

Community Driven Urban Agriculture

Team 8: Adrian Barrera, Brandon Buck, Kevin Crowe, and Yutthachat Thao

Project Green Wall

CPE 190/EEE 193 Spring 2019

College of Engineering and Computer Science



PROBLEM STATEMENT

Urban farming is a solution to deal with environmental and nutritional problems in cities; we aim to make it more accessible to the average citizen.

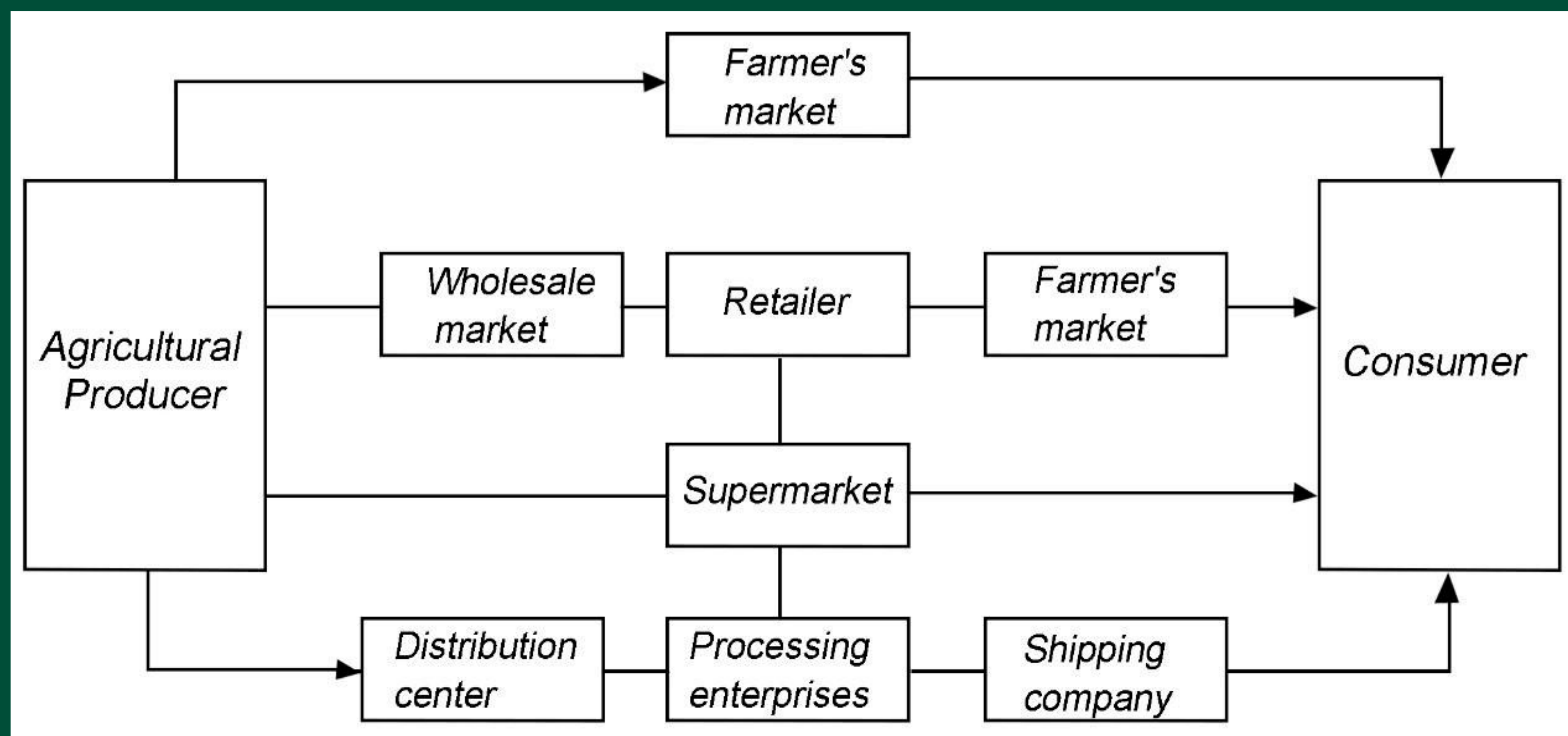


Figure 1: Agricultural producer to consumer cycle

BACKGROUND

The demand for fresh, safe, and high-quality food is rising. That's why many are turning to locally grown food. Locally grown food does not have to go through many distributors and resellers to get to the consumer as shown in Figure 1. As a result of this change, they do not need preservatives or lose nutrients from transportation. However, as the urban population increases, the lack of space in urban areas means that there will not be enough land to meet the demand. Therefore, we created a design that will efficiently use space and produce food for a community.

