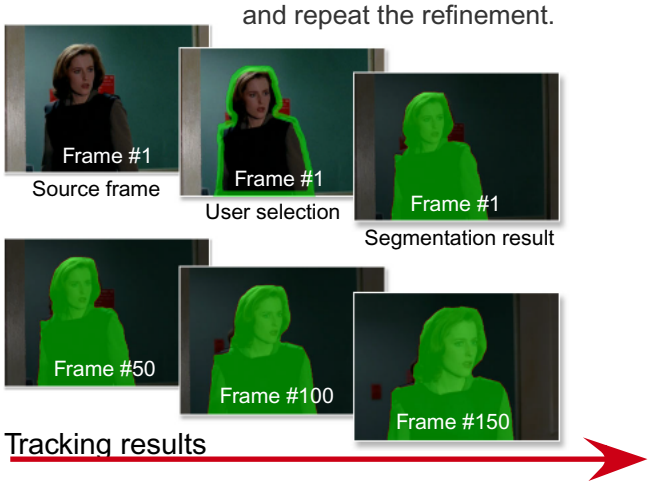
YUV Segmentation Tool

Easy to use tool for semiautomatic video segmentation

Video segmentation is a critical task in video filtering and compression, but automatic video segmentation is extremely difficult.

Therefore, a more realistic semiautomatic approach is used in this technology.
In the semiautomatic approach, the user must specify an initial selection of the object that is then refined automatically. The user can later correct the selection and repeat the refinement.



Primary Applications

- Video montages
- Special effects
- Accentuated filtering
- Intelligent compression

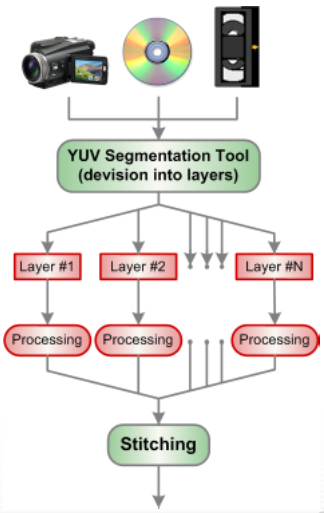
Key Features

- Handy
- Only objects of real interest are selected
- No known direct competitors
- Adjustable speed/quality trade-off

Basic Deliverables

- Source code for a reference implementation in C
- C and assembly language source code for an implementation optimized for the PC (if required)
- Algorithm description
- Software description
- Verification instructions

Scheme of YUV Segmentation Tool typical use



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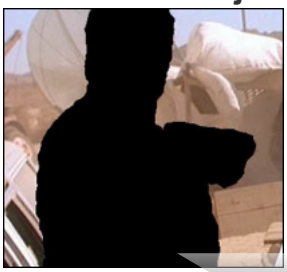
Specification

- GUI tool and stand-alone application
- One-pass processing
- Controllable speed/quality trade-off
- Integer arithmetic
- Memory usage no greater than 12 bytes per pixel for first frame segmentation and 32 bytes per pixel for segment tracking
- Performance of non-optimized C reference model is 1.5 fps for a CIF video on an Intel Pentium 4 2.8 GHz PC
- Ample potential for parallelization

Example of YUV Segmentation Tool Use in 2.5D Technology

Object selection



Object and Background Processing

Stitching

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