

THE UNIVERSITY OF CHICAGO

**In-site Insight's Within Sight:
Increasing the Usability of the University of Chicago's
Class Registration Portal Through User Interface
Redesign**
by
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Literature Review

Introduction

Any university-implemented system for student use is expected to possess certain key attributes, namely, an intuitive user interface, real functional utility, and refined design. That is, the application must be easy to learn, use, and recall, and must include features that align with users' needs and their tasks. Nonetheless, such aspirations are often unmet in reality. Often internal university interfaces such as student portals or class registration applications are outdated and unpleasant to use. But, due to their mandatory roles in the functions that they perform, students must tolerate and work around badly-designed, antiquated interfaces that do not behave in the ways that would best suit their needs. The UChicago my.classes class registration portal is a prime example of an outdated university system. Having stayed un-updated, to the best of my knowledge, for over seven years if not more, it no longer satisfies the requisite criteria of being intuitive, useful, and refined. In this first section of the paper, I argue that the UChicago my.classes registration portal is in desperate need of a redesign.

The my.classes registration portal plays an instrumental role in shaping the educational experience that the University of Chicago provides to its students and, as it stands in its current semi-functional state, impedes students from optimizing their educational pursuits at the university. In addition to pre-registration, my.classes governs four other crucial user tasks: adding, dropping, swapping, and discovering classes. Given its direct and significant impact, the my.classes portal should be accorded priority by the administration to upkeep its usability. Yet, with every registration cycle, the class portal remains unchanged in its semi-usable state and continues to amass a large amount of student complaints and frustrations – why?

Taking a non-user perspective could potentially illuminate the reasons as to why the Registrar's office may be prioritizing simplicity, functionality, and reliability over minimizing user friction. It could be argued that the my.classes site, despite all its shortcomings, still remains highly functional, as evidenced by its capacity to process tens of thousands of registrations each quarter. To better understand

why the class registration portal has come to be stagnant in its current design, it may be useful to delve into the potential reasonings behind its origination. While there is no available documentation detailing the transition from the analog version to the current online class registration system, it would be safe to assume that this digitized counterpart is a much more efficient means of organizing classes for both students and administrators compared to the analog version that predates it. Presumably, the shift towards the digital class registration portal was instigated by users frustrated with the limitations of the analog system. These users may have aimed to enhance the existing working system by iterating on its design, making changes such as reducing the manual labor required to manage each student's courses, automating class assignments based on ranking, or streamlining the class search process.

Operating under this perspective, it becomes apparent why the class registration portal has remained stagnant post its transition online. It was an effective innovation for its time which resolved many contemporary issues with class registration, and as a result, there has been little motivation or incentive to change it. However, much like how growing user frustration with the analog system inevitably caused the switch to an updated class registration system, the growing user frustrations with the digitized system calls for a reassessment of the stagnant class registration portal.

The Case for a Redesign

On paper, the my.classes site is fully functioning in what it claims to do; it allows users to search for, preregister for, and edit their class selections. However, in practice, users are frustrated not only with a lack of usable features but also the lack of thought to usability within its design. Every round of pre-registration, without fail, I experience a wave of both in-person and online stress about having to work around what has now become an outdated class registration system. Undergraduates are stressed over whether the preregistration algorithm will give them the classes that they need. Masters students stress over their inability to preregister at all, having to wake up at 8:30 AM to add/drop classes based on sheer enrollment availability. Joint degree students, such as myself, cannot even register through the portal in the first place due to its inability to recognize the existence of a student who is both an

undergraduate and a graduate student simultaneously. Regardless of who you are in the ecosystem of the class registration portal, one thing is evident: the current system, as it is, is not working. The University of Chicago's class registration portal's current state is detrimental to its users.

A user-unfriendly, unintuitive interface is inherently stressful to users. But more importantly, it amplifies the existing stresses that the users are already experiencing, especially in cases where the stress is correlated with the task that users are trying to achieve with the interface. Although usage of my.classes only occurs periodically throughout the school year, the times in which it is required are often the most stressful for students (at the end of a busy quarter, at the beginning of a new quarter where schedules are still unstable, or during a transitionary period in their lives from high school to university). As the selection of classes is a big determinant of a student's educational experience and could have impacts on graduation, among other educational requirements imposed by the university, the additional stressor of having to work around a poorly designed, antiquated program should not have to exist. In an ideal scenario, students should not have to experience a stressful-to-navigate interface at all. A thoughtfully designed interface may not eliminate all the stresses associated with the registration process, but a poorly designed one will certainly exacerbate and add more strain to an already stressful task. If the portal continues to remain stagnant in its design, students will continue to experience mitigable stress, the portal continues to have fixable flaws, and the user experience (UX) for the user interface (UI) will continue to be abysmal.

On the surface, redesigning the UI of the class registration portal may seem to be only getting at the issues of usability superficially; but, upon closer inspection, it can be understood that the very design of the portal page is a crucial determinant of how the user interacts with a program. Visual design informs functionality. In the majority of product pipelines, new features of a system are breathed into reality from the design stage as ideas for improvement are easiest to seamlessly integrate into the look and feel of the final product in the beginning stages. A redesign in UX terms is not only a rearrangement of the existing assets of a page for aesthetic appeal, it is the complete reimagining of what the page could be at its full potential, thinking about and beyond existing features as well as how the program will behave in response

to those features on the back end. Relieving the unnecessary user stresses through thoughtful design – creating user-friendly and user-forward interfaces – is at the core of what my research project aims to do.

An untapped potential for reducing student stress is to optimize my.classes for exploration-based browsing. Exploration-based browsing is a great example of a smaller design sub-problem that illustrates how a UX/UI overhaul can have deeper implications for utility and functionality. If a student's success partly depends on taking the right courses, then awareness of and access to available courses of interest is essential. Aligning user needs with program behavior is critical to generating positive user experiences. While certain centers and departmental websites routinely post courses of interest for their students, my.classes is the most comprehensive aggregation of course offerings across the university. Moreover, my.classes is the only reference for courses taught in previous years; this ability to search courses across departments and past years is vital for interdisciplinarity and understanding which courses professors will likely teach in future terms. Without a user-friendly search function or an exploration-based discovery feature, students resort to word-of-mouth insights and other anecdotal recommendations.

Furthermore, this lack of exploration-based features has implications for educational inequality. Students who have more social capital or who are more familiar with the university's offerings may be able to take advantage of opportunities more easily, while others may miss out on courses or experiences that could have been beneficial to their academic trajectories. This perpetuates educational inequality within the university and ultimately could exacerbate the disparity in students' educational achievements, skewing the game in favor of those who start off with more social capital. By implementing exploration-based features, my.classes could become more inclusive and equitable, allowing all students to better plan their degrees and access the courses that are most relevant to their interests and academic goals. To address this gap in course exploration, my.classes could implement a more detailed and customizable search filtering system, a bookmark feature to save classes of interest, or an automatically generated timetable schedule to help students visualize conflicts in their planned classes. Adding these features to optimize course exploration would greatly enhance degree planning, reduce friction in the pre-registration process, and align more students with their desired academic trajectories. While course

discovery is one area that could benefit from a redesign, this approach can be extended to other areas of the portal too, ranging from large-scale issues such as course over-enrollment management to small-scale details such as search bar functionality.

Good UX implemented through a redesign of the class registration portal would be beneficial to both students and staff. As students invest significant time, energy, and money in obtaining a good education at an elite institution, the coursework they undertake directly impacts the quality of education they attain and their potential future opportunities. Having relevant coursework in a candidate's transcript can significantly impact their ability to secure opportunities such as graduate school admissions or industry jobs, as it signals a candidate's hard and soft skills. Furthermore, good UX that looks out for the user's best interests can also help flag and minimize costly mistakes such as missing important coursework at key stages of study. In the short run, being able to take courses that students are interested in will mean that they are more motivated in class, attain better results, and gain more valuable takeaways from each lesson. In the long run, this could lead them to have better preparation for entering the workforce or higher education, both of which are of interest to the university's goal of bolstering the institution's statistics. From an administrative perspective, being able to match students to their needs and interests can lead to better educational outcomes for the graduating class as a whole. This increase in productivity ultimately generates a surplus in the human capital that the university can provide to both the graduating class and individual students. Currently, the scope of the class portal limits the possibility of realizing educational potential, and therefore, a redesign that prioritizes good UX could stand to benefit the entire ecosystem of both students and staff.

My.classes as a program, being a big determinant of students' educational outcome and therefore the university's output as a whole, is neither serving its users to the best of its ability nor has any protocols in place dedicated to its ongoing improvement. As it stands, the current my.classes portal is causing and will continue to cause mitigable stress onto its already stressed users. A holistic user-focused reimagining of the my.classes portal that considers both the surface level visuals and the deeper functionality of the program as a whole will increase the usability of the portal and ultimately improve the

educational outcomes of the students who rely on it.

Not-So-Best Practices

In their seminal paper, "Designing for Usabilities," John D. Gould and Clayton Lewis posited that a good design system is composed of three foundational pillars: early and continual focus on users, empirical measurement of usage, and iterative design. The my.classes platform, however, fails to adhere to these best practices by disregarding shifts in user trends and neglecting to test and iterate on its design to improve usability. In this section, I explain the shortcomings of my.classes in relation to these three pillars of a good design system and how usability suffers as a consequence.

The first pillar of design, which advocates for an early focus on users – “designers must *understand* who the users will be” (Gould and Clayton, 301) – emphasizes the importance of designers' deep understanding of their potential users. Gould and Lewis specifically highlight that this understanding should extend beyond mere “identifying, describing, stereotyping, or ascertaining [the users]” (Gould and Clayton, 301) and involve designers immersing themselves in or among the population of users. In the case of the my.classes portal, a surface-level analysis would identify its users as students of the University of Chicago with common needs and issues related to class management. However, a more in-depth analysis of the current userbase would reveal that, despite their shared needs and issues with past student populations, the current userbase is more tech-savvy and proficient in screen-based interactions compared to previous generations of students, which leads them to contextualize these needs and issues in a different manner. Although their user needs and frustrations are the same, the way in which they interact with technology is completely different; cultural and technological innovations outside of my.classes have altered user expectations for screen-based interfaces, making it crucial for designers to stay up to date with the user's changing behavioral patterns. For instance, features such as the hard press, swipe-to-reveal, and long holds, have become increasingly adopted in recent years, each with its own attached connotations about functionality, completely changing the baseline knowledge of how on-screen technology should behave. This is doubly important when considering the changing mannerisms of

onscreen interaction in combination with the trend shift in device preferences as people are moving away from using computers and laptops to using mobile phones and tablets.

The second principle of design, empirical measurements, emphasizes the importance of designers collecting data from intended users “using simulations and prototypes to carry out *real* work” (Gould and Clayton, 300). This principle is comprised of two parts: conducting the studies that allow for user testing and analyzing actual measured behavior from the data gathered. The un-updated state of the my.classes interface is indicative of the fact that regardless of whether or not any data is collected, it is not being utilized to upgrade the current system. Furthermore, any robust collection of empirical measurements would have revealed the concerns of the first design principle regarding a shift in userbase behaviors.

The third and last principle of design, iteration, is broken in the stagnation of both the my.classes portal's visual aesthetics and its functionality. Iterative design involves “a cycle of design, test, measure, and redesign [that is] repeated as often as necessary” (Gould and Clayton, 303). Modifying the current system based on user data and real behavioral results is crucial in improving a program's design, as no system is perfect from its initial launch. This failure to implement regular updates and improvements through iterative design is the underlying issue with the University of Chicago's class registration portal. Without iteration, a design will slowly fade into unusability due to external trends changing the user base over time. The program is frozen in time while the rest of the world, including its userbase, continues to move forward. This stagnation of my.classes in design, lack of updates, or any major interactive overhaul since its last version has left the program incredibly frustrating and unpleasant for its current users.

The my.classes portal fails to adhere to the three fundamental principles of the good design system. It lacks any continual focus on users, empirical measurements are either completely missing or not salient, and no iterative design is being implemented. The portal could strongly benefit from a reevaluation of its design, implementing a user-centered approach to researching and improving its appearance, functionality, and usability.

“Shopping” for Classes

The field of usability, specifically within web application interface design, has been extensively researched and documented in scholarly literature. The domain of online shopping stands out as one of the areas where substantial peer-reviewed literature exists on the topic of UX/UI design. This observation has led me to draw parallels between the process of "shopping" for classes and "shopping online," and has prompted the gleaning of transferable insights from research conducted on online shopping interfaces to academic interfaces. By leveraging this existing body of research on online shopping, I aim to enhance my understanding and knowledge of the impacts of UX/UI on user behavior in order to effectively approach the task of redesigning my.classes' interface.

In the realm of practical and applied literature, Chung-Hoon Park and Young-Gul Kim's paper on consumer behavior stands out for its findings on the significance of *information quality* and *interface quality* in influencing consumer site commitment and actual purchase behavior. According to Park and Kim, *information quality* on a webpage encompasses attributes such as "product attribute information, consumer recommendations, evaluation reports" (Park and Kim, Section 3.1). They found that improving the visibility and readability of these attributes can contribute to a more pleasant user experience. Similarly, *interface quality* as defined by Park and Kim involves aspects such as "ease of navigation and convenience of searching for and ordering products" (Park and Kim, Section 3.2), and when done well, can increase user commitment to a platform. For online shopping, this means that the more a user is able to easily navigate a platform, the more likely they are to use it and therefore successfully purchase from the site.

Drawing on this research on shopping site interfaces as a natural analog to academic interfaces, it follows that the attributes of *information quality* in Park and Kim's work mirror those of course information, course blurbs, and student evaluation in a class registration portal. Applying this to my.classes would mean making use of design principles such as clear hierarchy and a good contrast to display course information with increased legibility, providing a better experience for users. Similarly, the ease of navigation and convenience of searching aspect of *interface quality* can be paralleled to help recuperate the inconsistent navigational markers and lack of course discovery features within the current

my.classes. Organizing the user flow – the potential navigational paths that a user can take within a program – into a well-designed sidebar can contribute to improving the user experience, making it easier for students to successfully find and register for classes.

Despite the natural parallelism between "shopping" for classes and "shopping online," it should be noted that there are ultimately differences in utility, usage, and userbases between the two fields, which limit the complete transferability of insights. This gap can most likely be attributed to the lack of direct financial incentives to invest in design for student portals compared to the salient profit incentives for financing good e-commerce design. Therefore, this case study aims to address the lack of thoughtful iterative design for the UChicago my.classes portal and simultaneously fill the gap in the existing published literature on academic portals.

Lessons from Other Case Studies

In light of the limited availability of academic literature pertaining to my research subject, I turned to a more unconventional, informal source to gather insights: self-published case studies. I analyzed three reference projects by Areola Daniel, Timothy Ayegbede, and Luis Ordorica that focused on the (re)design of academic portals; each project was documented in the form of a Medium article. Although these case studies were self-published, they contained valuable information regarding the specific challenges and potential solutions associated with designing academic portals. Moreover, they showcased different approaches to presenting a case study on this subject matter.

Daniel's case study stood out for its exemplary demonstration of the sequential methodologies employed in his design process, which involved incremental development from hand-drawn user flows and sketches to low-fidelity and high-fidelity wireframes – skeletal drafts of what a site's layout could potentially look like without the content. He emphasized the importance of thoroughly checking and validating the design at each stage, ensuring alignment with user needs. By following a predetermined design framework, Daniel was able to structure his design work and organize a timeline around each step of the process.

Ayegbede's case study underscored the significance of predefining aspects that may not be inherently part of the design, but still exert a significant influence on the final outcome, such as establishing defined users and design guidelines encompassing typography, colors, spacing, and layouts to ensure cohesiveness. By adhering to a consistent color palette, font family, and design language, Ayegbede was able to achieve a cohesive look and feel to his final design.

Ordorica's case study exemplified the integration of design principles into the design process, for example: addressing the principle of transitional friction by counting and minimizing the number of clicks required for users to execute tasks or ensuring readability and flow to a page's design by utilizing principles such as hierarchies in size, color, and fonts to guide a user's attention across a page. By implementing design principles as a guiding framework for thinking about each aspect of design, Ordorica was able to justify their design choices whilst constantly keeping their user group in mind.

