




Waste Segregation done better



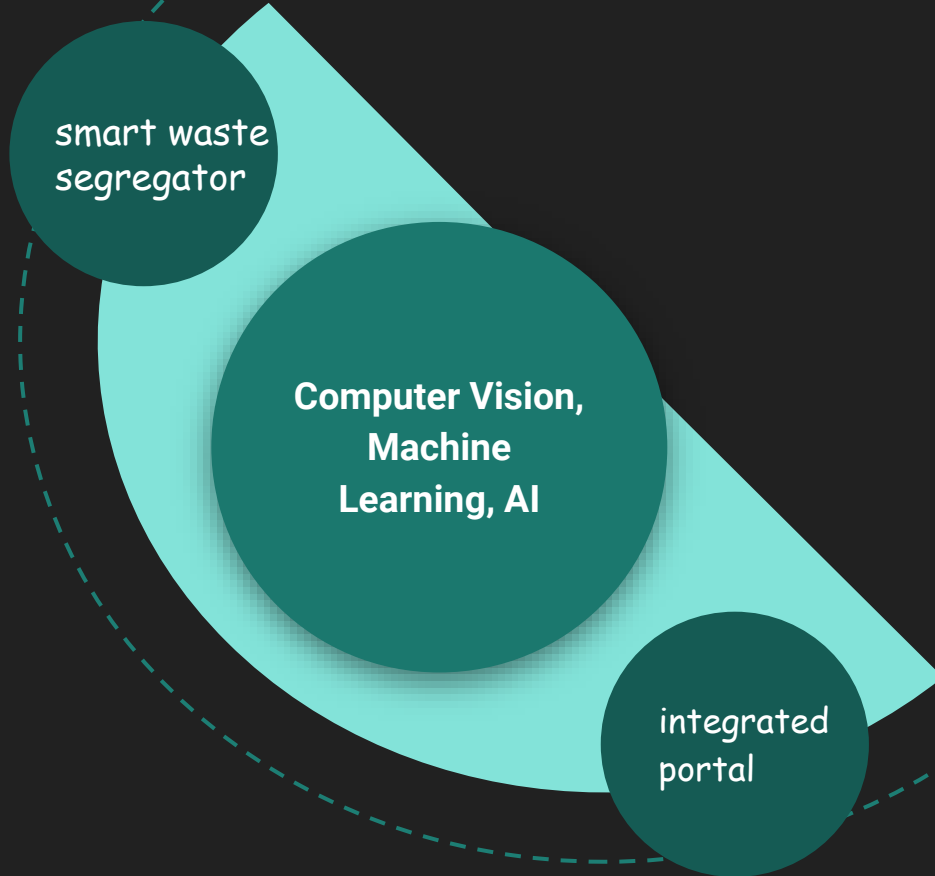
Problem Scenario | Why AiBin

- Segregation
 - Proper disposal
 - Management
1. Proper disposal, is required for which we require an efficient system that recognizes each type of waste separately, **segregates** and then dispatches it to the correct channels.
 2. Problems associated with Manual Segregation

