

Courses @ Brown Consulting Report

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CLPS 1250 HUMAN FACTORS



Introduction

A full year's tuition at Brown University rounds out to be about \$65,656 (excluding the additional \$34,292 from housing, dining, material, and other fees); if we take that and divide it by the average Brown student's full year load of 8 courses, we end up with a whopping

\$8,207 per course.

For a financial commitment of that weight, we would assume that the process of selecting a course would enable the student to efficiently and satisfactorily fulfill the worth of that value. However, that process through Brown's current Courses @ Brown (C@B) system only serves as an additional cost of time and frustration.

This Consulting Report will evaluate the C@B site on its usability based on numerous human factors principles and heuristics, and analyze points of improvement to redesign for.

Research

Literature Review

SOURCE SUMMARIES

Launch of C@B's interface

[Courses@Brown Site to Replace Banner System, by Gwen Everett](#)

[Driving Early Registration and Student Success with CourseLeaf, from CourseLeaf](#)

This Brown Daily Herald article marked the launch of C@B to assume the former Banner system. C@B's predecessor had received many complaints on its clunkiness and difficult navigation, which placed a hopeful outlook on C@B itself to provide improvements towards a “unified user interface and a unified student experience,” as described by university registrar Robert Fitzgerald. Some details were shared on how the framework of C@B’s design was decided upon, such as the onboarding of Leepfrog as the third-party vendor that supplies the CourseLeaf interface, on which C@B was built upon, as well as some input from student focus groups, but there was nothing more beyond that. The intentions of C@B from this article seem to be **more focused on thoroughness during course shopping than course planning or registration.**

CourseLeaf’s Case Study seems to give slightly more insight on their design mechanism, and we learn that C@B’s design came as an integration of a registration system called PATH. PATH’s advertised improvements included a “more effective and meaningful course search, pre-flight registration, and an integrated course CART and registration experience for students” with an emphasis on a “visibility to view courses that might be of interest through personalized course selection.”

Review of C@B's interface

These comprised most of the sources that directly addressed C@B's current design, and were all written between 2017-2019 by former Brown students, likely as an assignment for Brown's CSCI 1300: User Interfaces and User Experiences. All reviews seem to offer C@B its redeeming features credit, such as filtering and searching, but the **steep learning curve** and **infrastructure of the site** seemed to receive overwhelming backlash.

[Course @ Brown Interface, by Tali Bers](#)

[A Critique of Courses@Brown, by Christopher Sarli](#)

[Courses@Brown Critique, by Pedro Freitas](#)

[UI/UX Critique: Courses@Brown Website, Laura Wilson](#)

[Interface Critique 1: Courses @ Brown, by Olivia Iles](#)

[Courses @ Brown, by Justin Huang](#)

[The Problem with Courses @ Brown, by Evan Elkin](#)

[User Experience @ Courses @ Brown, by Stella Li](#)

[Shopping Should Not Be This Hard, by DJ Williams](#)

[Untitled, by Mac McCann](#)

[C@B, by Rachel Wang](#)

[The Horrors of Registration on CAB, by Fangrui Tong](#)

[Courses at Brown Critique, by Cyrus Twombly](#)

[CAB is Strange, by Benjamin Gabinet](#)

[Everyday UI: CAB.BROWN.EDU, by Nathaniel Ngyuen](#)

[CAB and Its Never Ending Extension, by Yoo Jin Shin](#)

[How We Can Improve CAB, by Grace Fan](#)

[Everyday UI – CAB, by Jacob Leiken](#)

[Courses @ Brown Receives a “C” for Execution, by Alexander Randaccio](#)

“CAB, as a system overall, is too committed to its interface, and not concerned enough with overall experience.”

-Christopher Sarli, Brown'22

Existing efforts to analyze course registration systems

[A Model for Web-Based Course Registration Systems](#), by Ruben Estevez, Sean Rankin, Ricardo Silva, and Indratmo Indratmo

This study assessed the usability of an existing web-based course registration system to create a new model by performing iterative usability studies: first on an existing system at MacEwan University, then on a revised prototype that addressed the limitations of the original system, and finally a summative evaluation comparing the two. They were able to ultimately design a prototype that was preferred to the existing system, and their findings suggested a set of guidelines that enabled their success, including components of **interactive timetables, easy access to relevant information, shopping carts, clear distinction between temporary and registered classes, immediate feedback, and direct manipulation.**

Additional suggested future references for research and redesign

[Task Analysis and the Design of Functionality](#), by David Kieras and Keith A. Butler

[10 Usability Heuristics for User Interface Design](#), by Jakob Nielsen

[E-Commerce User Experience](#), by Jakob Nielsen, Rolf Molich, Carolyn Snyder, Susan Farrell

[Embrace the Mental Models of Users by Implementing Tabs](#), from Interaction Design Foundation

[Direct Manipulation Interfaces](#), by Edwin L. Hutchins, James D. Hollan, Donald A. Norman

There wasn't much formal or varied literature on the specific design and usability testing of C@B itself, but we did want to venture into the space of digital usability as a whole, so we conducted some research on methods for testing and iterating. Our eventual usability testing will draw from findings in task analysis, and we explored vessels of necessary information organization and relief of cognitive load through direct manipulation and tab usage.