Analyzing how these designers presented their case studies and discerning their effectiveness in combination with my existing knowledge of the product development pipeline has illuminated the many potential methodologies for iterating an existing flawed product to improve its usability. Although the methodologies employed by these designers varied in their approaches to each stage of the design process, they filled the gap in the academic literature on the usability of academic interfaces by providing valuable insights on how to effectively approach a design problem within the niche.

Methods and Research

The Double Diamond Design Framework

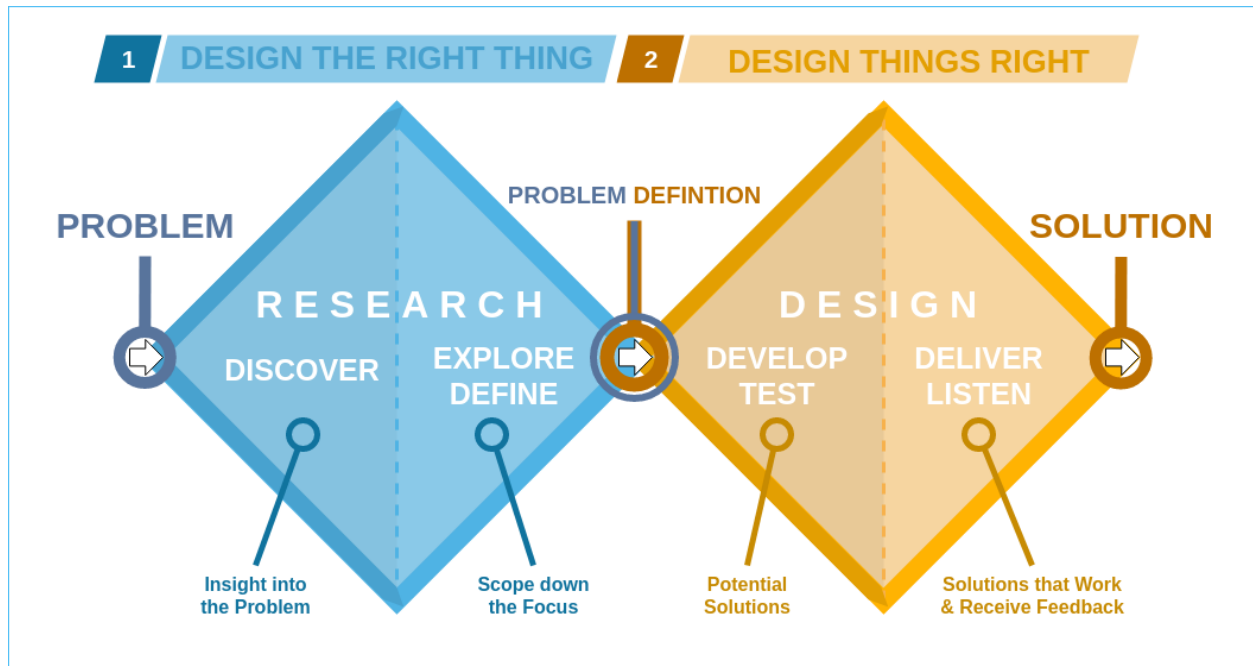


Fig 1: Visualization of the Double Diamond Design Framework via [Wikipedia](#)

The Double Diamond design framework is a model of the design process popularized by the UK Design Council in 2005 and is composed of four parts: *Discover*, *Define*, *Develop*, and *Deliver*. Its name is derived from the visual movement of repeated diverging and converging that these four steps create. In this research project, the Double Diamond design framework will be employed to guide the redesign of the my.classes portal.

Moving from left to right following the edge of the first diamond outwards, the first stage of the Double Diamond framework, *Discover*, involves expanding the inquiry to collect a wide range of insights into the perceived problem. The *Discover* stage encapsulates formulating questions, identifying the nature of the problem at hand, gathering data, and inquiring about the different variables that could affect the problem and the potential solutions. Although an initial problem is required to start the Double Diamond design process, the depth of the problem's scope or the nature of the problem's details isn't required; the problem can be as simple as recognizing that something doesn't work or isn't working as well as it

should. The Double Diamond is the chosen model for this research because it aligns perfectly with the scope of this project as I constantly experience personal and collective frustrations with the usability of the class portal but did not know the specificity as to why.

Next, following the shape of the diamond inwards, *Define* involves narrowing the scope with the data collected to pinpoint a specific solvable problem. The essence of this stage is to understand how certain user needs align or misalign with the initial problem. The deliverable is to condense the research from *Discover* into a focused problem which clearly defines the challenges based on collected insights. Converging via the *Define* stage to close the first diamond, the initial vague problem should now be narrowed down and polished to be specific and solvable.

The defined problem helps segue into the second diamond, *Develop*. Similar to the first diamond, *Develop* goes wide with brainstorming potential solutions to the specific issue. At this stage, wireframing is often used to quickly visualize potential solutions to the problem. Finally, *Deliver* narrows the many potential solutions into a final deliverable that tackles all the specified problems from the *Define* section and prepares it for launch.

Although the Double Diamond grants an incredibly helpful structure to a designer's workflow and is widely accepted, it is also important to highlight its limitations as a framework. Firstly, the Double Diamond attempts to present design thinking in a linear fashion. Furthermore, as technology has evolved, new techniques such as digital design have allowed for traditionally analog prototyping or wireframing to be done much faster and more efficiently. This causes prototyping as a design method to bleed out of the *Develop* stage and into the other stages such as *Discover* or *Define* to be used also as a research method in the form of A/B testing – a comparison and evaluation methodology for two or more variations of a design. An argument could be made that the Double Diamond was built to be iterative and thus non-linear in the overall trajectory; however, with the use of wireframing as both a research and design method, internal linearity is also not necessarily maintained. Acknowledging this, nonadherence to linearity isn't inherently damaging to the design process and can be beneficial to the outcome too, for example, getting

feedback on early designs could aid in attaining clarity before spending more time polishing up a still-tentative idea.

Qualitative Interviewing (Discover)

The primary data-gathering methodology employed in this research is qualitative semi-structured interviewing. To explore and understand people's experiences, perspectives, and attitudes to the fullest extent, interviews conducted will be semi-structured, conducted one-on-one, and will employ the use of open-ended, conversational questioning. The interview guide that will be the basis for these semi-structured interviews was completed for the *Involved Interviewing* course (Winter 2023).

Although the goal for the interview is to achieve as close to a free-flowing conversation as possible, I have broken down the structure of the interview guide into two parts. The first part involves asking verbal questions to prompt a conversation on the different aspects of usability for the my.classes interface. The interview begins with an ice-breaker question aimed at getting to know the interviewee and understanding the types of classes they typically take, such as “How would you describe the kind of classes you take?” This is followed by questions that inquire about the interviewee's opinions on the effectiveness of the current class page and any areas where improvements may be needed. For example: “In what ways, if any, is the my.classes portal (in)effective at doing what it does?” Lastly, questions are posed to elicit the interviewee's suggestions for additional features or changes they would like to see in the portal – “What features are missing from the portal that you would like to see added, if any?”

In writing these questions, I had to be conscious to avoid yes/no questions. Questions that start with “Can you” or “Could you” were strictly excluded as I wanted to open the interview up into a conversation and allow the interviewee to speak to their experiences to the fullest extent. Furthermore, I had to be wary of questions that would ask the interviewee to perform cognitive calculations. While it would often be a helpful gauge to ask someone “How would you rate this interface on a scale from 1-10?” questions that follow a quantify-your-experience line of thinking would be ultimately unhelpful to the type of data that I required. Understanding how people’s emotions and motivations are impacted by the

interface or how the interface causes frustrations and problems to its users is at the heart of what my research tries to understand; asking people to perform estimates or quantifying calculations mid-interview completely removes them from their experience from the data gathered in favor of a more digestible but one-dimensional number.

The second part of the interview involves asking the interviewee to perform tasks related to the my.classes interface while verbalizing their decision-making processes. For example: "Walk me through the process of how you would pre-register for classes" or "Show me how you would add a class that you wanted to take." This approach allows for the observation of participants as they interact with the interface in real time, revealing their subconscious habits, workarounds, and interactions that may not be apparent through verbal questioning. The most insightful user-testing data generated from these interviews were revealed by observing the participants navigating the interface themselves. For example, many participants programmed themselves to avoid pressing the 'back' button and instead to click 'return' to prevent the program from crashing – expending cognitive energy and working against their natural intuition on how the program should behave – and some developed a habit of double-clicking repeatedly in and out of a page to ensure that a class has been added/dropped properly as there was no front-end visual confirmation of a back-end task completion.

The main reasoning behind choosing qualitative interviewing is that the process provides adequate space for participants to dive into their thoughts, feelings, perspectives, and experiences (both positive and negative) in ways that alternate, more quantitative, data-gathering methods such as polling or surveys are unable to achieve. Interviews are able to provide nuanced, contextual understanding in relation to the interviewee's experience and gain deeper insights into their specific user needs and pain points which will directly aid in my mission to improve the usability of the class portal interface.

One of the primary upsides to the semi-structured nature of qualitative interviewing is the flexibility; qualitative interviewing allows for the exploration of unanticipated areas that might have not been incorporated into the interview guide. Being able to adapt and follow up with questions and probes as needed aids in strengthening the quality of data gathered and insights generated from the conversations.

This curiosity-driven approach to data gathering is crucial to the research as a participant's pain points with a software's interface may not even be salient to the participants themselves but rather divulged through their subconscious interaction with the software or through targeted follow-up questions. For example, one of the surprising things that repeatedly occurred during the interviews was the usage of language surrounding online shopping. Despite the fact that none of the questions led or prompted users to compare the current interface to the interface of an online shop, many interviewees pulled from their own experiences of online shopping to suggest ways to improve the portal, expressing that they want the portal to "behave like Amazon." It made sense for a userbase that is familiar with interfaces of online storefronts such as Amazon to crave the same quality-of-life features such as a wishlist or product recommendations especially when it is missing from my.classes. This craving for parallelism between the my.classes portal and other online shopping storefronts strengthened my understanding that no program can be successfully analyzed in a vacuum; my.classes and its usage may only exist in the bubble of UChicago but, as its users come from a variety of backgrounds, they also bring with them the expectations, cultivated instincts, and learned behavior of other programs outside of the UChicago ecosystem. If my.classes is unable to keep up with the changing user base that continues to grow, a userbase that keeps in touch with the interfaces of the world outside of UChicago, it will lag behind in its usability, only catering to an audience that exists in the past. Although a difficult balance must be struck between sticking to structure and chasing a lead for a semi-structured interview to be successful, the ability to adapt to the flow of the conversation makes them specifically well-suited for exploring user experience.

One downside of using qualitative interviewing as my primary method of research is that it is incredibly time-consuming. The concerns about the opportunity cost between time spent interviewing and time that could go into the analysis or execution – when compared to a mass-administered survey – are often raised. However, what is lost in the lengthiness of the interviewing process is gained in terms of the strength of the insights that are able to be gathered. Compared to a mass survey, where clarification of a participant's answers is not possible, interviews are able to benefit from the deeper insights gained

through elaboration as well as stories and anecdotal evidence. Furthermore, qualitative interviews establish rapport between the researcher and the participant. This increased rapport leads to trust which then leads to a more open and honest exchange of information, cyclically aiding in the quality of the data collected. I experienced this first-hand while executing the task-based portion of the interview. Because the participants were already discussing usability from the initial part of the interview and had built a little rapport with me, they were more likely to point out usability flaws or divert their attention to explaining how a feature frustrated them, even if it was unprompted or did not pertain to the current task they need to execute. Information like this is invaluable to me as a UX researcher as it is most revealing of an interface's perceived usability.

In the preliminary stage of my research, I wanted to establish a minimum target for the sample size of students to be interviewed. Consulting on the expertise of professional UX Researchers from Ipsos, it was determined that a suitable number of participants for a usability case study falls within the range of 12-16 individuals. Accordingly, I categorized the student population into four distinct groups: graduate students (Master's and above), early undergraduates (first and second years), late undergraduates (third and fourth years), and joint-degree students (BX/MXs), aiming to get at least three interviews from each subgroup. It was particularly important for me to interview people from each of these four distinct groups because I understood that the user experience, user goals, and user frustrations for each of the populations could potentially be different. For instance, early undergraduates may be primarily focused on registering for core classes to fulfill their general requirements, while late undergraduates may lean more toward major-related classes and electives. Additionally, I was particularly interested in exploring how familiarity with the interface may impact student usage patterns, hence the differentiation between early and late undergraduates based on their level of familiarity with the portal. In the end, a total of 16 interviews were conducted, meeting the established minimum goal for sample size.

A final potential concern in using qualitative interviewing techniques is the limited generalizability of the potential findings. However, in the case of this research, specificity is actually more beneficial to the outcome than generalizability. As I am performing a case study on UChicago's class

portal, the more specific pain points I can gather, the better the interface redesign can become. In this instance, the specificity of issues becomes an asset rather than a hindrance. This need for specificity is also reflected in *Define* as a goal to generate specific, solvable problems.

Affinity Mapping (Define)

In order to narrow down the scope of the issues at hand, I employed affinity mapping as a methodology to filter down the scope of the issues associated with my classes. In essence, affinity mapping is a qualitative data analysis technique that involves the process of grouping and categorizing small units of data based on their similarities or affinities. In the field of UX research, this process is usually carried out physically, in person with sticky notes on a wall or online through a shared digital whiteboard. By grouping data from qualitative interviews this way, designers can better extract insights and visualize overarching themes that are present through the group of interviews they've conducted. Moreover, by color-coding what population group each insight is generated from, the end product will be able to act as both a ranking for which issues are the most salient as well as a map to trace back the composite of insights back to its origin point. Overall, affinity mapping is a powerful technique for making sense of complex information and generating insight to inform the design or decision-making process.

One of the most beneficial aspects of affinity mapping is its non-erasure process, particularly when dealing with conflicting data. Unlike aggregating averages from a quantitative survey where a high rating and a low rating annihilate each other to form a mid-point value, affinity mapping allows for the contention of all conflicting user experiences; instead of canceling each other, opposite opinions extracted from interviews can be contributed to their own affinity pools and allowed to grow until the final state is achieved and *then* patterns or trends can be extracted from the data. For example, multiple people have expressed the lack of taste in the aesthetic quality of the current portal page saying that it appears “bland,” “basic,” or “sterile” – which would be classed as a negative to the overall user experience of the page – however, other people have expressed that they were able to “find comfort in the simplicity of the page”

as its straightforward nature reassured them that they were not missing anything. In a qualitative research methodology, these would likely be aggregated to a “neither good nor bad” mid-point that erases both parties’ concern for the lackluster visual appearance and the reassurance of simplicity. With affinity mapping, however, by maintaining both parties’ concerns in the non-erasure process, an opportunity to take input from both sides’ experience can help generate an aesthetically appealing yet simplistic interface that has a wider appeal to more users.

