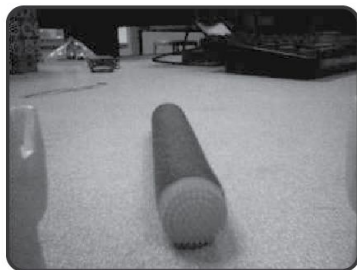


AnkiWhere

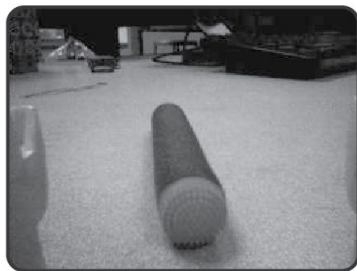
Object Detection with Neural Network







Mouse



Nerf



Pen



Cozmo



Pen



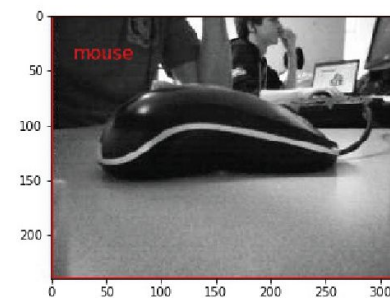
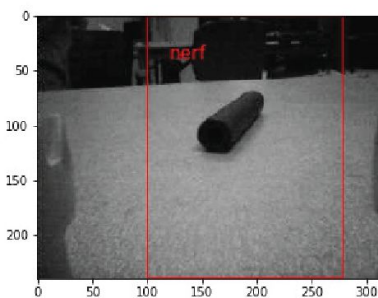
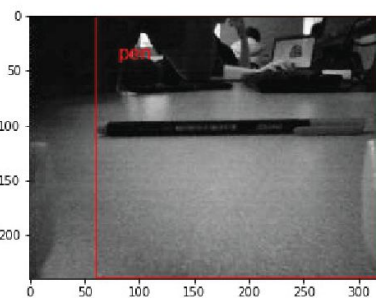
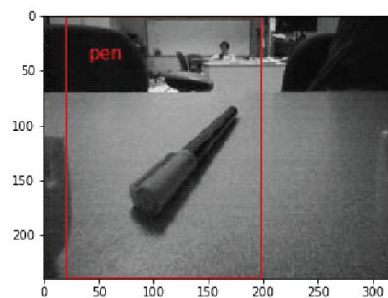
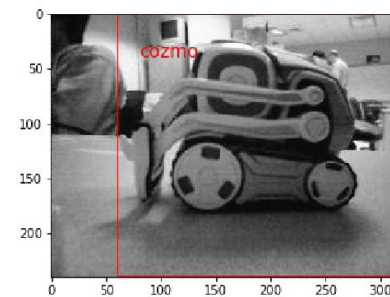
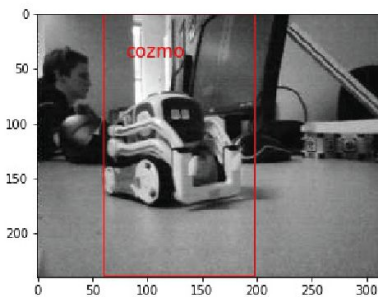
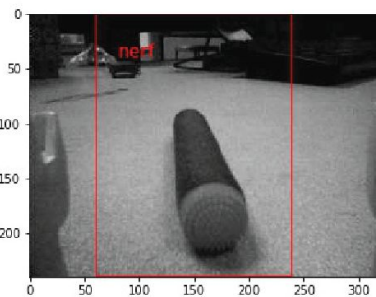
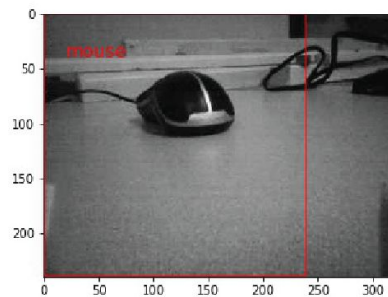
Cozmo