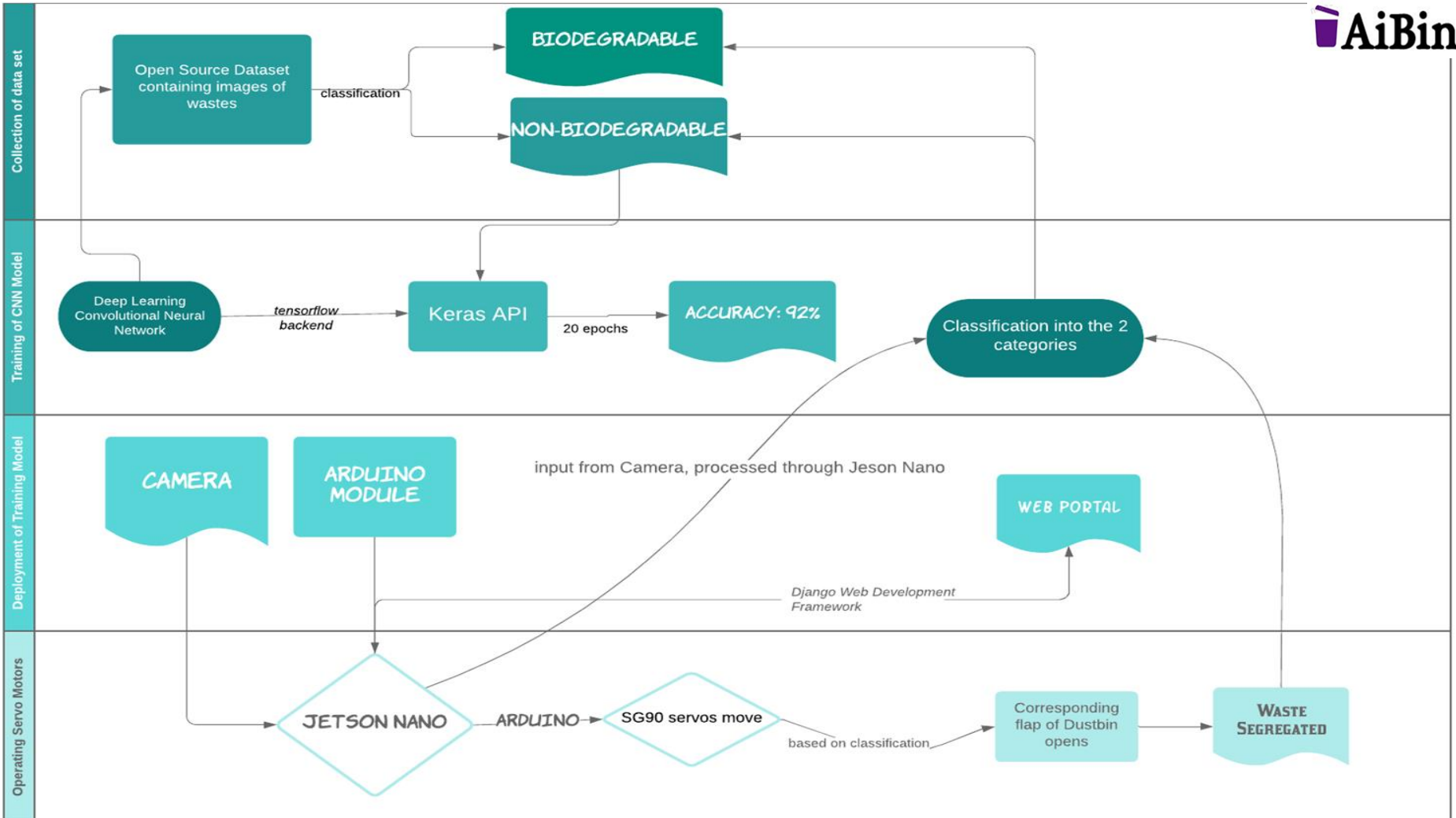


The Model

Automatically separates waste placed on a conveyor belt



Provides the required **data** (related to the waste) to various parties and helps in linking all the beneficiaries



Solution | Workflow | Modelling Pipeline

1. Collection of Data set
2. Training of CNN Model
3. Deployment of Trained model
4. Operating Servo Motors

Tech Stack

- **Keras API** on *Tensorflow Backend* with **Python**.
- **Jetson Nano** for model deployment.
- **Arduino UNO** *Microcontroller* for controlling servos.
- **SG90** Micro Servos.
- **Django Web Development Framework** for displaying the collected waste information. (yet to be implemented)

Keras API was used to create and train the *Deep Learning Model* for classifying the type of waste. According to the type of classification a serial signal is sent to the arduino using the USB output on the **Jetson Nano**, which then controls the *servo motors* and opens the corresponding flap of the the dustbin.



USP | Value Proposition

- *Easily modifiable for different industries*
- *Cost Benefit Analysis*

USP | Value Proposition

- *Automation using AI: Manual Labour reduced(No risk of diseases, odourless environment)*





USP | Value Proposition

- *Integrated portal with useful and sellable data(amt/type of waste)*
- *Industry based: Segregation in bulk (Dataset based on industry)*

Business Model

B2C | B2B

1

Cost-effective, one time investment (easily modifiable for different industries)

2

Portal and Segregator Integrated combination: Data collected through the portal can be sold and the segregated waste collected will be useful to various organizations

3

Industry Based: Conveyor belt and Hopper ideal for Mechanical separation before segregation

