

# Garde*Net*

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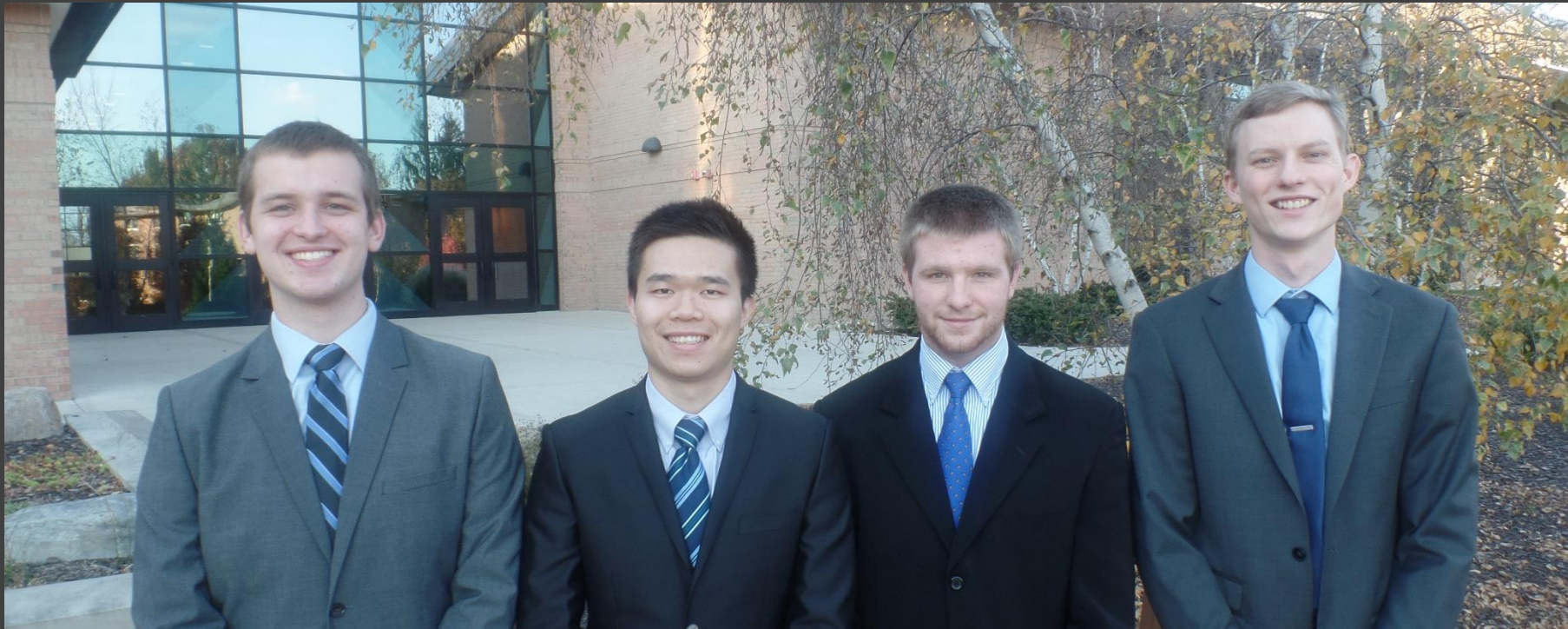
TEAM 16

JOHN CONNELL, ANTHONY JIN, CHARLES KINGSTON, AND KEVIN KREDIT



# The Team

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John Connell | Anthony Jin | Charles Kingston | Kevin Kredit

# The Problem

- ❑ Watering is labor intensive
- ❑ Difficulty getting daily volunteer help
- ❑ Candidate for automation



<http://felixphotography.co/backyard-garden-pictures/>



# Our Solution

- ❑ For home gardens to small industrial gardens
- ❑ Using 3G cell service
- ❑ Specifically for Caledonia Community Garden