I. Intention to Prioritize Course Information

As expressed during the initial transition from Banner to C@B, the major improvement emphasized was **an increased access to information specific to a course**. It was the intention that this improvement would take precedence over less-discussed issues in the actual process of scheduling or planning.

2. Struggles in Infrastructure and Interaction

Though intention of information access may have been achieved, its neglected counterparts raised concerns elsewhere; existing accounts and critiques seemed to praise the thoroughness and ability to filter through that abundance of information, but **users were left fatigued**, not knowing what to actually do with or how to organize that information from sliding panels into carts and beyond.

3. Current Interactions Need to Match Mental Models

In a critique of the panels, Christopher Sarlis wrote: CAB's functionalities are obscured "behind a set of animations and filters which become tiresome for students accessing the sites multiple times per hour while shopping." The current system is very conceptual and lacks digital interactions that involve and engage the user, which are recommended by the literature that we were looking at for our redesign.



Research Competitive Analysis

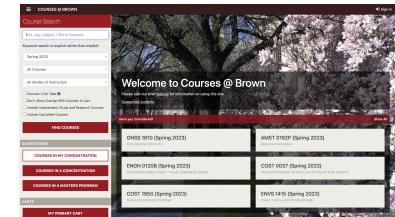
We took a look at the course registration systems for some other universities to gauge alternative solutions to these findings.

UNIVERSITY

Brown University

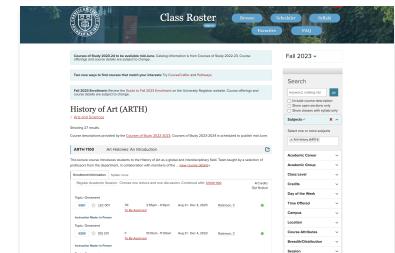
STRUCTURE

Single-site (C@B) does all:
 1) Course information, 2) Cart and Schedule Iteration, 3) Registration
 *Centered around course (navigate by course, i.e. go to course to drop or edit)



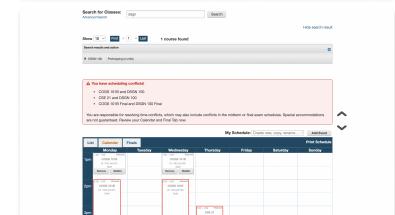
Cornell University

Separate-sites:
Courses of Study (course catalog)
Class Roster (course schedules for a semester)
Scheduler (planning)
Student Center (registration platform)



University of California,
San Diego

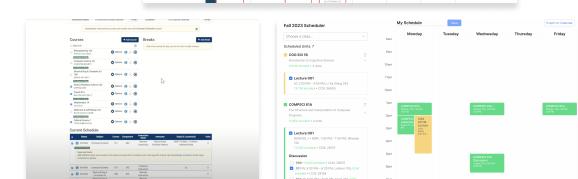
Separate-sites:
General Catalog (course catalog)
WebReg (planning and registration)



University of California,
Berkeley

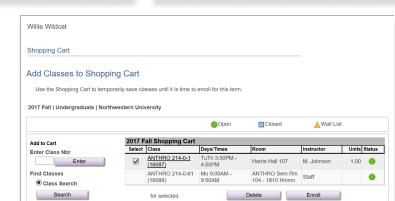
Separate-sites:
Class Schedule (course catalog)
CalCentral (planning and registration)

Student-run site:
BerkeleyTime (catalog and planning)



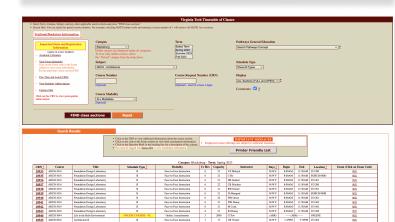
Northwestern
University

Single-site (CAESAR) does all:
 1) Course descriptions, 2) Cart, 3) Registration
 *Centered around action (navigate by what you want to do, i.e., go to Drop Classes page)



Virginia Tech

Separate-site:
Undergrad Catalog (course catalog)
VT Course Timetable (course schedules for a semester)
Hokie Spa (course registration)



The scope of differences in course registration can largely be attributed by the needs of each university, such as its number of course offerings, or its student body size, which may, in turn, affect their enrollment process to be lottery, staggered, simultaneous, etc. Because existing literature pointed us in the direction of evaluating the infrastructure of interactions, we narrowed our focus in the competitive analysis to primarily be on differences of structure.

The main difference that struck us was that C@B was unique because of its all-inclusive usage. It serves as a package deal that enables students to learn about a course and immediately add it to a cart, instead of having to switch between sites and memorize course codes. Conceptually, this makes sense, but the issues with cart and eventual registration reported by the literature accounts indicate an intermediary gap between the mental model of the user and the conceptual model of the design.

