**Specifications Draft**

* Input:
  + Desired temperature
  + Accepted variation for temperature
  + Desired humidity
  + Accepted variation for humidity
  + Amount of light per day
  + Maximum desired CO2 levels
* Output:
  + Heat
  + Humidity
  + Light
  + Air flow
  + Readout of current levels on display
* Reliability:
  + Mean time to failure of 2 years
* Maintainability:
  + Must easily be able to access and replace filters for air and humidity.
* Performance:
  + must reliably keep parameters in set range.
* Accessibility:
  + Easily adjust parameters using knobs and buttons
  + read outputs on display
* Environmental conditions:
  + Main chamber must be resistant to:
    - dirt
    - soil
    - plant matter
    - water
* Safety:
  + Electric components must be properly ground and insulated
  + Heating element must be shielded from touch
* Security:
  + Electronic components, heating element, cooling element must not be modified by unauthorized persons.
* Quality provisions:
  + Water must be replaced periodically depending on usage
  + Filters must be replaced 1-2 times per year
* Policy and regulatory:
  + Power supply safety regulations
  + Heating system safety regulations
  + Refrigerant environmental regulations

1. SCOPE
   1. General:

This document describes the design and verification of a desktop-sized environmental monitoring and control system.

1. Applicable documents
   1. Government Documents
      1. Commercial Item Description: Cooling towers, liquid
      2. Commercial Item Description: Disposable Air Filters for Environmental Control Systems
      3. Commercial Item Description: Direct Current (DC) Power Supply
   2. Industry Documents
      1. Power Supply Safety Standards, Agencies, and Marks
      2. Operation and Maintenance Small Heating Systems
2. Stakeholder Requirements: see above
3. Engineering Requirements
   1. Input:
   2. Output:
   3. Reliability:
   4. Maintainability:
   5. Performance:
   6. Accessibility:
   7. Environmental Conditions:
   8. Safety:
   9. Security:
   10. Quality Provisions:
   11. Policy and Regulatory:
4. Verification of Requirements