Thales Business Class Enhancement

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Background

Recognizing that airlines want more differentiation between business and economy class and are often ready to pay for it, Thales has decided to launch a study called “re enchanting the business class” that aims at developing a technology demonstrator focused on the business class experience.

Objective

To provide exceptional service for business class customers, we desire to create a seamless process of service on customers’ requests. In other words, services are provided without the need to ask. To implement this, we use embedded cameras and sensors around the cabin to collect and analyze real-time circumstances. With detected and identified subjects, corresponding actions will be taken allowing service to be provided before any inquiry.

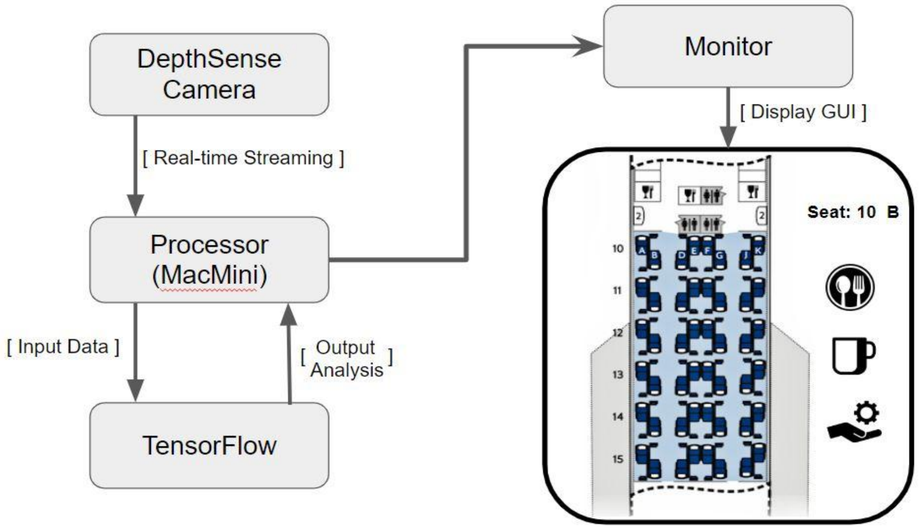
Software / Hardware

- Mac Mini
- Python
- Mac OS
- Softkinetic Depthsense DS325 Camera
- Tensorflow Object Detection

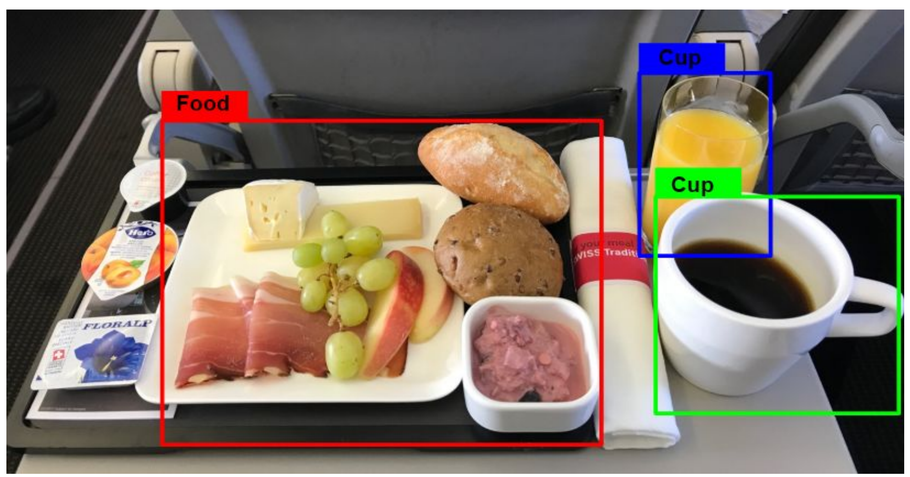
Progress

- Trained Tensorflow model to detect specific objects that come into view.
- Create a surrounding program that prints out the information gathered.

Project Schematic



TensorFlow Output



Challenges

- Differentiating between “Full” and “Empty” Glasses
- Determining functions for obstructed objects: i.e. Seatbelt that is covered by blanket.
- Porting our model so that it can run embedded in the cabin.

Future Work

- Enhance our model to provide more detailed information.
- Create the GUI to print out information in a more user friendly way.
- Have the program run “Offline” via microcontroller.
- Design model to work for multiple cabins

References

- Thalesgroup.com. (2019). *Thales InFlyt Experience | Thales Group*. [online] Available at: https://www.thalesgroup.com/en/markets/aerospace/thales-inflyt-experience
- TensorFlow", *TensorFlow*, 2019. [Online]. Available: https://www.tensorflow.org/. [Accessed: 14- Nov- 2019].