Analyzing the successes of competing registration and mitigation systems helped us identify the potential source of this gap - what makes C@B unique, is also what's potentially making it fail. The success of a separate-site system is that functions are categorized neatly; there is a single goal for each site, whether it be course searching, planning, or registering. **Enabling Brown students to blur the lines between those goals and directly add when browsing increases perceived efficiency, but also increases cognitive load;** when a student searches for a course, they now also have to fulfill goals of whether the course is interesting, whether it fits into a certain schedule, which cart to add it to, etc.

Research

Usability Testing

Once we outlined this as a potential problem space, we took to designing a usability test to dissect where in the process these interactions may be at odds with each other.

METHODOLOGY

We sourced our information with two main methods: **user interviews** and **participant observations**.

The user interviews of our test helped us gauge conscious and verbalized opinions of C@B's various features, as well as any experiences that may contribute to users' interactions with the system.

Observational portions of our test allowed us to see how users navigate the site in real-time, and our consented recordings of these observations enabled us to backtrack for hesitations or difficulties that the user themselves might not have even identified.

STRUCTURE

We conducted our usability testing on a total of 6 participants; 2 were 6th semester juniors, 3 were 2nd semester transfer students, and 1 was a student at another university.

Our succinct but varied participant pool provided us with insights on students who were adapted to the existing system, students who had a point of comparison, and students who had never used C@B before.

DATA COLLECTION

We aimed to collect a mix of qualitative and quantitative data through our questions and tasks.

Pre-Task/Experience

- Demographic questions
 - What is your year at Brown? (e.g., freshman, sophomore, etc.)
 - What is your major/s (and certificate), if you have declared one?
- Website usage questions
 - When do you use Courses@Brown?
 - How frequent? (i.e. only when registering vs. always shopping, etc.)
 - What do you typically use CAB for?
 - (potential follow-up) How do you use CAB for [each goal: browsing, planning, etc.]?
 - What are some features you like about CAB?
 - What are some features you dislike about CAB?
- What was your experience in learning how to use CAB?
- Please tell me about a time when you had a positive or negative experience with CAB.
- How would you rate (1 least - 10 most) your experience with CAB based on:
 - Efficiency
 - Reliability
 - Ease of use / Satisfaction level

Task

Walk me through your process of...

*Have participants think aloud as they complete these tasks.

1. Discovering classes

- A) Show me how you would find a requirement for your concentration and decide on one you would like to take.
 - Store it in a place you can find later.
- B) Show me how you would find a fun class and decide on one you would like to take.
 - Store it in a place you can find later. (Keeping Track of Interesting Courses)
- C) Show me how you would find a WRIT class during an open time slot on your schedule. (*test if users use the additional filter options)

2. Registering for classes

- Show me how you would register for a class.

3. Editing registration options

- Change the grading option for a course from letter grades to S/NC.

4. Dropping classes

- Show me how you would drop a class.
- Show me how you would swap a class for another one.

5. Calendar/scheduling

- View your class schedule for the upcoming semester.
- Add a class to your Google Calendar or iCal.

6. Requesting an override

- Show me how you would request an override for a course.

Post-Task Interview

1. General usability questions

- What was your overall experience using the Courses@Brown website?
- Did you find the website easy or difficult to use?
- Was there anything that you particularly liked or appreciated about the website?

2. Specific task questions

- Were there any steps or actions that were particularly difficult or confusing during each task?
- Was the website able to meet your expectations for each task?

3. Website functionality questions

- Were you able to find all of the information you needed on the website?
- Were there any features or functions that you wished were included on the website?
- Were there any areas of the website that you felt could be improved or updated?

4. Overall user experience questions

- Would you recommend the Courses@Brown website to other students?
- How does the Courses@Brown website compare to other course catalog and registration portals you have used?

DATA COLLECTION

These are some screenshots of the current version of C@B that participants tested upon:

Landing

This screenshot shows the main landing page of the Courses @ Brown website. At the top, there's a search bar and a "Sign In" button. Below the search bar, there are filters for "All Courses", "All Modes of Instruction", and "Courses I Can Take". A sidebar on the left lists categories like "FIND COURSES", "SUGGESTIONS", "COURSES IN MY CONCENTRATION", "COURSES IN A CONCENTRATION", "COURSES IN A MASTERS PROGRAM", and "CARTS". The main content area features a "Welcome to Courses @ Brown" banner and a grid of six course cards: GNSS 1610 (Spring 2023), AMST 0192P (Spring 2023), ENGN 0120B (Spring 2023), COST 0037 (Spring 2023), COST 1950 (Spring 2023), and ENVS 1415 (Spring 2023).