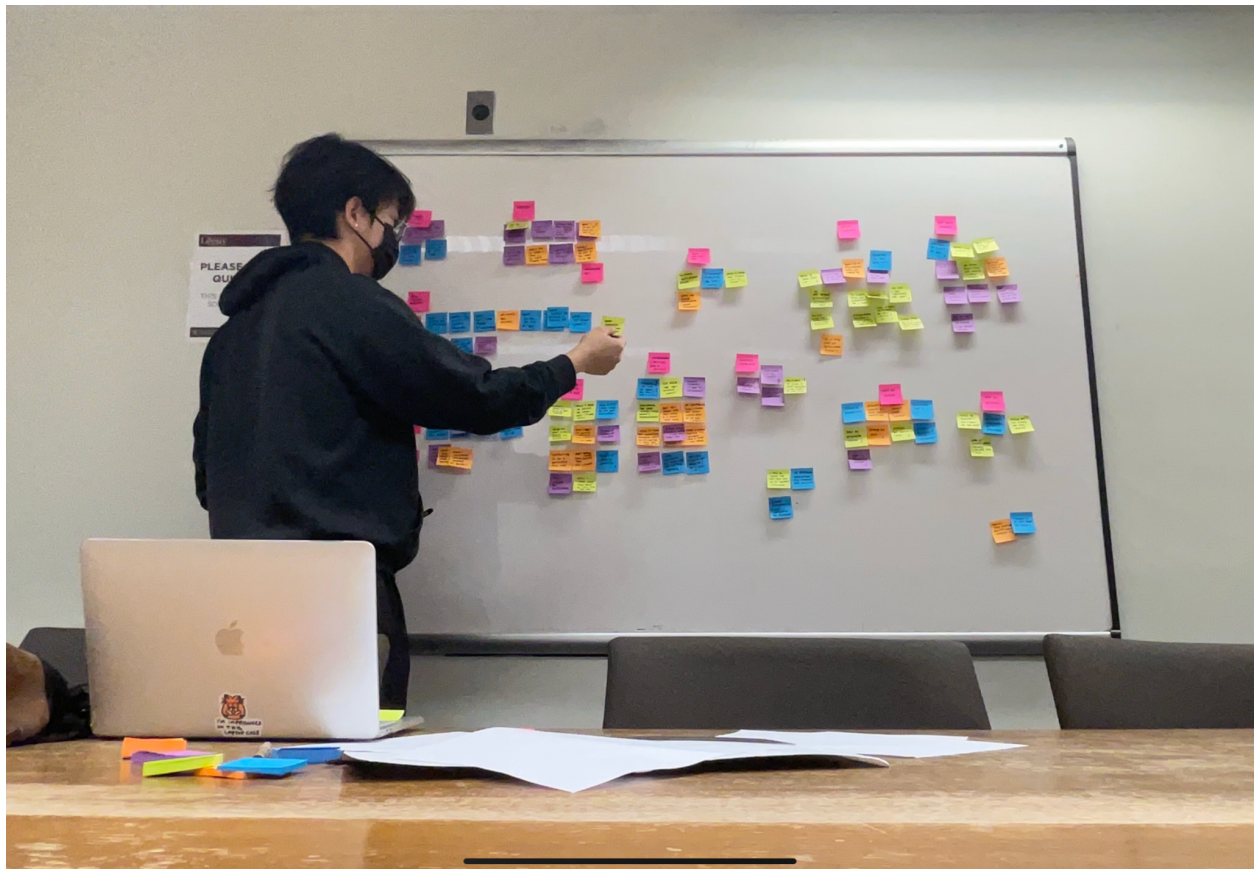


Fig 2: Initial Sort of the Affinity Mapping

The affinity mapping process began with a meticulous review of the notes, recordings, and transcripts of the interviews conducted, and extraction of noteworthy points from each conversation. These points were then succinctly summarized on individual post-it notes, which were color-coded based on the population group, with graduate students being denoted by purple, late undergrads by blue, early undergrads by green, and joint-degree students by orange. Subsequently, when these post-it notes were arranged on the whiteboard and sorted according to their affinities, it was easy to visualize which

sub-population was responsible for the insights generated. One of the compelling aspects of affinity mapping, and a key reason for selecting this method for the project, was its flexibility, allowing for multiple rounds of sorting and refinement as needed. The initial sorting was a rough sort, followed by subsequent rounds of sorting to create more defined sections, and to combine or reposition post-it notes to form clearer clusters. The sorting and re-sorting are beneficial to affinity mapping as it allows for the refinement of ideas and insights. For example, in a preliminary round of groupings, I had two clusters that were tentatively labeled “bad UX writing” and “bad UI interactions” which, although correct, were incredibly broad and nondeterministic to the portal’s actual underlying problems. Multiple sorts later, these unrefined clusters were dissolved to form others – “bad UI interactions” being broken apart into smaller, more specific problems clusters such as feature requests for “better search/search filters,” “savable classes,” and “different device responsiveness” – or refined into a more specific and useful version of itself – “bad UX writing” became “lack of contextual information.”

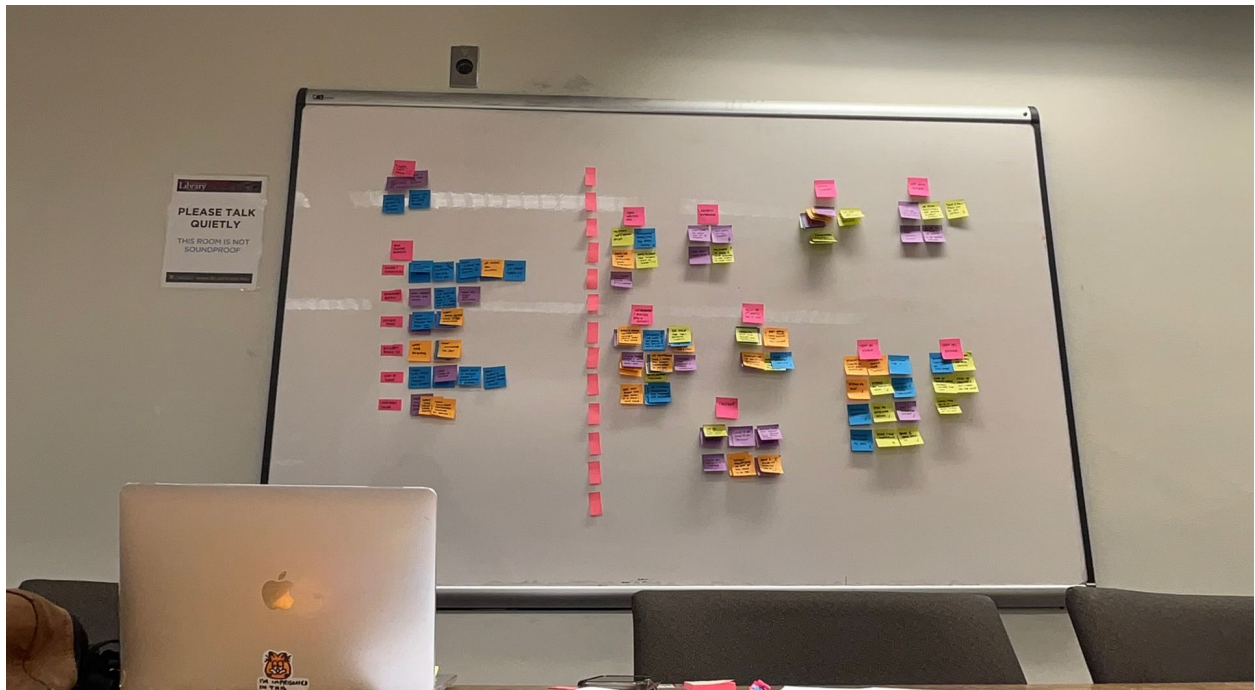


Fig 3: Final Sort of the Affinity Mapping

At times, the repeated sorting process also generates a completely new insight cluster from the miscellaneous scraps of prior sorting. An example of an insight cluster that emerged during the later

stages of the sorting process was the identification of a “need for third-party or multi-app interfacing.” Every single undergrad eventually, without prompting, showed me their own version of a ‘tracker’ or a ‘four-year plan’ made in Notion, Google Docs, Excel, or a traditional notebook. It became apparent from the interview data that there is a need among the undergraduate population to have control over their current, past, and future academic trajectory that isn’t being fulfilled by my.classes. This observation revealed a contradiction between the verbal praise from participants about the simplicity of the my.classes platform as an all-in-one solution, and their actual behavior: a reliance on other third-party methods to organize and plan their classes.

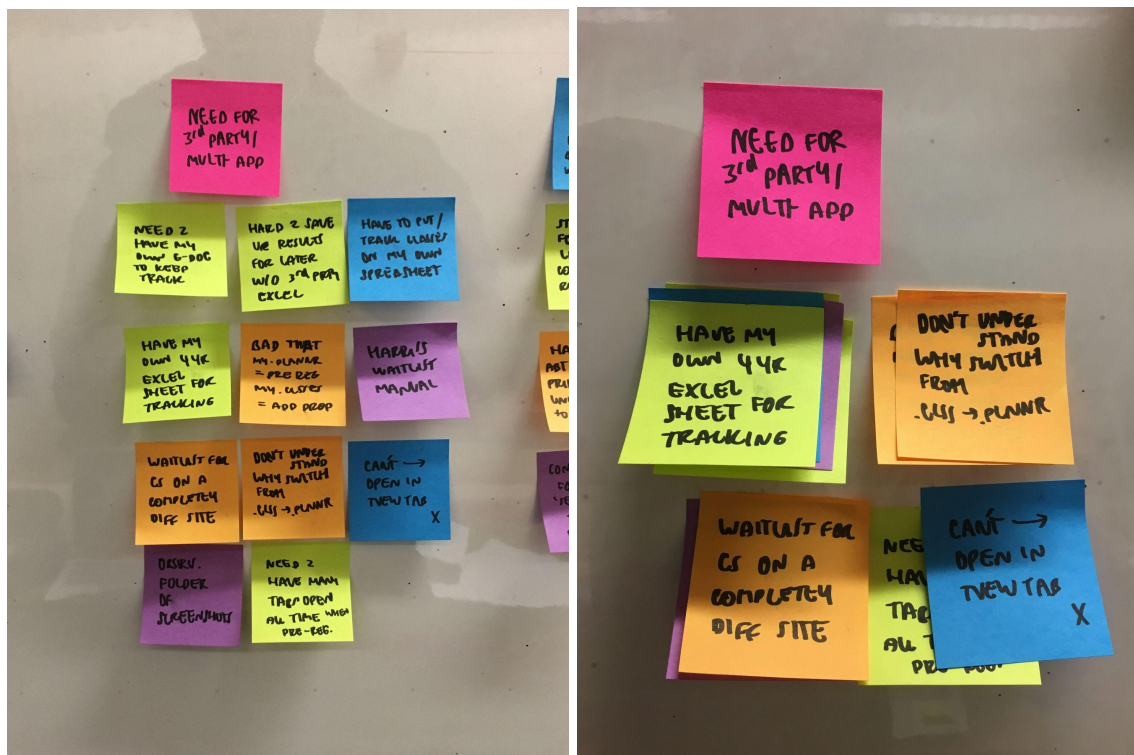


Fig 4&5: Initial and Final Sort of the “need for third-party or multi-app interfacing” cluster

The first iteration of the “need for third-party or multi-app interfacing” cluster displayed above shows the unrefined clustering of affinities, however, by the end, information was condensed down to make the data more palatable. By stacking post-it notes that repeated the same concerns, the final state of the cluster was able to become more concise, while ideas that were reinforced multiple times by different

groups were able to be delineated by the visible stacking. In the end, the interview data were coalesced and condensed into three defined insights:

One - Friction. Users of my.classes expressed the most frustrations about friction. In UX design, friction refers to obstacles that hinder ease of user interaction. Whether it is friction on the internal scale (the need to click the 'return' button every time instead of being able to click 'back' on the browser or having to click the exact tiny circle of a button to select a discussion section when the entire object highlights itself when it is being hovered over) or on the external scale (the need to go through my.uchicago first every time they need to access my.classes or the need to exit the my.classes portal to use other third-party organizational tools to help them manage their classes), these forms of friction should be minimized to create a pleasant user experience.

Two - Context. Users of my.classes will prioritize context and clarity rather than efficiency. They want to have more information at their disposal and have that information easily and readily available to them. To users, expending cognitive energy to inform themselves is worth it if they are able to find the information they are looking for. For instance, users seeking information about obtaining assistance when faced with technical issues are willing to spend time clicking around and searching through the available options for help as long as the information on how to fix their issue is present and they are able to achieve their goals. The lack of transparency in how many current pre-registrants there are for a particular class, how the priority rankings for class registration by year group work, or how the algorithm distributes classes based on rankings are some examples of when contextual information are not accessible to users. Consequently, users who invest their time into the search will end up dissatisfied, either giving up before reaching the information or giving up because the information they sought was not available to them in the first place. The absence of important contextual information hinders users' ability to make informed decisions, underscoring the need for enhanced clarity and transparency in the my.classes interface. Whether it is knowing where to go to get help when something is broken, or the transparency in and around pre-registration, users are lacking the key contextual information that they require to make informed decisions.

Three - Quality of Life. Users of my.classes want a better quality of life using the class portal. In the context of UX, quality of life refers to the extent to which a product contributes to the overall satisfaction, comfort, and well-being of users in their interactions with it. It encompasses various aspects of a user's experience, including ease of use, efficiency, effectiveness, and enjoyment. In the context of my.classes, bad quality of life could appear in the form of the limited capabilities of the current filters (for example: not being able to search by time of day or not being able to search by whether or not you possess prerequisites for a class), the inability to bookmark classes to a wishlist forcing users to note down their own 'saved classes' manually, or the lack of features geared towards discoverability and exploration-based browsing. Quality of life for users of my.classes can be drastically improved by adding a few new features that aid and anticipate their needs.

Armed with these three defined, specific, and solvable issues and bolstered with concrete ideas from crowd-sourced suggestions, I began developing solutions.

Design Process

Sketch and Wireframe (Develop)

First, I conducted a thorough mapping of the user flow and site map of the current my.classes page. This resulted in a flow chart that visually represented the existing pages and features accessible through each page of the portal. One significant insight that influenced my final design was the discovery that there was inconsistent placement of the term selection and class search bar on different pages. To remove the inconsistency and redundancy, I streamlined the design by making the search bar universally visible on all screens, positioned alongside the page name in the top navigation tab to provide contextual information on the user's location within the portal and separate from the navigation sidebar.

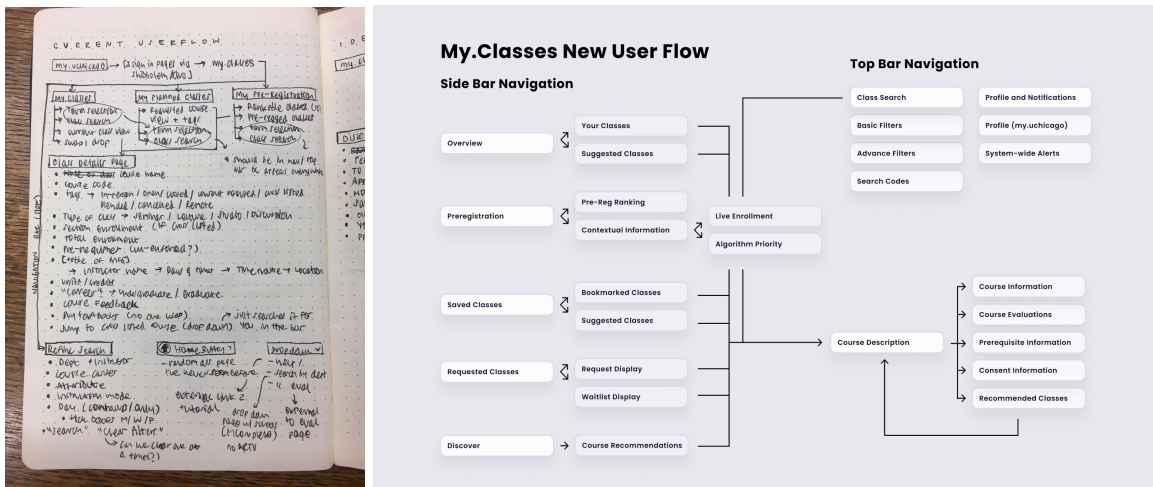


Fig 6&7: Old vs new user flow and site map for my.classes

Next, I also gathered data on how other designers have addressed similar problems by examining academic portals from various universities. This process was largely informed by the insights and perspectives of the graduate student interviewed who had prior experiences with other class registration portals during their undergraduate studies. Specifically, I analyzed the class portals of prestigious institutions such as Johns Hopkins University, Wheaton College, National University of Singapore, and University College London, as recommended by my interviewees.

