina website is excruciating to navigate"

"1. Prereqs that are complete due to past credits are not in the system so I have to work with the course department for it. 2. Going back and forth to read a course description vs. enrolling in it. 3. can't waitlist multiple courses because it cuts you off at 15 credits, have to rely on swap which doesn't work for waitlist courses."

"No one told me when to register; I wasn't assigned an advisor till the semester had almost started"

"Actually, at the very beginning, I was not sure what is early registration."

"It was not easy to filter the relevant courses and every time I come back to the search page, the information would be gone just like when you reload the whole page."

"It wasn't very intuitive or clear. Takes some manual wrangling."

"I wasn't told anything about class registration, so when I finally figured out how to do it on my own, the classes I needed were filled."

"Hard to find information for many courses beyond very brief descriptions in course catalog."

"class was closed even before I was allowed to enroll"

"A class listed as available on a department website and list was not in the enrollment system when searching for it; No alert was sent when registration started or was going to start; adviser not assigned until after registration and most classes were full"

"A lot of pre-reqs for classes so I had to go through Lara"

"My transcripts were late and there wasn't enough information online about that process so I enrolled after other people and had trouble finding spaces in classes."

"My advisor at the time didn't advise very well, so I had trouble figuring out what classes to take my first semester."

"Some course listings changed during the week of registration so I didn't get the schedule I had originally planned"

"received denial"

The survey indicated that many of the problems that arise with class registration and enrollment deadlines are expressed towards and resolved by administrators of the student's specific graduate program. Consequently, these questions and problems may not be communicated to The Graduate School. Additionally, there is a pain point for graduating BS/BA students who cannot lift the registration hold until they graduate at which point many classes are full and closed.

Additional comments from the survey:

"The only infrastructure problem is that there aren't enough available classes for how many students there are in my program."

"I thought it was pretty clear, but there were A LOT of e-mails that seemed redundant."

"After receiving news of admittance, the process became particularly unclear."

"Please tell incoming grad students when to sign up for classes/how to contact their advisors. Registering for classes my first semester was so stressful and it didn't need to be if I could have had an advisor to talk to earlier and if I'd known I could register for classes after enrolling."

"I'm willing to share more about my experience if it would help you improving the process."

"I wish just they get rid of PeopleSoft. It's such a crappy system in the modern day standard."

"I also worked as an administrator at the university, and worked with the onboarding and enrollment process for other graduate students, so I'm very familiar with the resources and instructions of enrollment."

"I created my onyen before I decided to come to UNC and then when I finally made my decision, I realized I was stuck with this stupid onyen that I can't change"

"I think there needs to be more standardization between graduate school departments. SILS has one person doing all the course listings and coordination and it's hard to know what's going on"

The results of survey confirmed our suspicions: there is room for improvement. While many enrollment experiences were positive or neutral, the data revels that a significant number of graduate students had some serious issues with the process.

In addition to the initial survey, we sent a follow-up survey to students who noted they would be interested in providing more context to their statements in the initial survey.

We sent the following email:

Good morning,

Hope everything is well! Recently, you took a survey about your experience with the UNC Graduate Enrollment process. On this survey, you indicated that you would be willing to provide additional comments about said process. We appreciate your commitment, and your feedback will serve us well in our intent to improve the inadequacies of Graduate Enrollment web resources.

We have a few supporting questions that will allow us to get a more comprehensive view of your process. Please respond to the questions as you see fit -- if you do not feel comfortable answering a question, it is not required for you to do so!

Here are the follow up questions:

What was your status when applying for the program? (Recent Undergraduate, Working Professional, Gap Year, etc.)

What tools did you use to prepare for your impending first semester (Graduate Admissions website, SILS admissions website, etc.)

If one of the tools included the Graduate Admissions website, how was that experience? Do you feel it was an adequate source for all of your needs?

If you didn't feel the website was enough, why? Do you have any suggestions?

What did you do to resolve any difficulties that arose during the process?

In addition, we would love to have a comprehensive outlook on your experience enrolling. **What is your story?**

Thank you for your help!

These supplementary questions allowed us to paint a more comprehensive picture of the people who responded to our surveys and the materials they used to enroll. Although many have yet to respond to this secondary survey, the ones who did provided more clarity to their responses in the first survey. Here is an excerpt of one of the responses:

> "**In addition, we would love to have a comprehensive outlook on your experience enrolling. What is your story?"**
>
> *I went here for undergrad, didn't major in IS, nor was I aware of it in undergrad. I took a job at the university after graduating and found out that I was able to take classes while working, and so I took 3 SILS classes, applied for the program with recommendations from one of the SILS professors I took a course with, and got in. I worked as a student services coordinator before and handled assistantships, so a lot of what I told my previous graduate students about enrolling, I just did the same while I enrolled. I knew who to reach out to at the Graduate School if I had any questions about health insurance, assistantships, transcripts, etc. and I registered for classes early since I knew how to do it, while students new to UNC probably took a bit more time enrolling that I did. I didn't need much guidance, but I'm sure if I hadn't gone to UNC for undergrad or worked at the University, I would have needed A LOT of help.*

Recommendations for New System

Our primary recommendation is to revise the newly accepted students page. The problems that we have uncovered are not egregious, but many may be avoided with a more directive, usable site. Our design recommendation can be found in the Client Appendix. The new design maintains the tone and aesthetic of The Graduate School website as well as a link to the printable checklist for new students.

