A new look for an established tool

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Building a new interface for room reservations with user testing and APIs

Who I Am

- User Experience/Project Management Librarian at IUPUI
- Been a Springshare administrator at two different institutions since 2014
  - Updating Springshare to version 2 was my first project as a librarian
- Moonlight as a board game designer, comic artist, and overall nerd

What is LibCal?

- Part of the Springshare suite of tools, which include LibGuides, LibAnswers, and Libinsight, etc.

- LibCal has four major functions
  - Calendar/Event management
  - Appointment making between liaisons and patrons
  - Space reservation
    - This is now broken into "Spaces" and "Seats"
  - Equipment reservation

Our Stats for LibCal

- In our University Lbrary we have 50 Study Rooms available for students, separated into 3 categories based on size
  - I believe that this is part of the reason we were unsatisfied with the front end, this is a large number of study rooms
- We also have our study alcoves, video production rooms, and study carrels available to be reserved
- We've always had a hybrid model, where study rooms are open and available, but students can reserve a room to ensure they have access to the space at certain times
- In Fall 2019 we had 15,568 room reservations in our study rooms, this is a big part of our services
- We share our installation with three other libraries on campus

Our Issues with the Front End

- Looks busy
- Required to scroll to access the next day, arrows are for every 3 days
- No way to manage reservations, patrons must do so through email
- Mobile experience is less than ideal

Rooms for groups of 6-8 students.

Thursday, February 11, 2021 – Saturday, February 13, 2021

📅 Go To Date   ‹   ›

Space	Thursday, February 11, 2021	
	0pm	7:00pm
L101 (Capacity 10)		
L102 (Capacity 12)		
L103 (Capacity 10)		
L104 (Capacity 13)		

🟦 Available   🟨 Your Booking

🟥 Unavailable/Padding

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Report a tech support issue.

View this page in a format suitable for screen-readers

Rooms for groups of 6-8 students.

Thursday, February 11, 2021 – Saturday, February 13, 2021

📅 Go To Date   ‹   ›

Space		Thursday, February 11, 2021									Friday, Februar
	4:00pm	5:00pm	6:00pm	7:00pm	8:00pm	9:00pm	10:00pm	11:00pm	12:00am	1:00a	
L101 (Capacity 10)											
L102 (Capacity 12)											
L103 (Capacity 10)											
L104 (Capacity 13)											

🟦 Available   🟨 Your Booking   🟥 Unavailable/Padding
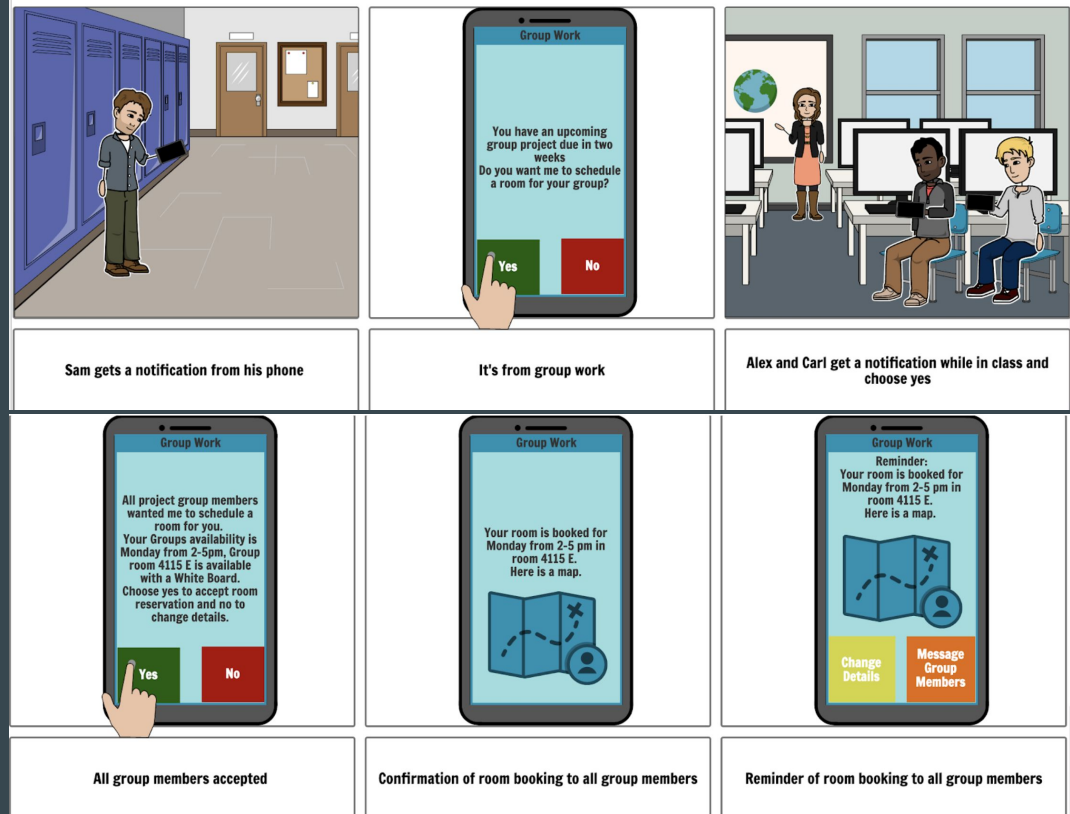
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Working with Students

