

Why are we doing this

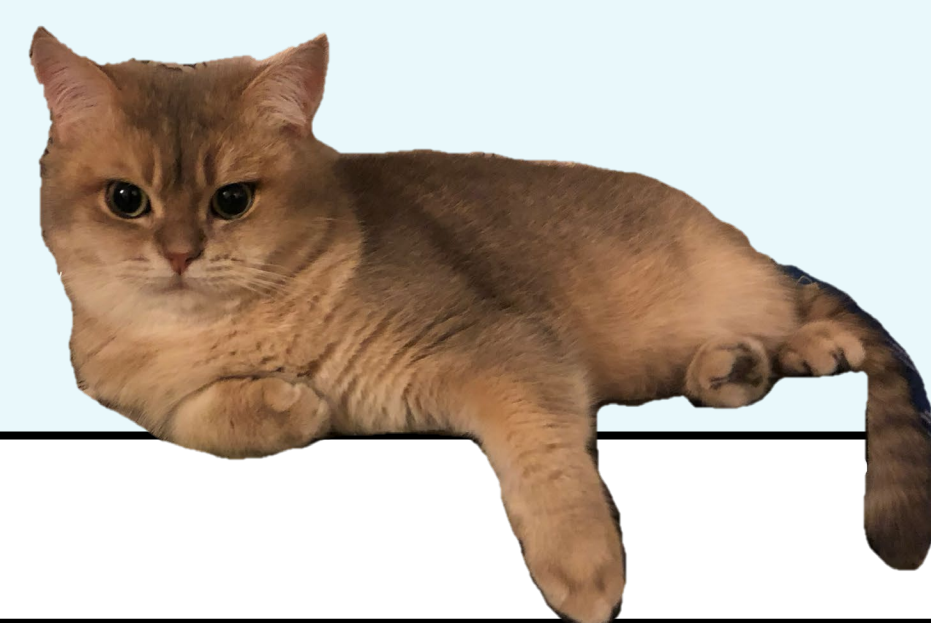
- Found out that the need for automatic cat litter boxes is increasing over the days.
- Most of the automatic cat litter box on the market now is too expensive for general customers.(ranging from \$500-900).
- The emergency system in the litter boxes on the market are not very efficient.

Client

Busy cat-lover/owner; People who want to keep house in a clean state

Goal

- Affordable
- Safe
- Reasonable size
- Easy assembly



Software and Hardware

Language: Python
Platform: Raspberry Pi (\$50), Cypress PsoC 5(\$15)
Sensors:

Motion Sensor :

SparkFun OpenPIR :

Voltage Supply Range: 3VDC to 5.75VDC
Motion-detected average current: 3mA
Working Mode: Single or Dual Pulse Detection
Price: \$15.95



Pressure/Force Sensor:

Sparkfun Force Sensitive Resistor:

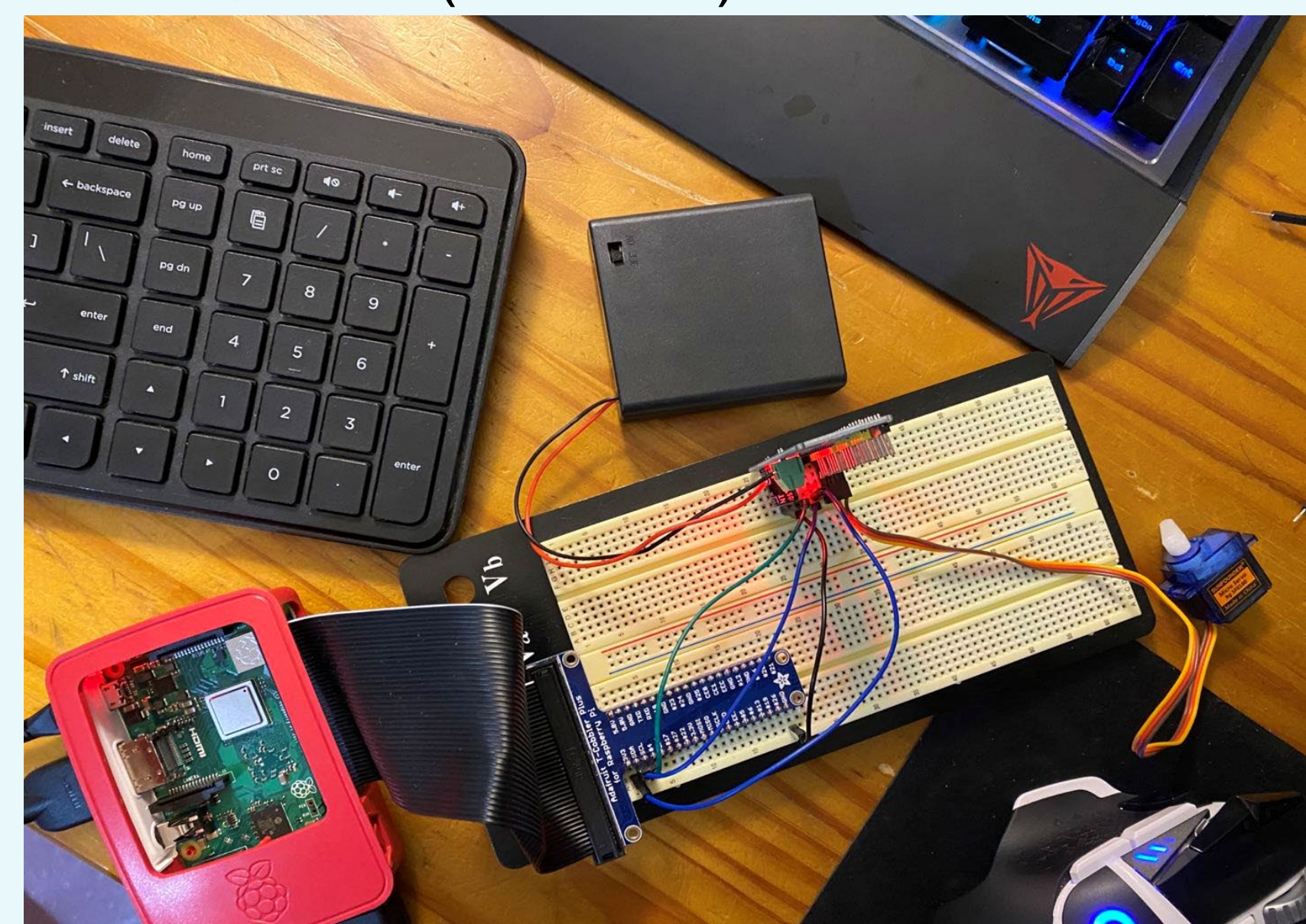
Dimension: 3.5"x 1.75"
Sensing area: 1.75"x1.75"
Force sensing range: 100g-10kg
Price: \$11.25



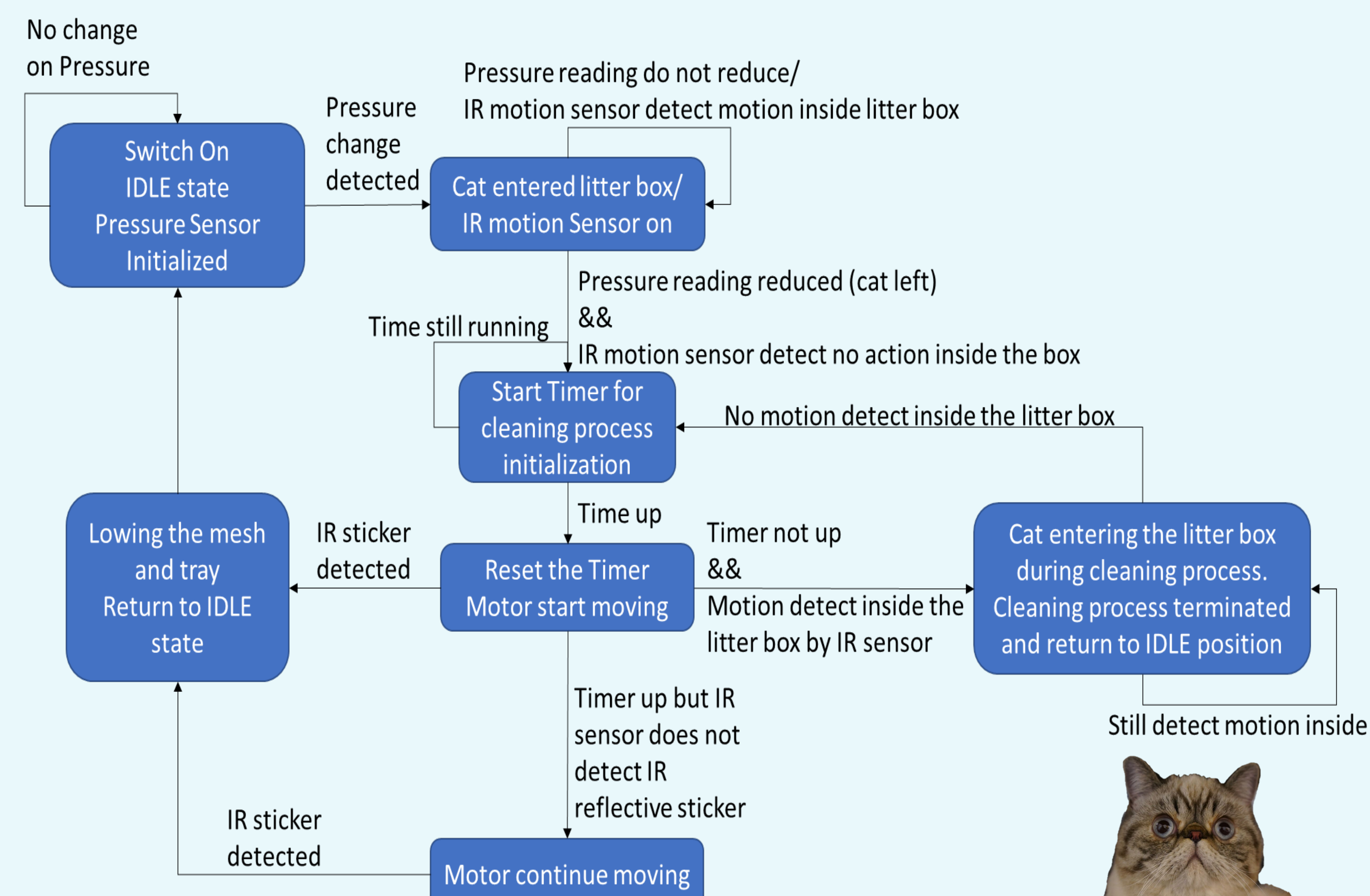
Motor:

FS90R Continuous Rotation Servo

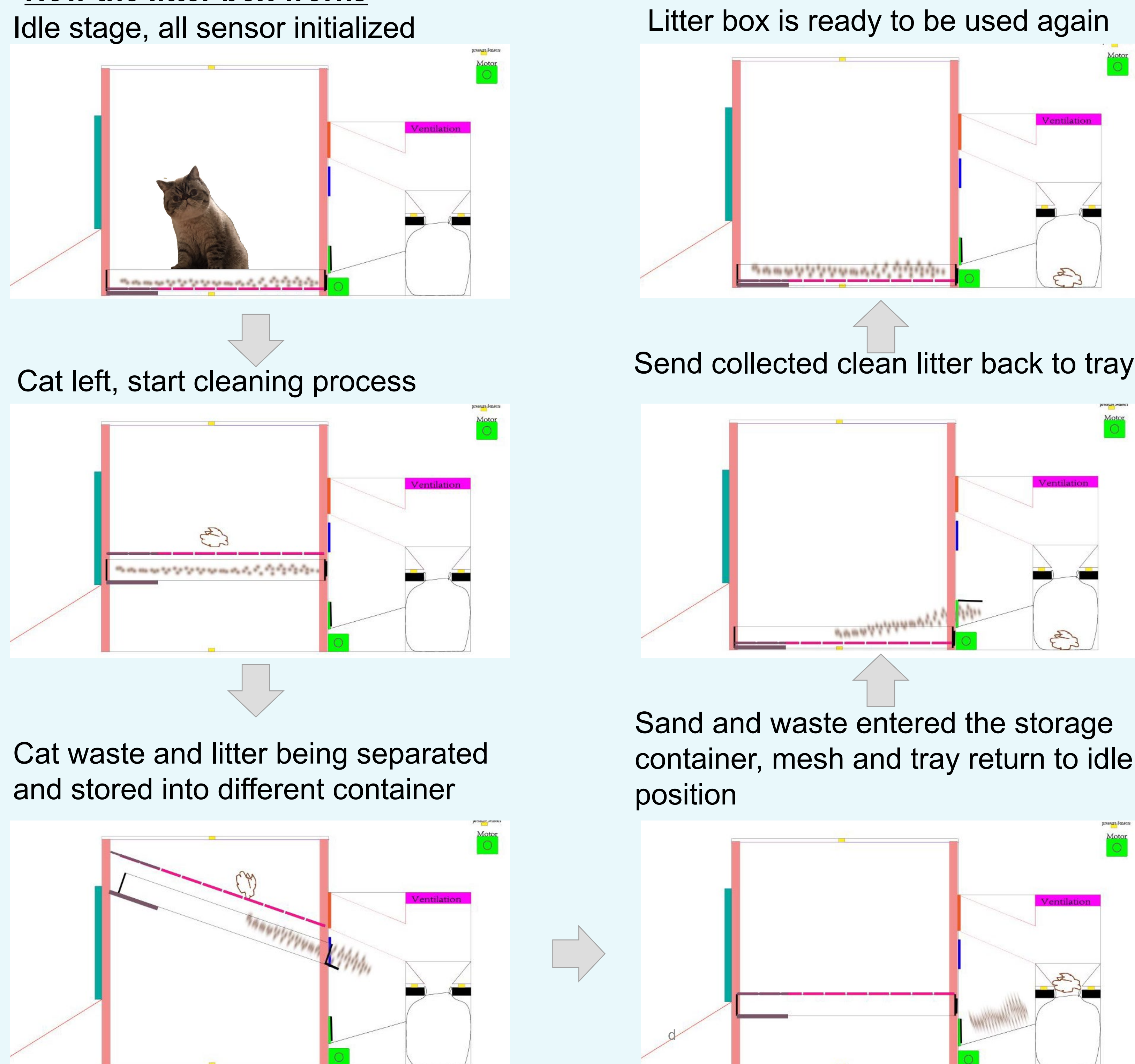
Operating Voltage: 4.8VDC/6.0VDC
Stall Torque: 1.3kg/cm(4.8V)/1.5kg/cm(6.0V)
Max speed: 110RPM(4.8V)/ 130RPM(6.0V)
Price: \$14.99 (two units)



