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Water Filtration Integration

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Water Filtration Integration

Client: Ideas Unlimited, Des Moines, IA

Problem Statement

- Current in-house water cooler systems use pre-filtered water that is bought by the gallon.
- Currently, the jugs of filtered water used in these water cooler systems are picked up & exchanged for full jugs of filtered water as a paid service from a 3rd party company.
- As an outsourced service, this current setup creates additional, unnecessary costs, as well as logistical factors to be dealt with such as scheduling refill delivery & planning for storage of the required on-hand stock of bottles

Scope

- Design and fabricate a prototype apparatus to incorporate consumer grade filtration units into large-volume water cooler units.

Objective(s)

- Draft multiple prototype solutions
- The objective of the project is to design an apparatus that will allow for empty water jugs to be refilled with tap water, then have that water filtered through a filter enclosed in our apparatus.
- Use decision matrix to choose best design for current market
- Calculate cost and manufacturability for each design

In-House Filtration for Water Cooler Systems



Constraints

- Budget: \$600
- Timeline: Prototype will be done by spring break
- Must incorporate current water filtration units
- Must be able to deliver the same quantity of water that is normally available in water cooler systems
- Filtration units must be easy to change out

Methods

- Research different water filters, different coolers, and technical specifications
- Will analyze quality of water, durability of filter and filter holder
- Autodesk Inventor: prototype for water filter apparatus

Major Outcomes

- Design a prototype water filter that fits on standard water cooler systems
- Plan for design and manufacturability
- Technical specifications for design

Benefit to Client

- With this prototype many people will be able to have high quality water straight from the tap
- Will be able to filter tap water cheaply using designed filter
- Will be able to pitch final product to company to mass produce