

HOOSIER HUB

A unified IU platform for discovering, booking, and managing campus spaces, labs, equipment, workshops, tutoring sessions, and more.

Designed for:

- Students (discover + book)
- Staff (publish + manage)
- Admins (oversight + approvals + analytics)

Key Capabilities

- Real-time availability & booking
- Waitlists with auto-promotion
- Messaging & notifications
- Reviews & ratings
- AI-powered concierge + weekly summary insights

Whether you're a student or faculty, Hoosier Hub keeps your bookings organized and effortless.

Featured Hoosier Spaces



BY TEAM 25

EMILY RHEE, RASAGNYA BETHI, DYLAN HAGEDORN, SUCHIR MIDIDODDI

THE PROBLEM

- Resource information is scattered across departments
- Booking workflows rely on emails, forms, or spreadsheets
- No centralized place for availability
- Frequent double-bookings
- No consistent approval logic
- No unified messaging, notifications, or audit trail

WHAT HOOSIER HUB SOLVES

- What HoosierHub Solves
- One hub for discovering and booking all campus resources
- Standardized approval workflows, messaging, and reviews
- Real-time availability with visual slot picker
- Role-aware publishing & booking behaviors
- Automated waitlist system
- Insights for admins: SLA, usage, top resources, department usage

SYSTEM ARCHITECTURE

Layer	What It Includes
Frontend	Jinja2 templates, Bootstrap UI, slot picker, messaging panel, reviews, Nova AI widget
Flask Controllers	Auth, Resources, Bookings, Admin, Assistant (Nova)
Service Layer	Booking rules, slot builder, waitlist engine, notification service, AI concierge, Google Boost search
Data Access Layer (DAL)	Centralized CRUD for users, resources, bookings, waitlist
Models	Users, Resources, Bookings, Reviews, Messages, Waitlist, Notifications, Site Pages
Database	SQLite (app.db) + lightweight migrations
Security	Flask-Login, bcrypt hashing, CSRF protection, Talisman headers
Testing	Pytest suite, Auth flow tests, DAL CRUD tests, Booking logic & conflict detection tests, Security tests

BOOK A RESOURCE

1. Open a Resource Page

- Browse listings or search by category/location/availability
- View images, details, capacity, and available time slots

2. Select a Day & Time

- Use the booking calendar / slot picker
- System checks availability and resource capacity

3. Booking Behavior Based on Access Type

- Public Resource:
 - Booking is auto-approved
- Restricted Resource:
 - Booking becomes Pending
 - Sent to the Owner (staff/student) or Admin for approval

4. After Approval

- Notification sent to requester
- Booking appears under My Bookings with status (Approved, Pending, etc.)

Waitlist Logic (For Students & Staff)

- If time slot is full, user sees the Join Waitlist button
- Waitlist captures start/end time, purpose, and position
- When a booking is cancelled or rejected by:
 - owner
 - admin
 - user themselves
- The system auto-promotes the next person on the waitlist into a booking
- Promoted user receives a notification
- Users can also rejoin the waitlist if they were previously promoted or removed

Resource Details

Owner	Dr. Emily Rodriguez
Category	Study Room
Location	Luddy Hall, 5th Floor Conference
Capacity	20
Access Type	Restricted

Description

Seats 20 people, 75-inch 4K display, Zoom Rooms setup, wireless screen sharing. For faculty meetings and thesis defenses.

Reviews

0 REVIEWS



No reviews yet. Be the first to book and share feedback!

Complete a booking first. Reviews unlock after you've used the space.

Your message

Ask about availability, policies, or special requests.

Send Message

Book this Resource

Pick a quick slot

Select an available hour to auto-fill the booking form.

Need another date?

11/15/2025

Show slots

Choose any upcoming day to reload the next three days of slots starting from that date.

Saturday, Nov 15

02:00 PM 03:00 PM 04:00 PM 05:00 PM

06:00 PM 07:00 PM 08:00 PM 09:00 PM

Sunday, Nov 16

07:00 AM 08:00 AM 09:00 AM 10:00 AM

11:00 AM 12:00 PM 01:00 PM 02:00 PM

03:00 PM 04:00 PM 05:00 PM 06:00 PM

07:00 PM 08:00 PM 09:00 PM

Monday, Nov 17

07:00 AM 08:00 AM 09:00 AM 10:00 AM

Start Time

mm/dd/yyyy, --:-- --

End Time

mm/dd/yyyy, --:-- --

Purpose

Briefly describe how you'll use this resource

Repeat

Do not repeat 1

Repeats include this booking. Maximum of 10 occurrences.

Submit Booking Request

NEED ADMIN ASSISTANCE?

Need an admin to allocate this resource on your behalf? Submit a quick request and we'll notify you once it's handled.

