Requirements Outline

1. Website – Based on existing functionality
   1. Grids
      1. Grid of stations and averages
      2. Grid of individual station’s channels and daily averages
   2. Plots
      1. Plot of stations and averages
      2. Plot of individual station’s channels and daily averages
   3. Pulls data from Java backend (Java will pull from DB)
2. Admin Tool – possible ideas
   1. Metrics
      1. Add new metrics
      2. Disable obsolete metrics
      3. Force metrics to be run for specific time periods (per station/channel?)
   2. Stations
      1. Add new stations
      2. Modify station information (name, location, etc)
      3. Disable obsolete stations
      4. Add new channels
      5. Modify channel information
      6. Disable obsolete channels
   3. Logs
      1. View user activity logs
      2. View scheduling logs (did scheduled tasks run when scheduled and what errors occurred)
      3. View Admin activity
         1. What stations, metrics, channels were added/disabled
         2. Were any metrics ran manually
   4. Editing actual data (Is this worth considering?)
3. Database
   1. Maintains Data
      1. Metrics results
      2. User Activity logs
      3. Admin Activity logs
      4. Metadata
      5. Station info
      6. Channel info
      7. Sensor info
      8. Calibration info
   2. Performance
      1. Will use indexes
      2. Views
   3. Functions and SPs
      1. Metrics
         1. Add Metric
         2. Disable Metric
         3. Insert Metric data?
      2. Stations
         1. Add station
         2. Modify station
         3. Disable station
         4. Channels
            1. Add channel
            2. Modify channel
            3. Disable channel
4. Java
   1. Metrics
      1. One Java class per metric
         1. Will add individual metrics once list is more complete
      2. Timer to run Metrics
      3. Config file to determine which metrics run and when
      4. Individual Metrics
         1. RMS Mass Position
         2. Gaps - Identify gappy data
         3. Availability - Identify lost channel data
         4. Relative Orientation - Identify relative orientation between sensors
         5. Coherence - Identify coherence between instruments
         6. Cross-Correlation - Identify time lag and time domain similarity
         7. Tide Synthetic - Identify ultra long-period gain issues
         8. Deviation from NLNM - Deviation from best global noise
         9. Deviation from Station Model - Deviation from station long-term noise
         10. Event Synthetic - Deviation from event synthetic
         11. Day Since Cal - Length of time between cal
         12. Calibration Fit - Deviation between metadata and response
         13. Particle Motion Azimuth - Identify absolute azimuth
         14. Strong Motion Comparison - Compare signal between broadband and accel.
         15. Clip-Detection - Detect potentially clipped instruments
         16. SNR of Event - Look at quality of event at station
         17. Sensor Compare - Compare noise between sensors
   2. Backend to Website
      1. Pulls data from DB
      2. Sends data to client via website.