Water Sensor Implemented Drink Refill Stations

Team 34:
Olivia Golden
Kaia Satory
Jashwanth Uganadan

The Issue:

Water waste is a significant issue that has become increasingly evident across Pitt's campus, particularly in shared living areas. With the large population of students and staff, enormous amounts of water are lost every day through leaky faucets, inefficient fixtures, and careless use. This waste not only drives up utility costs but also strains local water resources and contributes to environmental degradation. We found that most of the waste tends to be accidental, so our group analyzed several strategies that could help reduce it across campus. Since sustainability is one of Pitt's core commitments, addressing this problem should remain a key priority.

How Might We Question:

How might we bring awareness to water wastage in dining halls and eating spaces and create solutions for the problem?

Method of Approach:

-Observed the dining halls and student common spaces
-Interviewed students on campus about their experiences with water waste
-Reviewed feedback on our prototypes
-Refined and finalized our most effective prototype

Components of our prototype:

-Neat and clean design
-Label for where to place glass
-Sensor to detect glass and pour amount
-Dispensing nozzle
-Screen to display amount of water saved

How our solution adds value:

Unlike auto-refill drink/water sensors on campus, our prototype includes an additional sensor that stops pouring after a certain amount. This prevents excessive amounts of water from being wasted as well as preventing spillage and unnecessary waste.

Observations:

-Careless water spillage at refill stations
-Full glasses poured out
-Leakage of drink and water refill stations
-Leaking faucets in bathrooms
-Drainage issues in restrooms

Interviews:

-Most, if not all, water waste is unintentional
-People are not aware of the water they use and waste in a day
-If solutions were implemented onto campus, students would be likely to interact
-The campus would improve their water waste more with implemented solutions rather than physical awareness and voluntary action

Proposed Solution:

Since we observed an immense amount of water waste at drink refill stations, we created a water sensor that stops pouring after a certain amount of time while also informing the user of their water savage while dispensing. This sneakily implemented design does not just reduce water waste and the possibility of spillage, but it also brings awareness to how little amounts of water being saved help solve the bigger picture.