

# plantSTEM

The Gardener's Apprentice

# ABOUT OUR TEAM

## People Behind our Company

1

**Lindsey Yu**  
Pingry School, NJ  
Programmer, CADER

2

**Hally Bello**  
North Shore HS, NY  
Website Designer

3

**HK Song**  
Stuyvesant High School, NY  
Algorithm Developer

4

**Kyle Chu**  
The Dalton School, NY  
Programmer, CADER



# Gardening is Inefficient...

Often, the average person does not possess the full expertise or knowledge to plan an efficient and cost-effective garden.

Help inexperienced gardeners save time and money

Possibility to design a “dream garden” that actually thrives

Promotes local farms, plant nurseries, and gardening services

Taps into the natural “abilities” of plants and utilizes companion planting



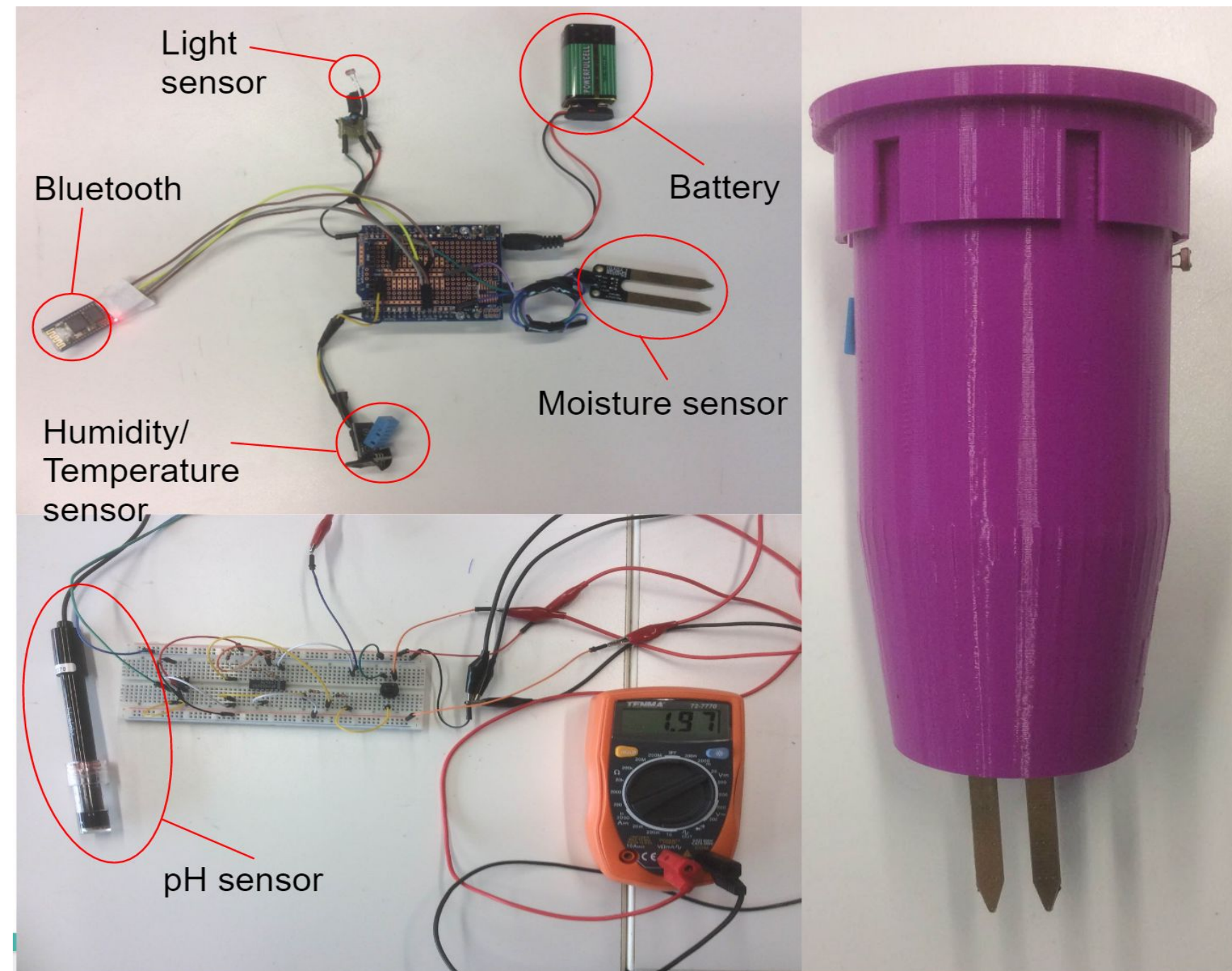
plantSTEM:

# Solving Issues of Malnourishment

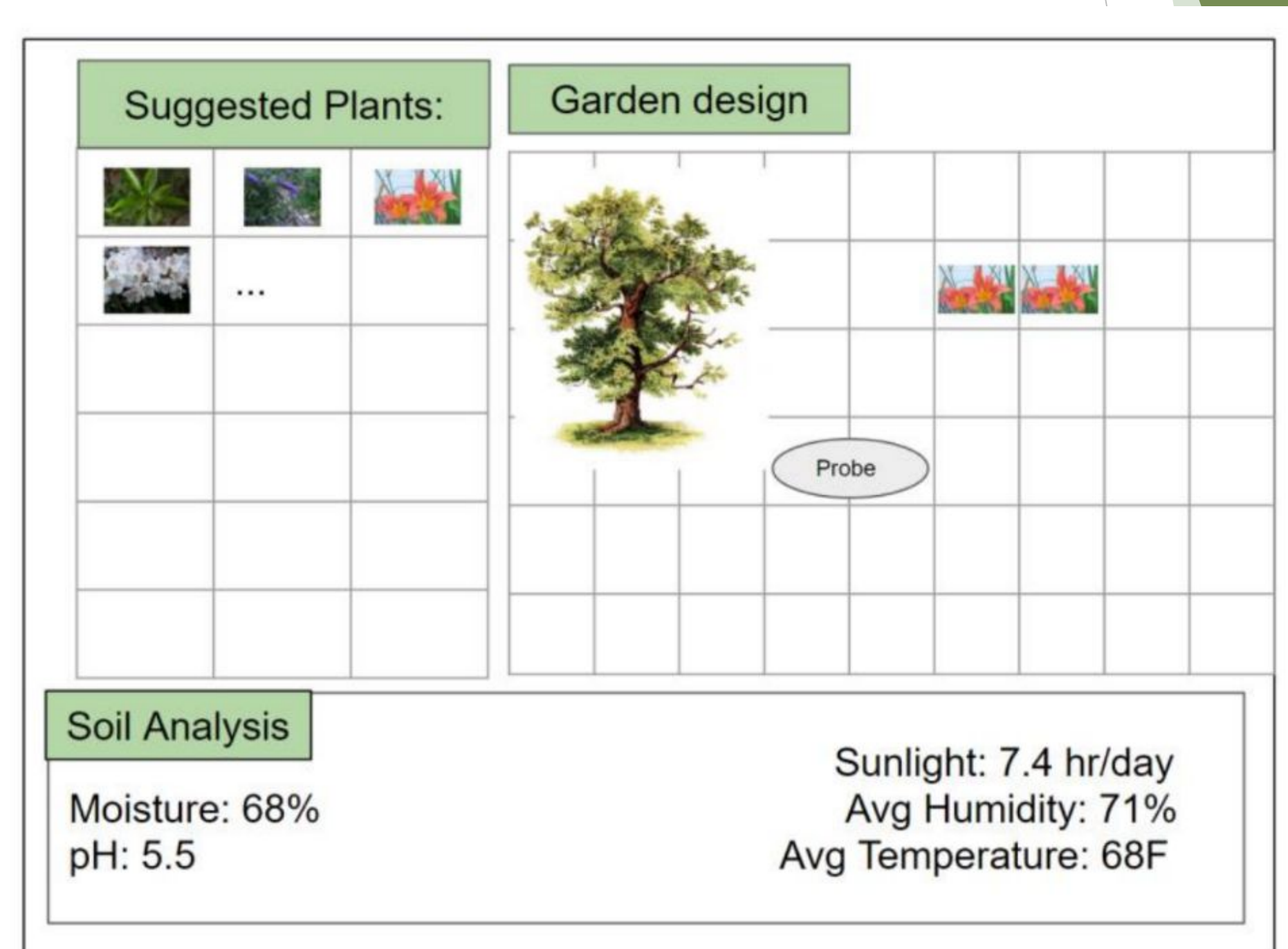
Due to the growing availability of fast food chains and food insecurities in households, many communities across the globe are suffering from hunger and malnourishment.