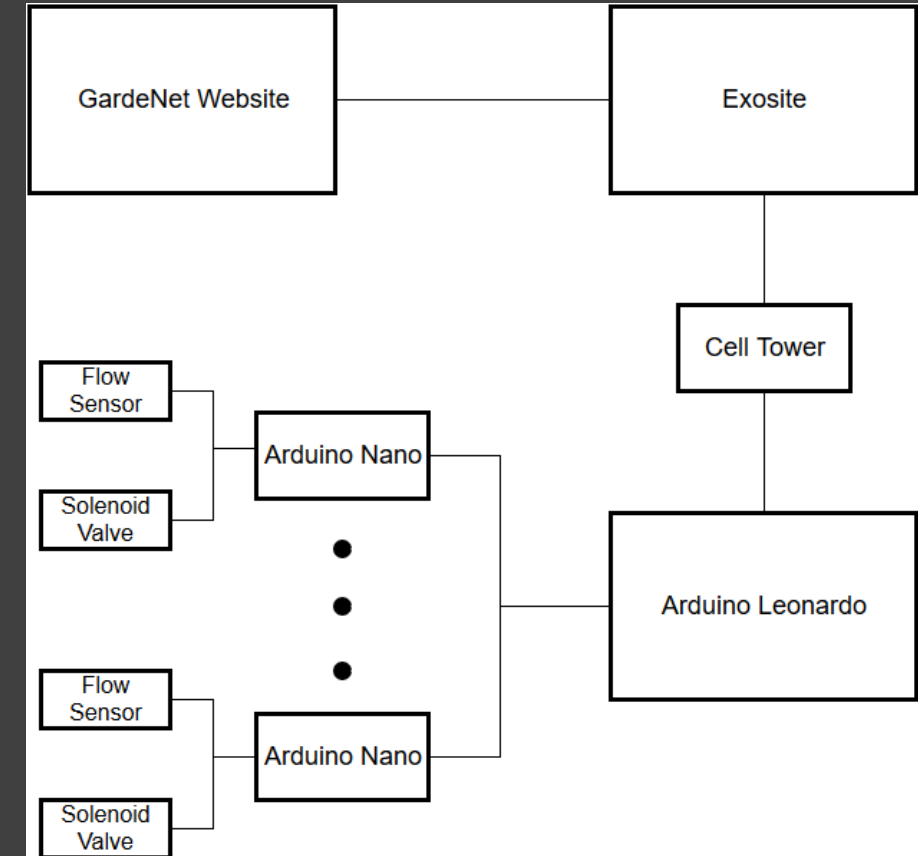
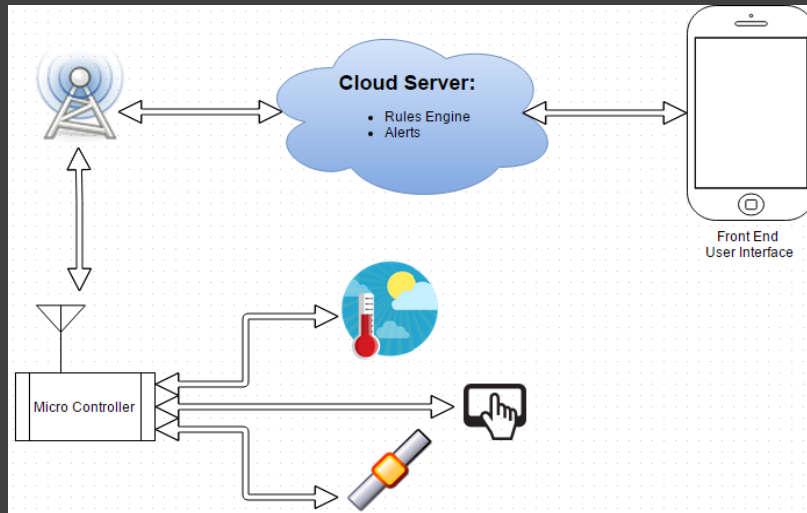


*Caledonia Community Garden*

<https://lintvwotv.files.wordpress.com/2014/06/maranda-caledonia-community-garden.jpg?w=650>

