

RGB-D Sensor

color image,
point cloud

Head Detector

Haar detector on
depth images

color image and point cloud
patches for each head region

Face Detector

Haar detector on
color images,
feasibility checks

color image and point cloud
patches for each head region

Face Identification

illumination correction,
head pose correction,
Eigenfaces,
Fisherfaces,
SVM / Random Forests

detection results
(coordinates, bounding box, label probabilities)

Detection Tracker

detection tracking over
multiple frames using
the Hungarian method
for assignment and
HMM for label stability