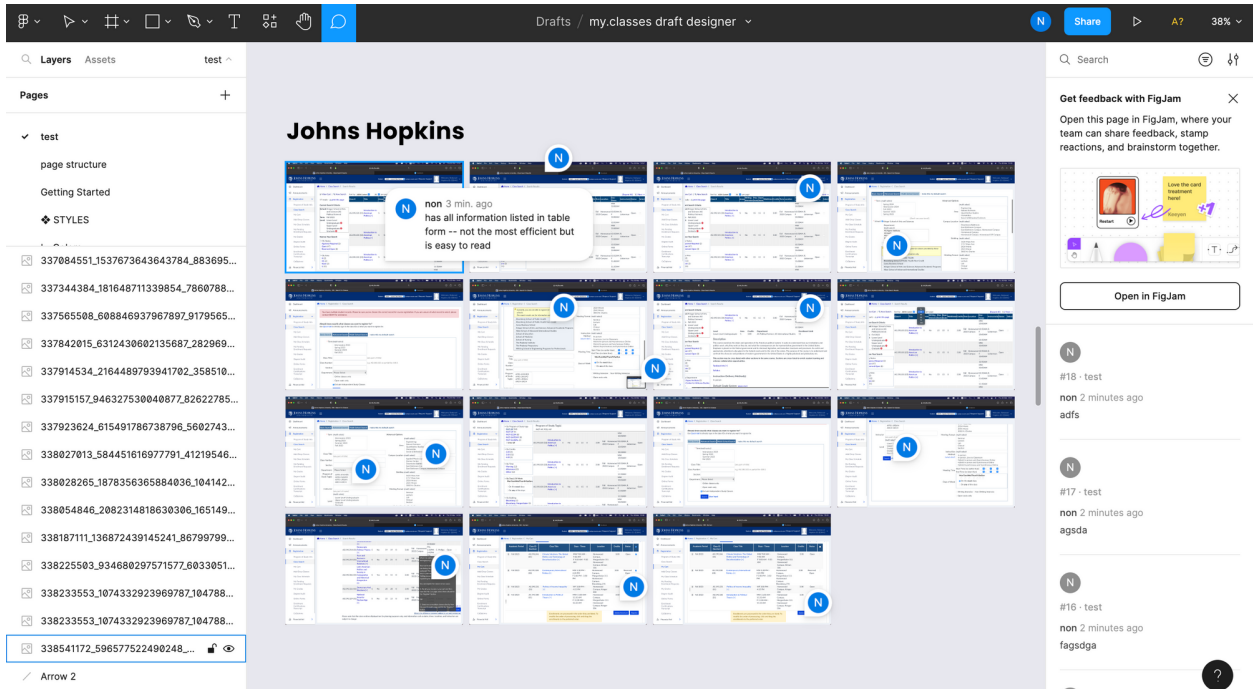


Fig 8: Competitor analysis on Johns Hopkins university's class registration portal

This process was incredibly illuminating in showing both how other designers have solved similar problems that my.classes is currently facing as well as ineffective aspects of design to avoid. For example, a major takeaway from analyzing the Johns Hopkins' portal was the level depth and specificity that their search filters were able to reach by having options such as multi-quarter search, search by class time, or even search by classes in particular buildings. On the other hand, Johns Hopkins' portal made me avoid using tables to lay out information in my.classes redesign whenever possible; although it is straightforward for users to interpret, the unresponsive and rigid nature of the tables within Hopkin's portal pages – especially when trying to display a large quantity of information about one specific item – overshadowed its ease of legibility making it harder to interpret the massive amounts of data at hand.

Now that I had an understanding of the site map of my.classes and had a clear visual understanding of how other designers from other universities have tackled creating a class registration system, I developed a user flow and site map for my ideal class portal, taking into account insights gained from the interviews to eliminate redundancies and dead ends. Based on this refined user flow, I generated multiple sketches to explore different visual layouts for the screens at a rudimentary level. This process

also involved incorporating new pages to accommodate additional features, such as a "saved classes" page to house bookmarked classes, and revising ambiguous copywriting, such as changing "my planned classes" to "requested classes" to accurately reflect the purpose of the page as it houses classes where the user has requested for consent-required enrollment or requested to join a waitlist.

Subsequent to the sketching phase, I transitioned to digital wireframing as part of the design process. Using the sketches, I digitized and iterated upon them to create the initial wireframes for the design. During this stage, my emphasis was on conceptualizing the visual appearance and interactive experience of the layout on the screen. A consideration that guided my wireframing approach was the efficient and economical use of space, ensuring that the screen was minimalistic and clean in its visual appearance but that it was also not cluttered with an excessive amount of information that could potentially overwhelm the user.

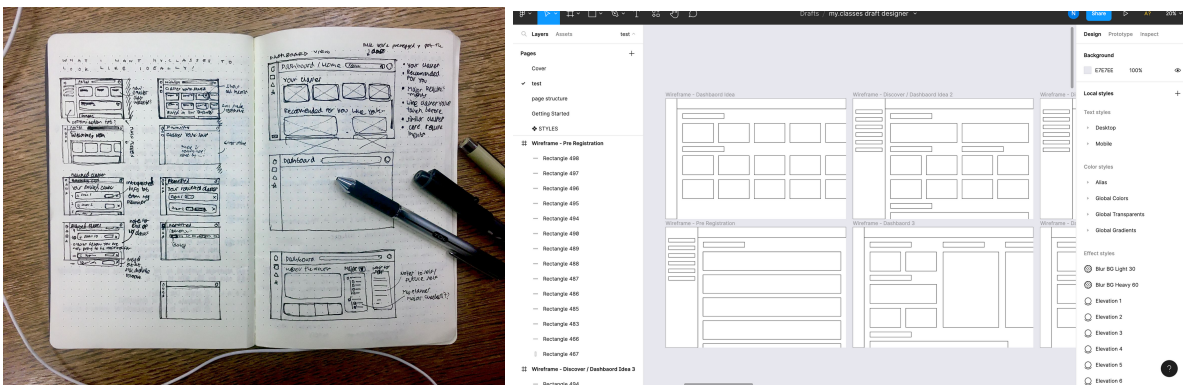


Fig 9&10: Initial sketches of preliminary ideas and its digitized wireframe counterparts

Design and Mock-Up (Deliver)

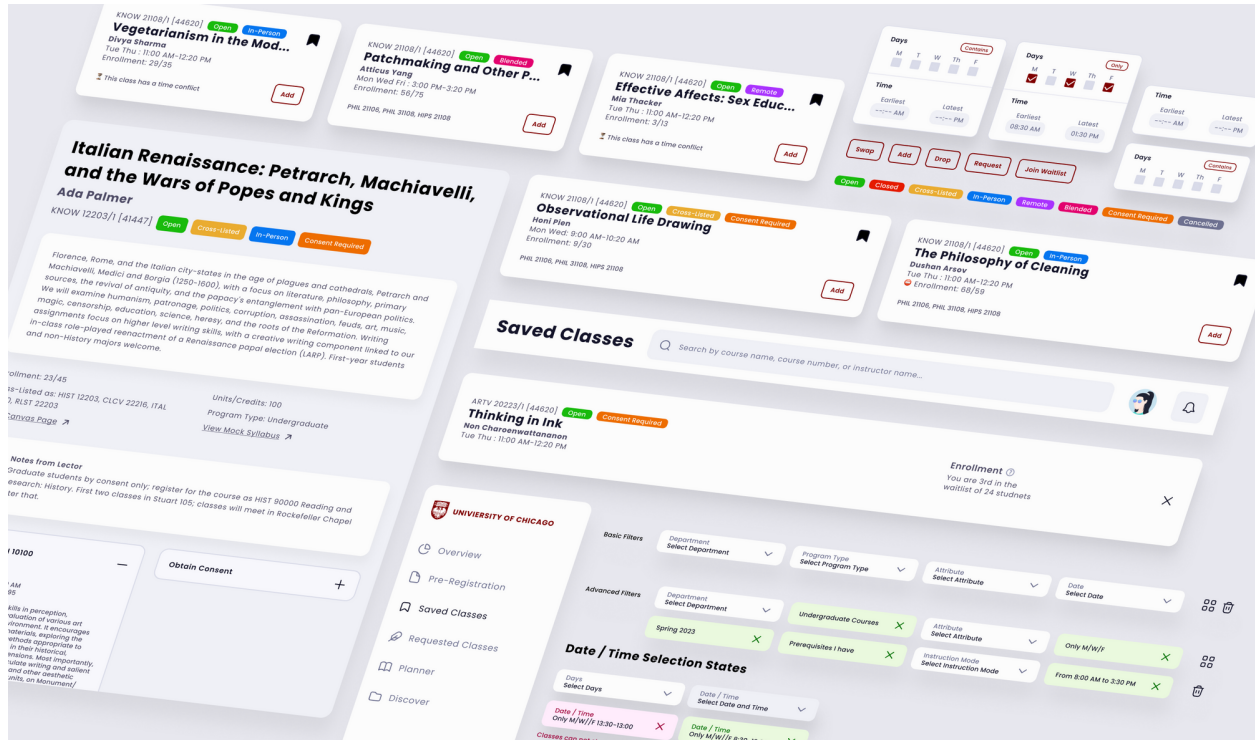
After completing the research, analysis, and initial sketching phases of the design process, I proceeded to implement the actual design using Figma – a software for interface design. In Figma, I utilized the available tools to create responsive designs, which are crucial in ensuring that interface elements can adapt to the size constraints of different devices used by users to view the interface. This involved utilizing the auto-layout function and layout grids to align elements on the page consistently. While creating responsive design elements required significant upfront time and effort, it ultimately made

the design process more efficient as I was able to design elements that could be altered to occupy the entire screen's width or occupy a portion of the page in the case where multiple elements are displayed in a row without having to edit each and every one of the layers individually.

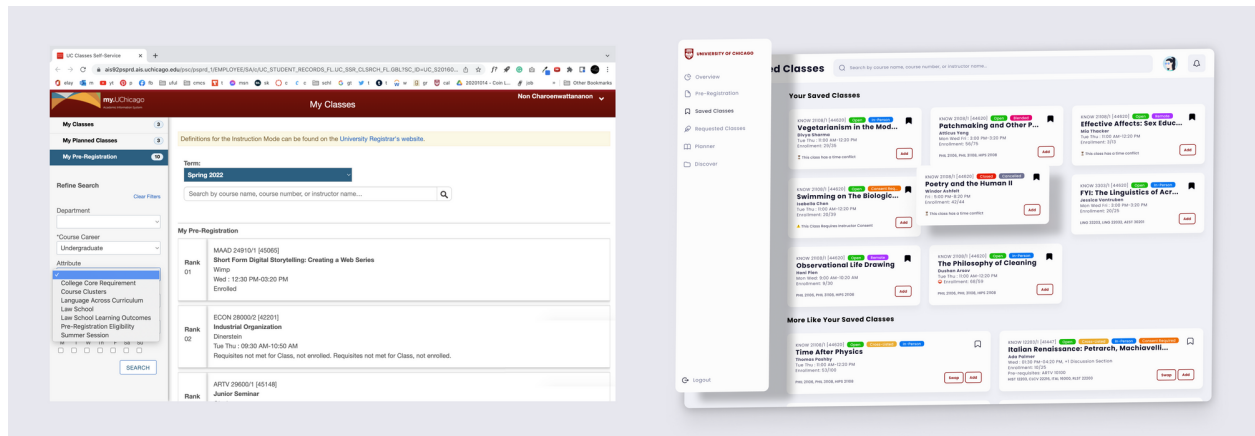
One of the challenges in the design process was refinement, particularly in selecting which iterations of wireframes to move forward with. However, when considering the larger product context, the purpose of each page and its content became clear as each element designed had to align with distinct user needs. For instance, the 'Requested Classes' page had to consist of two distinct sections for requests for acquiring enrollment consent and requests to join a waitlist, each with its own visual distinction and clear functional elements. Breaking down the page into its constituent parts allowed me to approach the design process as a problem-solving exercise, finding the optimal way to fit all the necessary elements onto the screen while maintaining clarity, conciseness, and visual aesthetics.

Findings and Outcomes

Overview



With this redesign, one of the main priorities was to overhaul the visual appearance of my.classes. The core feedback that was received while interviewing users was that the current portal looked “outdated and boring.” I wanted to update the visual appearance of the portal to be cleaner and clearer while elevating the look and feel of my.classes to be more modern and up-to-date.

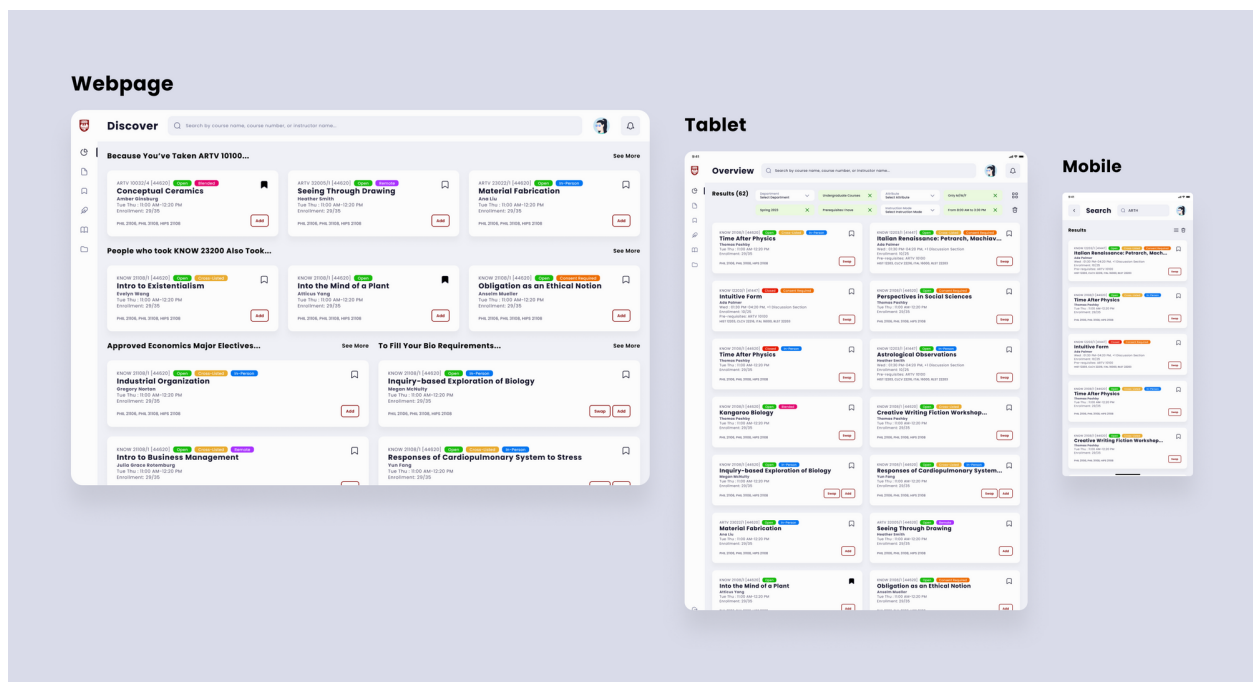


Problems and Solutions

In this section, I will delineate specific issues identified with the class registration portal and propose corresponding solutions to address them.