Human-Computer Interaction Capstone Project

- Bankole Adegboye
- Enrico Banks
- Verna Schwartz

Ideation Process

1. Voice User Interface

2. Smart Calendar/Canvas Integration

3. Predictive AI

Lo-fi Prototype/Figma

Task-Based User Testing

The how-to companion to the bestselling *Don't Make Me Think!*
A Common Sense Approach to Web Usability

Steve Krug

ROCKET SURGERY MADE EASY

The Do-It-Yourself Guide to Finding and Fixing Usability Problems

- Participants are asked to complete taks with the object or process being tested
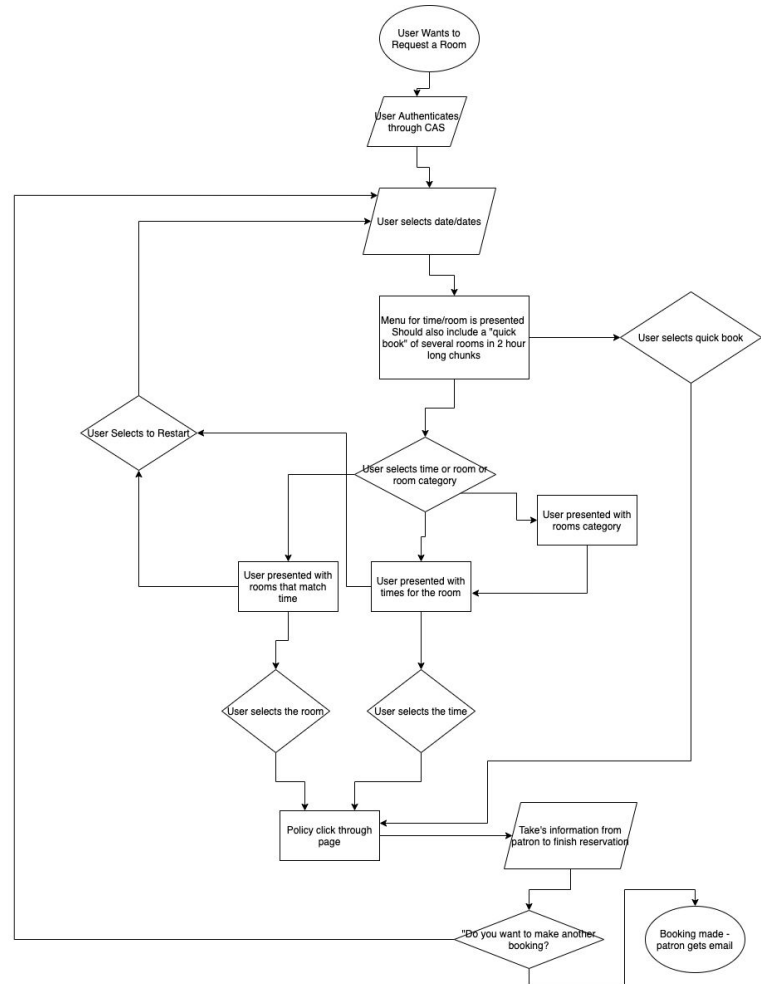- These tasks are usually short, each taking 3-10 minutes
- Participants are given 3-6 tasks, so the whole process takes roughly 15-30 minutes/participant
- Participants are asked to vocalize their thoughts so the designers can understand points of frustration or elation