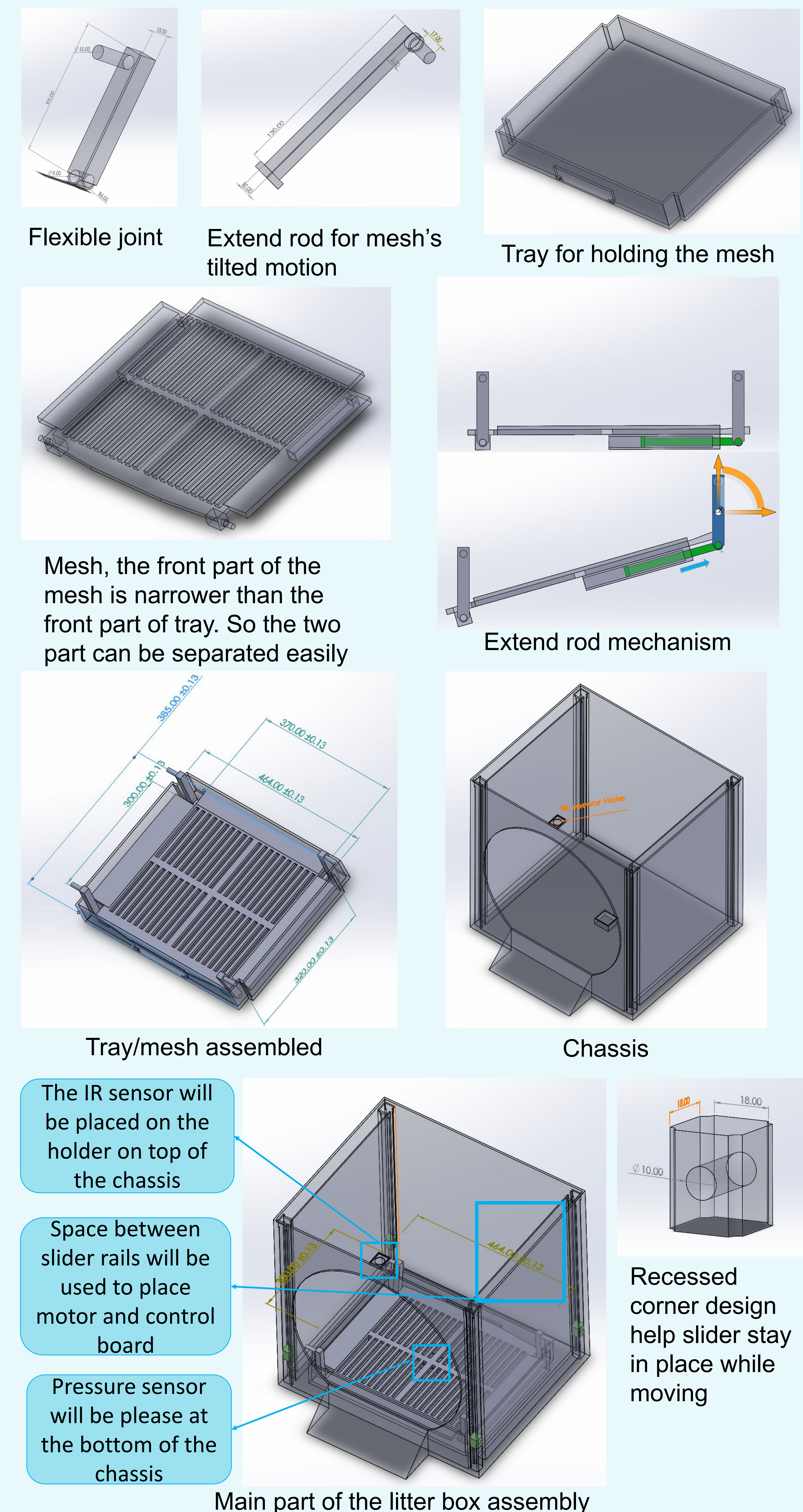
Software implementation flow chart



How the litter box works



3D CAD Design



Acknowledgement

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