Problem: Current Interface Has Limited Usability on Tablet or Mobile Devices

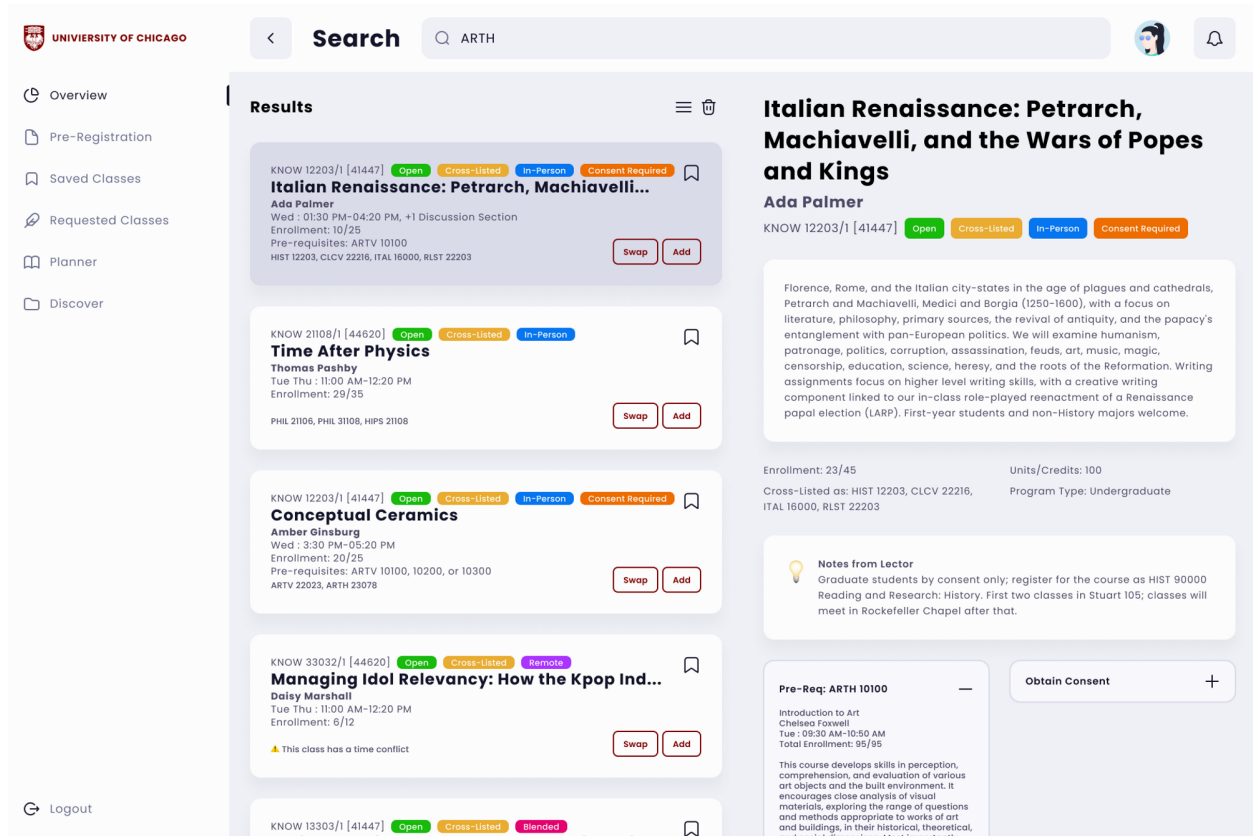
Solution: In order to enhance the user experience when accessing the class registration portal on tablet and mobile devices, responsive design techniques have been employed to adapt the interface to the unique UI cultures and interaction styles of these devices. While developing a complete application for these platforms may not be feasible at the moment, optimizing the webpage to be responsive to varying devices will enable smoother access and usability across different screens.



Problem: Users Cannot View Course Details Without a Clickthrough

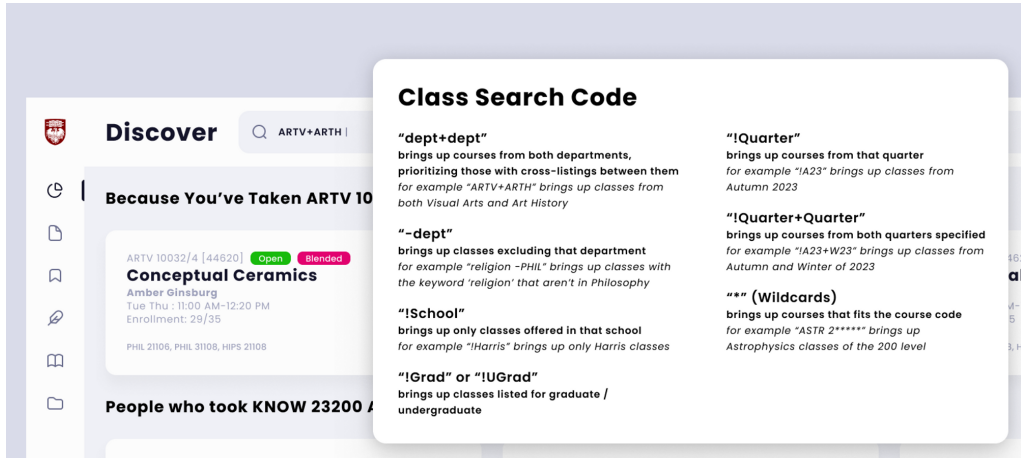
Solution: To address the inconvenience of having to repeatedly click through and navigate back to view course details, the portal now allows for a half-page view of course details while users can continue to

search and browse other courses. This approach minimizes friction and enhances the user experience by providing quick access to essential course details without the need for repetitive clickthroughs.



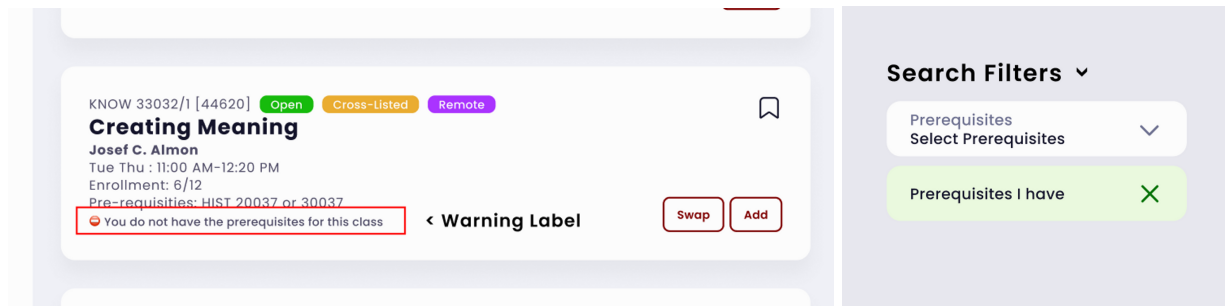
Problem: Users Cannot Search for More Than One Department at Once

Solution: I instated search codes for the search bar to enable students to bypass filters and customize their search criteria even further, allowing for more specific and tailored results that better align with their individual needs. This aims to enhance the search functionality of the class search, providing students with increased flexibility and efficiency in finding classes to their specificity.



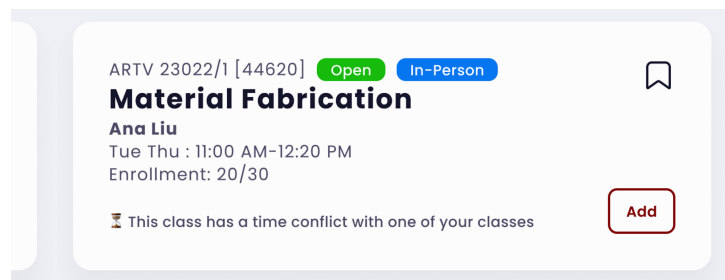
Problem: Users Cannot Filter Classes by Whether or Not They Have Prerequisites

Solution: Implementing a 'prerequisites' filter in the search bar of the class registration allows users to specifically search for classes based on their existing prerequisites, enabling them to narrow down their course options more effectively.



Problem: The Portal is Aware of Time Conflicts but Does Not Display The Information to Users

Solution: I instated tags for classes with time conflicts to alert the users about a potential conflict before they are able to commit to a class that they ultimately will not be able to take.



Problem: Users Cannot Filter Search by Day and Time

Solution: I instated ‘Day and Time’ filters under ‘Advance Search Filters’. This goes hand in hand with the previous change to alert class conflicts – by instating a ‘search by time’ option users can specifically look for classes during the slots that they are able to take them.



Problem: Lack of Any Discover or Exploration-Based Searching Features

Solution: I created the ‘Discover’ page accessible on its own tab in the navigation sidebar. On this page, users will be recommended classes based on different attributes such as electives, major requirements, core requirements, similar classes, similar professors, etc. This allows users to be exposed to more classes that they might not have known of, especially those that they may be inclined to take based on previous interests. This new page was designed to specifically tackle the lack of exploration-based browsing and native discoverability for classes within my.classes.

Discover Search by course name, course number, or instructor name...

Because You've Taken ARTV 10100... See More

- Conceptual Ceramics** [44620] Open Blended
Amber Ginsburg
Mon Wed Fri: 9:00 AM-10:20 AM
Enrollment: 9/10
ARTV 20032, ARTV 30032
- Seeing Through Drawing** [44620] Open Remote
Heather Smith
Tue Thu: 11:00 AM-12:20 PM
Enrollment: 12/20
ARTV 22005
- Material Fabrication** [44620] Open In-Person
Ana Liu
Tue Thu: 11:00 AM-12:20 PM
Enrollment: 20/30
This Class Has A Time Conflict With Another Class

People who took KNOW 23200 Also Took... See More

- Intro to Existentialism** [44620] Open Cross-Listed
Evelyn Wang
Tue Thu: 1:00 PM-3:20 PM
Enrollment: 29/35
PHL 2106, ARTH 10230
- Into the Mind of a Plant** [44620] Open
George Bashman
Mon Wed Fri: 9:00 AM-10:20 AM
Enrollment: 2/12
This Class Has A Time Conflict With Another Class
- Obligation as an Ethical Notion** [44620] Open Consent Required
Anselm Mueller
Tue Thu: 11:00 AM-12:20 PM
Enrollment: 45/63
This Class Requires Instructor Consent
PHL 2106, PHL 3108, HPS 2108

Approved Economics Major Electives... See More

- Industrial Organization** [44620] Open Cross-Listed In-Person
Gregory Norton
Tue Thu: 3:30 PM-5:20 PM
Enrollment: 3/75
BUSN 10157, ECON 20443
- Intro to Business Management** [44620] Open Cross-Listed Remote
Julia Grace Rotenburg
Tue Thu: 12:00 AM-1:20 PM
Enrollment: 43/59
BUSN 20228

To Fill Your Bio Requirements... See More

- Inquiry-based Exploration of Biology** [44620] Open In-Person
Megan McNulty
Tue Thu: 8:00 AM-9:20 AM
Enrollment: 12/15
Prerequisites: BIOS 20170-75
You do not have the prerequisites for this class
- Responses of Cardiopulmonary System to Stress** [44620] Open Cross-Listed In-Person
Yun Fang
Tue Thu: 11:00 AM-12:20 PM
Enrollment: 62/78

Furthermore, a “for you” recommendation feature will also recommend classes based on similarities at the end of a course description page or half-page.

Discover Search by course name, course number, or instructor name...

Based on Your Previous Classes...

- Italian Renaissance: Petrarch, Machiavelli...** [41447] Open Cross-Listed In-Person Consent Required
Ada Palmer
Wed: 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
Pre-requisites: ARTV 10100
HST 12203, CLCV 22216, ITAL 16000, RLS1 22203
- Heaven, Hell, and Life After Death** [41447] Open
Christine Trotter
Wed: 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 13/24
HST 12203, CLCV 22216, ITAL 16000, RLS1 22203
- Liberalism and Empire** [41447] Closed Consent Required
Jennifer Pitts
Wed: 01:30 PM-04:20 PM
Enrollment: 57/60
HST 28700
- Diasporic Narratives and Memories** [41447] Open Blended
Olga Soloveia
Wed: 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 28/25
Pre-requisites: ARTV 10100
HST 16028, RLS1 22032

Italian Renaissance: Petrarch, Machiavelli, and the Wars of Popes and Kings
Ada Palmer
KNOW 12203/1 [41447] Open Cross-Listed In-Person Consent Required

Pre-Req: ARTH 10100 Obtain Consent

Introduction to Art
Chelsea Forewell
Tue: 09:30 AM-10:50 AM
Total Enrollment: 95/95

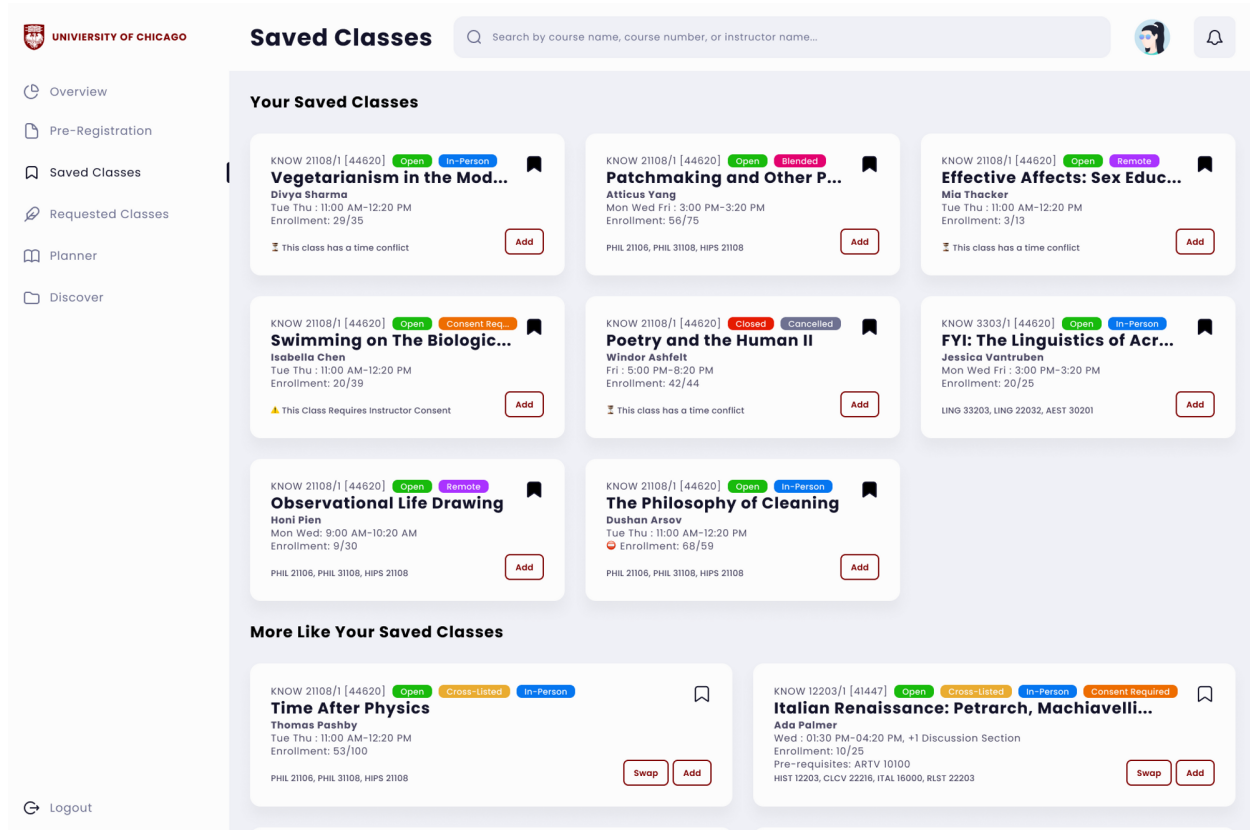
This course develops skills in perception, comprehension, and evaluation of various art objects and the built environment. It encourages close analysis of visual materials, exploring the range of questions and methods appropriate to works of art and buildings, in their historical, theoretical, and social dimensions. Most importantly, the course emphasizes articulate writing and salient argumentation about visual and other aesthetic phenomena. Three coherent units, on Monument/ Site, Image/Medium, and Object/Museum, explore these issues across cultures and periods. Examples draw on original objects in campus collections and sites on campus.

Similar to This Class... See More

- Christianity and Slavery in America, 1619-1865** [41447] Open Cross-Listed In-Person
Curtis Evans
Wed: 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
Pre-requisites: ARTV 10100
HST 12203, CLCV 22216, ITAL 16000, RLS1 22203
- Buddhism and Science: A Critical Introduction** [41447] Open Cross-Listed In-Person Consent Required
Jesse Berner

Problem: Users Cannot Save Interested Classes for Later Without Exiting the Program

Solution: I instated a wishlist/bookmark/favorites feature to allow students to save classes that they are interested in for later via a toggle-able icon on the top right of the class widget. The collection then appears under the 'Saved Classes' tab. With this function, users do not have to write down, screenshot, or create a third-party tracker for fear of losing the classes that they are interested in.



