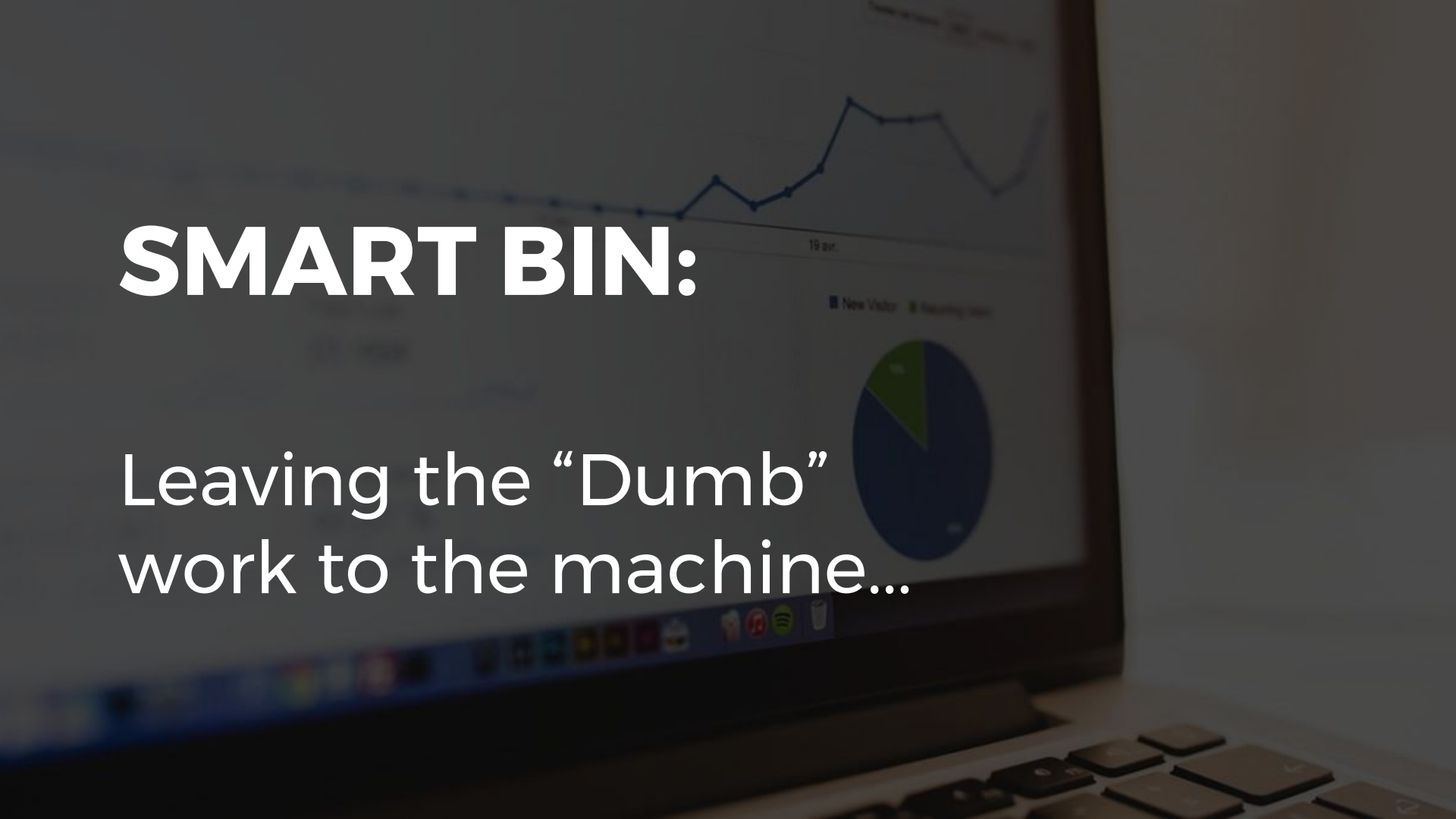


SMART BIN:

Leaving the “Dumb” work to the machine...

THE PROBLEM...

Segregation of waste is as important as not generating the waste. India's garbage generation stands at **0.2 - 0.6 kgs per head per day**. If such a large amount of waste is being generated per head per day, segregation of waste becomes a pretty big challenge.

According to a survey by Reuters, about 63% of the people do not know which bin is for biodegradable or non-biodegradable waste. Also, about 80% of the people (who are even aware of the previous stated fact) choose the dustbin which is nearer to them. This means that people do not want to devote time to think which waste shall go to which type of dustbin.