# General Design:



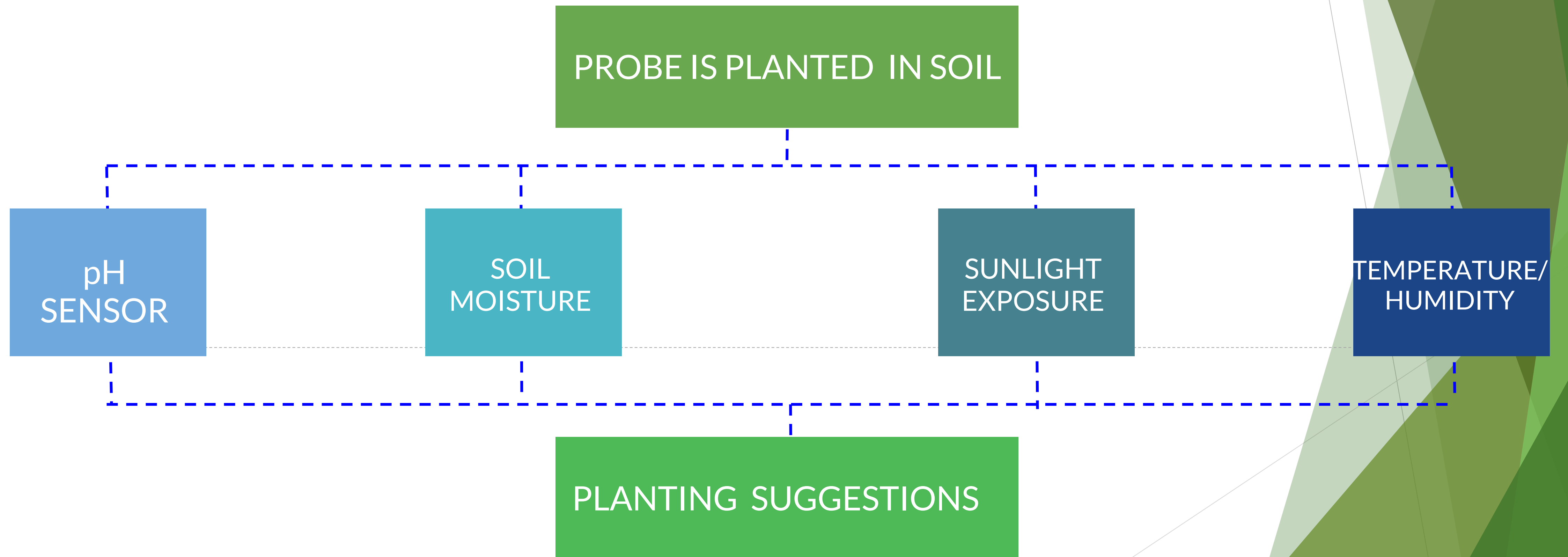
Probe Prototype



Design Software

# plantSTEM: How the Probe Works

.The probe software determines what types of plants are most likely to survive in the user's conditions.



plantSTEM:  
Software Model

GARDENING  
SOFTWARE

VIRTUAL DESIGN

- Virtual representation of the user's garden
- Meets user's superficial or visual needs

COMPANION PLANTING  
AND ABILITIES

- Scientifically proven to grow better / worse when next to each other
- Possess Special "abilities" - (ex. repellent, attraction)