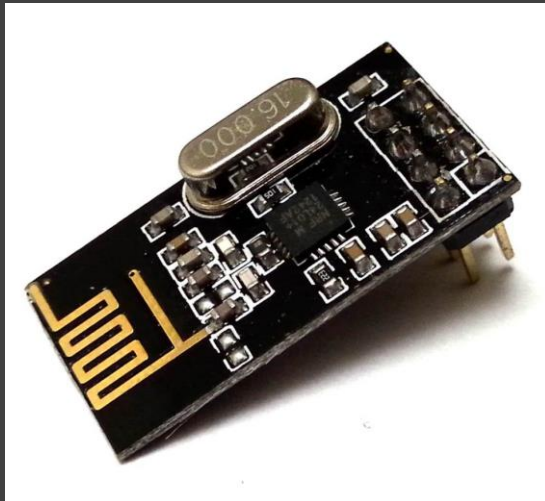
# Scope Changes

- ❑ Because of meeting with Kyle of EDF
- ❑ Add: Wireless communication to valves
- ❑ Remove: LCD interface

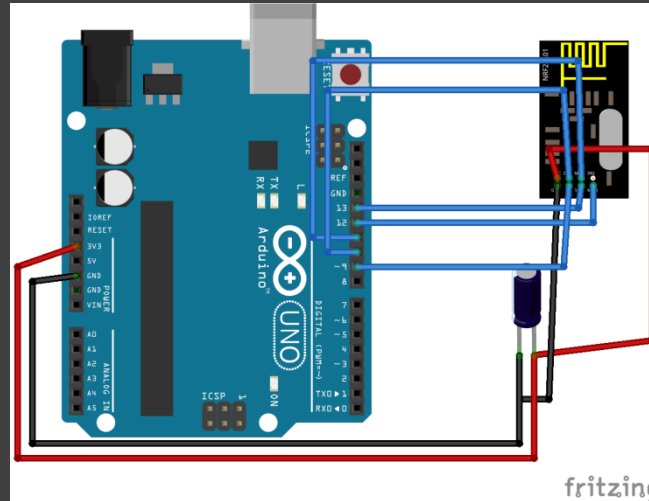


# Communication Scheme

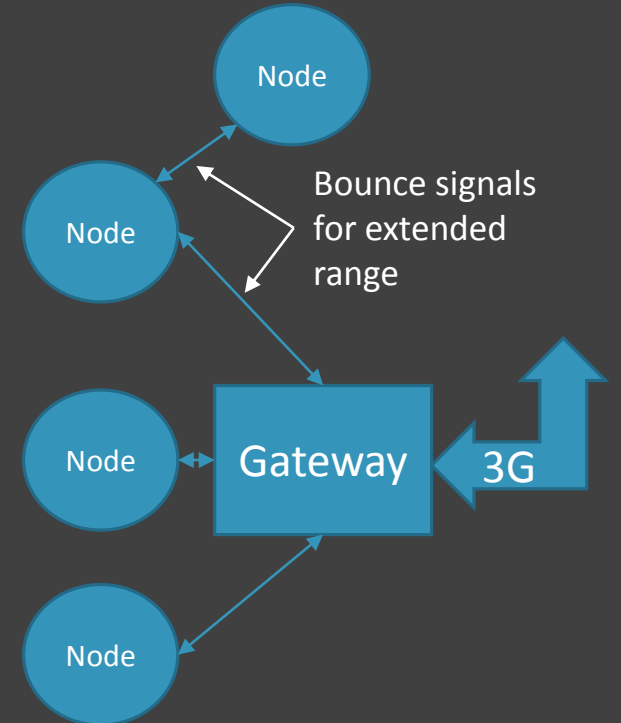
- ❑ Wireless communication done with small radios
- ❑ Simple, very low cost, sufficient range



