

# Automated Aquatic Center

## Team 7



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# Automated Aquatic Center

- Purpose of Product – AAC will be a central information hub and partial regulator for all fresh water home and commercial aquatic tanks.
  - Automatic temperature monitoring and control
  - Automatic feeder system
  - Automatic ambient lighting control
- Market: USA

# Key Requirements

- Cost
  - Sales Price: \$120
  - Component Cost: \$80
  - Assembly/Test Costs: \$10
- Environment
  - Indoor
  - Operating Temp Range: 15°C to 35°C
  - Operating Humidity Range: 0 to 100%
- Power Input(s)
  - Residential AC Power: 102 – 132 VAC @ 5 Amps Max
- Major Functions, Quantities Measured, Displayed
  - *Feeder: Cycle Lengths: 1/4, 1/2, 3/4, 1 set by User*

Sensing				
Sensor	Unit	Accuracy	Range	Update Time
pH	pH	+/- 0.1 pH	1.0 - 14.0	< 5min
Salinity	ppt	+/- 0.004 ppt	1.0 - 1.05 ppt	5 seconds
Temp	C	+/- 1.0	0 - 35	30 seconds
Light	Lux	+/- 10%	0 - 273	10 seconds

Control			
Sensing	Unit	Range	Accuracy
Temp	C	18 - 30	+/- 1.0
Light	Lux	68 - 273	+/- 10%

# Advanced Block Diagram

