

Document Research

Sullivan, Deirdre. "5 Ways to Automatically Water Your Plants When You're Gone." *HouseLogic*, 3 Aug. 2012, www.houselogic.com/by-room/yard-patio/how-to-water-plants-while-on-vacation/.

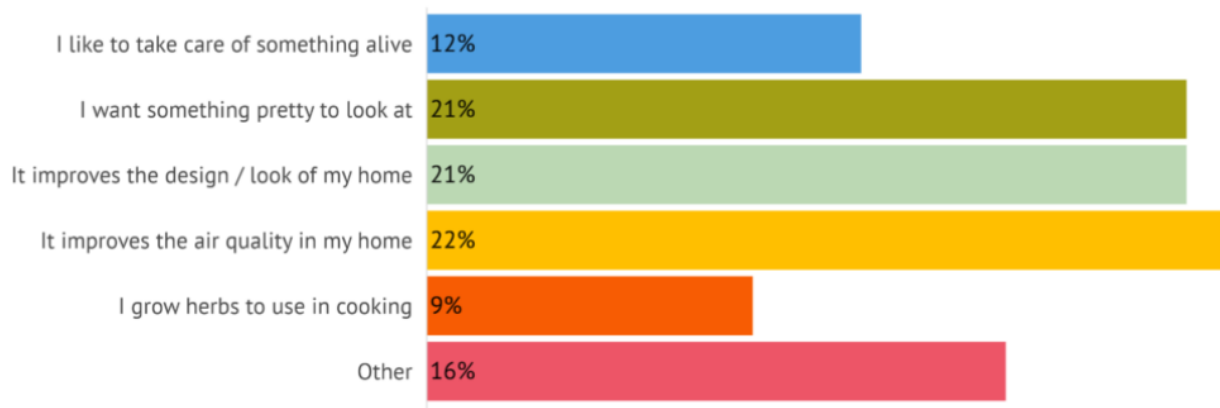
Solutions/ Ideas for watering plants

- Drip Water Irrigation
 - Stick bottle of water into soil
 - Lasts only a bit
 - Uncontrolled amounts of water
- String Watering System
 - Uses string to connect water source to soil
 - Water
- Electronic Sensored Watering System
 - Sensor to detect moisture
 - Relatively low tech

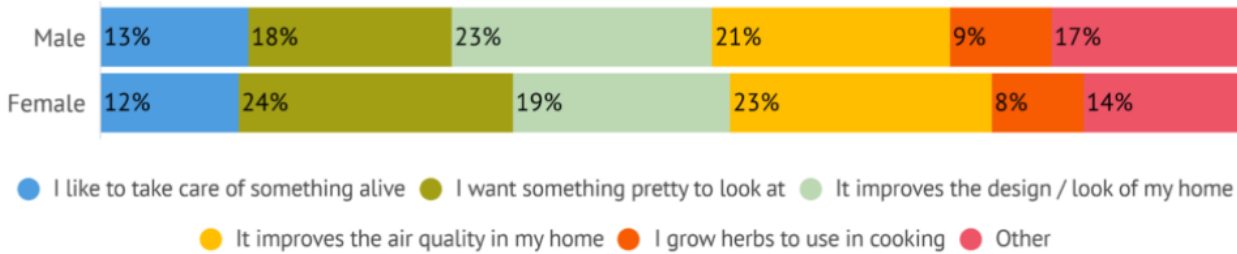
Revitsky, Luke. "Gen Z Houseplant Ownership Stems from the Desire to Care for Something Alive." *CivicScience*, 20 Apr. 2020, civicscience.com/gen-z-houseplant-ownership-stems-from-the-desire-to-care-for-something-alive/.

Plant Ownership Demographics

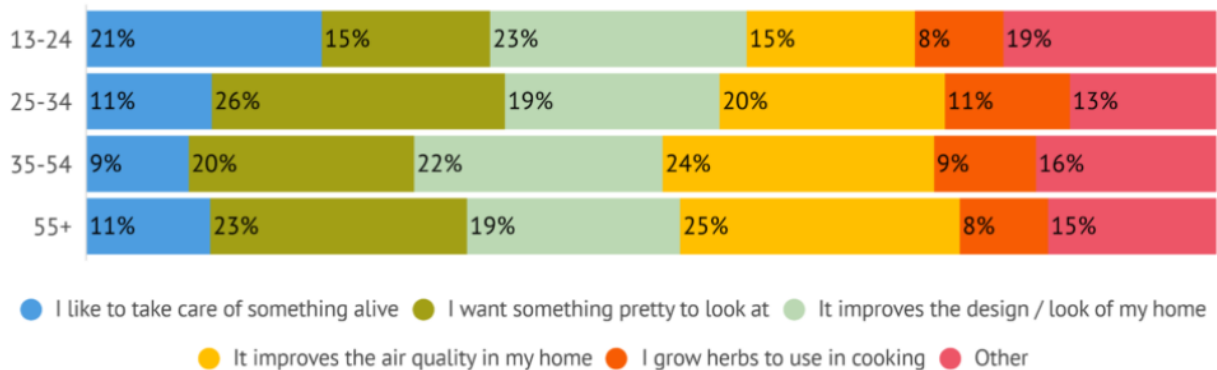
What is the main reason you have a houseplant(s)?