Course Info + Add to Cart

This screenshot shows a detailed course information page for CSCI 1430: Computer Vision. It includes the course title, section number (501), meeting times (TTh 10:30-11:50a), instructor (J. Tompkins), and a brief description: "This course meets...". There's also a "Registration Notes" section with a note about prerequisites. On the right, there's a "Final Exam" section stating "No final exam has been scheduled for this course by the department through the registrar's office." Below that is a "Which Cart" section with a "Backup Interests (Spring 2023)" button. At the bottom are "CANCEL" and "OK" buttons.

Primary Cart

This screenshot shows the "Cart Contents" page for a primary cart. It lists two courses: CLPS 0700 - Social Psychology (section 501, TTh 1-2:20p) and CSCI 0320 - Introduction to Software Engin. (section 501, TTh 1-2:20p). Both have status codes "Pending". A sidebar on the left shows a "MY PRIMARY CART" section with a "VIEW TRANSCRIPT" and "GO TO REGISTRATION" button.

Registration from Primary Cart

This screenshot shows the "Registration (Fall 2023)" page for the primary cart. It lists the same two courses: CLPS 0700 and CSCI 0320. The CSCI 0320 entry has a status code "Pending". A sidebar on the left shows a "MY PRIMARY CART" section with a "VIEW TRANSCRIPT" and "GO TO REGISTRATION" button. At the bottom right is a "REGISTER IN 1120-164" button.

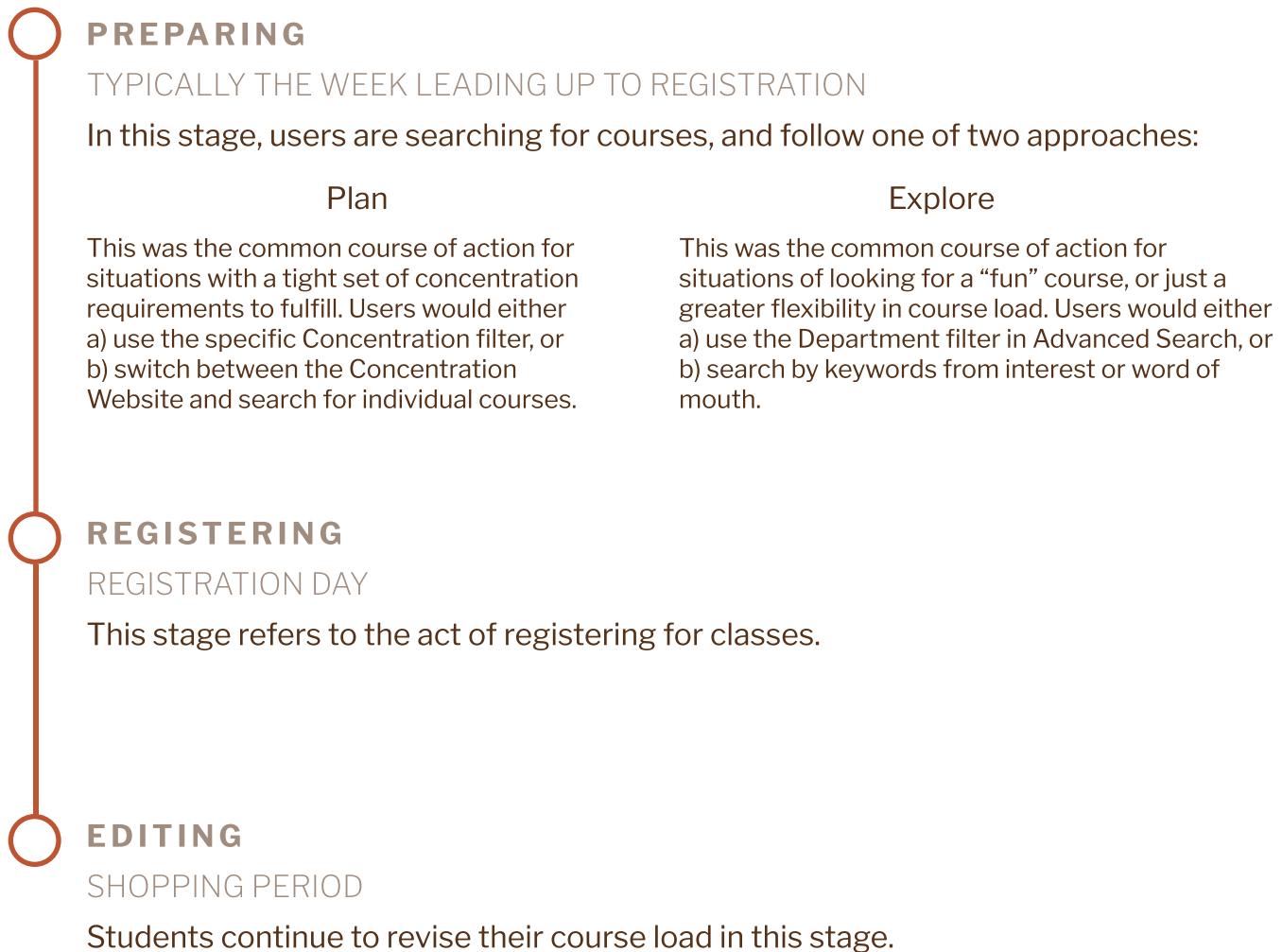
Other Saved Cart Schedule

This screenshot shows the "Cart Contents" page for a saved cart named "Potential FA23 (Fall 2023)". It lists several courses with their sections and meeting times. A sidebar on the left shows a "MY PRIMARY CART" section with a "COPY TO PRIMARY CART" button.

