3 Sample Project 1

This project is about analysis of news broadcast. You will be given a news video clip. Here are the tasks to solve:

1. Download three sets of news broadcasts: Lego Space man;Clowns.. Parliament
2. Download a set of male and female faces with gender labels: link
3. Detect shots in the videos. A shot is a set of consecutive frames with a smooth camera motion.
4. (Manually) Annotate shot boundaries in the video. How would you evaluate how well you are detecting the shots? Compute your performance.
5. Detect the news companys logo (without prior knowledge of location).
6. Detect faces in the video.
7. Perform face tracking by correctly associating a face detection in the previous frame to a face detection in the current frame.
8. Train a classifier that can predict whether a face is female or male. For each face track in the news video predict whether it is female or male. To do this you will take a few images of faces, compute image features and train a male-vs-female classifier, e.g., SVM, NN. Once trained, you will predict the gender of each face detection in the video. That is, youll take each face detection (a crop in the image specified by the face box), compute appropriate image features, and use your classifier to predict the gender of the face. How would you decide whether a full face track is female or male?
9. Visualize your results: produce a video in which you show a bounding box around the detected company logo, and bounding boxes around the detected faces. Each face bounding box should have text indicated whether the face is male or female.
10. **Bonus:** Can you detect the clowns as a 3rd or class?