SUMMARY OF WORK

In this semester, we finished building our deployable prototype (Figure 2). It is able to grow 12 plants and requires little user interaction. We have setup a database for sending and receiving system information, such as sensor data, to the user in real time; each unique user only has access to their own system data. We have tied in Google Analytics to analyze traffic in our database. Figure 3 shows hardware that we used to collect the environmental data.



Figure 2: Final Deployable Prototype

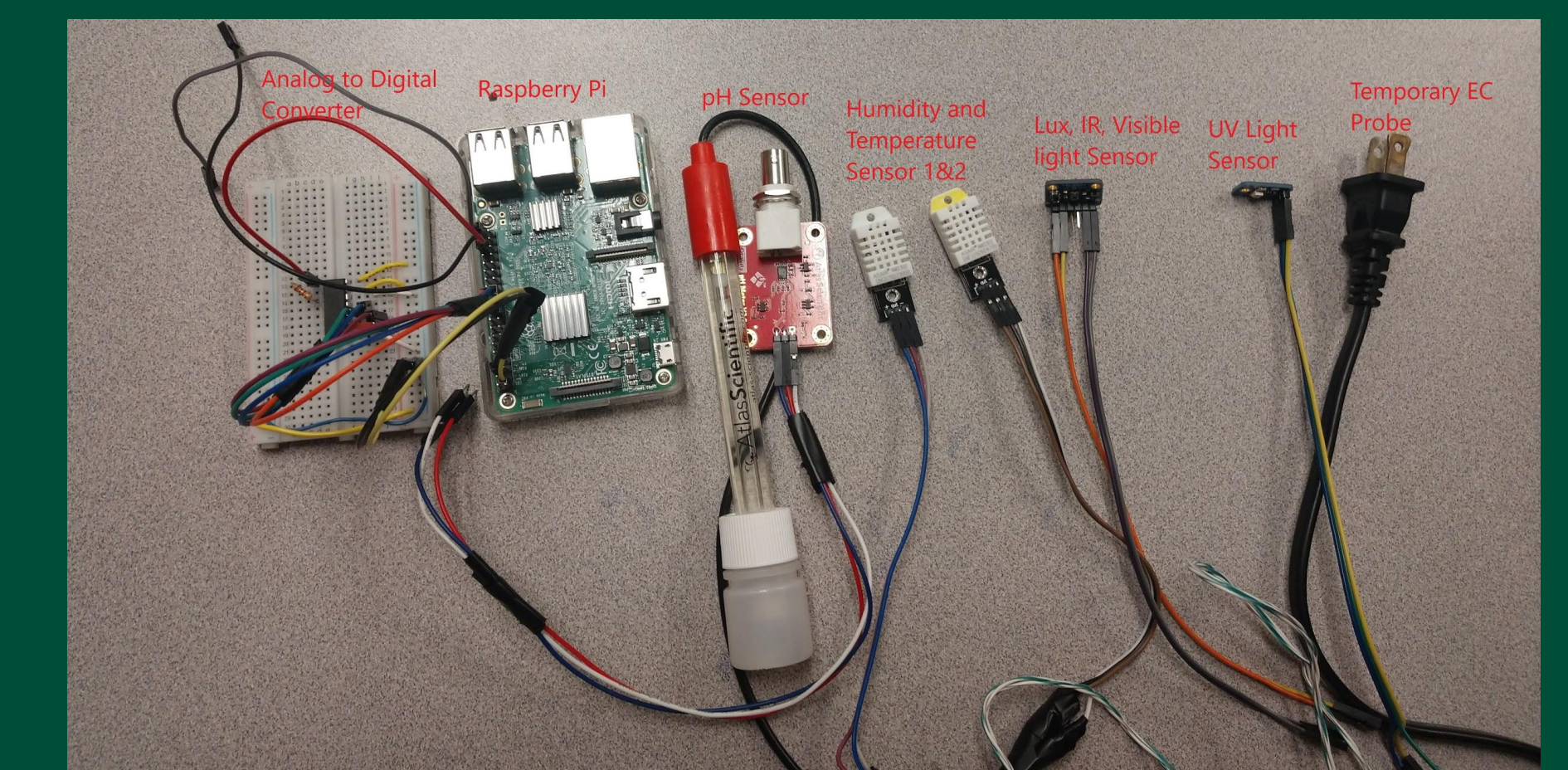


Figure 3: Hardware and Sensors

IMPACT ON COMMUNITY

Through the adoption of our system, we aim to impact the constituents of a community in the following ways:

- Users more aware of origin of produce
- Lower barrier to entry to urban farming
- Healthier community overall
- Lessen dependence on traditional consumer cycle
- Facilitate interaction between members of a community