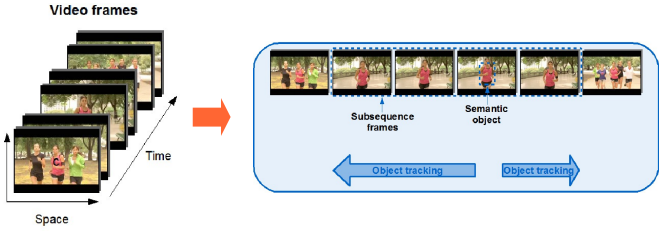
INTERACTIVE SEGMENTATION AND TRACKING OF VIDEO OBJECTS

Xavier Giró-i-Nieto and Manuel Martos

Departament de Teoria del Senyal i Comunicacions
UNIVERSITAT POLITÈCNICA DE CATALUNYA

Goal

This paper proposes a workflow for the **interactive segmentation** of video objects from a sequence of frames.



Architecture

Two existing processing tools, an **still mage segmentation tool** and an **object tracker**, are combined in the designed graphical user interface.

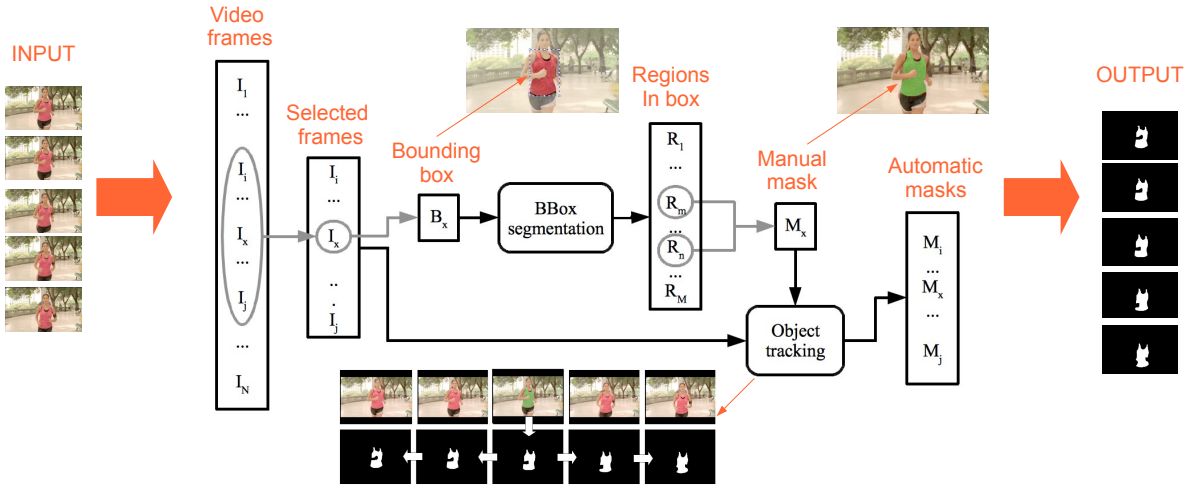
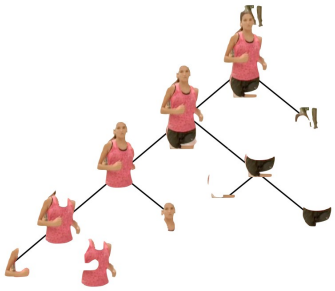


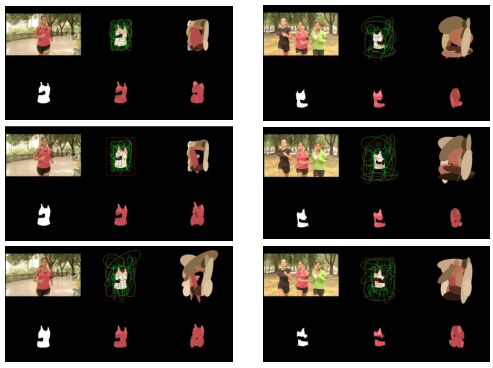
Image processing

The **segmentation tool** [Garrido 2000] generates a Binary Partition Tree (BPT) of the selected bounding box, that allows different strategies for interactive object segmentation [Giró-i-Nieto 2010].

Binary Partition Tree (BPT) of the object "runner"



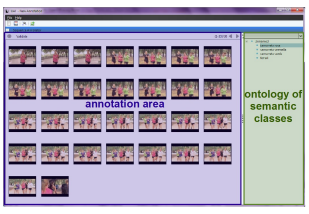
The **object tracker** [Gallego 2011] models both foreground and background with a Spatial Colour Gaussian Mixture Model (SCGMM) that dynamically adapts to changes in the scene.

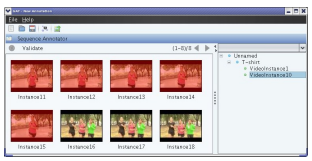


Application

The presented architecture has been implemented in the **GAT Annotation Tool**.

- Implemented in Java
- MPEG-7/XML annotations
- Download and open source available at http://upseek.upc.edu





Departament de Teoria del Senyal i Comunicacions
UNIVERSITAT POLITÈCNICA DE CATALUNYA
Generalitat de Catalunya
Corporació Catalana de Mitjans Audiovisuals
buscomedio
MINISTERIO DE CIENCIA Y TECNOLOGÍA
CDTI Centro para el Desarrollo Tecnológico Industrial