Problem: Inefficient Use of Space for Class Widgets

Solution: Introduced a toggle-able grid view icon to allow users to pick between three modes of displaying their search results in one, two, or three columns. The toggle-able grid view icon provides users with the flexibility to adjust the layout of the class search results according to their preferences and viewing needs. Users can easily switch between different column modes to optimize the display of class widgets on their screen, allowing for more efficient use of space and a personalized viewing experience.

Three Toggleable Viewing States



Single

Search Search by course name, course number, or instructor name...

Results Department: Select Department Program Type: Select Program Type Attribute: Core Requirement Date / Time: Select Date and Time Attribute: Select Attribute

- Italian Renaissance: Petrarch, Machiavelli, and the Wars of Popes and Kings**
Add Palmer
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
This class requires instructor consent
HIST 10205, CLCV 22205, ITAL 10000, BLST 22203
- Time After Physics**
Thomas Pashby
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
+1 Lab Section
PHS 3105, PHS 3108, HPS 2108
- Intuitive Form**
Julia Trevesky
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
This class requires instructor consent
HIST 10205, CLCV 22205, ITAL 10000, BLST 22203
- Material Fabrication**
Ana Lisa
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
This class has a time conflict with one of your classes

Double

Search Search by course name, course number, or instructor name...

Results Department: Select Department Program Type: Select Program Type Attribute: Core Requirement Date / Time: Select Date and Time Attribute: Select Attribute

- Time After Physics**
Thomas Pashby
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
This class has a time conflict with one of your classes
- Italian Renaissance: Petrarch, Machiavelli...**
Add Palmer
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
Pre-requisites: CRSS 10330
HIST 10205, CLCV 22205, ITAL 10000, BLST 22203
- Intuitive Form**
Julia Trevesky
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
Pre-requisites: ARTV 10100
HIST 10205, CLCV 22205, ITAL 10000, BLST 22203
- Perspectives in Social Sciences**
Marshall Jason
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
This class requires instructor consent
PHS 3105, PHS 3108, HPS 2108
- Obligation as an Ethical Nation**
Umar Robertson
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
PHS 3105, PHS 3108, HPS 2108
- Astronomical Observations**
Wayne Morgan
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
This class has a time conflict with one of your classes
- Kangaroo Biology**
Kevin Padilla
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
PHS 3105, PHS 3108, HPS 2108
- Creative Writing Fiction Workshop: Science Fiction**
Sara Marshall
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
PHS 3105, PHS 3108, HPS 2108

Triple

Search Search by course name, course number, or instructor name...

Results Department: Select Department Program Type: Select Program Type Attribute: Core Requirement Date / Time: Select Date and Time Attribute: Select Attribute

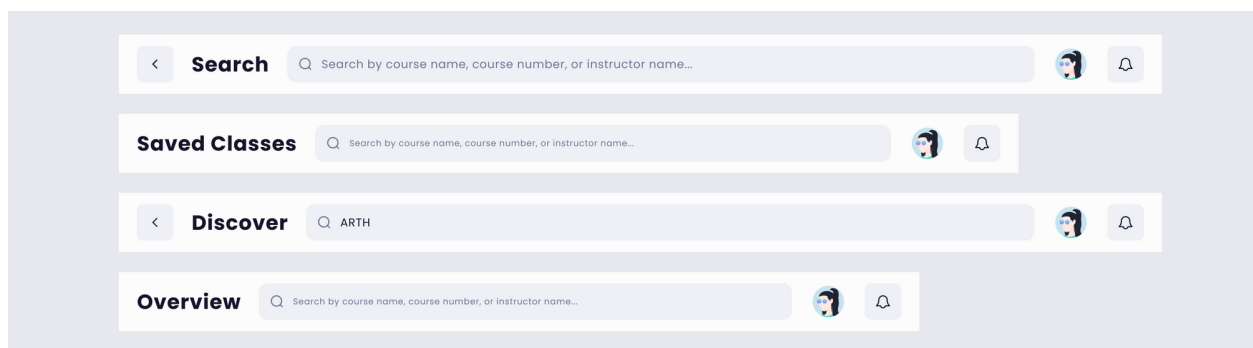
- Perspectives in Social Sciences**
Marshall Jason
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
MARS 2200
- Attention and the Working M...**
Thomas Pashby
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
This class has a time conflict
- Italian Renaissance: Petrarch...**
Add Palmer
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
Pre-requisites: ARTV 10100
HIST 10205, CLCV 22205, ITAL 10000, BLST 22203
- Time After Physics**
Liam Williams
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
PHS 3105, PHS 3108, HPS 2108
- How to Think About Death**
Heath Daniel
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
CRSS 10300, KNOW 10300
- Astronomical Observations**
Sara Marshall
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
Pre-requisites: ARTV 10100
You do not have the prerequisites for this class
- Kangaroo Biology**
Kevin Padilla
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
This class has a time conflict
- Creative Writing Fiction Worksh...**
Ray Fray
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
PHS 3105, PHS 3108, HPS 2108, GISS 10205, GISS 10201
- Intuitive Form**
Add Palmer
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
Pre-requisites: ARTV 10200
You do not have the prerequisites for this class
- Level Design: A Study of Video G...**
Meghan Fields
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
CRSS 10300, KNOW 10300
- On Time and Space**
Ray Clark
Tue Thu 10:50 AM-12:20 PM
Enrollment: 29/35
PHS 3105, GANS 10100, SCSS 20000
- Once Upon a Blue Moon**
Glaiber King
Wed 01:30 PM-04:20 PM, +1 Discussion Section
Enrollment: 10/25
HIST 10205, CLCV 22205, ITAL 10000, BLST 22203

Problem: Constantly Moving / Locationally Unstable Search Bar,

Problem: Internal Application Navigational Context for Users is Unclear,

Problem: User Dependency on the Return Button Despite its Positional Instability

Solution: To address the issue of a constantly moving and locationally unstable search bar in the class registration portal, I utilized the empty space of the top bar as a universal home for the search bar. To improve the navigational context within the internal application, I introduced a constantly visible page title in the top bar. By establishing a fixed location for the search bar and page title, users can easily locate their position in the program and access the search functionality throughout their interaction with the application, resulting in a more consistent and convenient user experience. To address the dependency on the return button and enhance the overall stability of the system, the positionally unstable 'return' button was removed and replaced with a stable back arrow adjacent to the page title on the top bar. By making the back-end of the program remember the previous page(s) accessed, the 'back' browser button now sends users back to the previous location in the my.classes program and not out to the default browser page. This ensures a smoother and more reliable navigation experience for users, eliminating unnecessary disruptions and frustrations.



Problem: Users Cannot See Potential Syllabi for Interested Classes,

Problem: Users Do Not Have an Easy Way to Find Class Canvas for a Course

Solution: Professors would be required to upload a draft syllabus or one from a previous iteration of the class as well as a canvas link when listing a course. The canvas link will be able to be viewed and the syllabus will be able to be downloaded for users to gain an understanding of the course's workload.

Italian Renaissance: Petrarch, Machiavelli, and the Wars of Popes and Kings

Ada Palmer

KNOW 12203/1 [41447]

Open

Cross-Listed

In-Person

Consent Required

Florence, Rome, and the Italian city-states in the age of plagues and cathedrals, Petrarch and Machiavelli, Medici and Borgia (1250–1600), with a focus on literature, philosophy, primary sources, the revival of antiquity, and the papacy's entanglement with pan-European politics. We will examine humanism, patronage, politics, corruption, assassination, feuds, art, music, magic, censorship, education, science, heresy, and the roots of the Reformation. Writing assignments focus on higher level writing skills, with a creative writing component linked to our in-class role-played reenactment of a Renaissance papal election (LARP). First-year students and non-History majors welcome.

Enrollment: 23/45

Units/Credits: 100

Cross-Listed as: HIST 12203, CLCV 22216, ITAL 16000, RLST 22203

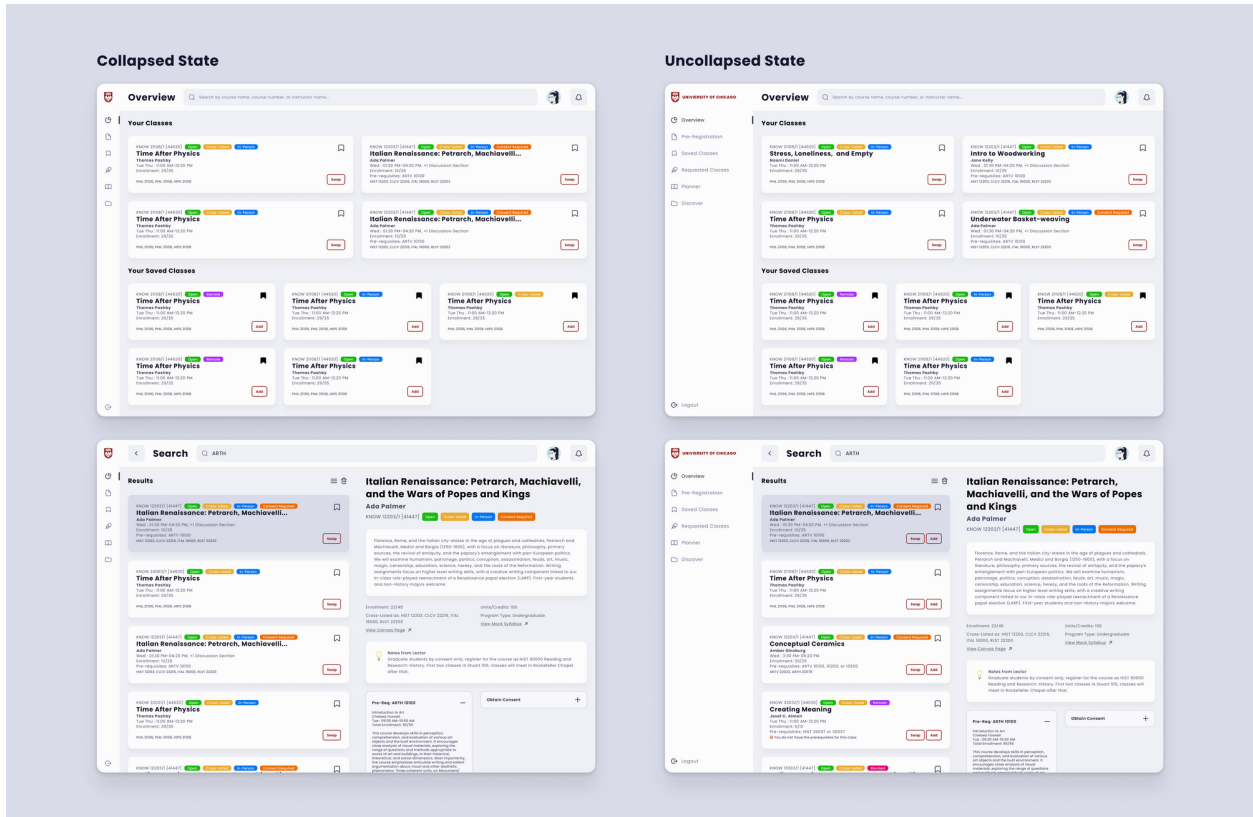
Program Type: Undergraduate

[View Canvas Page ↗](#)

[View Mock Syllabus ↗](#)

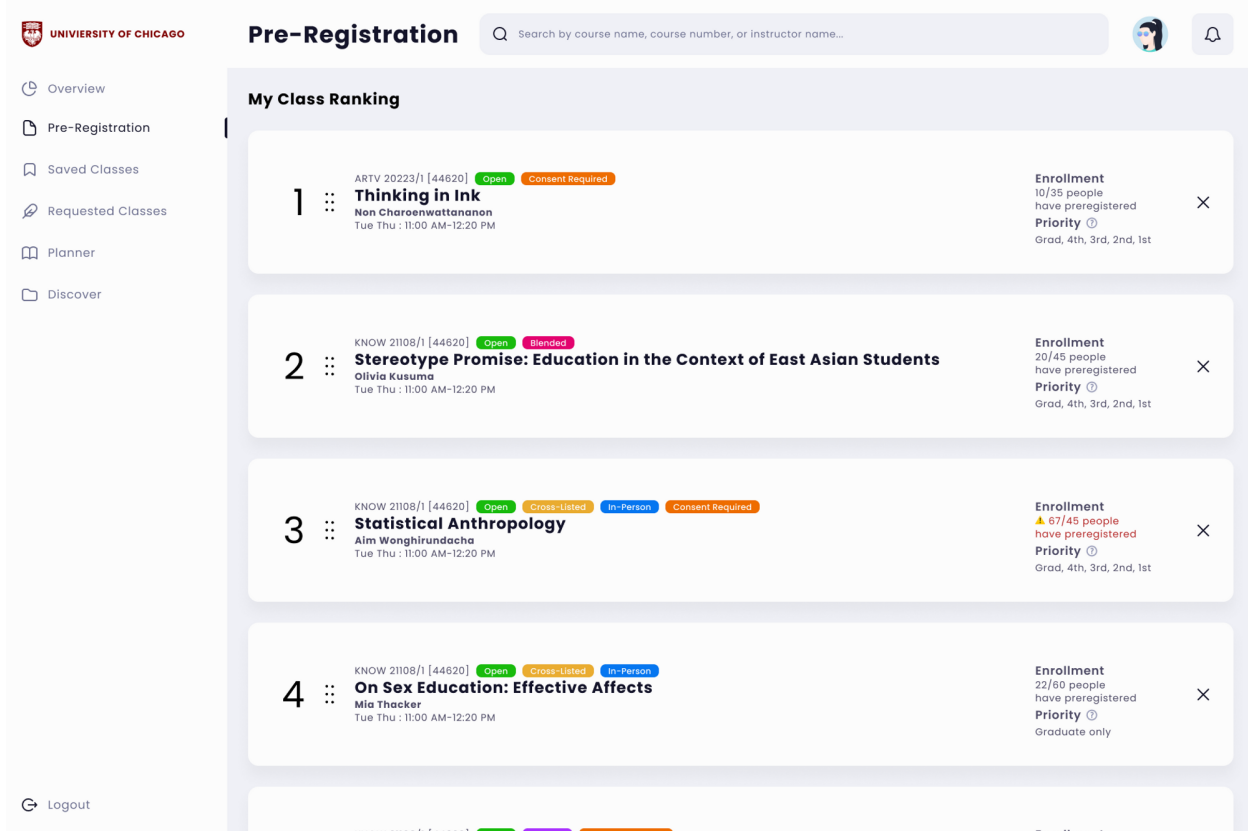
Problem: Navigation Sidebar Occupies Usable Screen Space

Solution: Implemented a collapsible navigation sidebar and made the rest of the page responsive to accommodate both its collapsed and uncollapsed states. By implementing a collapsible navigation sidebar, the class registration portal now provides users with greater control over the screen space, allowing them to customize their view and optimize their browsing experience. This focuses on creating a clean and distraction-less page for users to minimize visual clutter.



Problem: Severe Lack of Transparency in the Preregistration Process

Solution: Added extra contextual information to display the priority of a class and how many people are planning to pre-register for that specific class while ranking pre-reg choices. When students rank their pre-registration choices, the class priority and the number of students planning to pre-register for that particular class are now displayed. This information helps students better understand the popularity and demand for a particular class, allowing them to make more informed decisions about their course selections.



Problem: The Current Pre-Registration Cart is Limited to 10 Classes

Solution: For ease of ranking, the new design allows for up to 20 classes on the pre-registration list, however, users will be notified of overflow and will only be pre-registered for the first 10 that they rank. By having a buffer of 10 classes, users no longer have to drop a class off their preregistration list before they are able to add another one. With the buffer, students can now “overflow” the pre-registration cart and use the bonus ten slots to consolidate and re-rank classes to their content without worrying about the availability of slots. Inactive classes in the pre-registered cart (any class beyond ten) will be delineated by a notification message and a different (deactivated) visual appearance.

