CropHub: The Computational Interface to the World

CropHub Components

- Research Platform
- Education Platform
- Outreach Platform
- Broadening Participation Platform

CropHub is built using Purdue's HubZero technology, that enables fast startup. CropHub is patterned after our SoilHub (`www.soihub.org`)

CropHub Interfaces

CropHub initially interfaces to a number of existing resources

- SafeProduceIN (`http://www.SafeProduceIN.com`) for outreach to stakeholders in the food, agriculture, and policy space
- CSoI Hub (`http://www.soihub.org`) for broader CS engagement
- Purdue Education Store (`https://edustore.purdue.edu`) for online services for instruction
- Wabash Heartland Innovation Network (`http://whin.org`) for field management, weather, and produce data

CropHub Resources

- In addition to data resources, CropHub will provide services for education and research.
- CropHub will be backed by a storage and compute cluster that will allow it to run research software services, as well as educational software
- CropHub will provide public, as well as private clouds for proprietary data and services
- All services will be contrainerized for remote instantiation. CropHub will also allow mirror sites to run compute-heavy services

Data and Licenses

- We will release all software developed as part of the project over the public domain in open source form using a GNU LPL license.
- We will provide education and basic research services free of cost.
- We will support companies by providing them a commercial service, the revenue from which will be used to buy hardware and pay support staff for specialized services.
- All data generated from this project will be made available over the public domain.
- Data from third party sources will be released in a manner consistent with the licensing requirements of the original source (and when required, with suitable anonymization).

Data and Sources

The proposed project will leverage a number of datasets, including:

- SafeProduceIn: Data on agricultural practices in Indiana
- Feed the Future Innovation Lab in Food Safety: Food safety practices in developing countries
- Wabash Hearland Innovation Network: Data on field management, marketing, yield
- OAT/ Trellis Project: Data on food processing, supply chains, and safety practices