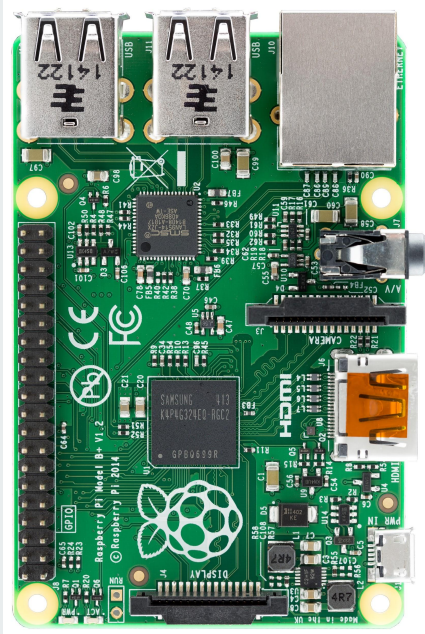# Team: ASPC Root

Members

Ayden Martin

David Cowles

Logan Crowe

Trevor Hamilton

Detailed Project Summary:

- Setup prototype server to act as intermediary between sensors placed on spring manufacture workstations and the cloud ERP system PLEX.
- Keep track of scrap material consumed in workstation setup and updates material inventory in PLEX.
- Pull part and job data updates from PLEX and send it to the appropriate workstation in order to keep the sensors informed of the state of their machines and allow them to display information to operators.
- Coordinate sensor displays in order to ensure that completion status and production rate reflects the work being completed by other machines working on the same job.
- Store data in order to keep operations running smoothly in the case of a wifi outage and loss of access to PLEX

Problems encountered
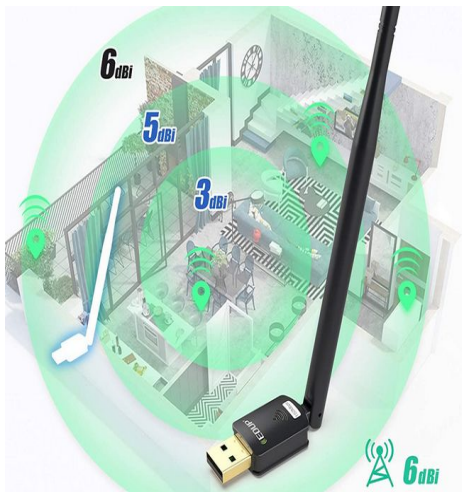
We ran into some of our most significant issues this sprint, which was to be expected because this is the first time we had access to PLEX and could study the data we were supposed to be working with. Being forced to flesh out our plans this late has caused issues as well.

- Discovered that main client goals weren't possible
- Discovered that client had been giving different and sometimes contradictory directions to different people at different times
- Had to reconcile multiple visions of the project in order to come up with a cohesive and coherent plan for a functional product.
- Given these issues, some of our previous work is now unnecessary and had to be discarded

Intended vs Actual progress: David

Intended Progress

- Test PLEX API
- Explore the data available in PLEX in order to design a plan for integrating the API calls with DB queries and communication with leaf nodes.
- Work with Branch&Leaf and Root teams in order to come up with detailed plans for communication scheduling, delineation of calculation tasks, and entry of data into the system. This involved some project redesign due to PLEX limitations

Actual Progress

- All of these tasks were more or less completed

Intended vs. Actual Progress: Trevor
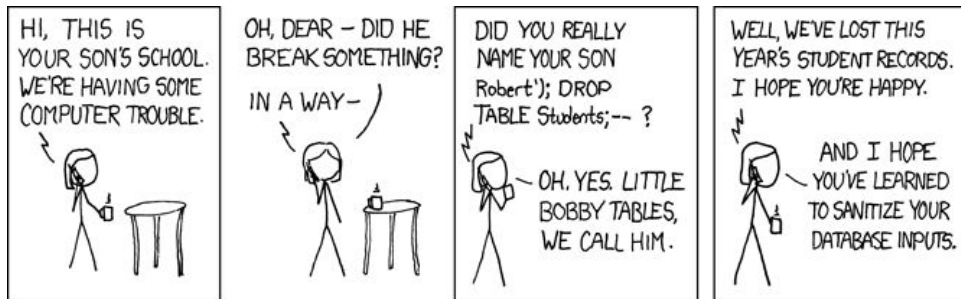
Source: xkcd.com

Intended Progress

- Safeguard against malicious SQL injection using DB-API's parameter substitution
- Add a method that returns true or false if an id exists in the database
- Modify database structure according to data received from Plex and the needs of the branch and leaf team

Actual Progress

- Finished all goals for this sprint, though more modifications might be needed in the future

Intended vs. Actual: Logan

Intended:

- Test functionality of code with PLEX online server
- Test viability of Raspberry PI router and internal VLAN setup
- Test communication and functionality with Branch and Leaf

Actual:

Completed first two and planned in-person meeting with Branch and Leaf for Saturday April 10th
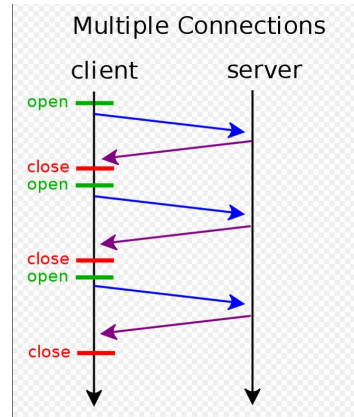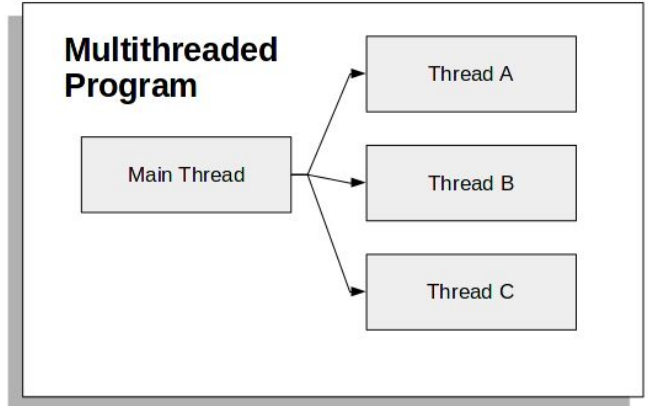
Intended vs Actual: Ayden

Intended Progress

- Multithreaded server
- Test multiple connection support
- Send json/python dictionaries

Actual Progress

- Finished all goals for this sprint

Multithreaded Program
Main Thread → Thread A
Main Thread → Thread B
Main Thread → Thread C

Multiple Connections
client   server
open
close
open
close
open
close

Burndown report

☐ Weekends — Ideal — Completed

Story Points		**100%**

Completed	Remaining	Total
17	0	17

Issues and Pull Requests		**100%**

Completed	Remaining	Total
14	0	14

Sprint 5 Projected Progress

- Set up VLAN and fully build and test communication process with Branch Leaf
- Integrate communication process with DB and PLEX to form a functional server
  - Needs to handle sensor setup
  - Needs to handle job setup for existing sensors
  - Needs to continuously receive updates from sensors and relay them to other sensors
  - Needs to forward setup scrap data to plex
  - Figure out a way to dynamically assign leaf nodes a static ip address

-

Questions?