Results

In this section, the discussion of the findings will embed painpoints within an observed user flow.

There seemed to be 3 user goals in the flow:



*Emphasis on shopping period can make these goals iterative (i.e. once a user hits the Editing stage, they could go back to the Registering stage)

PREPARING

Filters

Plus Point

During their searches, all 5 of the users who attended Brown found the filters to be comprehensive and robust, with the most popular ones being:

COURSES IN MY CONCENTRATION

- SUGGESTIONS
- COURSES IN MY CONCENTRATION**
- COURSES IN A CONCENTRATION**
- COURSES IN A MASTERS PROGRAM**

ADVANCED SEARCH

Exclude Times **EDIT**

Any Department

Any Subject

Any Time

Any Credits

Instructor

Find courses that are accessible to remote students

Curricular Programs **?**

First Year Seminar

Sophomore Seminar

Writing - Designated Courses

Race, Power, and Privilege

Community-Based Learning and Research

Collaborative Scholarly Experiences

DEPARTMENT

TIME

WRIT



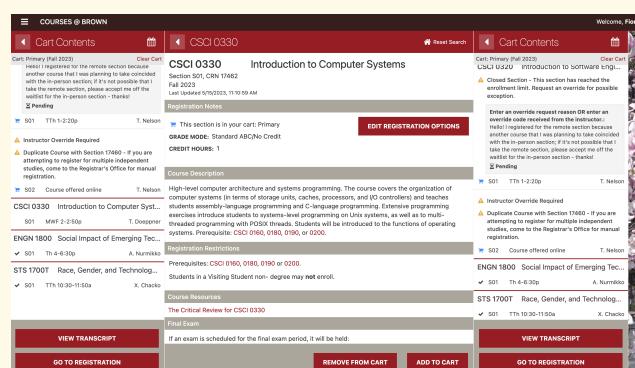
*With the exception of the Term filter, which received complaints on the chronology lacking coherence

Navigation

Pain Point

Multiple users complained about the nested slide-out nature of C@B, and these sentiments were also reflected in numerous accounts from the literature review. The major critique was it induced tab overwhelm and confused users on the status of the system.

“It keeps sliding every single time and it’s not clean when you do things. You might not be on the most updated version of a cart if you’re on a previous slide-out.”



In this image, a course was removed from the Primary Cart, which then opened a brand new panel of the cart, meaning there was an outdated and updated cart on the same screen.

PREPARING

Add to Cart

Pain Point

The current system involves a user adding a course to either

Primary Cart, which is eventually used for registration:

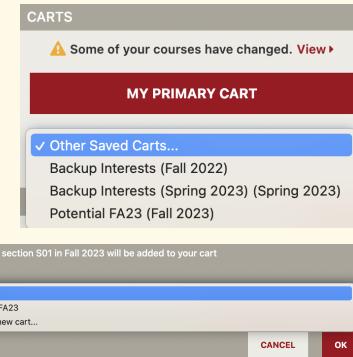
Major Issues

1. Browsing users just want a place to save courses, so they add to Primary → Cluttered registration when added all interested courses
 - a. Coping: Create a dump cart, but only if they know how to
2. Can't create iterations of schedules

or **Other Saved Carts**:

Major Issues

1. Hidden affordances in creating carts, leading to an unclear process
2. Still struggles with schedule iteration



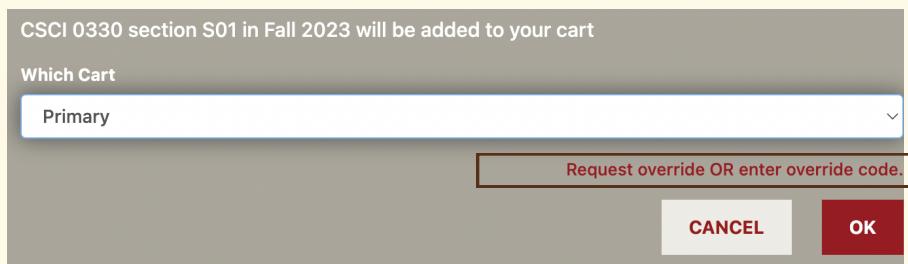
Override Codes

Pain Point

The main issue with override codes is that despite being a relatively large component of shopping period, it's:

Unclear how to reach the function – User has to Add Course to Cart to access an override option

And once reached, there's a **lack of signifier** – Its text blends in with no indication of interactivity.