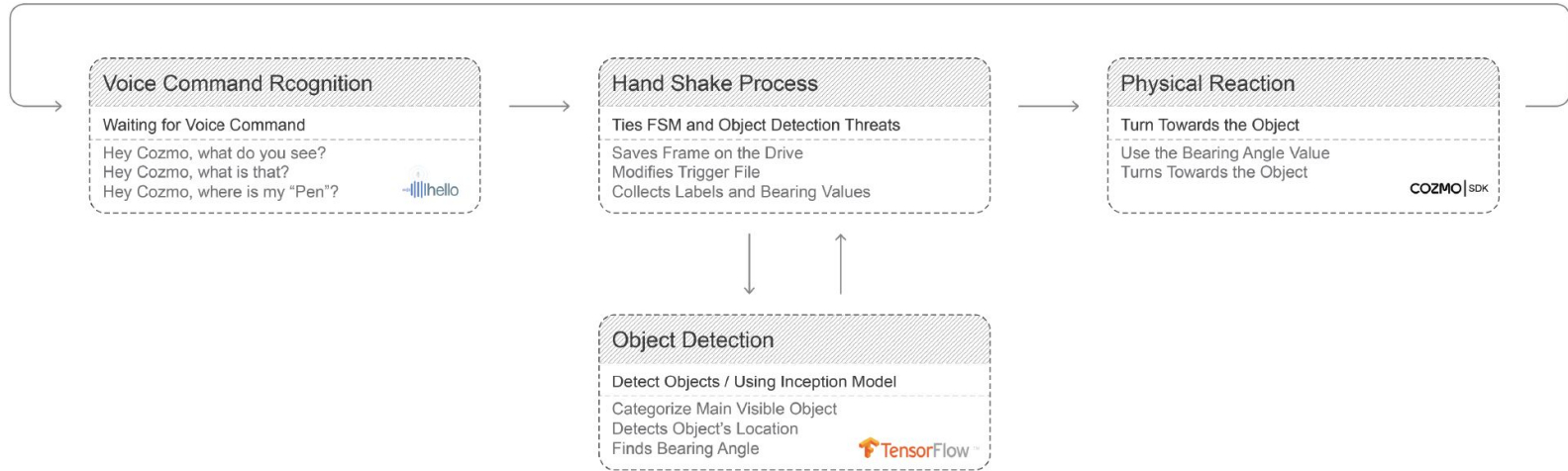


Nerf

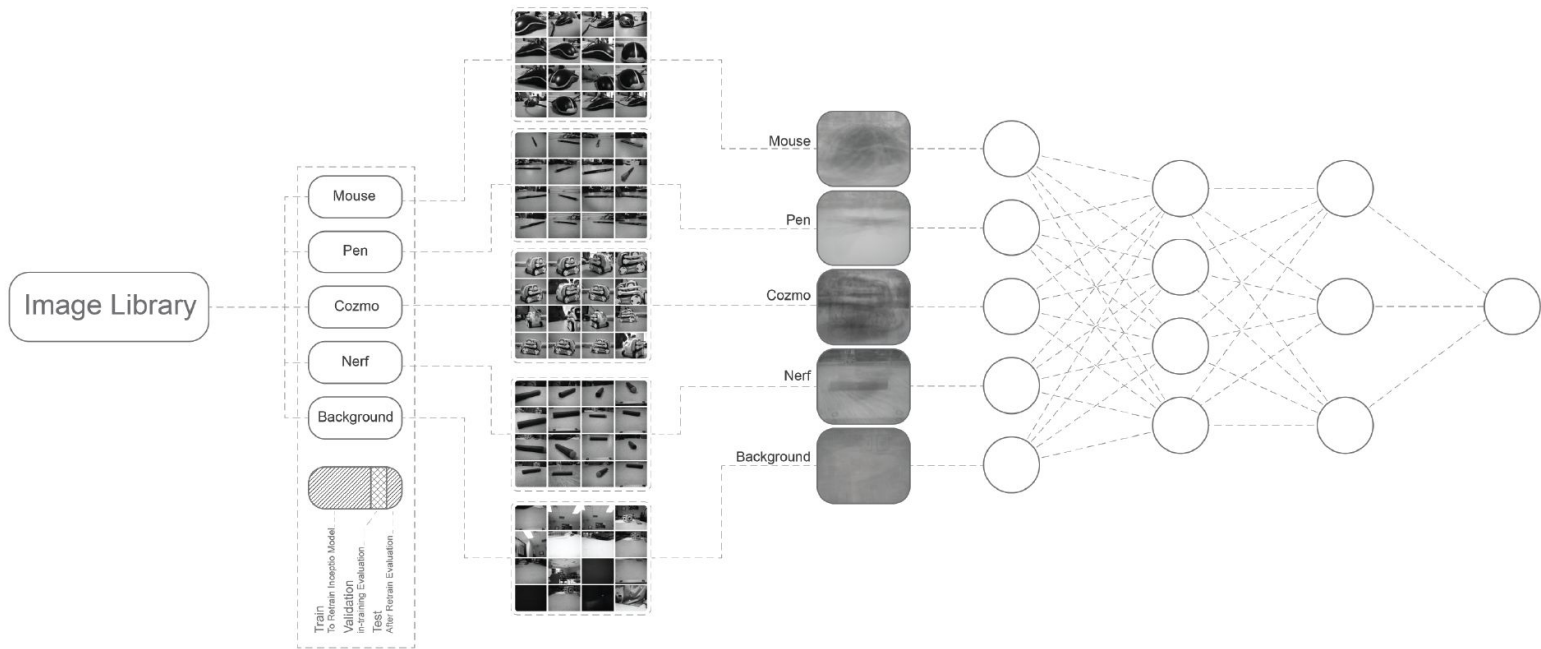


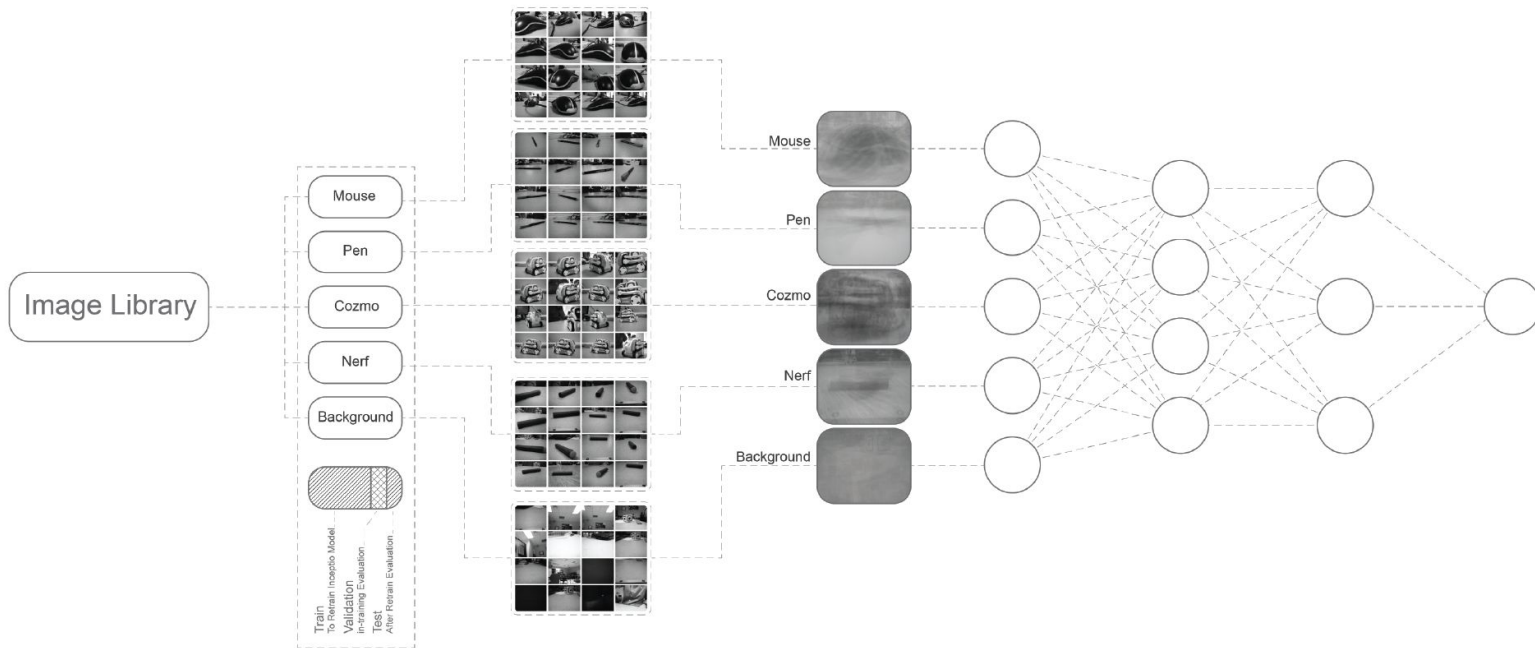
Mouse





Challenge #1: Object Recognition





Data Input

For every class, between 50-100 images from the Cozmo camera have been used to train the model. They should picture the object from various angles, in different lighting and environments.

Retraining Inception Model

Every class should be organized in a separated folder, based on the Inception architecture before training. On a low-end laptop, the training would take below 10 minutes for 5 classes.

