What is HUBzero?

HUBzero is an open source software platform for building powerful science gateways that host analytical tools, publish data, share resources, collaborate and build communities in a single web-based ecosystem.

A hub is a place for your community to:
- Connect with new audiences
- Measure their impact
- Sustain their research
Move to San Diego Supercomputer Center

- HUBzero legally transferred in 2019
- Levering SDSC DevOps Resources
- New collaboration opportunities
HUBzero Architecture

HUBzero Platform

- Front End
  Linux, Apache, MySQL, PHP

- Middleware libraries

- Deploy tools
  & Access to HPC resources

- Contained inside your
  web browser
Web Feature Interactions

Collaboration features - Forums, Collections, Content Pages, Login
- Web code (PHP, Apache, HTML, JS)
- Database Tables and Records
- External Authenticator Services

Uploading Files - In Resources, Publications, Courses, Forums
- Database Tables and Records
- Hard Disk Usage (watch for large files)
- User Quotas for Home Directory Filesystem
Tool Execution Process
Tool Termination Process
Expanded Horizons

Docker

Ogre $\rightarrow$ Ansible

BOINC
HUBzero Features

HUBzero provides a variety of components ready to be deployed on your hub in a matter of seconds.

- Applications
- Communities
- Publications
Running Applications

Every instance of HUBzero has the ability for online applications, otherwise known as Tools, to be hosted on your hub.

- Linux
- Jupyter Notebooks
- RStudio
- R Shiny Apps
- Standalone Web Apps
Collaborate with your Community

Communities provide space for your research teams and collaborators to discuss data concepts, track progress and share files by using the services you already know, such as Google Drive, GitHub or Dropbox.

- Groups
- Projects
- Wiki
- Collections
MyGeoHub

https://mygeohub.org/
Publishing on a hub

HUBzero offers several ways to publish information with a step-by-step guided system that walks you through publishing research products, including datasets, tools and whitepapers.

- Minted DOI (Digital Object Identifier)
- License
- Peer review by designated curators

Use-case

Purdue University Research Repository
Purdue University Research Repository

https://purr.purdue.edu/
Other Disciplines Served by HUBzero

Community of math and biology educators who share resources and methods for preparing students to use quantitative approaches to tackle real, complex, biological problems.

Social media data, analytics, and visualization tools accessible to researchers and students at all levels of experience.

Collection of projects focused on transforming education to improve learning and retention in Science, Technology, Engineering, and Mathematics (STEM) and STEM–related disciplines.
Other Disciplines Served by HUBzero

Intercultural competence, multiculturalism, diversity and inclusion, social justice, international education, and study abroad.

Human-Animal Bond research and collaboration providing online library of resources and preservation of human-animal interaction research

Healthcare professional communities focused on improving healthcare delivery and patient safety
Integrations & Collaborations

- InCommon
- facebook
- scistarter
- twitter
- GitHub
- Google+
- PRESSFORWARD
- ORCID
- iRODS
- GitLab
- Solr
- Dropbox
Services

Users will expect your hub to be up and running, 24x7. Meeting that challenge requires a dedicated IT team. Instead of hiring dedicated staff, smaller projects can outsource their hub operations to a hosting service.

- No Hassle Hosting
- Open Source
Want to Know More?

HUBzero website: hubzero.org

HUBzero Documentation: https://help.hubzero.org/documentation

Email: info@hubzero.org
Thank you to our community
Thank you