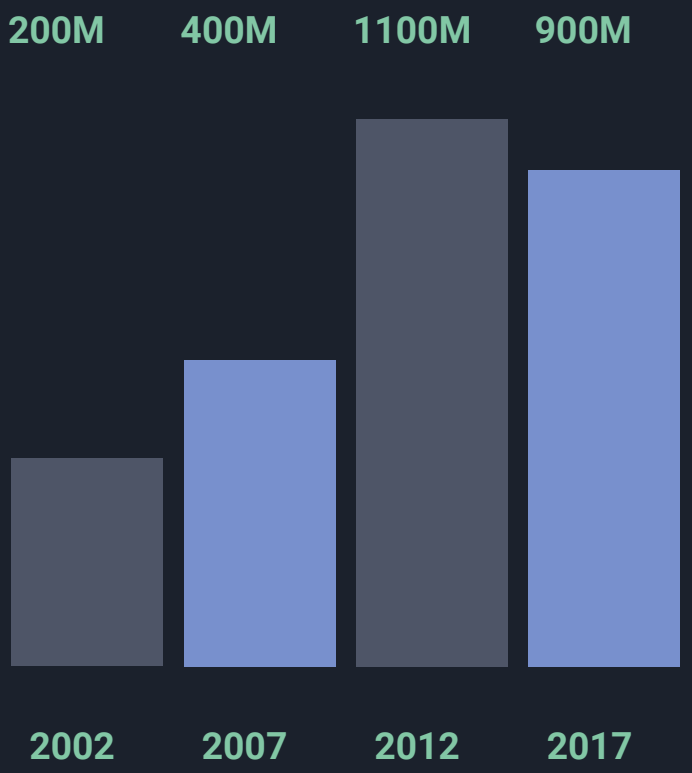
Facts and Figures...

These figures represent how much the government is spending on waste segregation in every 5 years.

In the year 2002, it was around **200M** which rose to **400M in 2007**.

Again after 5 years, it was touching **1100M whereas just 10 months into 2017, the government has already spent 900M rupees.**

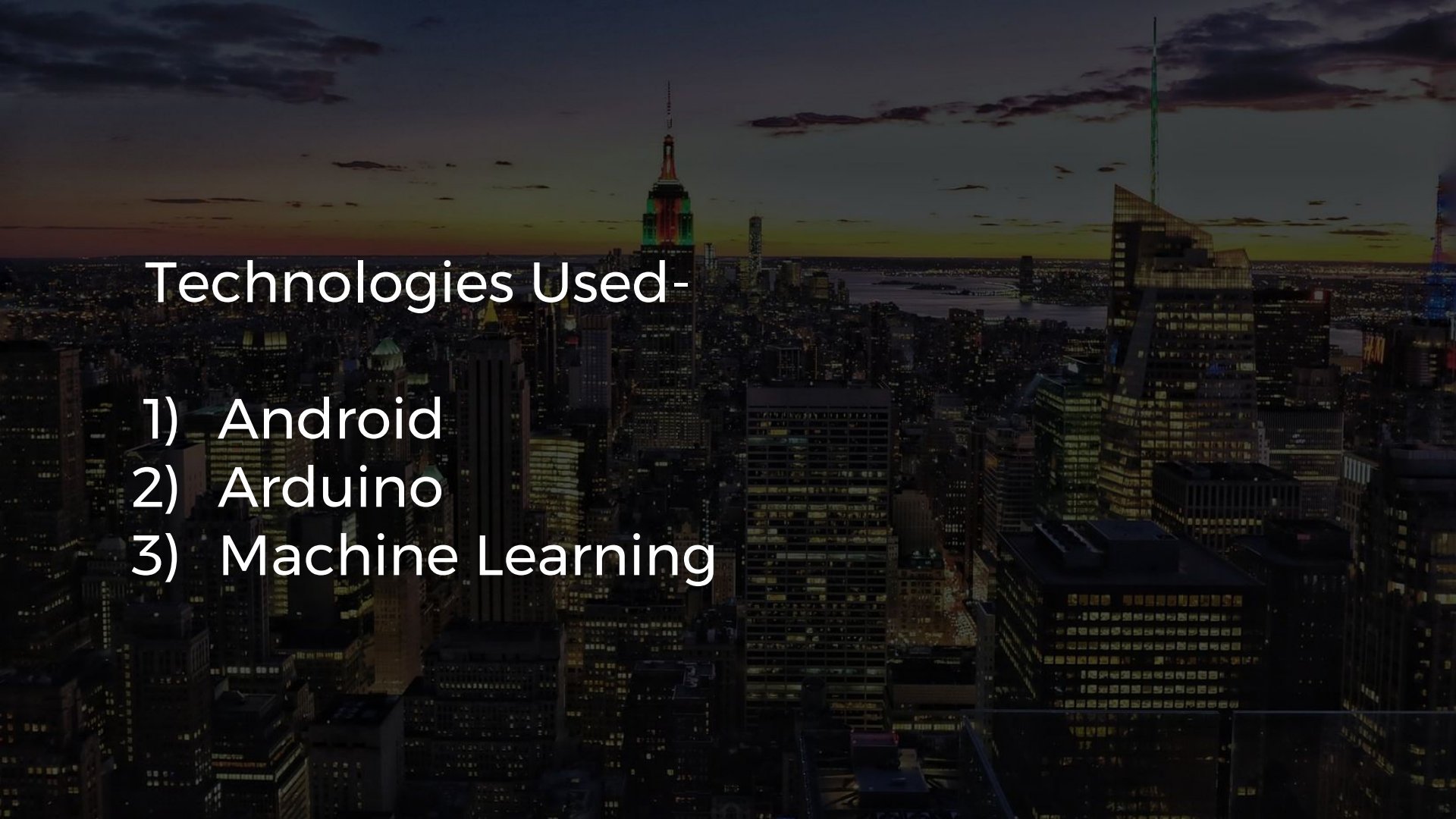
This clearly shows that the government is spending more and more on waste segregation but is unable to find a suitable solution,