Pre-Registration Search by course name, course number, or instructor name...

My Class Ranking

Rank	Course Information	Enrollment	Priority
8	KNOW 21108/1 [44620] Perspectives in Social Sciences Thomas Pashby Tue Thu : 11:00 AM-12:20 PM	124/55 people have preregistered	Grad, 4th, 3rd, 2nd, 1st
9	KNOW 21108/1 [44620] Level Design: A Study of Video Game Production Thomas Pashby Tue Thu : 11:00 AM-12:20 PM	01/12 people have preregistered	Grad, 4th, 3rd, 2nd, 1st
10	KNOW 21108/1 [44620] Italian Renaissance: Petrarch, Machiavelli, and the Wars of Popes and Kings Thomas Pashby Tue Thu : 11:00 AM-12:20 PM	67/45 people have preregistered	Grad, 4th, 3rd, 2nd, 1st
The class pre-registration is capped at 10. You will not be pre-registered for classes below this message.			
11	ARTV 10100/1 [44620] Visual Language: On Images Heather Smith Mon Wed Fri : 11:00 AM-12:20 PM	17/20 people have preregistered	Grad, 4th, 3rd, 2nd, 1st

Problem: System-Wide Notifications Takes Up Usable Space

Solution: Instead of having notifications along the top bar of the screen pushing all the other assets down the page, any server-wide notification is now hidden behind the notification bell with a red badge alert to signal a new message.

Notification bell icon with a red badge containing the number 1.

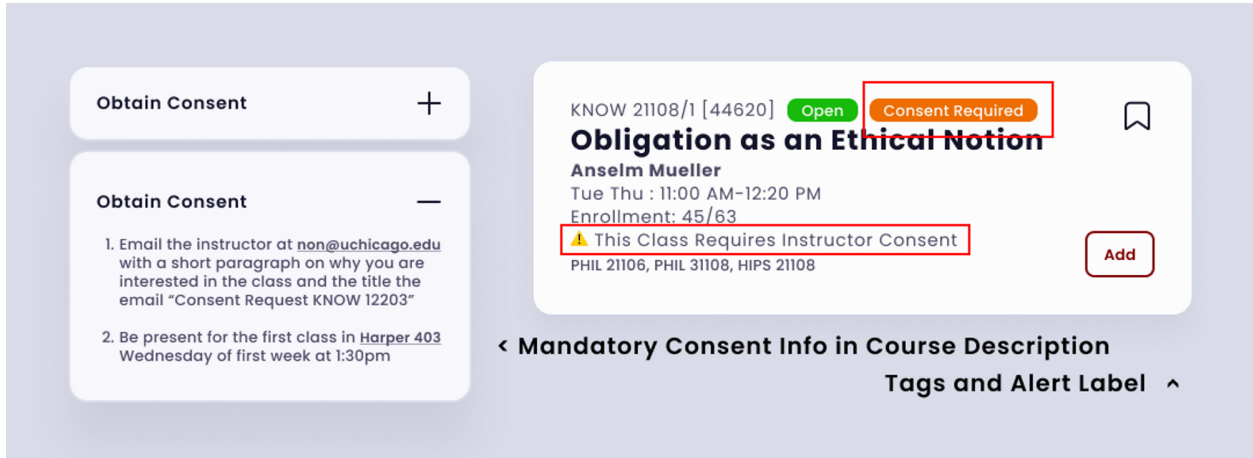
NOTIFICATION

Pre-registration closes in 24 hours!

Please ensure that you have pre-registered for the classes that you will need by the end of this period.

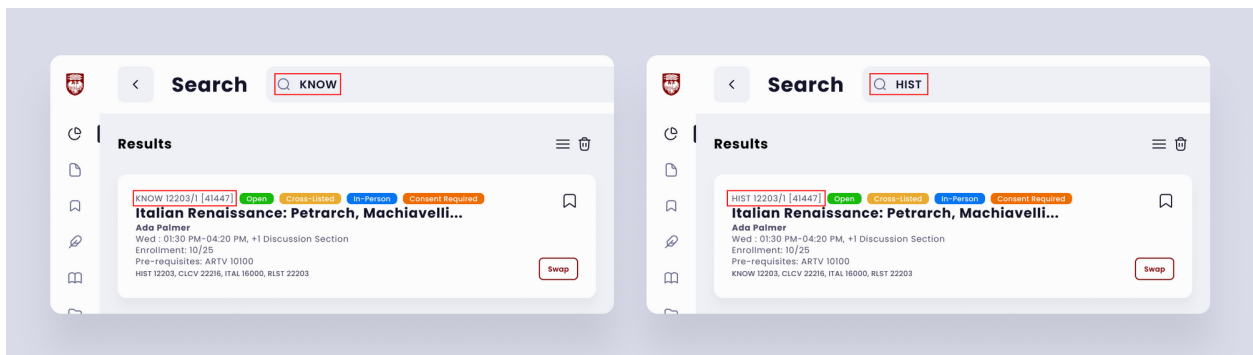
Problem: Lack of Clarification or Help with Users on How to Obtain Consent for Classes

Solution: Class widgets have tags to alert users that a class requires consent to be added. Every class that has consent required has a mandatory information section where instructors explain how to obtain consent specific to their class, viewable on the course description page for their specific course.



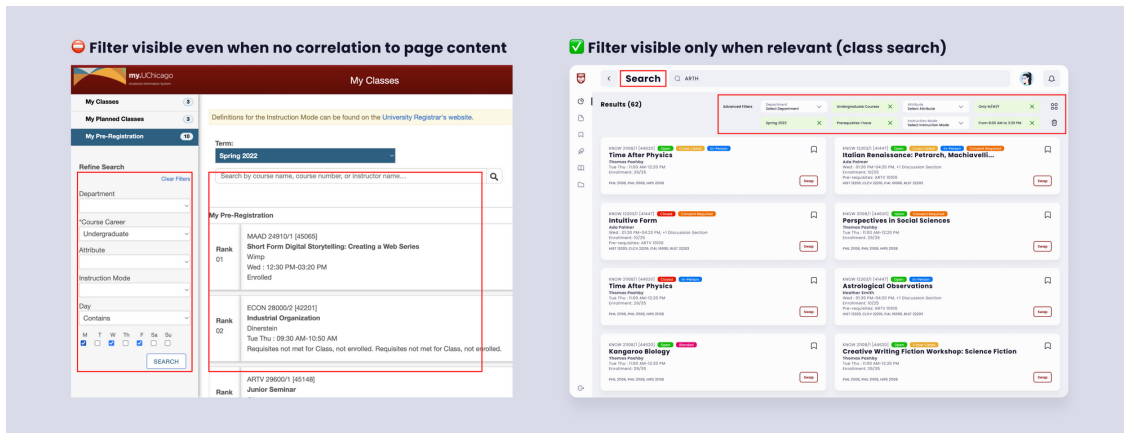
Problem: Absence of System Regulations for Double-Displaying Cross-Listed Classes

Solution: Ensured on the backend that cross-listed classes only appear once per search to avoid confusion and visual clutter. Cross-listed classes will display the most relevant course code as the main course code depending on search terms, the default will be determined alphabetically. This will help decrease the previously inflated class total when users search for a certain type of class seeing as a majority of the results were double/cross-listings of the same class.



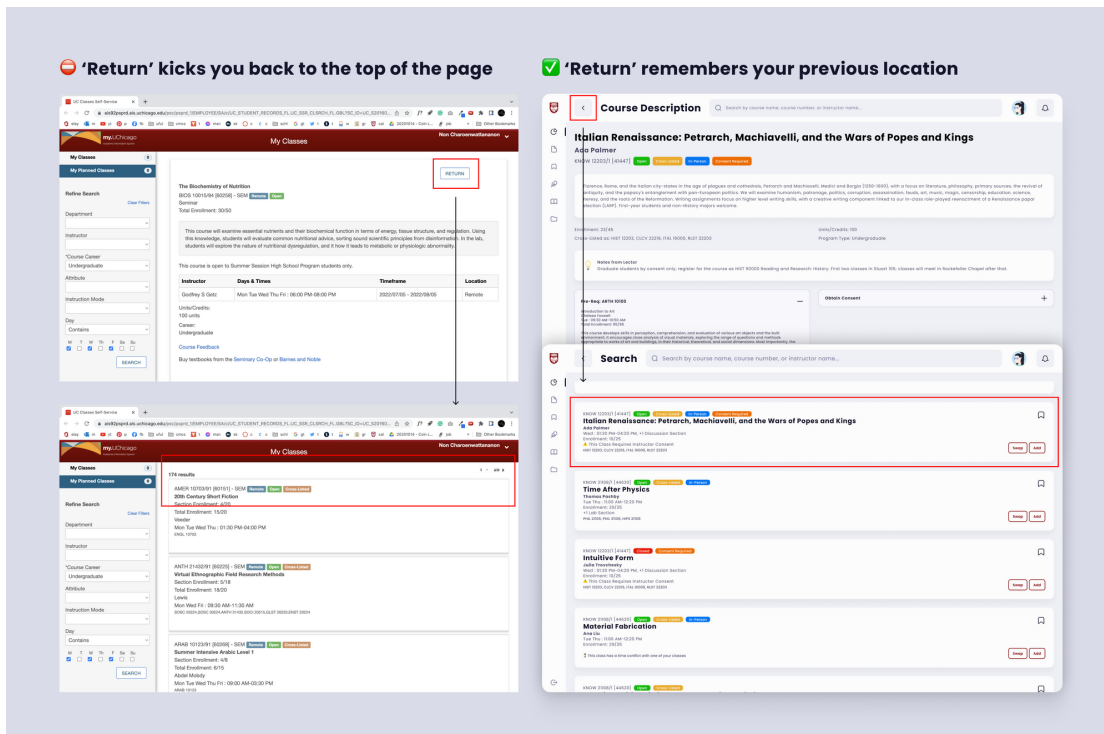
Problem: The Filter Tab is Constantly Shown When Not in Use

Solution: The search filters now only appear when the class search feature is active, when it is most relevant to the content being displayed on the page. This optimization ensures that the filter tab is not visible when it is not in use, freeing up valuable screen space for other important information.



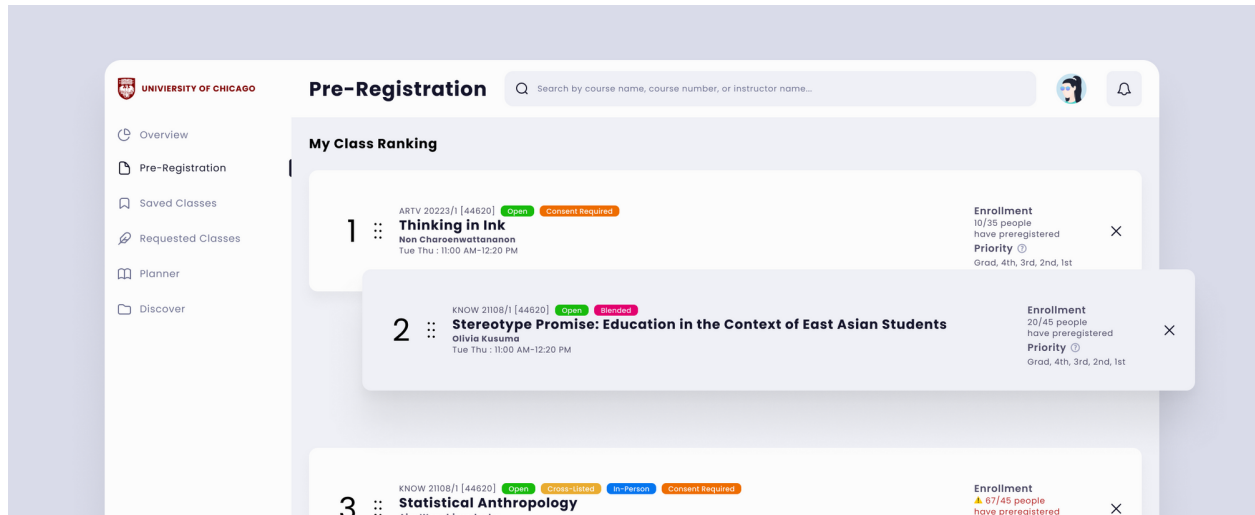
Problem: Any Clickthrough Loses User's Position on the Previous Page

Solution: Clicking through to a page now remembers your precious position and returns you to your previous spot on the page when clicking 'back' on the interface or browser.



Problem: Users Cannot Drag and Drop Pre-Reg Rankings

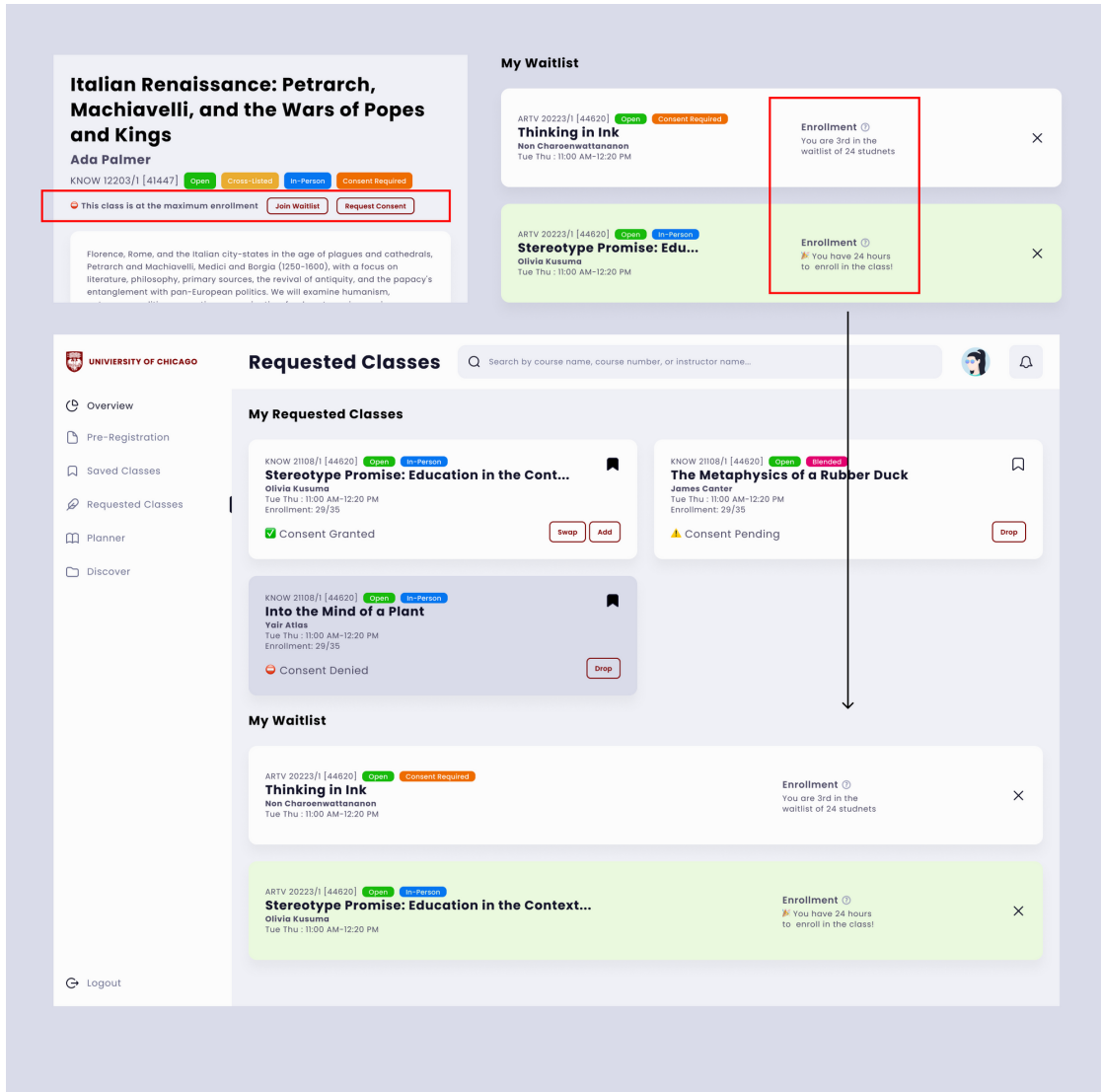
Solution: The implementation of drag and drop functionality for class rankings in the class registration portal enhances user flexibility and eliminates disruptive class reordering. This improvement allows users to easily customize their class preferences intuitively, as rankings by drag and drop are a universally accepted UX standard.