REGISTERING

Checkboxes

Pain Point

Registration stems directly from the Primary Cart, but some users were unaware of this and **couldn't find Registration as a whole or had too many courses in the cart.**

When it came time to register with so many courses in the cart, having to **uncheck the automatically selected courses was extremely tedious**, and sections and lectures also had to be un/checked separately.

If left unchecked, C@B randomizes which courses to enroll the user in, which left them with a longer term issue of being unable to fulfill requirements due to classes filling up.

The screenshot shows a registration page for Fall 2023. It lists two courses: CSCI 0320 Introduction to Software Engineering (Section S01) and CSCI 0320 Introduction to Software Engineering (Section S02). Each course has a checkbox next to its name. Below the courses, there are several warning messages: one about a closed section, one about an instructor override required, and one about duplicate courses. At the bottom right, there is a large red button labeled "REGISTER IN 112D 20H".

EDITING

Options

Pain Point

A product of the sliding panels, registration options, such as **changing the grade mode, dropping a class, or swapping a class**, are nested, limiting their access (*which could theoretically be a good thing to prevent slips!).

Swapping a class itself is also unclear, as there is no indication of which classes are eligible to be swapped.

The screenshot shows the "Registration Options" section for CLPS 0700 Social Psychology. It includes fields for "GRADE MODE" (set to "Standard ABC/No Credit"), "CREDIT HRS" (set to "1"), and "SWAP THIS WITH" (a dropdown menu showing "Not Applicable"). Above these, there are buttons for "EDIT REGISTRATION OPTIONS" and "DROP". The page also displays course details like "Section S01, CRN 17075", "Fall 2023", and "Maximum Enrollment: 150 / Seats Avail: 44".

THE NUMBERS



6.6 out of 10

in terms of efficiency

7.1 out of 10

in terms of reliability

6.6 out of 10

in terms of ease of use

**JUNIORS DESCRIBED
AND RATED THEIR
EXPERIENCE WITH
C@B MORE
POSITIVELY THAN
TRANSFERS**

This could be an indication of satisficing for the only system they've known.

THE WORDS

“Uhm.... how would I... I guess it's... edit registration? Wait, no...oh, a course I'm currently taking...wait, let me select the right term...oops...well ideally it would show up and I think it's in edit registration?”

*LIMITATIONS

- Tasks are pretty straightforward
 - Users not interacting with the site in a natural environment
 - May have felt prompted to notice or perform certain actions that otherwise wouldn't have in a real setting
 - May have been in a more relaxed mental state compared to usage in a more stressful situation like pre-registration
- Already familiar with navigating C@B, so if familiar with downsides, then stop noticing or make workarounds

Redesign

Drawing from our major findings, we redesigned C@B's infrastructure to be more digestible.

Our revised design follows a framework of **Exploring**, **Planning**, and **Registering**.

Welcome to Courses @ Brown!

For a detailed walkthrough of CAB, watch our brief [tutorial](#).

**Explore**

Search by keyword, department, concentration, or other filters to find the perfect courses for your academic goals.

**Plan**

Stay organized and plan for all possibilities by creating multiple different course schedules with our intuitive planner tool.