Modifications include:

- Editing the text to reduce it from 1,931 words to 625 words to improve accessibility and usability of page
- Directions for requesting official transcripts moved off-page, but clearly linked
- Call-to-action buttons on the right sidebar in place of the Twitter feed
- Enrollment deadline/timeline calendar replaces UNC Academic calendar on sidebar
- Page organized by task in order of priority
  - Time sensitive tasks indicated with hourglass icons that correspond to deadline calendar on sidebar
- International students more clearly routed to ISSS website for guidance
- FAQ section added at the bottom of the page

We further recommend that a survey be sent out to identify and compile a list of encountered issues that could be used to continue quality assurance and improvement of the process. There is already an online evaluation provided for graduate orientation. Perhaps this evaluation could be expanded to ask questions about the onboarding process as well specifically target user experience of the Admitted Students webpage.

Out of scope recommendations:

- Put To-Do action items that could prevent successful enrollment (health, finances, transcripts, deposit) on the student center main page in ConnectCarolina
- Have Central IT add scheduled messages from The Graduate School or have each individual College send scheduled reminders to new students about deadlines (e.g. Listservs) and scheduled prompts to new students that can guide them through enrollment
- Implementing a progress-based web system to guide people through the process (as with applying for school or in-state tuition)
- Push key information (PID, Heelmail, deadlines, the printable checklist) directly to new students when they create their ONYEN

Implementation Plan for New System

To implement the new design either we, or The Graduate School would need to change the body of the newly accepted students page, adding hyperlinks and ensuring that they work. This task would take a reasonably short amount of time because the existing page already has the same hyperlinks. Adding buttons and reworking the calendar on the sidebar would be more intensive but could all likely be completed over a period of a few days as a small project. Maintaining the enrollment calendar would potentially create ongoing work for someone in The Graduate School (unless such a calendar already exists and is maintained) but would really be limited to ensuring that specific enrollment dates, financial, and health deadlines are shared with the calendar from which the web widget is sourcing its information. We believe this feature would not be a costly implementation and would require an acceptable level of manpower and resources.

Though harder to quantify, there exists the possibility that the new website design does not serve its mission and instead creates more work for The Graduate School administrators as well as those of the individual programs. While we do not believe this will happen and have worked hard to accomplish the opposite outcome (less work and confusion), the act of modifying the existing page does inherently take on a certain amount of risk. No matter what, the webmaster will need to pay closer attention to the functionality of the page than usual as it will contain new content and hyperlinks.

Client Appendix

Artifacts Included:

- Website redesign with and without markups
- Markup of the existing webpage
- Markup of Duke and UT Austin's newly accepted page
- Full page copies of all models referenced
  - Journey map
  - Activity models
  - Flow model
  - Artifact models
- Survey data and survey comments

Team Appendix

We hope to present to The Graduate School between end of exams and the beginning of Spring Semester. We have encountered some scheduling challenges but are in talks with them. This meeting will include a talk, our online presentation, and this document.

Lessons Learned

As a team, how do you assess your team's performance and results? What were your strengths and weaknesses?

> As a team, we can reflect on our performance by observing the efficiency to which we completed assignments, delegated tasks, and communicated with each other. In addition, we can evaluate the grades we received on our assignments.

> As a group, we completed assignments in a timely manner, and once they were complete, we effectively reviewed them to ascertain that they were quality. It was clear from the beginning of the course that we wanted to receive high markings on our assignments and that we were willing to put in the effort to do so. Once we doled out the tasks amongst each other, we were responsible for completing these assignments to the best of our abilities and collectively, we reviewed the final assignment.

What would you do differently if you had it to do over again?

> If we had to do it over again, we would begin the data collection a few weeks earlier. Sending out the survey to graduate students earlier would allow us more time to follow-up with the students who agreed to be contacted for further questioning.

What lessons can you carry with you for the next project? You should reflect both on the specific project, and on what you've learned about systems analysis in general.

> *Lessons to carry with us in the next project will include using contextual inquiry and user-centered design as a means of understanding the problem. Using appropriate models to better understand the inefficiencies and breakdowns can serve as a means of determining different parts of the problem and the roles of participating actors so that the best system put forth is the one that is thoroughly researched and discovered through the project.*

> *Projects that aim to improve existing systems involve many moving parts and it is important to maintain open communication lines internally within the project team and externally with the client so that everyone is on the same page. However, projects like these also create an understanding that the issues are not automatically solved with implementation of complex and sophisticated technology. When improving systems and workflows, sometimes the simplest means solve the problem.*