The Future of Residential Irrigation

Project Overview
- Households use approximately 260 gallons of water daily (Environmental, 2012)
- 50%-80% is grey water ("Greywater", 2012)
- Nearly 130 gallons per family per day could be reused for irrigation
- Our systems reuses those 130 gallons a day and increases the efficiency of irrigation systems drastically
- Our system could save up to 50,000 gallons of water per household per year (L.N. Scheer & Sons, 2012)

Proposed Solutions
- The use of grey water systems will play a significant role in reducing irrigation water demands
- Our solution to reducing irrigation water demand for homeowners entails a subsurface drip irrigation system paired with a computer driven distribution system
- Homeowners currently overwater their lawns so they will look green, but this creating a need for more fungicides, fertilizers, and waste water, energy and money
- Water can be collected and stored from rooftop runoff

Concluding question: What is the most environmentally friendly and efficient lawn irrigation system and how does it cut household waste water?

Implementation and Incentives
- Work with our partners at Beebe’s Landscape
- Collect data from the consumers
- With new data, we will pitch to larger landscape companies

Selling points:
- Low Maintenance
- Cost Efficient - Pays for itself
- Reduces Waste
- Environmentally Friendly
- Companies will receive discounts based on how many systems they sell

Determining Solutions
- Analyzing soil types and correlated impacts
- Developing a model that meets criteria of local climates
- Enhancing grey water filtration to determine its most efficient implementation
- Build a theoretical prototype to simulate water flow and effectiveness
- Find the most critical changes to irrigation to start saving water
- Consult with local governments and landscapers for support and knowledge of local area regulations
- Discover interests of consumers

Citations
WPI Group Members:
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