Phoenix Web: Presenting Relevant Lab Data and Receiving Feedback From Outside Sources

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Phoenix Web

A web application that allows investigators secure and indirect access to portions of CIDR's Phoenix Laboratory Information Management System (LIMS). The Phoenix software, which Phoenix Web extends, was designed and built at CIDR to organize project data, and orchestrate and track the flow of a project's samples as they move through CIDR's labs. Phoenix Web was designed to securely expose two sections of Phoenix: problem handling and principal investigator file handling. For example, investigators can review project problems and respond to problems from their web browser.

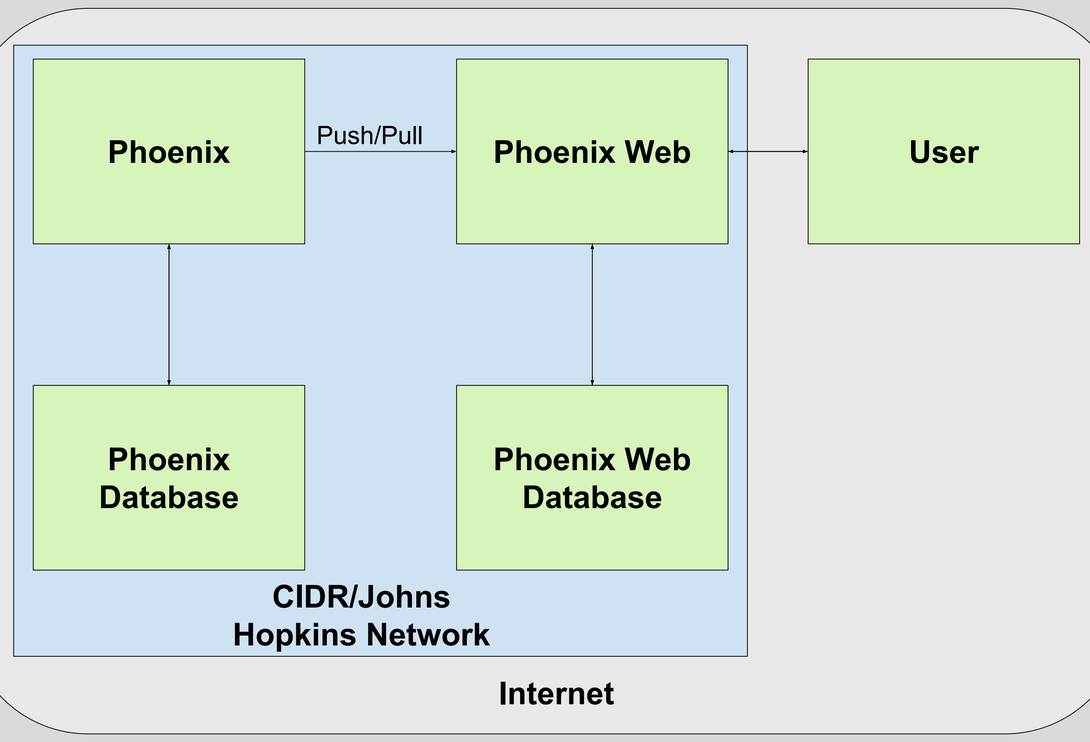
Technology

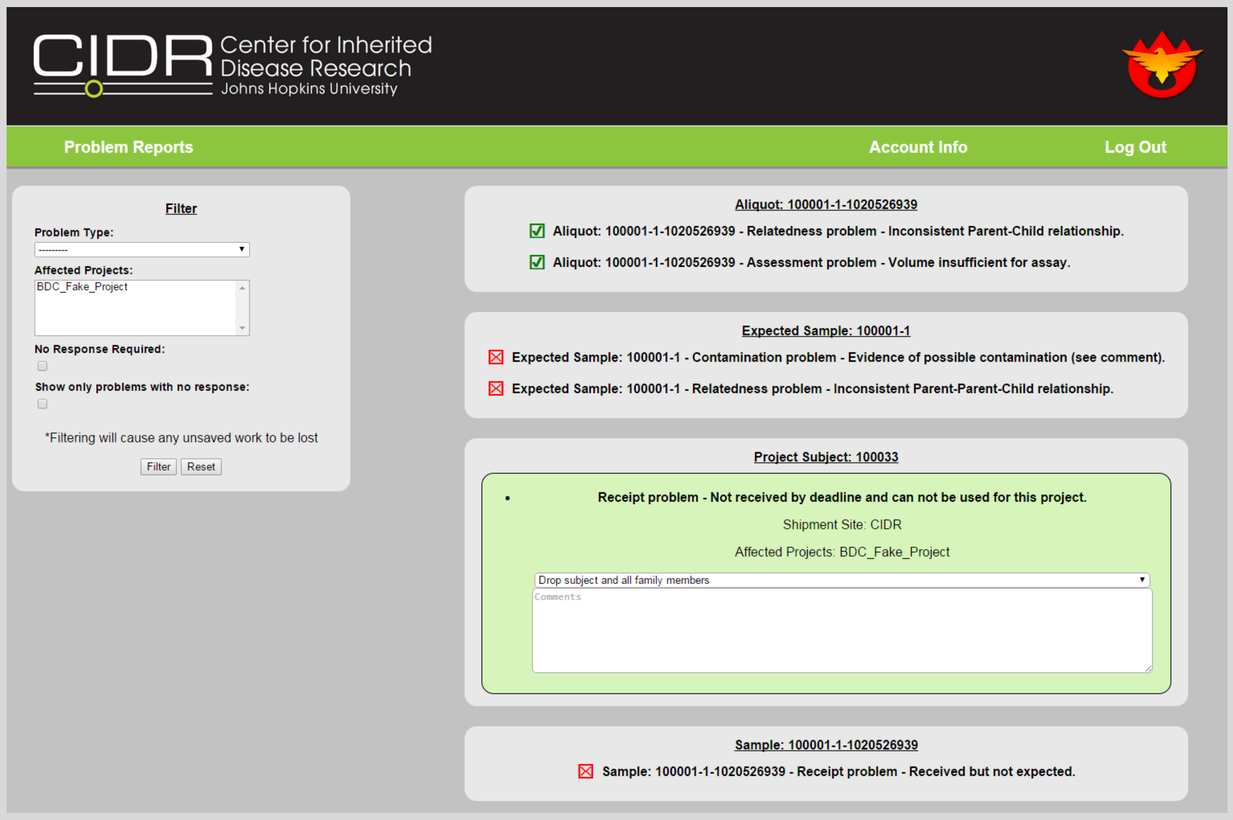
Phoenix Web is made up of a Python/Django/MySQL backend coupled to a HTML/CSS/Javascript frontend

- Django is a secure Python web framework that includes a variety of tools for web development including a database access library and HTML templating
- JSON - a language independent data format for packaging data
- MySQL - a database backend
- HTTPS/SSL - a secure web data transport protocol
- RESTFUL API - Phoenix pushes and pulls from data to Phoenix Web via JSON over HTTPS/SSL

Why a Web Application?

- Two significant portions of Phoenix, Principal Investigator File Handling (PIFH) and Problem Handling, require external data from project investigators
- Email attachments and spreadsheets are commonly used to provide external data to Phoenix, but can introduce hard-to-detect errors and inconsistent results across PIs
- Due to ubiquitous acceptance of the world wide web in daily life, a web application provides a modern and familiar portal to investigators
- Allows an investigator to view relevant project information in multiple ways
- Instant feedback





Conclusion

Phoenix Web allows investigators to view and respond to problems associated with their project. Responses are then instantly available to CIDR for problem resolution. Furthermore, internal testing has shown web-based problem handling to be less error prone and more user friendly than email exchange of spreadsheets.

Future Enhancements

- Allow uploading and validation of PI provided project files
- Provide overall status updates on projects
- Alert PIs via automated emails when new problems and/or project status updates become available
- Continue testing with selected PIs to gain feedback on visual choices and ease of use

Center for Inherited Disease Research
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The Center for Inherited Disease Research (CIDR) provides high quality genotyping services and statistical genetics consultation to investigators working to discover genes that contribute to disease.

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