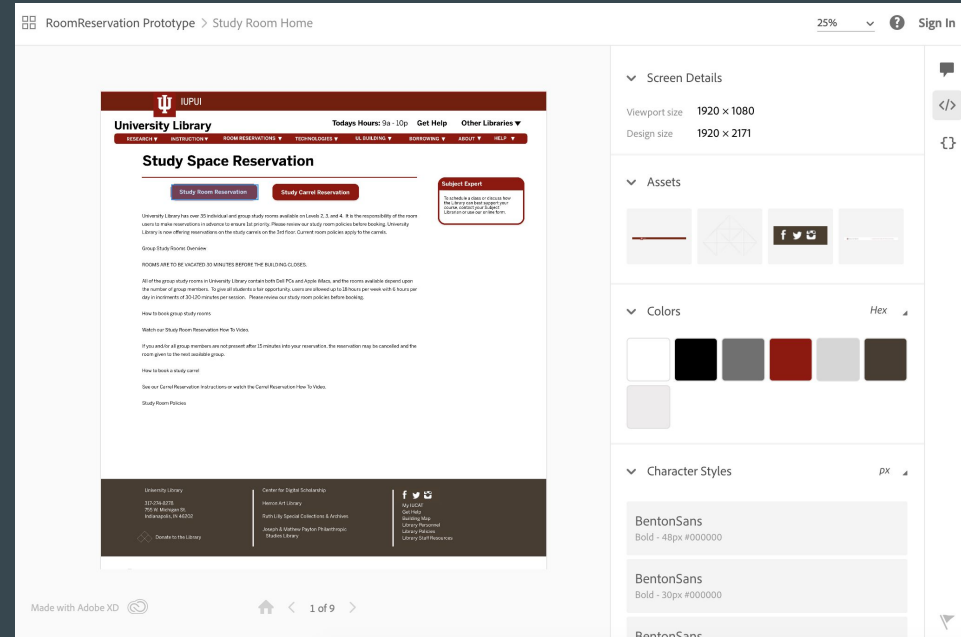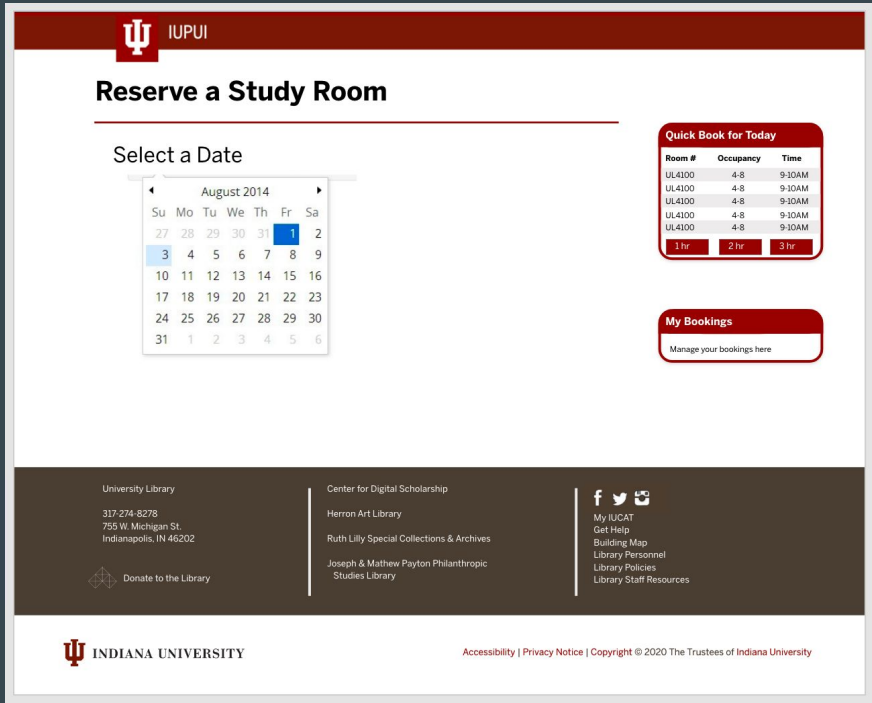# What I Learned from the Students' Testing