The Solution

We present to you, the **Smart Bin.**

The Smart Bin is the same old dustbin but powered by android, arduino along with Machine Learning.



Technologies Used-

1) Android
2) Arduino
3) Machine Learning

How does the **Smart Bin** work?

When a garbage enters the Smart bin, it sends a call to the **Machine Learning API** which analyzes the garbage and classifies it as biodegradable or non-biodegradable.

It then sends a signal to the **arduino board** which rotates the garbage tray accordingly.

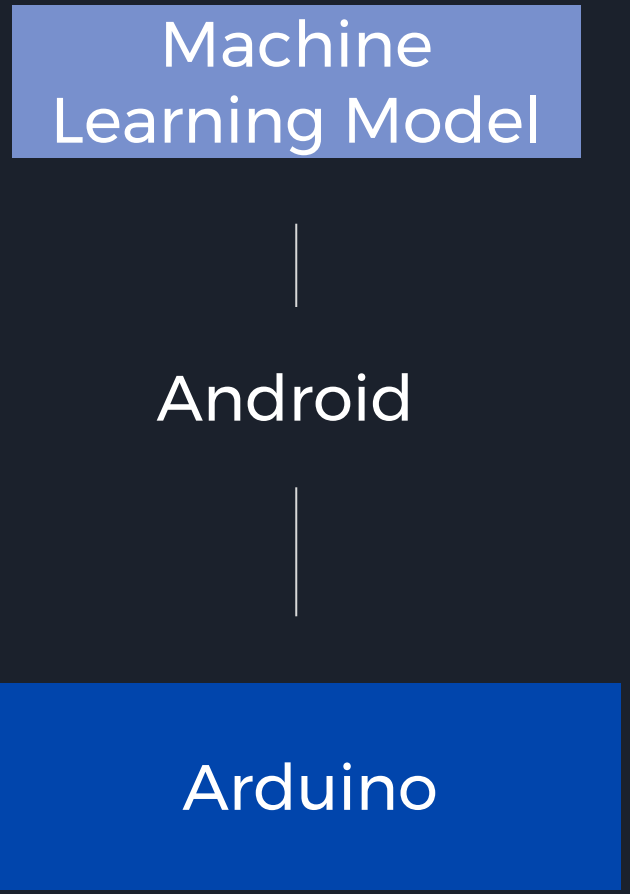
In this way, the **biodegradable and non-biodegradable** waste falls in separate containers.

HOW IT WORKS?

1) Android app takes the image of the garbage and using Machine Learning, it classifies it as Biodegradable or Non-biodegradable .

2) On the basis of the classification, it sends a signal to the Arduino device through bluetooth.

3) On the basis of value received by the bluetooth, the motor attached to the arduino rotates and separates the waste.



What More?

We have added some more features to the Smart Bin!

1) **Data Storage** - The smart bin is capable of storing images of the objects that are entered in it.
2) **Data Retrieval** - We can also retrieve this data from anywhere using a website.
3) **Location and Status** - We can see the location of all the smart bins in an area. It also allows us to see the images of the objects in a particular bin.

Using these features, we can scan any particular smart bin and even check it for any suspicious objects. This can be very useful for the law enforcement agencies if they want to check the contents of a particular bin while investigating any case.

The team

Answer the question, “Why are we the ones to solve the problem we identified?”

Sometimes converting caffeine to code, sometimes coke.

https://github.com/Raman1121

Solving real word problems, bit by bit…

https://github.com/Mudit9

Always ready to learn!

https://github.com/prakamya-mishra