SUGGESTIONS FOR  
PURCHASE

- Suggests where to buy materials
- Suggests local plant services

# plantSTEM: Sample Code Output

```
Plant Recommendations.txt — Edited ✓  
Recommended Plants Ranked by Percent Difference from your Soil Conditions:  
(If anything is >100% difference, it is not recommended to plant)  
(Closest to 0% is the Best!)  


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6.14% Pumpkin  
6.68% Summer squash  
9.43% Spinach  
11.28% Broccoli  
11.28% Cauliflower  
11.28% Cabbage  
11.43% Melon  
12.21% Artichoke  
12.99% Corn  
13.02% Tomato  
14.13% Lettuce  
15.41% Hydrangea (Pink)  
16.82% Hibiscus  
17.99% Bell pepper  
18.24% Cucumber  
18.28% Carrot  
22.21% Cranberry  
22.21% Blueberry  
22.51% Tiger lily  
24.37% Hydrangea (Blue)  
30.57% Potato  


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```



plantSTEM:  
**Competitors**

**The BSK Technologies  
Dual Probe**

- pH, moisture levels, and light intensity displayed on probe
- 



**Neewer 3-in-1 Soil  
Tester**

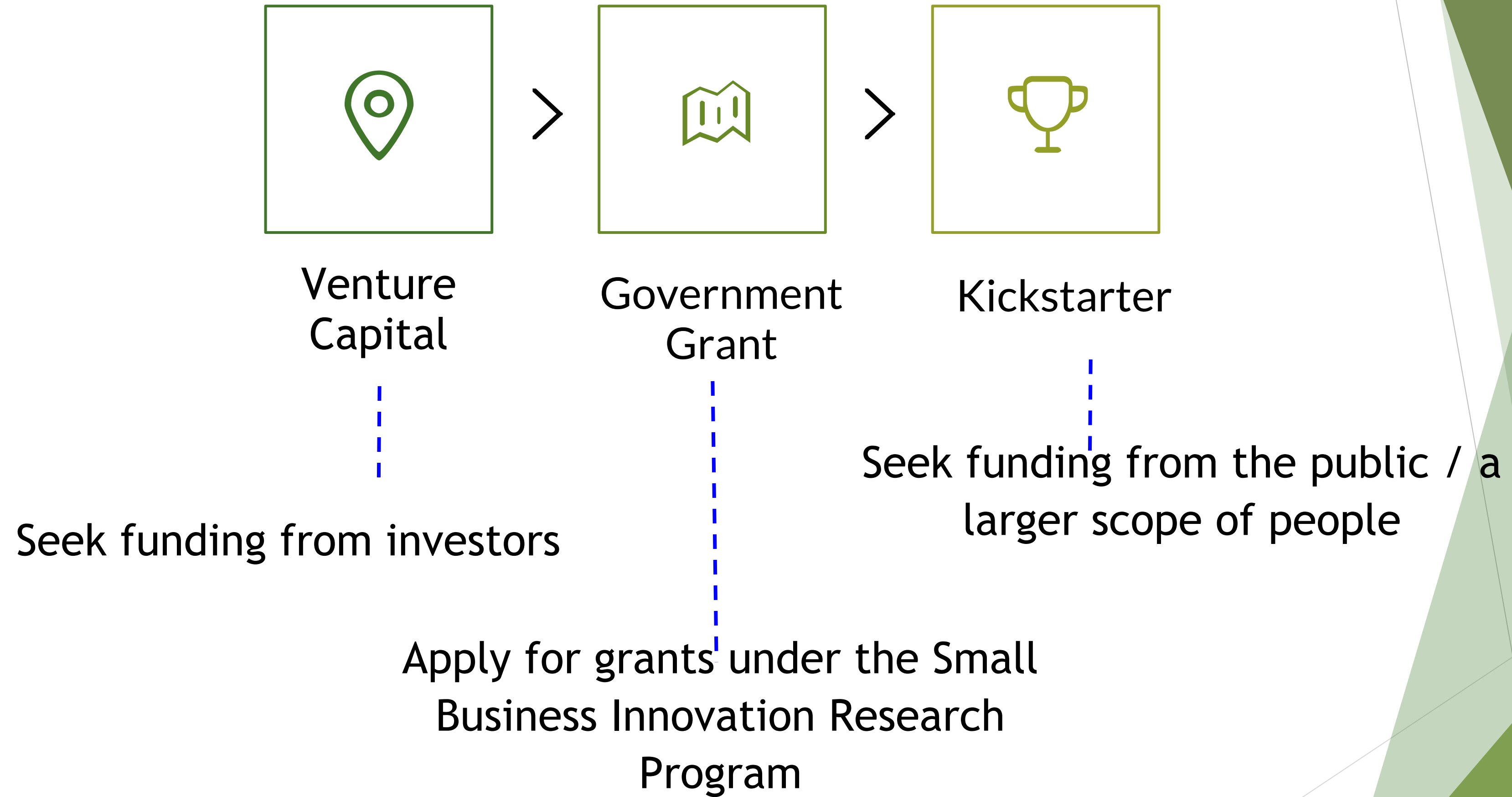
- moisture levels, pH, and light displayed on a screen
- 



**The PÜRAtest 3-in-1  
Soil Meter**

- reads moisture, pH, and light and displays the conditions

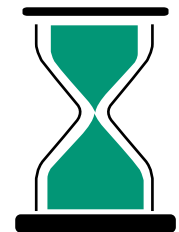
# plantSTEM: Ideas for Next Steps



# plantSTEM Revenue and Cash Flow

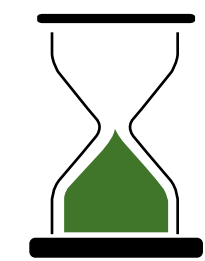


# plantSTEM: Financial Plan



## A Local Business

- \$125 business license
- \$550 annual filing and tax costs
- \$20,000 patent



## Manufacturing

- \$500 per month renting a facility
- Possibly work with a university
- \$1500 apiece 3D printers
- \$50 (current probe budget)



## Human Costs

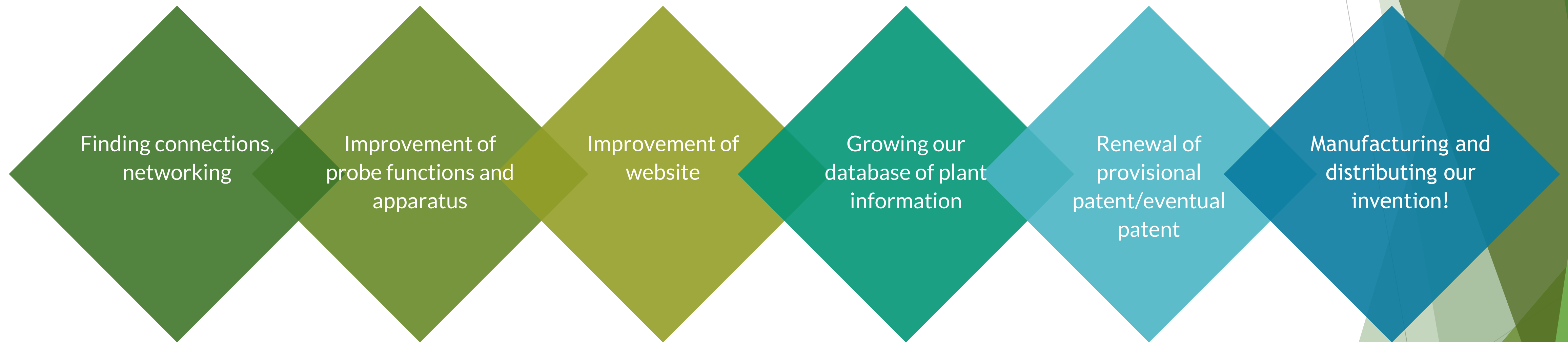
- Researchers, programmers, and manual workers
- Varying salaries



## Operating/Marketing

- \$10 per month online accounting system
- \$500 per advertisement in certain daily newspapers
- Previously purchased domain

plantSTEM:  
Plans for the Future



We believe that plantSTEM can make a huge impact. Help us change the world!

**THE END**