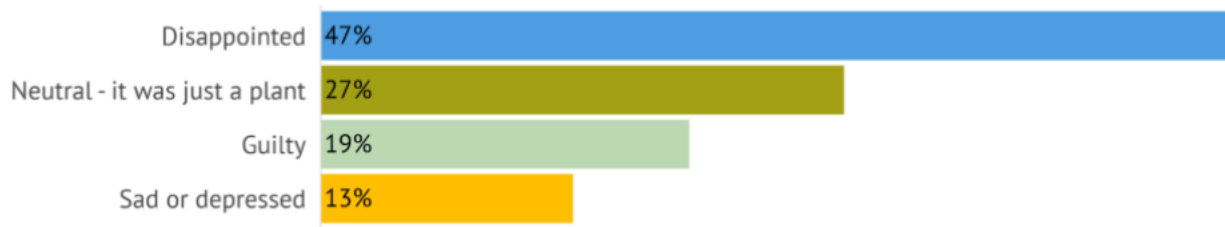
What is the main reason you have a houseplant(s)? by *Gender*



What is the main reason you have a houseplant(s)? by *Age*



How do you feel when you accidentally kill your houseplant?



Powers, Barry. "Plants over Pets? A Trend for the Modern World." *PLANTZ*, 26 July 2023, www.plantz.com/blog/plants-over-pets-a-trend-for-the-modern-world/.

Reasons Behind Owning Plants

- Indoor plants are becoming increasingly popular, especially among young people living in apartments with pet restrictions.
- Changing lifestyles and a desire for independence contribute to the preference for plants over traditional pets.
- The eco-conscious mindset and the green movement are driving people to choose plants as companions to reduce their environmental footprint.
- Plants offer companionship, responsibility, and purpose similar to pets, with added flexibility in care.

- The awareness of health benefits, including improved air quality, and the environmental advantages of plants further encourage their adoption.

Purpose Statement

This project aims to develop a WiFi-enabled device designed to automatically water plants, addressing the challenge of plant care for individuals unable to attend to their greenery over prolonged periods. Its application is particularly valuable for those who face difficulties in maintaining regular plant watering routines.

Brainstorm Ideas

Automated Irrigation System

- Soil Moisture Sensors
- Water Pump Mechanism
- Mobile App Integration
- Real-time Updates
- Remote Monitoring

Weather-Responsive Watering

- Weather Integration
- Predictive Analysis
- Water Conservation
- Remote Monitoring and Control

Self-Watering Plant Pots with Water Reservoir

- Versatility for Plant Types
- Material Selection
- Transparent Reservoir
- Reservoir Design

Conversational Prototype

Automated Irrigation System

Purpose Statement -

The automated irrigation system will feature several different sensors to aid in watering plants. Its creation will serve the purpose of watering plants automatically and it will be used by people away from their plants for long periods of time.

Research -

Arduino-Based Smart Irrigation Systems

Arduino Official Website - [Arduino](#)

Arduino Forum - [Arduino Form](#)

Arduino Project Hub - [Arduino Project Hub](#)

Soil Moisture Sensors and Their Accuracy

Soil Moisture Meters - [Website](#)

Soil Moisture Meters Function - [Website](#)

Soil Moisture Meter Function Part 2 - [Website](#)

Plant Watering Needs and Frequency

Watering Tips - [Website](#)

Watering Ideas - [Website](#)

Do's and Don't of Watering Plants - [Website](#)

Visual Representation -

<https://cad.onshape.com/documents/47fdd9d9eb51e51128ed6f53/w/b76f93b52c836df34ab032cb/e/8725b52abc7184422290f4c8?explodedView=Mu6yyC%2BtczYbsWAFb&bomType=flattened&renderMode=0&rightPanel=BOMPanel&uiState=6570ec1729fbb41151be09de>