Background

- US Department of Energy Solar Decathlon
  - Irvine, California
  - October 8-18, 2015
- Allow Clemson & judges to control house
- Allow visitors to observe real-time stats of the house
- Access control (admin accounts)
Problem to be Solved

We wanted:

- to be nearly finished!
- Multiple ways of viewing data within detailed views
  - being able to view daily statistics and weekly statistic averages
### Home Simulator

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>70.9 deg</td>
</tr>
<tr>
<td>Humidity</td>
<td>52 percent</td>
</tr>
<tr>
<td>CO2 Content</td>
<td>679 ppm</td>
</tr>
<tr>
<td>Water Usage</td>
<td>168 g</td>
</tr>
<tr>
<td>Energy Usage</td>
<td>73 Kwh</td>
</tr>
<tr>
<td>Motion</td>
<td></td>
</tr>
</tbody>
</table>

- Reads current/optimal values
- Writes new current values
- Semi-Intelligent updates
All tiles on the dashboard update every 3 seconds to show live data.

- The detail view of each tile: Temperature, and Humidity will show a chart displaying the 25 and 20 respectively last entries in the database.

You can now select between daily stats and weekly statistics in the temperature view for chatting.
Accomplishments

- Home simulator completed and interacts with database
- Working on devices
To Be Completed

Need to have:
  a. Daily and weekly charts of data
  b. Database errors handled
  c. Manuals updated
  d. Lights working fully

Would like to have:
  a. Sound effects
  b. Enhanced tile visuals (e.g. incorporate images instead of just numbers)
  c. More intelligent simulator choices
Acknowledgements & References

For more info about the competition, see http://www.solardecathlon.gov/.

For more info about our progress, see the following blogs:

http://people.cs.clemson.edu/~jacosta/homePage.html

http://jakedawkins.x10.mx/

http://alexross.io/
Thank You.