**Register**

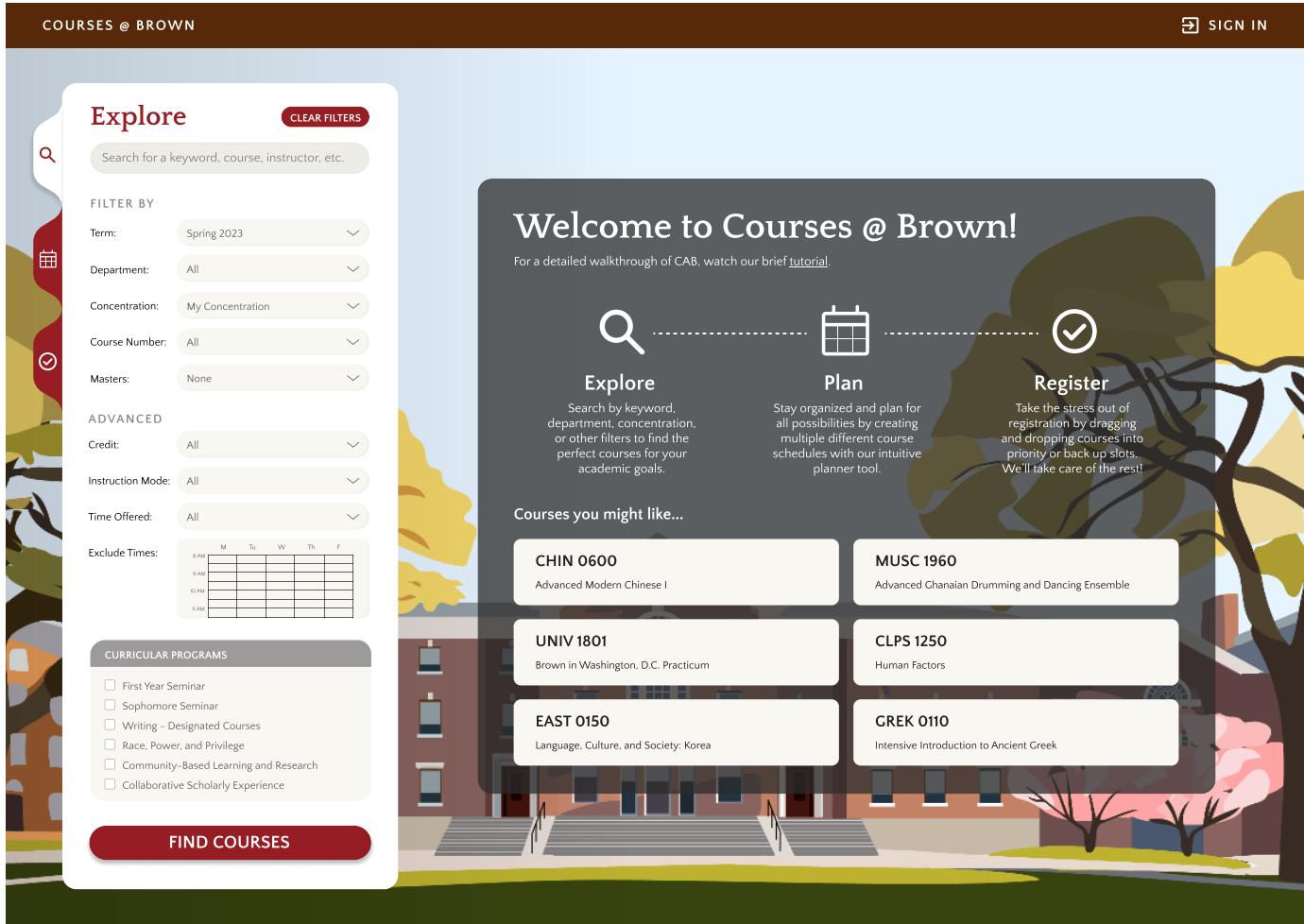
Take the stress out of registration by dragging and dropping courses into priority or back up slots. We'll take care of the rest!

Courses you might like...

CHIN 0600 Advanced Modern Chinese I	MUSC 1960 Advanced Ghanaian Drumming and Dancing Ensemble
UNIV 1801 Brown in Washington, D.C. Practicum	CLPS 1250 Human Factors
EAST 0150 Language, Culture, and Society: Korea	GREK 0110 Intensive Introduction to Ancient Greek

This new model allows users to break down their goals into manageable phases of registration.

EXPLORE: LANDING PAGE



Upon landing on the site, users are met with a familiar layout. To follow our new model, the Primary Cart and Registration is no longer mixed in with the search features, and instead, the phases are separated by side tabs to mimic **skeuomorphism**.

The **Filters** were a Plus Point for many of our participants, so we kept them largely the same within the **Explore** tab, with the exception of eliminating some redundancies (i.e. searching for an Instructor originally had its own slot, but the same could be done on the universal search bar).

Because our left panel is not scrollable, users are able to see all the **Advanced** search options at once.

The original design also had very similar visual cues for text boxes and dropdowns, so we just cleaned that up by using **semi-flat** design to indicate affordances of what can be typed on versus clicked on.

EXPLORE: EXPANDED

The screenshot shows the 'Explore' section of the website. On the left, there's a sidebar with filters for Term (Spring 2023), Department (English), Concentration (All), Course Number (All), Masters (None), Credit (All), Instruction Mode (All), Time Offered (All), and Exclude Times (a grid from 8 AM to 11 AM). Below these are sections for Curricular Programs (First Year Seminar, Sophomore Seminar, Writing - Designated Courses, Race, Power, and Privilege, Community-Based Learning and Research, Collaborative Scholarly Experience) and a 'FIND COURSES' button. The main area shows search results for 'ENGL 0300N' (How To Be Alone: Solitude and Subjectivity), 'ENGL 0500R' (Slavery and American Literature), 'ENGL 07000' (The Great Debate: Wright, Hurston, and the Meaning...), 'ENGL 0710W' (Readings in Black and Queer), 'ENGL 1030H' (Black Popular Culture and Social Movements), 'ENGL 1361Q' (Medieval Race), and 'ENGL 1710I' (Harlem Renaissance: The Politics of Culture). Each course card includes a 'Reset Search' button and an 'Add Tag' link. On the right, a detailed view of 'ENGL 1030H' is shown with sections for Registration Notes (Instructor override required), Course Description (as a site of critical inquiry, Black popular culture provides valuable insight into the ways oppressed people (and allies) identify and mobilize against unjust power structures in society. We will begin with immersion experiences with primary and secondary resources that reveal how "voices on the margins" assert agency, identity, and community. Enrollment limited to 17. No pre-requisites. Writing sample may be required. Banner registrations after classes begin require instructor approval. S/NC.), Curricular Programs (Race, Power, and Privilege (RPP), Writing - Designated Courses (WRIT)), Course Resources (The Critical Review for ENGL 1030H →, Class Syllabus →), Final Exam (No final exam has been scheduled for this course by the department through the registrar's office. Please consult syllabus or contact instructor. If an exam were to have been held: Exam Date: 15-MAY-2023 Exam Time: 02:00:00 PM Exam Group: 16), Instructors (Austin Jackson, austin.jackson@brown.edu, Areas of Research), and Registration Demographics (Current Enrollment: 9, a pie chart showing 33.33% First Year, 33.33% Sophomore, 33.33% Junior). At the bottom are 'REQUEST/ENTER OVERRIDE' and 'ADD TO CART' buttons.