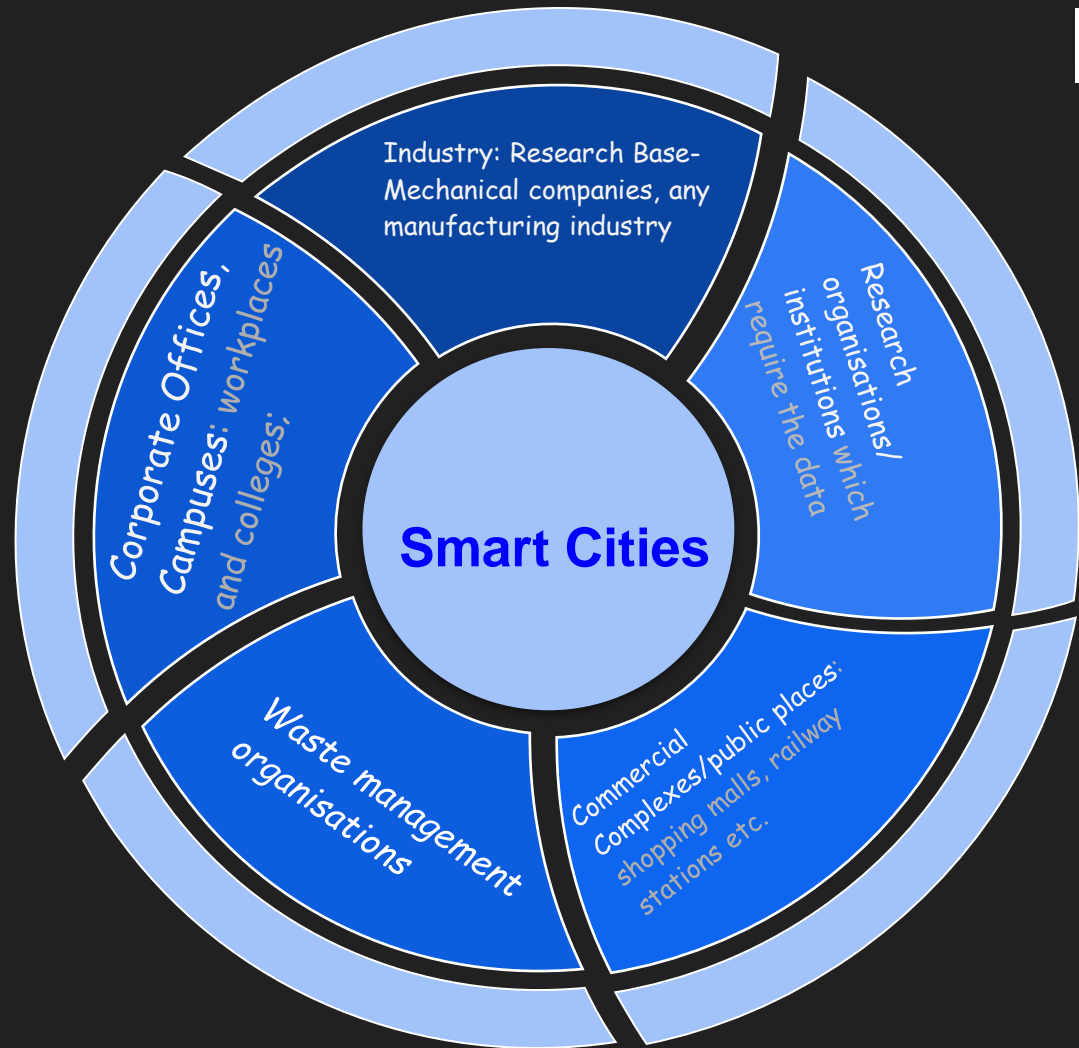


GO TO MARKET: Marketing Ideas

SLOGANS:

- ★ *Images. Processed better.*
- ★ *Waste Management: SOLVED*
- ★ *Waste segregation done better*

