Group Design Challenge

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Our Problem

- Many students who live in dorms have a problem with cleanliness and keeping their rooms and floors clean.
- After talking to many people who have lived in dorms, they all discussed the same issue; their rooms, bathrooms, and laundry rooms not being clean enough.
Insight from Our Consultants

● A sophomore, Sam Oliphant, was interviewed by Kelly Stiggleman and told her that it was hard for him to adjust to a dirty bathroom, since he had his own bathroom at home. He lived in Foster Quad and experienced dirty bathrooms and laundry rooms almost every day.

● The most concerning issue, according to Victoria Chang (Assistant Residence Manager in Eigenmann Residence Center), is cleanliness and the mishandling of the cleaning staff.
  ○ better community guidelines
  ○ accountability measures.

Laundry rooms still have the same cleanliness issues. Plus, there are some instances of theft.
Insight from Our Consultants

- The biggest problem, according to Taylor Devine, is people who don’t live in dorms destroying things and then the residents having to pay for the damages.
- A freshman living at the read residence hall said that she constantly had roommate cleaning issues, and also fire alarms going off in the middle of the night for no reason.
Our Design Solution
Not only is this simply a mopping robot and fulfills our cleaning needs, it can help supervise any intruders who might commit a theft or damage property.

Back-end:

Speech Recognition Engine & Natural Language Processing (NLP) ---> respond to basic conversations.

The Unix Shell ---> repetitive tasks

Decision Management/ Support Systems ---> daily operations

Intelligent security camera

Microscopic Bacteria Detector

Smoke, gas, proximity and temperature sensors
Toilet seat is clean, floor needs mopping, sink is clogged with hair. Sink needs to be undogged.

Washer #1 empty, cleanliness 100%, bacteria 0%
Drier #6 35% covered with dust, germs present; task: scrub and get rid of bacteria.