INTRODUCTION

Trash-sorting program

Pictoblox, Teachable Machine

DESCRIPTION OF PROJECT

Using a trained AI, who utilise a system that is able to recognise the different materials that the trash belong to and informing the user about it

DATA GATHERING

Method

Using machine Learning with Teachable Machine to scan images of various types of trash

Difficulties

having a limited amount of trash types , leading to lack of variety in data

PREPARING DATA

01

Using Teachable Machine, create branches of trash types

02

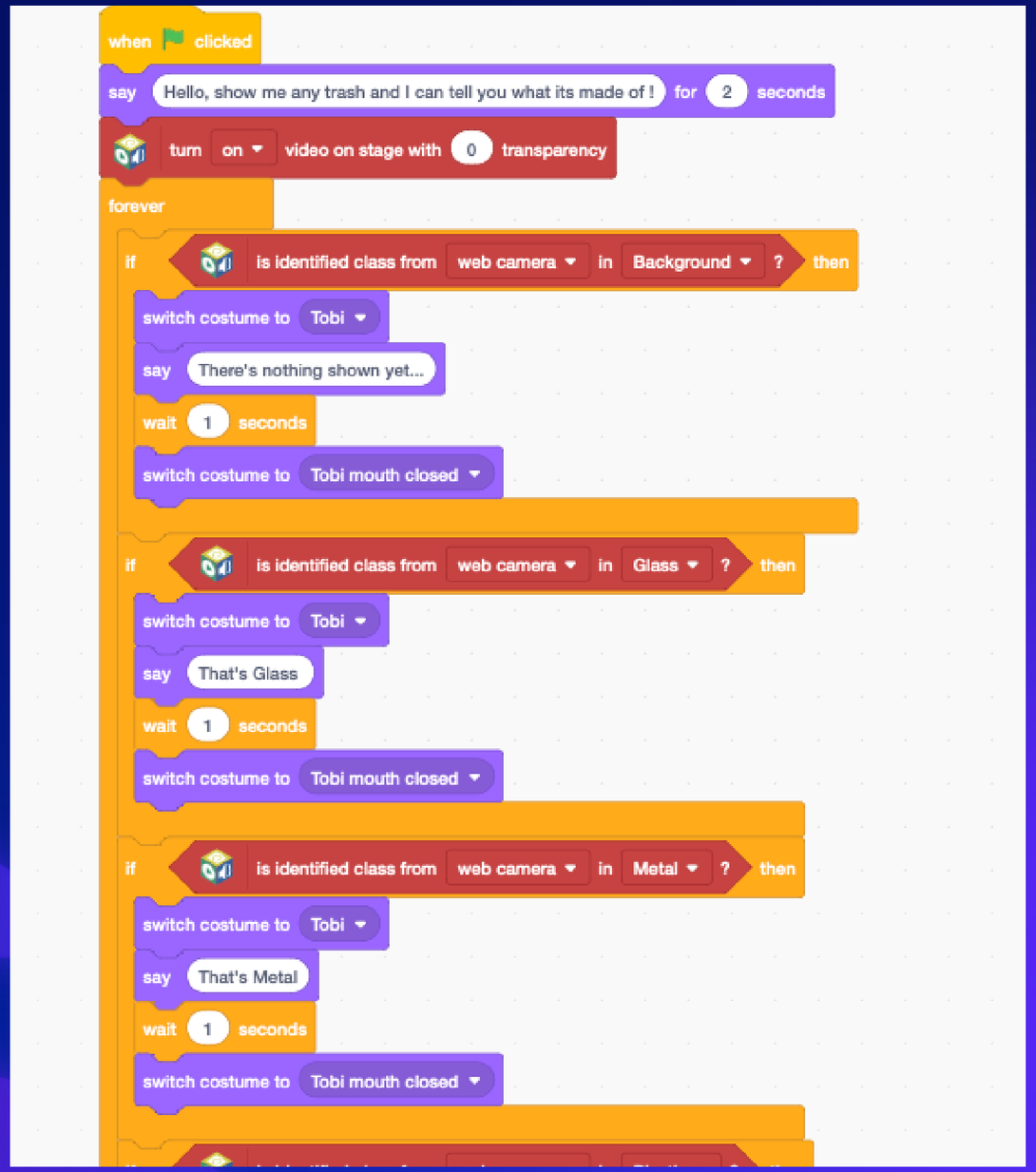
Using the webcam to scan sample images of the respective forms of trash

03

Uploading the trained AI to the PIctoblox “Machine Learning” extension

04

using the Pictoblox model to format the trained AI into usable format



CHOOSING MODEL

FORMATTED THE AI TO SAY OUT THE MATERIAL

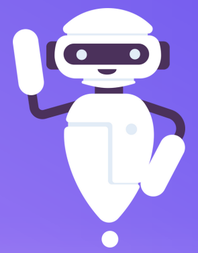
THAT IT SENSES

USED ANIMATIONS TO MAKE IT SEEM LIKE

TOBI WAS TALIKNG

REPLACED “BACKGROUND” WITH “NOTHING SHOWN”

EVALUATIONS

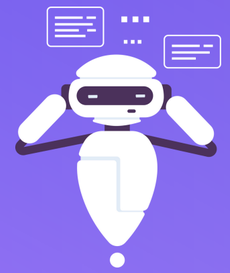


TRAINING MODEL

Lack accuracy due to lack of sufficient materials.
Given time. more samples will be added

PICTOBLOX SYSTEM

There is slight delay in the “animation” due to limited frame designs



ENGAGAMENT

The program lacked engagement as it is not much differeny from a normal detection software

RESULTS AND LIMITATIONS

RESULTS

01

- Accuracy is in doubt, and the items used for testing are detected in only approximately 50% accuracy

02

- Results involving materials outside classification/mixed materials have a low accuracy

CONCLUSIONS

MODEL APPLICATION

In recycling or trash-sorting industry, built-in mechanism to help recognise and sort different types of trash appropriately

LIMITATIONS

System still requires large-scale revamp and industrial hardware in order to be put in use
E.g a much wider classification , industrial scanner