Request Admin Booking

Book a Resource

Download iCal

My Bookings

Quiet Study Room A

Nov 20, 2025
05:47 PM – 07:47 PM

APPROVED

Cancel Booking

Quiet Study Room A

Nov 20, 2025
03:47 PM – 05:47 PM

APPROVED

Cancel Booking

Collaborative Study Space

Nov 18, 2025
05:47 PM – 07:47 PM

APPROVED

Cancel Booking

Data Science Peer Tutoring

Nov 17, 2025
01:47 PM – 03:47 PM

APPROVED

Cancel Booking

PUBLISH A RESOURCE

The screenshot displays three main sections of the Hoosier Hub application:

- Add Resource:** This page allows students to create basic community resources. It includes fields for Title (e.g., Quiet Study Room A), Location (Building, Room), Category (Study Group), Capacity (4), and Available Slots (4). A note indicates that students can only create basic community resources, while staff will review and publish them.
- My Resources:** This page lists resources owned by the user. It shows three entries: SAP Lab (Room), Conference Room with Video Setup (Luddy Hall, 5th Floor Conference), and Professional Recording Studio (Franklin Hall, Basement Studio). Each entry includes columns for Status (PUBLISHED), Access (RESTRICTED), Capacity (4, 20, 3), and Created (Nov 15, 2025). Action buttons for viewing bookings and adding resources are also present.
- Bookings for My Resources:** This page tracks who is using the resources. It lists five bookings for the SAP Lab from Nov 15, 2025, 06:00 PM to 07:00 PM. Bookings are categorized by status: APPROVED (4 entries) and REJECTED (1 entry).

How Students Publish Resources

- Students can create resources
- Only allowed to select student-safe categories (study groups, tutoring, etc.)
- All student-created resources are saved as Draft
- Admins receive a “Pending Publish” notification
- Admin reviews the listing → Publishes or sends back for revisions

How Staff Publish Resources

- Staff can create resources in any category (rooms, equipment, labs)
- Staff resources auto-publish
- Shown instantly on the resource list
- Can Edit the resource

ADMIN WORKFLOW

What Admins Can Do

- Publish student draft resources (receive notifications for pending publish)
- Edit or archive any resource + manage downtime blocks
- Manage bookings (approve, reject, cancel, reschedule, or book for a user)
- Manage Users (Deactive and Activate accounts)
- Edit Site Pages (About & Contact)

Admin Inbox

- Handle Owner Approvals for restricted resources
- Handle Book-For-Me Requests

Notification

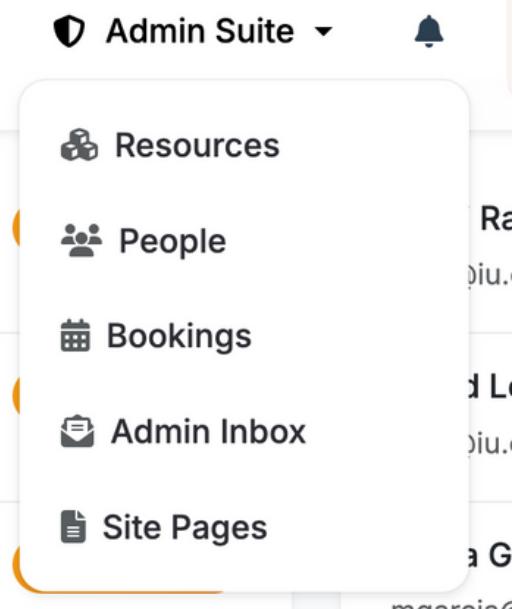
- Receive notification when a Student releases a resources (marked as Draft)

Admin Dashboard (Quick Insights)

- Metrics: Total Users, Total Resources, Total Bookings, Pending Approvals
- Approval SLA status + response time
- Auto Summary Reporter (Top resources in last 7 days)
- Role, department & category usage analytics
- Recent bookings, resources, and users

The Admin Dashboard provides a high-level overview of campus operations. Key metrics include 10 Total Users, 13 Total Resources, 17 Total Bookings, and 0 Pending Approvals. The Approval SLA section shows 0 bookings pending over 24 hours, with a note that all pending requests are within the 24-hour SLA. The Top Resource Utilization table shows SAP Lab Room with 4 hours booked and 0.6% utilization. The Auto Summary Reporter section displays the top resources used in the past 7 days.

This section of the Admin Dashboard offers deeper analysis. It includes a 'Bookings by Role' chart (Staff: 4, Student: 13), a 'Resource Types' chart (Tutoring: 6, Study Room: 6, Lab: 5), and a 'Usage by Department' chart (Data Science: 7, Informatics: 5, Computer Science: 3, Information Systems: 2). Below these are three cards: 'Recent Bookings' (SAP Lab, Dr. Sarah Johnson: APPROVED; SAP Lab, Prof. Michael Chen: APPROVED; SAP Lab: REJECTED), 'Recent Resources' (SAP Lab: RESTRICTED; Conference Room with Video Setup: RESTRICTED; Portable Projector Kit - Pro: RESTRICTED), and 'Recent Users' (Bethi Rasagna, David Lee, Maria Garcia, all marked as STUDENT).