- Create a filtering function for the rooms
- Allow an alternative log-in function
- Create an interface for patrons to see their reservations
- Let patrons do a "quick booking"
- Still allow our staff to manage rooms with the Springshare back-end

Process Map

draw.io

User Wants to Request a Room

User Authenticates through CAS

User selects date/dates

Menu for time/room is presented Should also include a "quick book" of several rooms in 2 hour long chunks

User selects quick book

User Selects to Restart

User selects time or room or room category

User presented with rooms category

User presented with rooms that match time

User presented with times for the room

User selects the room

User selects the time

Policy click through page

Take's information from patron to finish reservation

"Do you want to make another booking?

Booking made - patron gets email

Prototype in XD - Marrying to the Process Map

The LibCal API

Spaces/Seats

Action	URL	Method
Returns a list of public and private space/seat locations from your system.	/space/locations	GET
Returns the details of a space/seat booking form.	/space/form/:id	GET
Returns the details of space/seat booking form questions.	/space/question/:id	GET
Returns a list of space/seat categories for locations in your system.	/space/categories/:id	GET
Returns information about space/seat categories in your system.	/space/category/:id	GET
Returns information + availability details of a space in your system.	/space/item/:id	GET
Returns information + availability details of spaces in your system.	/space/items/:id	GET
Book spaces/seats in your system.	/space/reserve	POST
Returns information about specific bookings in your system.	/space/booking/:id	GET
Returns a list of bookings in your system.	/space/bookings	GET
Cancel a space/seat booking.	/space/cancel/:id	POST
Returns spaces/seats confirmed bookings, returning the Public Nicknames for a given date.	/space/nickname/:id	GET
Returns current spaces utilization and occupancy data in your system	/space/utilization/:id	GET
Returns information + availability details of a seat in your system.	/space/seat/:id	GET
Returns information + availability details of seats in your system.	/space/seats/:id	GET
Returns details of a zone in your system.	/space/zone/:id	GET
Returns details of zones in your system.	/space/zones/:id	GET

Development of the New Front End

- Built on PHP
- External package - PHP CAS
- Using Composer to add packages to the application
- API Key is set up in Springshare, code needs to use the key to get a token in order to get the results from the API
- IU Rivet for styling - only for web applications, not websites
- Had to design a database to keep track of a particular user's reservations
  - MySQL Database
  - Grabs the room information in the same database to increase efficiency
  - Runs nightly - we expect that the database will take 10-15 minutes to build every night
  - May have face issues with database syncing, if a person makes a reservation outside of this system

Live Development

Plans for User Testing Post Launch

- Single Ease of Use Question has been available from our current system since last summer
- Will ask the same Single Ease of Use Question once new system launches

- Will complete more task-based user activities, especially focused on language

- We will revisit this entire project in 4-5 years, or when there are changes with Springshare

Release Plans

- We are leaving study rooms closed for the remainder of the Spring Semester, as a result of the COVID-19 Pandemic

- New system will launch on May 10, 2021

- This summer we are planning on refactoring our code to be of use to other institutions, if they would like to adopt this themselves!

- Option for adding QR codes to work in this system and create printable PDFs to display on doors - will require another two packages

- "Repeat Button" to duplicate a reservation for a different time

Contact and Slide Download

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