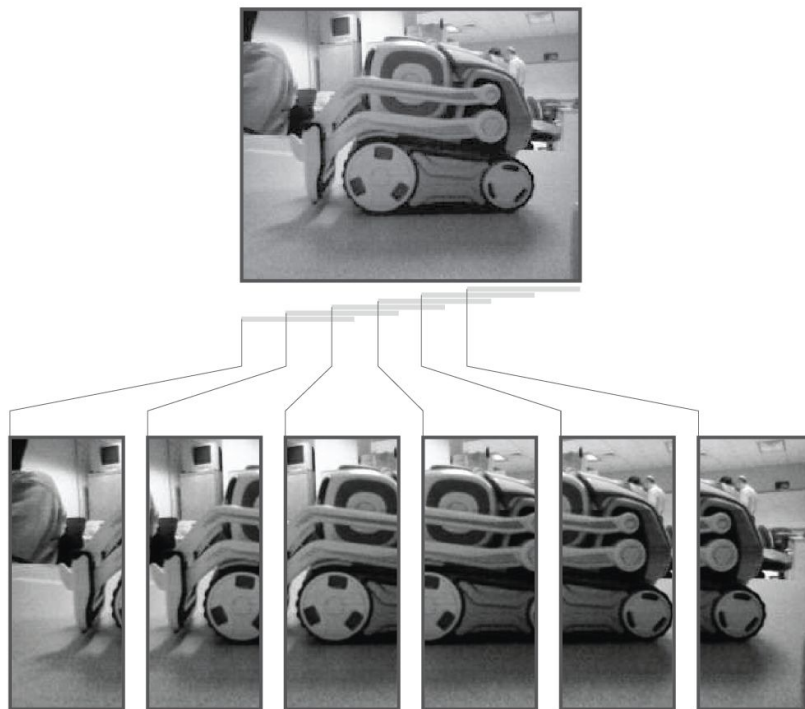
Challenge #2: Object Location

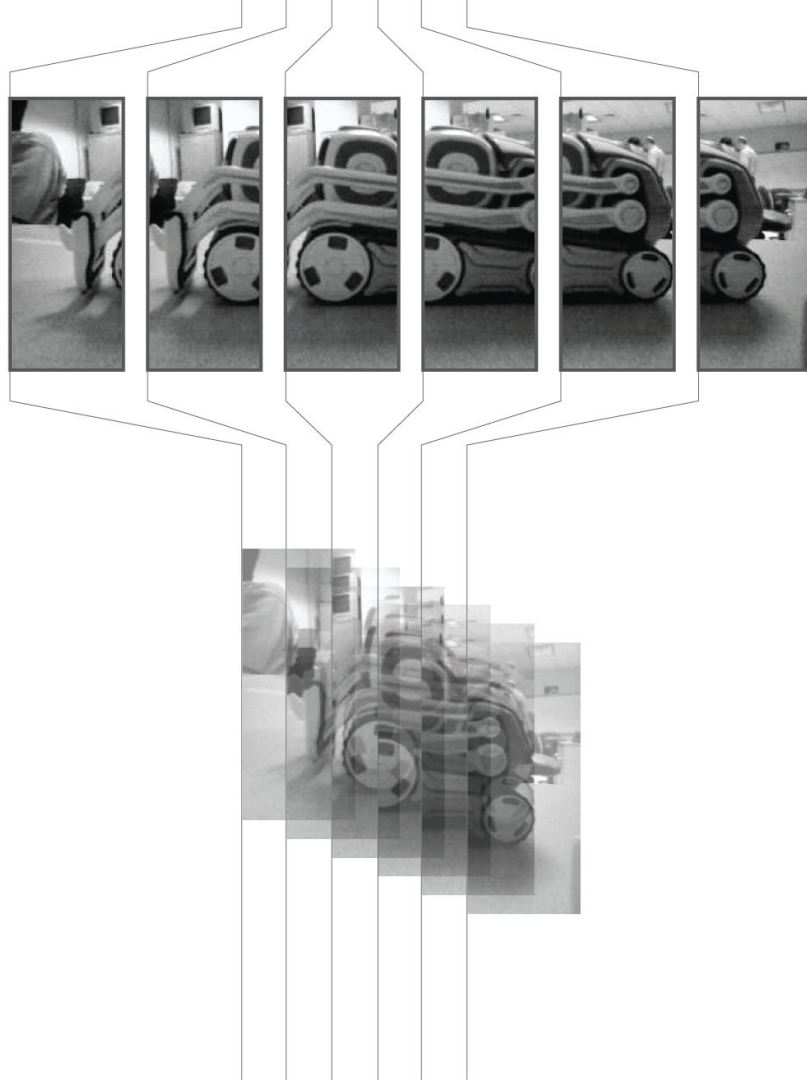
Original Image
from Cozmo Camera Feed



Object Recognition **Cozmo**
Using Retrained *Inception* Model

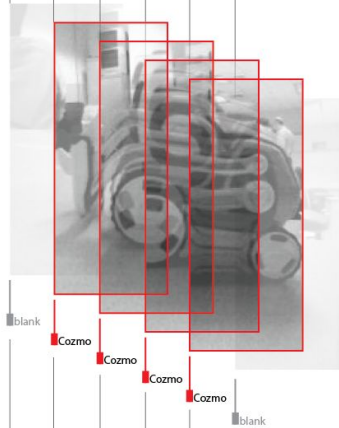






Object Region Detection

Using Retrained *Inception* Model



Locating

Finding Object's Boundaries



Locating

Finding Object's Boundaries



Marking

Draw Object's Boundary



Main Challenge:
Trainig Data Set
Optimzing Recognition Process

Next Steps:
Voice Command
Training Automation

Thank you!