<http://stm32f4-discovery.com/wp-content/uploads/nrf.jpg>

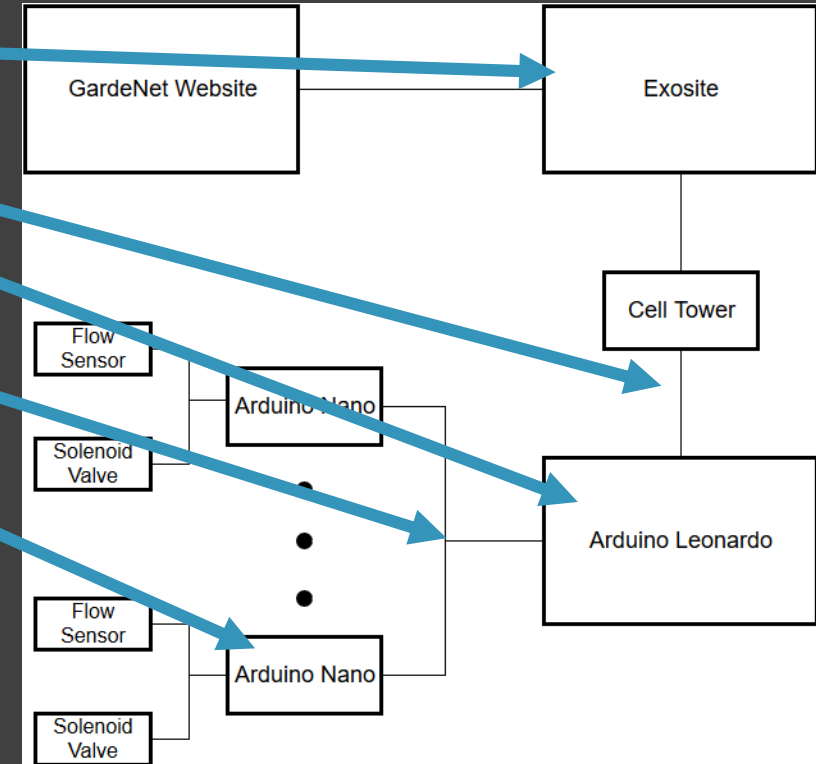


[https://rlogiacco.files.wordpress.com/2014/02/rf2\\_4\\_bb.png](https://rlogiacco.files.wordpress.com/2014/02/rf2_4_bb.png)



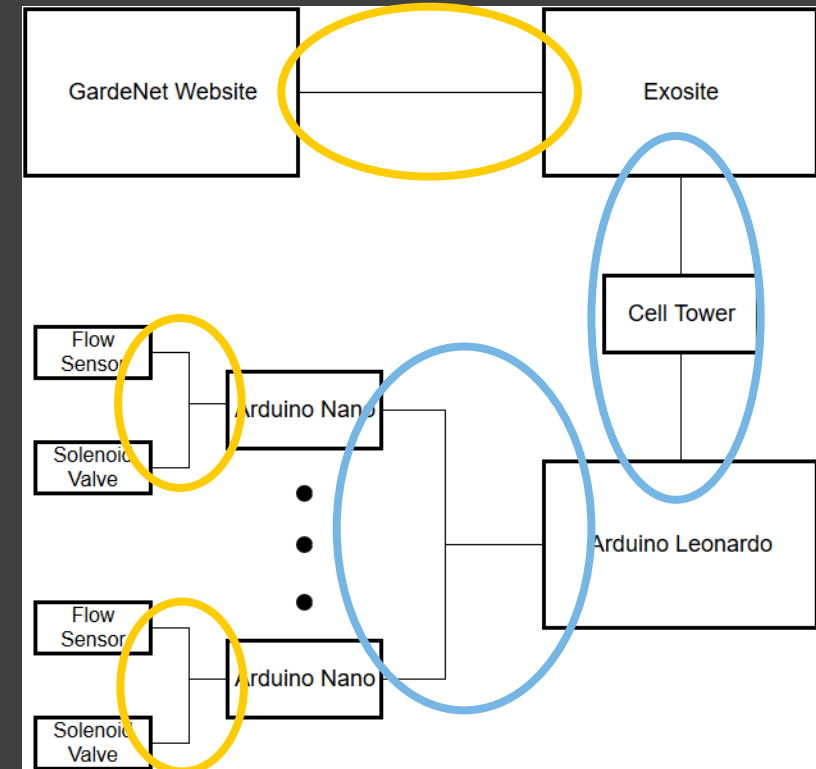
# Component Decisions

- ☐ Cloud server = Exosite
- ☐ 3G modem = NimbleLink
- ☐ Onsite controller = Arduino Leonardo
- ☐ Wireless comm = nRF24L01+ radio
- ☐ Valve controller = Arduino Nano



# Remaining Obstacles

- ❑ Proving that it works
  - ❑ 3G connectivity to Exosite
  - ❑ Networking with the radios
- ❑ Other critical functions
  - ❑ Website-Exosite interface
  - ❑ Valve and flow meters analog control circuits





# Questions?

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The Team

The Project

Scope  
Changes

Decisions

Challenges