Problem: UX Writing for “My Planned Classes” is Unclear,

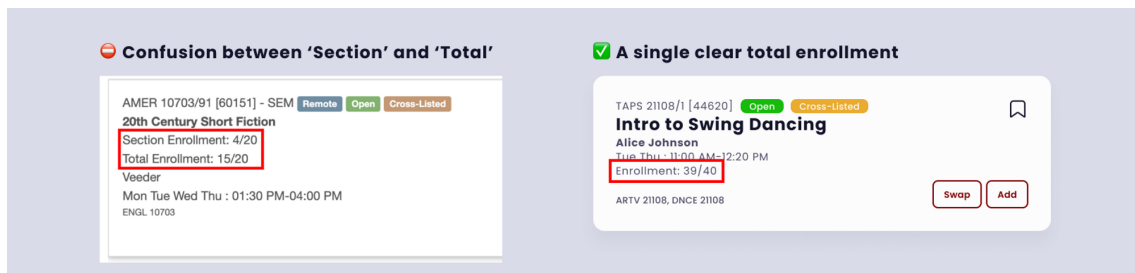
Problem: Lack of a Universally Accepted Waitlist System for Classes

Solution: Renamed the page to ‘Requested Classes’ for classes that users request to join from the ‘request’ button and for the new waitlist feature (as it is a form of course requesting as well) and instated a departmentally universal waitlist system for a class once it is full. Students can join a class waitlist through the ‘Join Waitlist’ button once and their waitlist requests can be managed under the ‘Requested Classes’ tab where users can view information about their spot in the waitlist, and once accepted, classes will display the option to be accepted/enrolled into.



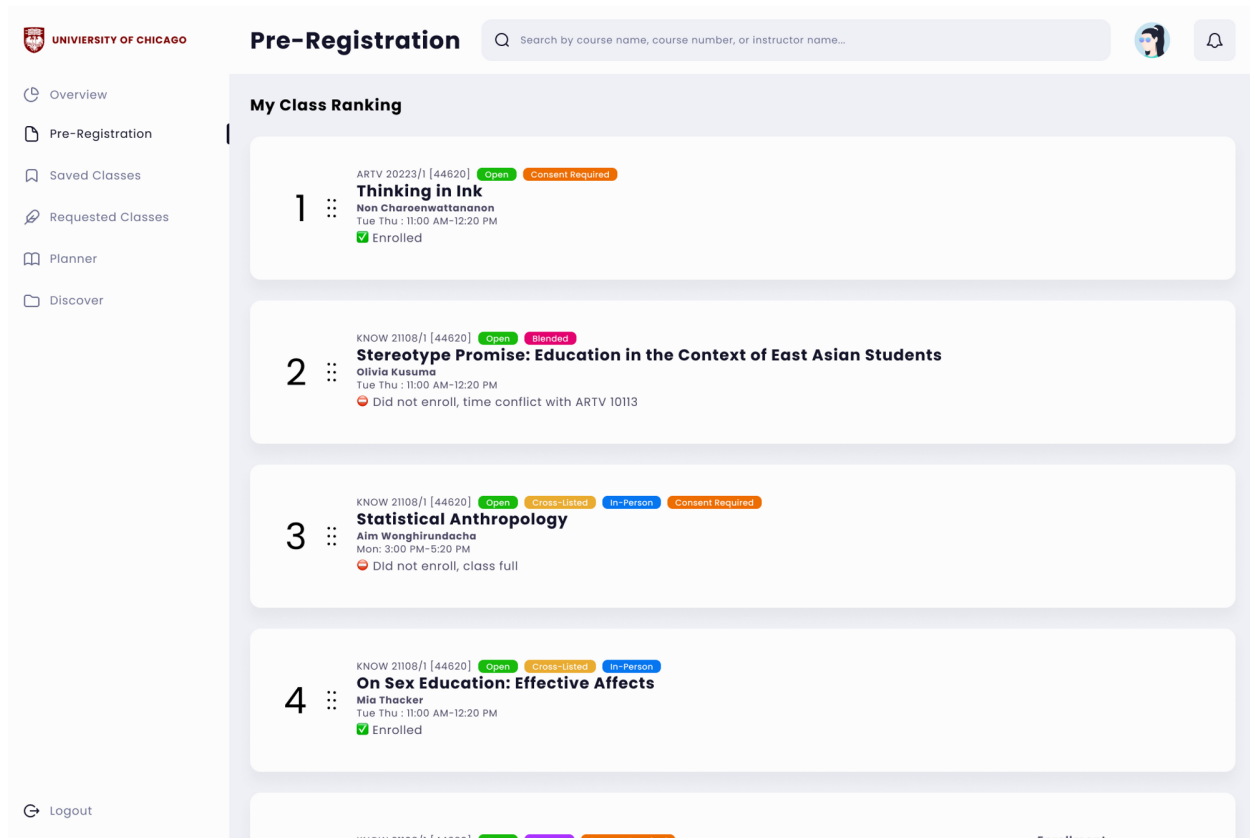
Problem: User Confusion Between Section vs Total Enrollment

Solution: Removed ‘Section Enrollment’ as a tag because it only pertains to the back-end system calculations and has no impact on users’ decisions as the only number that matters and has consequences for the users is the ‘Total Enrolment’ quantity.



Problem: Preregistration Error Codes are Unintuitive and Hard to Interpret

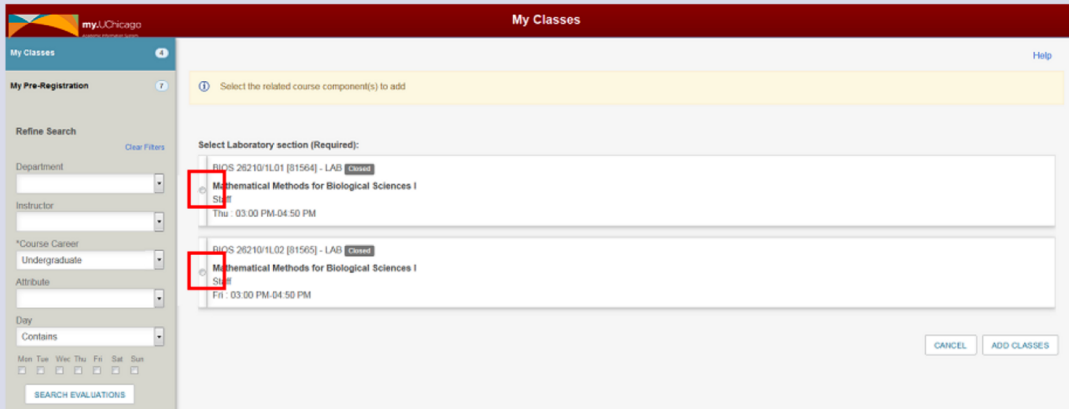
Solution: Removed the numerical error codes in favor of text explanations for pre-reg results.



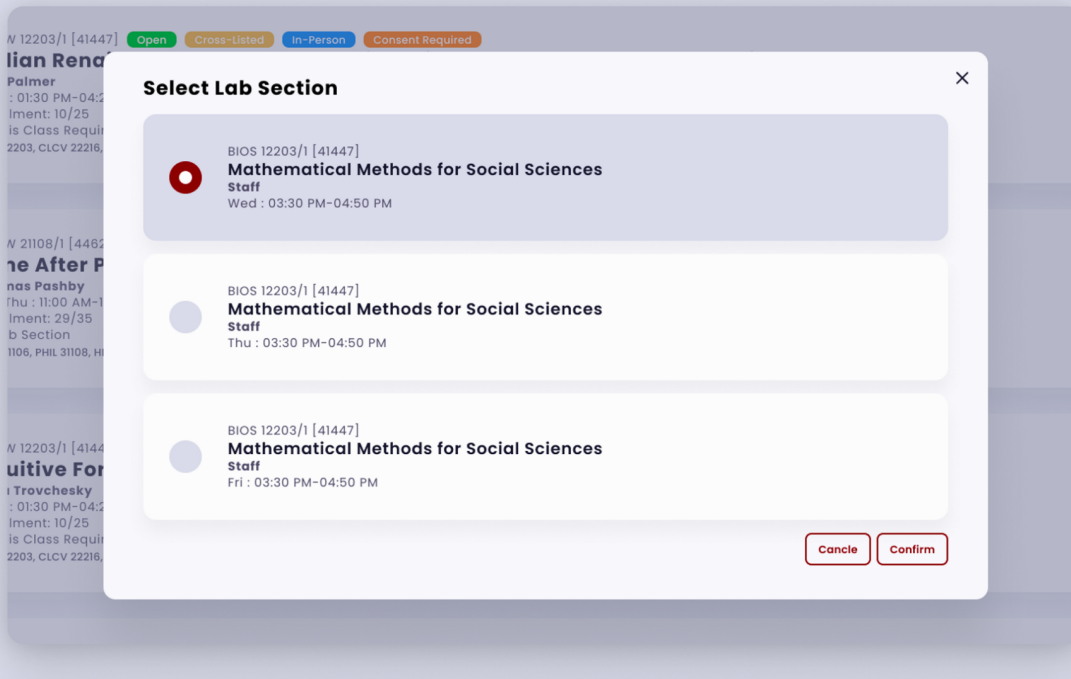
Problem: Mismatch Between Visible Selection Bounds and Actual Selection Bounds

Solution: Previously when selecting a class discussion section or lab, users would only be able to successfully enroll in them if they clicked on the small radio button on the left-hand side of the object, despite the fact that the object as a whole was highlighted when hovered over with the cursor. The new system not only increased the radio button size for ease of access but also allows for the entire object to be a selectable bound instead of the small footprint of the radio button itself.

❌ Selection only works when clicking the small radio button

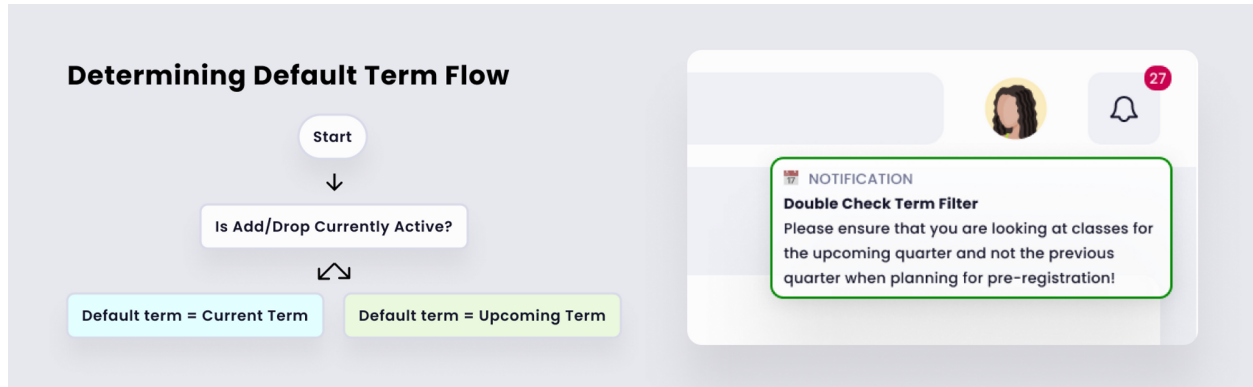


✅ Selection works for the whole object, visible with hover



Problem: The Default Term Filter for Search is Hostile

Solution: Instated a new back-end clock to switch the default term to the next quarter over once add/drop finishes at the end of the third week for the current quarter as well as a notification system for when a user logs onto my.classes for the first time in a quarter's registration cycle.



Lessons and Limitations

Lessons

Throughout the process of research and designing I also acquired a lot of valuable insights and knowledge about my methods and mindset. In this section, I will highlight three of my main takeaways:

Products Don't Exist in a Vacuum – My.classes, like any other software, does not exist in a void. Although the best outcome for a program like my.classes is to be forgotten when its users no longer require it, it can not remain stagnant in its design when it is not in use. For a program to continue to be intuitive and easy to use for users, its features and interfaces have to stay updated and relevant to the changing behaviors of the user base in order to do so.

Listen to Your Users – Something I greatly underestimated coming into this project was the extent to which user input would be valuable in shaping the final design. I was surprised that suggestions from interviewed users were targeted and specific to their experienced problems, some of the suggestions even made it through to the final design with minimal alterations. I needed to keep in mind that they too, like me, also have an intimate understanding of the software. Trusting users in their knowledge was incredibly valuable in the end as it helped refine my designs further than I could've done for myself.

Structure Helps – As someone who tends to jump from task to task when faced with challenges, I found that following a design framework throughout the development of my.classes was immensely helpful. The Double Diamond design framework, with its distinct phases of discovery, definition,

development, and delivery, provided a structured approach that kept me on track and focused. It helped me understand what needed to be done at each stage of the process and what milestones needed to be completed in order to progress forward. This structured approach proved to be a valuable tool in managing the complexity of the research and redesign process.

Limitations

On the flip side, there were a lot of limitations that caused me to momentarily stray from my ideal path and stopped me from being able to execute the vision that I had when the project started. However, it forced me to innovate and overcome them with creative solutions. Here are some of the limitations faced:

Finite Time – Being under a time constraint forced me to be efficient in the decisions that I made. Even though interviewing a small population of 16 people was enough to generate a usability study, a larger and more diverse sample size could have provided a broader range of insights and perspectives. A longer timeline would have allowed for more in-depth data collection and analysis, resulting in a more comprehensive understanding of the user experience and potential design improvements.

Absence of a Stakeholder – Although a large part of this project was interviewing real users to solve real design problems, there is one thing this project is lacking: input from the Registrar. Their insights and feedback could have provided valuable information about the limitations and constraints of the existing system, which could have informed the redesign process. Incorporating stakeholder input could have resulted in more informed and realistic design solutions that are aligned with the technical feasibility of the back-end system.

Designer Subjectivity – Ultimately, I am subjective in my analysis of the data I've gathered. I acknowledge that I have personal stakes in the product as a designer and am not tackling or aiming to tackle this from a completely removed or objective perspective. As someone who has personal stakes in the product, it is important to recognize that my perspectives and biases may have influenced the interpretation of the findings. While efforts were made to minimize subjectivity through rigorous data collection and analysis, it is important to acknowledge that a completely removed or objective perspective

may not have been achievable. However, I believe that because of my extensive personal experience and stakes with the class portal, I was able to understand and better improve its design.

Iterative Practice – Although I believe that my proposed redesign will fix many of the current issues of my classes, the design I have produced will still definitely have flaws. As with any product, iterative design practice is essential for continuous improvement. The timeline of this project did not allow for multiple rounds of iteration and refinement based on user feedback. I was able to get some informal real-time input and feedback from my peers throughout the design process; however, in an ideal scenario, a longer project timeline spanning 6-8 months would have allowed for more rounds of user interviews, feedback, and iterative design, resulting in a more refined and user-centric product.

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Unilag Student Portal App — UI/UX Case Study by Timothy Ayegbede, Jan 9, 2020: <https://uxplanet.org/unilag-student-portal-app-ui-ux-case-study-f9b073d6ac21>

UI/UX Case Study for a Student Portal Schedule by Luis Ordorica, Dec 10, 2018: <https://medium.com/ux-station/ui-ux-case-study-for-a-student-portal-schedule-feature-74c5aef03193>

Creating a Streamlined User Experience on a Student Admissions Portal: What Your School Needs to Know
<https://www.higher-education-marketing.com/blog/creating-a-streamlined-user-experience-on-a-student-admissions-portal-what-your-school-needs-to-know>