We preserved all of the information, as we knew that was a big portion of the appeal in its original launch.

Instead of adding to a Primary or Other Saved Cart now, users simply add to **one unified cart** that indicates their interest in the course; they can then optionally specify their interest in it for a concentration requirement, for fun, or any other reason with **Tags**. This way, users can focus on the goal of exploration without worrying which cart or schedule this might fit into.

Our **Override** button is also now much more prominent as a main feature alongside Add to Cart.

PLAN

The screenshot shows the 'Plan' section of the Courses @ Brown website. On the left, there's a sidebar with a search bar, a 'TAGS' section containing filters like 'required for cs vis track', 'for fun!', and 'required for bio', and a 'ADDED COURSES' list. The main area has a title 'My ideal schedule' with dropdown arrows. It displays a weekly grid from Monday to Friday, 8 AM to 9 PM. Courses are listed in boxes: 'CSCI 0320' (purple) and 'RELS 0010' (orange) are listed twice on Tuesday; 'BIOL 0530' (orange) and 'ENGL 0500R' (green) are listed once on Tuesday; and 'CSCI 0320' (purple) is listed once on Friday. A red 'EXPORT TO CALENDAR' button is at the bottom right.

All of the interested courses added to the cart from the Explore page appear here, where users can play around with different schedule iterations using tag filters and **interactive timetables**, as well as export, duplicate, or delete them.

Lectures and sections are also grouped here, so **no need to worry about adding both to the cart**. To swap a section, the user simply has to click the section swap button.

We took inspiration from both UC San Diego's *WebReg* scheduling system, as well as student-run *BerkeleyTime*'s scheduling system, where users can directly check off what courses they want to see in a particular schedule.

This image compares two scheduling interfaces. On the left is the 'BerkeleyTime' interface, which shows a weekly grid with course sections color-coded by subject. On the right is the 'WebReg' interface, which shows a similar weekly grid but with more detailed course information and a 'swap' button for sections. Both interfaces have navigation tabs at the top and a 'List' view below the grid.

REGISTER

COURSES @ BROWN SIGN IN

Register

Search for a keyword, course, instructor, etc.

TAGS

required for cs vis track for fun! required for bio
writ req + Add Tag

PRIORITY ⓘ

CSCI 0320
Introduction to Software Engineering

BIOL 0530
Principles of Immunology

ADDED COURSES

RELS 0010
Happiness and the Pursuit of the Good Life
62/400 Seats Available · S01 TTh 2:30-3:50pm · M. Sallow
for fun! + Add Tag

BIOL 0530
Principles of Immunology
Uncapped · S01 MWV 10am-10:50am · A. Dugan
1/20 Seats Available · C04 M 8-8:50pm · A. Dugan
required for bio + Add Tag

ENGL 1030H ⚠
Black Popular Culture and Social Movements
8/17 Seats Available · S01 T 4-6:30pm · A. Jackson
writ req + Add Tag

BACK UP ⓘ

Drag and drop a back up course

RELS 0010
Happiness and the Pursuit of the Good Life
62/400 Seats Available · S01 TTh 2:30-3:50pm · M. Sallow
for fun! + Add Tag

REGISTER

Users can directly navigate here from the Explore page if they don't require much planning, or they can plan in the Plan page and then navigate here. The same interested courses from the Plan page that were added to the cart from the Explore Page will also appear here in the Register page.

Users can now have a Priority section, which would be the initial four courses that C@B registers for, but upon any failure or course cap, one will be selected from the **Back Up** section.

We employed the suggestions from some of our literature review as well; the cart and the registration panel set clear **distinctions between temporary and registered classes**, and the **direct manipulation** of the drag-and-drop will hopefully help users visualize which courses they will be registering for, an upgrade from having to sift and un/check courses during registration.

Conclusion

This report sought to propose a redesign for C@B through extensive research and usability testing. It analyzed the design choices of the current interface and made adjustments to preserve those reasonings while improving to relieve users' mental effort. For \$8,207 a course, the process of selection had better be worth the price. But more invaluable than just the money, is the time and cognitive load dedicated to this process, and we hope our redesigns are a step towards fulfilling that experience.