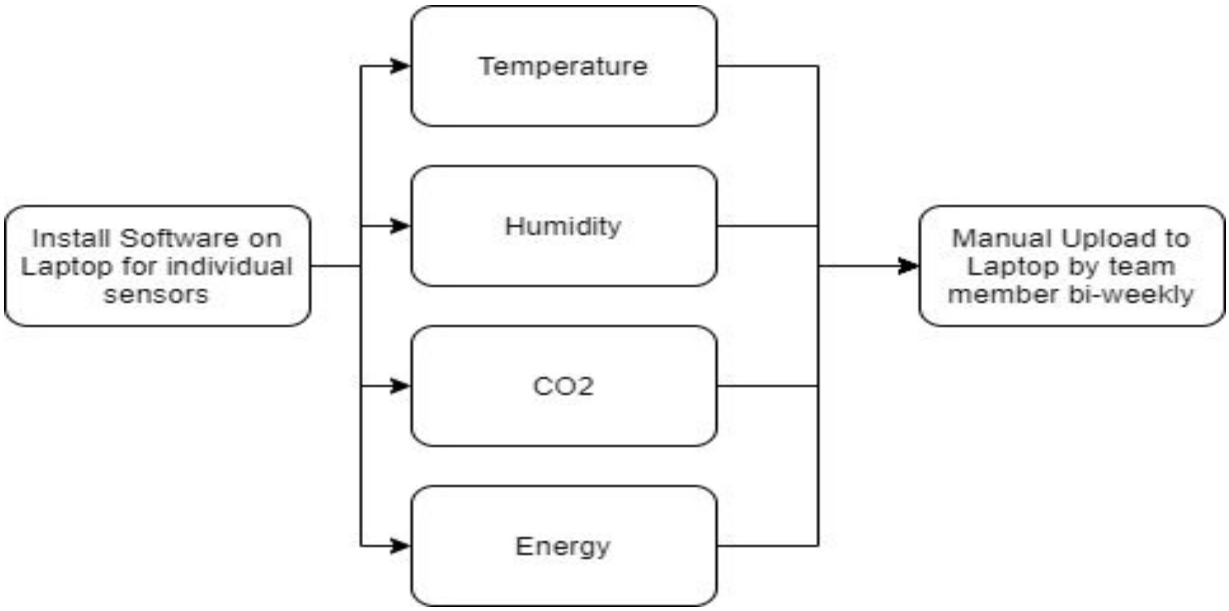
Zadrian Huang

Function: Record Data from Environment
Alternatives that can be considered…

(1,2,3,4) Different configurations for each piece of equipment used in a data collection plan.

Steps: Install software on laptop for each sensor, then have a team member manually upload the data bi-weekly from each piece of equipment into excel sheet.
Ex. Temperature Sensor, CO2 Sensor, Humidity Sensor, Solar Energy Sensors



(5) Constant automated upload via internet connected Rasberry Pi to the cloud server at RIT.

(6) Excel Power Query and SQL Query, draws from the existing data tables inside our Shed computer via the internet anytime that a report needs to be made. (Requires shed computer to be manually updated with new data)

(7) Have a team member visit shed bi-weekly and use pen and paper to record sensor readings, then transfer data to Excel sheet.

(8) Set up an outdoor surveillance camera pointing at the sensor readings, then record from a remote location by looking at the live footage.

(9) Don't collect the raw data, instead build a program to make generalizations of the environment over time from each sensor and have that sent as a formatted report to the team.

(10) Don’t collect data from the environment. (Too much time and effort)

Function: Maintain Fly Rearing
Includes many options via industry standard techniques/technologies

(1) Simulate the breeding environment within the shed by using Sarah’s current methods of fly rearing

(2) BSF Bullet Technology
https://www.feednavigator.com/Article/2019/08/29/Black-soldier-fly-tech-aims-to-simplify-specialize-production

(3) Have a supplier bring in the ready to use larvae every week

(4) Nasekomo technologies, roboticized fly rearing
https://www.foodandfarmingtechnology.com/news/animal-feed/insect-rearing-technology-for-animal-feed-receives-e4-million-boost.html

(5) Insect.Systems monitoring and rearing technologies
https://www.insect.systems/

(6) Buhler Insect Technology
https://www.buhlergroup.com/content/buhlergroup/global/en/industries/insect-technology.html

(7) Evo Conversion Systems
https://www.evoconsys.com/consortium.html

(8) Bring rearing technologies into an RIT building for maintained environment

(9) Automated machine rearing system, cycles every 2 weeks for life cycle of BSF.

(10) Have no human input in rearing, allow flies to take a natural course of breeding.