Customer
Segments |
Target
Audience |
User Base

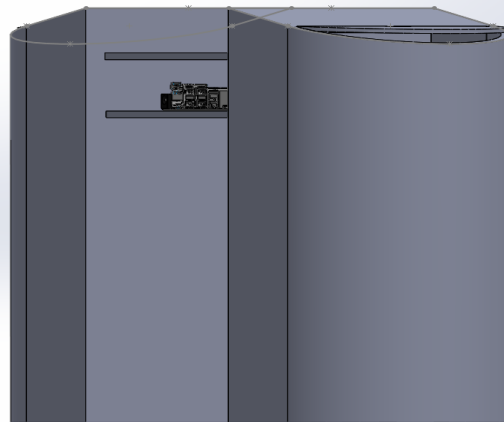
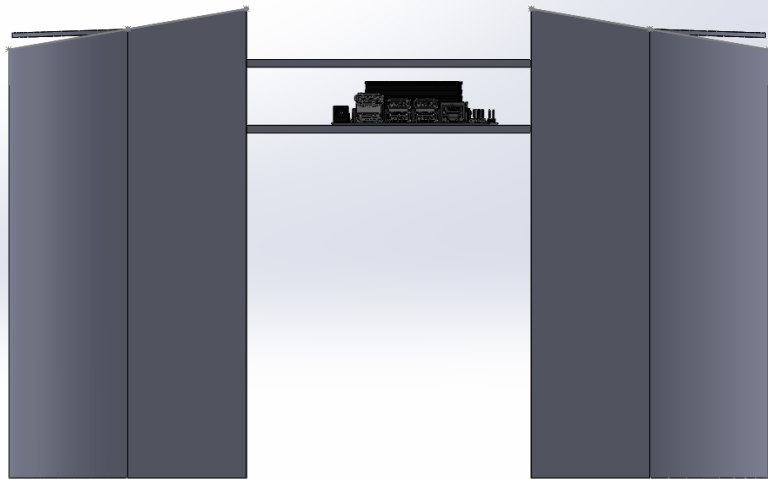
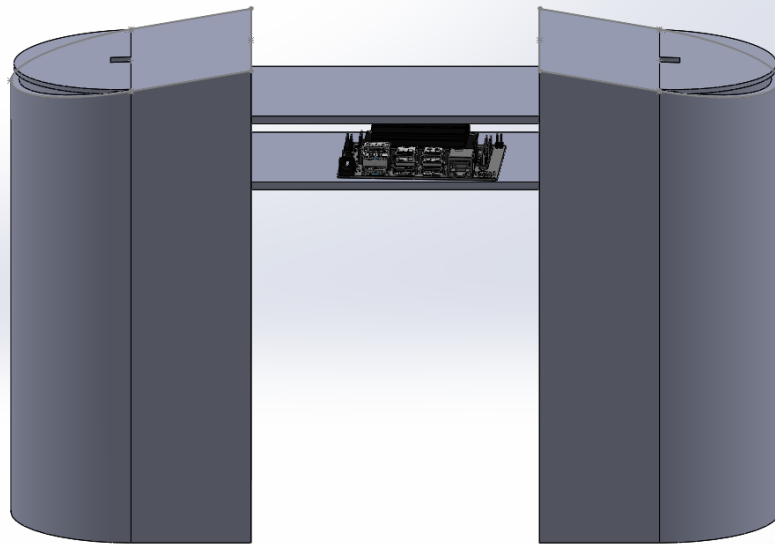
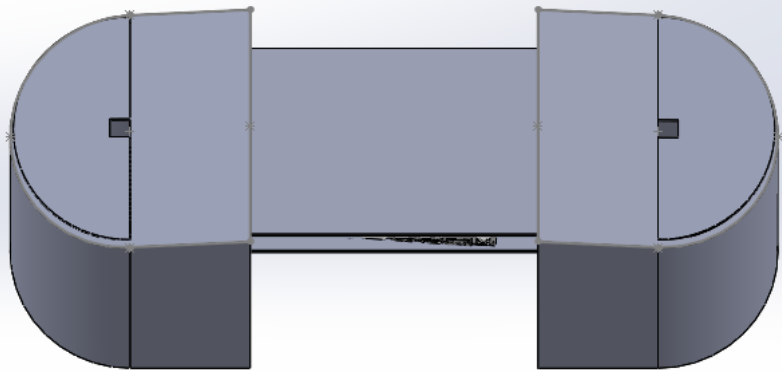


Cost Structure

Expected Cost of **PROTOTYPE**: ₹8,800

Raspberry Pi	₹6000
Structure of product	₹1000
Camera	₹1000
Arduino	₹300
Servo Motors and miscellaneous	₹500

Demo



Future Vision

- Link a chunk of the *waste management* industry through our portal
- Make our prototype product more efficient.
- The process by which an individual waste entity is extracted from the bulk of the waste(through the use of conveyor belts) is to be improved.
- Targeting more types of waste identification and classification.

QUESTIONS?



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