

Soda Vision

Team Members:

Team Overlord

Robin *
Lingyun
Paul
Iman

Face.h

Primarily used for its constructor. When passed in an image of a cropped (ROI demarcated?) image, it automatically sets a list of feature points for use in morphing or as additional features in the subspace (if any are preserved after morphing)

Detect.h

Implements Image getFaceLocation(Image) which returns a cropped Image of a face or NULL depending on whether it found at least one face.
Future: Background Foreground culling with trickery

Morph.h

Implements Image Morph(Face)
Includes constants for the target regularization
Now: scales and crops to get key features (Left Eye, Right Eye, and Mouth) in appropriate places
Future: Pose estimation and virtual-bob rotation for transformation + weighted gradient preparation (Robin's)

Team Elephant

Paul *
Tom
Adam
Omid
Arash
Carolina

Space.h

Implements Image dropToSubspace(Face) and stores the PCA vectors to transform into the subspace.
Future: stuff that's fancier than eigen-faces

Dark Matter

Omid *
Tom

Repository.h

Stores the Subspace faces for fast lookup, insertion, and deletion, also must allow remote PCA or be subsumed into Space.h.

Pink Bloated Skeleton Crew

Tom *
Cynthia
Paul
Arash
Omid

Record.h

Storage unit for a single picture of a single person. Contains a ptr to the RC->loginid, a subspace image and a real image/real image ID if the real image is in the database. Also contains Timestamps for LRU.

Console.h

Allows for printing to the video feed for UI interface messages

RecordCollection.h

Storage unit for a person. Contains a login id, and a circular buffer (128 long) of Records. Implements a simple replacement policy so insert auto-deletes appropriate records with bookkeeping variables (ie stdev and mean)

Election.h

Contains the most recent votes and the rules for winning an election. To determine if someone one an election, just insert a vote. Null means nobody won, and a name...

RCS.h

RecordCollection Storage or (Record CollectionS) contain RecordCollections with real images eigen images and the real images before they've been written to the database. All Database transactions are done here.

Team Elite Hacker (general overwatch responsibilities)

Iman *
Omid
Arash

SodaVision.cpp

This is the file with main in it. It has three duties. First, it has to deal with the GUI (OCV). Second, it has to deal with the actual soda machine GUI (AMBUS). Third, it has to have all the logic that face recognition people actually care about.

Note: names with *s indicate the Point of Contact for people outside the team. "go-to people" or "team-leaders"