Squander Installation Manual

About: What is Squander?

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Squander is an application that aims to help users organize and plan the disposal of their waste. The goal of this project is to make it easier to recycle waste after any kind of event or project. App uses Machine Learning Algorithm to recognize waste from images taken from places such as households, construction sites, and public places to enable the user to distinguish recyclable waste and provide a way for its proper disposal. Users can analyze what amount of waste they are producing so that they can minimize or recycle the waste in an efficient way. It also provides a mechanism to know individual contributions to environmental protection and how its global impact can save our environment.

Installing Squander via App-Store:

Our app can be downloaded from Apple App Store just by entering name of app "Squander" or simply by navigating to the Squander wiki page on GitHub at: https://github.com/anku518/Squander/wiki and then clicking a hyperlink to the app under the "Project Description" section

Requirements:
Requires latest Xcode version 13.3.1 and device with iOS version 15.4.1

Dependencies

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To train and work with the model on your own device, you will need the following dependencies:

- Python 3.7–3.10
    - _Depending on what version of TensorFlow you use, you need to have the right version of python._
    - _Python 3.10 support requires Tensorflow 3.10_
    - _Python 3.9 support requires Tensorflow 3.9_
    - _Python 3.8 support requires Tensorflow 3.8_
- pip 19.0 or later

In our jupyter notebook we use the following packages to train and work with our model:

- TensorFlow or TensorFlow-gpu
- numpy
- PIL
- matplotlib

To set up the environment to run our jupyter notebook or do it on your own you can take the following steps:

1. Install TensorFlow in your environment

`pip install tensorflow==[wanted version]`

or

`pip install tensorflow-gpu==[wanted version]`

2. Install Pillow in your environment

`pip install Pillow`

3. Install Matplotlib in your environment

`pip install matplotlib`

It is worth mentioning that it is recommended to do this work using a virtual environment and the steps below will teach you how to do just that:

1. Install virtualenv into your computer

`pip install virtualenv`

2. Create the virtual environment

```
python3 -m venv /path/to/new/virtual/environment
```

3. After the environment is created you need to activate the environment with the following command in the command prompt

```
.\venv\Scripts\activate
```

4. After the environment is activated you can install all the packages you need as specified in the previous steps.