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## Key Features & Takeaways

1. Automatic cloud storage on CyVerse
2. Bilateral communication w/ HTPs via Slack
3. Express.js API on Raspberry Pi (PiAPI)
4. MERN stack web app for experiment submission, administration, & logging
5. Highly customizable interface & behaviors
6. Scales to many geographically distributed HTPs

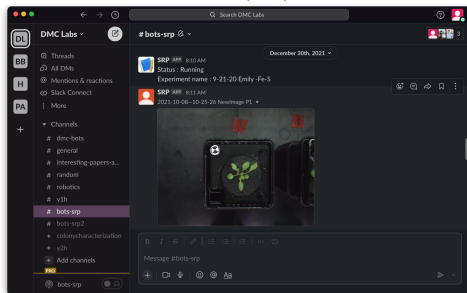
## Background

**Why?** Needed innovative, open source approach to improve our HTP infrastructure.

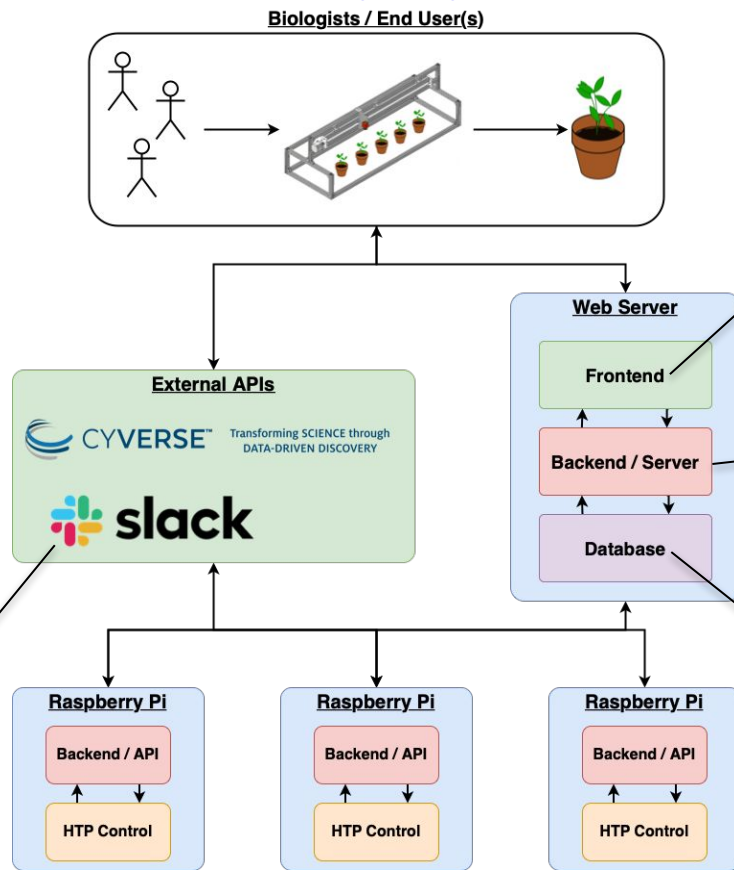
**What?** Goal was to use the Internet to introduce solutions for data storage, communication, etc.

**How?** Turn HTPs into web apps! Use CyVerse and Slack to address data and communication issues, respectively. Create PiAPI for other features that don't have premed solution already, such as experiment submissions.

## Slack (# 2)



## Architecture of the Internet of High-Throughput Phenotypers (IoHTP)



## Web App Flowchart (#'s 3 & 4)

```
ubuntu@ubuntu:~/srv/api$ node server.js
Server is running on port: 5000
/experiment/start endpoint hit.
{ machine: 'SRP',
  experimentName: 'MIZ!',
  positions: '8',
  frequency: '2.5',
  endDate: '02/22/2022',
  confirmation: true }
```

