Report Meeting Week 3
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-What is TrecVid
-Where we are at
-Where we are going
-Goals
What Is TrecVid

-To encourage research in information retrieval by providing a large test collection, uniform scoring procedures, and a forum for organizations interested in comparing their results'--TrecVid Website

-Multiple Tasks:
  - Surveillance event detection
  - Search
  - Content-based copy detection
  - **High-level feature extraction**
High Level Feature Extraction Task

- 'Participants will return for each feature the list of at most 2000 shot IDs from the test collection, ranked according to the highest possibility of detecting the presence of the feature.'  --TrecVid Website
The Features...

Classroom
Chair
Infant
Traffic Intersection
Doorway
Airplane_flying
Boat_Ship
Singing

Bus
Cityscape
Telephone
Hand
Person Eating
Nighttime
People-dancing
Person-eating
The Features Cont...

Person-applauding
Female_human_face_closeup
Person Playing Soccer
Person-riding-a-bicycle
Demonstration_Or_Protest
Person_playing_a_musical_instrument
The Features Cont...

Features range from 'easy' to detect:

To not so easy:
Our Approach

-Will be using bag-of-words along with logistic regression to create classifiers
Where we are at

-Jason has put together Perl and Matlab scripts to:

1) Extract positive and negative images for each feature

2) Compute feature vectors (using a Harris LaPlace detector to choose points and SIFT for the features) for each using an executable provided by Koen van de Sande (University of Amsterdam)

3) Create the codewords by clustering using K-Means

4) Create a histogram of codewords for each image
Harris LaPlace Detector
Dense Sampling Vs Harris LaPlace
Where We Are At

- This week, we implemented logistic regression to get classifiers for each image. The logistic regression is run on an augmented histogram (using thresholds for each codeword)

- Lots of preliminary set-up work!
Plan/Goals

- By the end of next week, get a basic system up and running to get preliminary results
- Once we get preliminary results, begin incremental improvements to the system
- Bootstrapping
- Motion/Optical Flow
- Different interest point detectors/thresholds
  - Dense point sampling
  - Code allows us to use own detector
- Different features (14 to choose from)
- Continue Annotating