

Robotic Lawn Mower?

I can but I won't.....

Laziness
Innovation



Motivation

Value of Market

Lawn mowers market consist of residential and commercial users.

The residential sector is expected to emerge as the largest end-use segment.

The leading vendors in the market:

- Husqvarna
- Deere & Co.
- MTD
- Toro

Technology Advancement

- Full Automation
- Deep Learning
- Image Recognition and Processing
- Path Planning
- High Efficiency and Low Cost
- Time and Energy Saving



\$3B

Global Demand by 2023

17%

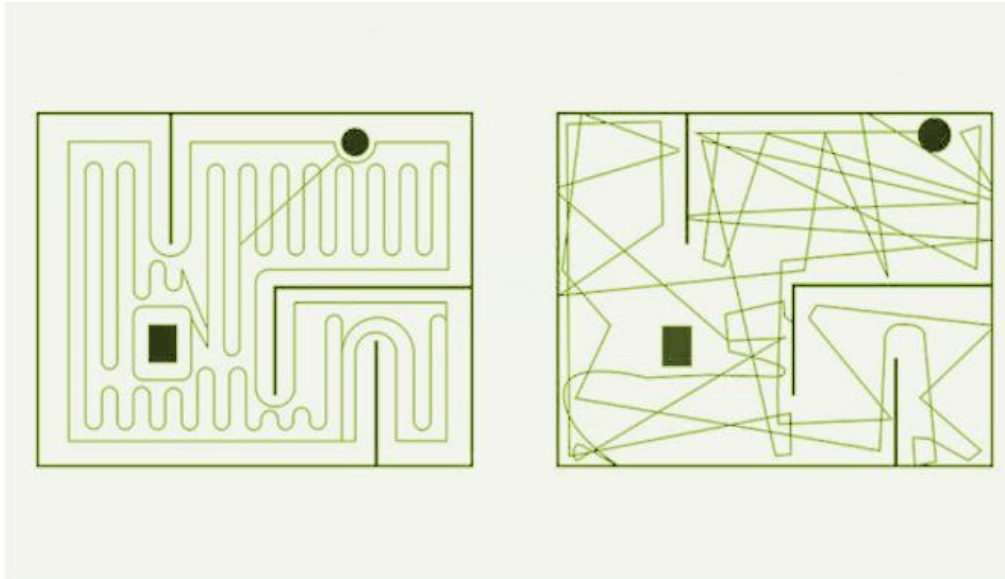
Robotic Lawn Mowers Market Revenue Growth
Rate

Technology and Feature

- ◆ Remove the set up wires entirely
- ◆ Automatically detect and identify obstacle
- ◆ Path planning based on path algorithm
- ◆ Deep learning

Smart Path Planning

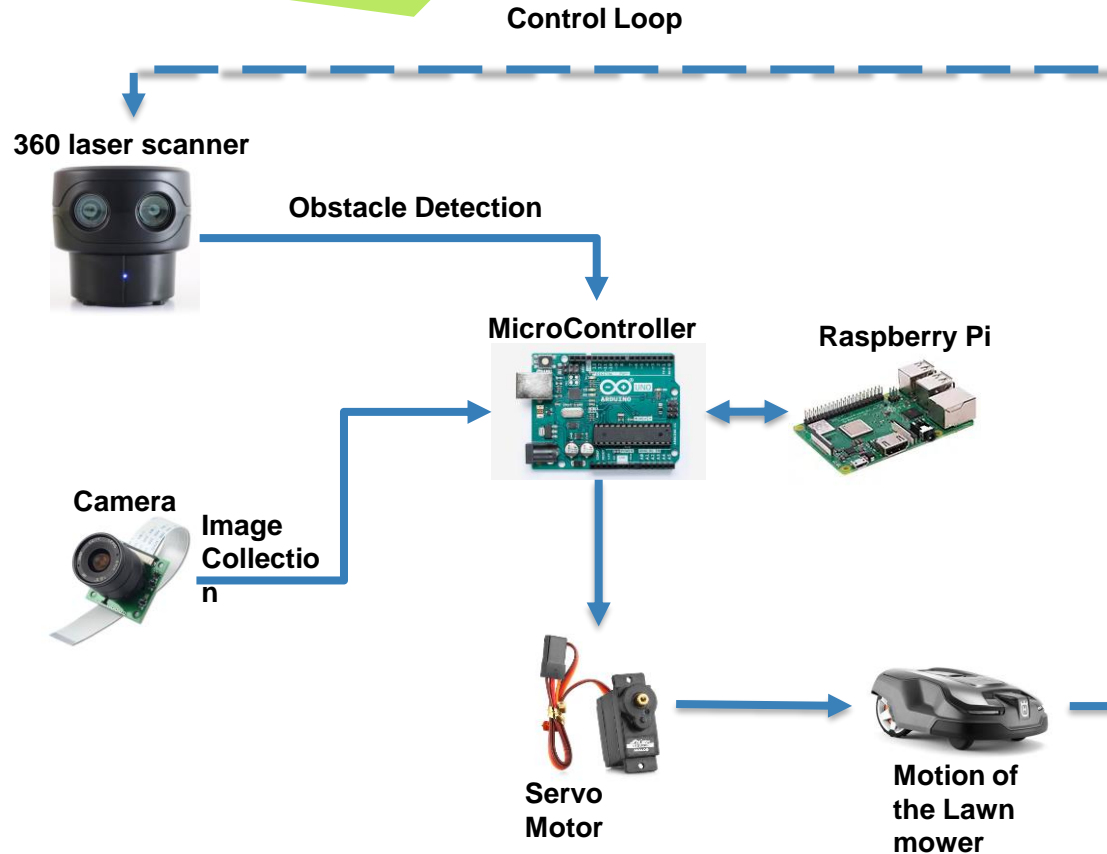
- Full coverage
- Faster operation time
- less power usage



Random Path Planning

- Inefficient coverage
- Longer Procedure time
- Greater power usage

Overview



Sensors



- Obstacle detection
- Motion detection



- RGB detection
- Image detection

Motor



- Motion
- PWM Control

Controllers



- Sensor Connection
- Analog to Digital Convert
- Motor Control



- Path/ Boundary Calculation (Deep learning)
- Path/ Boundary trace&store

Target Customer



DELIVERY



Bronze

- No boundary wires
- Basic color recognition
- Randomized path



Silver

- Objects recognition
- Obstacles avoiding
- Basic safety features
- Path planning



Gold

- Advanced safety features
- More functions
- Blades design
- Higher Mobility

Bigger Potential

Seed
Spreader/Weed
Remover

Agriculture

Snow Shoveling
Machine

Sharing

Laziness



Thanks!

Any questions?