ADVANCED FEATURES & ENHANCEMENTS

1. iCal Export

- Users export all their bookings as .ics
- Works with Google Calendar, Apple Calendar, Outlook

2. Waitlist System (Fully Implemented)

- Auto-joins when capacity is full
- Stores position, purpose, time range
- Auto-promotes when a booking is cancelled or rejected

3. Role-Based Analytics

- Usage by department, role, resource type

4. Advanced Search (Google Boost API)

- Smarter search results

5. Auto-Summary Reporter (Main AI Feature)

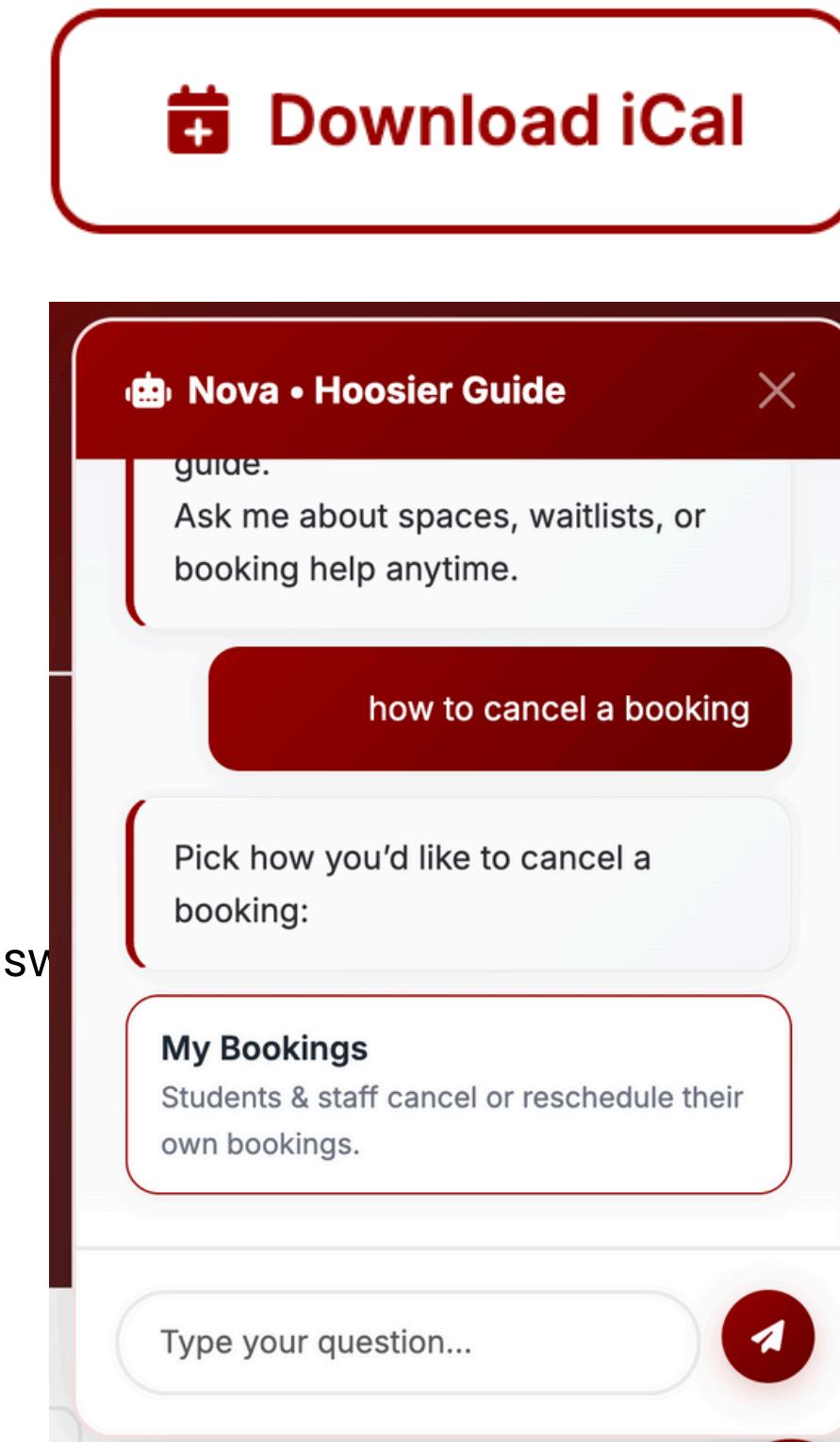
- Weekly insights card on Admin Dashboard

6. AI Concierge (Nova)

- Context-aware assistant powered by Gemini
- Uses /docs/context and real system data for grounded answers
- Helps users find pages

Extra Enhancements

- Category restrictions for Student publishers
- Stock image gallery for resources
- Direct messaging embedded near reviews
- Admin Site Pages editor (About / Contact)
- Notification Center with mark-as-read logic



≡ Waitlisted Requests

SAP Lab

Room

⌚ Nov 15, 2025 06:00 PM – 07:00 PM

WAITING · POSITION 2

Added Nov 15, 2025 09:14 PM

Details

Boost with Google Search

Expands matches with related keywords.

Auto Summary Reporter

Top resources in the past 7 days (since Nov 08)

1.	SAP Lab	4 BOOKINGS
2.	Quiet Study Room A	3 BOOKINGS
3.	Collaborative Study Space	3 BOOKINGS
4.	Web Development Workshop	2 BOOKINGS
5.	Data Science Peer Tutoring	2 BOOKINGS

THANK YOU
