

Project Status Report: CEEEn-2018CPST-004
Team Members: Josephine Bastian, Angie Ayaviri, Whitney Robison
Project Title: Spanish Fork Irrigation-Water Conservation Study

Report Date: 2/25/2019

- 1) Summary of technical/non-technical challenges encountered**
- Team needs to determine how to describe the benefits of the reduction in water usage.
 - To calculate the percent decrease in PI usage, the team needed to find the average monthly usage of PI.
 - Finding the peaking factor in order to recommend an optimal schedule for irrigation. Political factors will have to be taken into consideration when working on this schedule.

- 2) Team approaches & resolutions to overcome challenges**
- Average monthly usage during June to September was found using a multiplier and the annual PI usage.
 - The team edited outliers to ensure more accurate data.

- 3) Status of challenge resolutions & potential project impact**
- The 2 control groups' figures and analysis will help the team see how the Rachio controllers are affecting water conservation at Spanish Fork.
 - Now that water conserved can be quantified given the decrease in water usage, the team can find how much water can potentially be saved in all of Spanish Fork with the installation of each controller.
 - The benefits could be described as capacity increased. This would mean that a certain number of households could move into Spanish Fork without upgrading the system. The team will discuss how to best describe the benefits.

- 4) Project status & summary**
- Control groups were divided into two parts, those with controllers installed during 2018 and those without in controllers in both 2017 and 2018.
 - Data has been collected from 1,505 homes for both control groups to form a robust representation of how water usage changed with the installation of the controllers. Inaccuracies have been cleared out. Preliminary student t-tests prove that the results are statistically significant for a few of the months.