

Gesture-based Dicom Image Viewer Control

Team

- Miloš Železný
- Zdeněk Krňoul
- Miroslav Jiřík
- Tomáš Ryba
- Ivan Pirner
- Petr Zimmermann

Dicom Viewer

DICOM (Digital Imaging and Communications in Medicine)

- Standard for storing, printing and transmitting information
- Includes
 - File Format
 - Communication Protocol
- Modalities
 - X-Rays (2D)
 - Computer Tomography (3D)
 - MRI
 - ...
- Metadata
 - Patient Name
 - Diagnosis

Thumbnail navigation icons: Back, Forward, Home, List, Grid, Key, Key, Film, Copy, Paste, Rotate, Zoom, Hand, Mouse, Info.

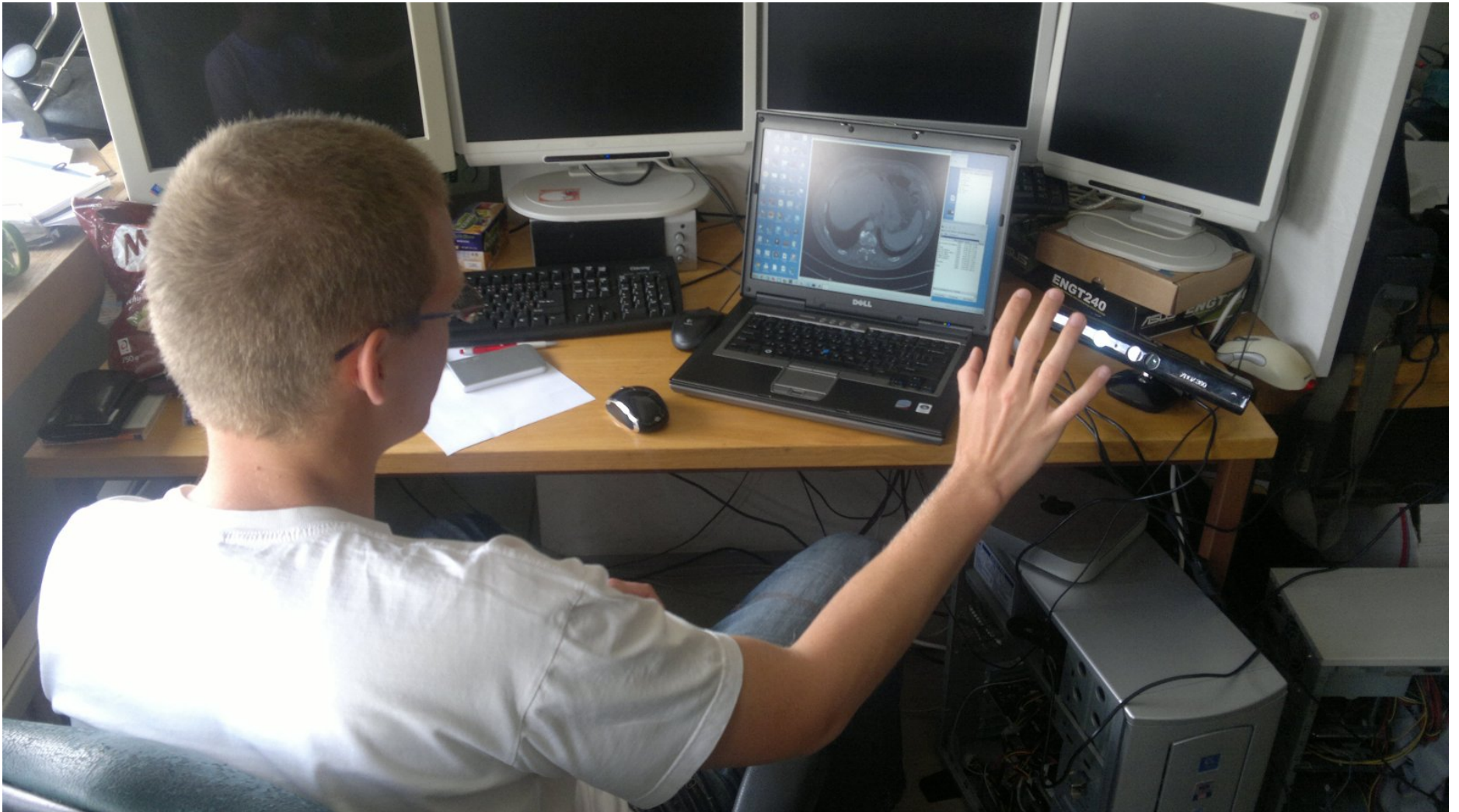
Explorer: MISTER, MR - 832040

| 832040 MISTER, MR | H | 3-PLANE LOC 0000000002 08-Jan-2001 Acq: 12:00:23 Se: 1/8 Im: 27/26 Loc: A30.0 | 832040 MISTER, MR | H | SAG T-1 0000000002 08-Jan-2001 Acq: 12:03:19 Se: 2/8 Im: 13/13 Loc: R18.4 | 832040 MISTER, MR | H | CORT-1 0000000002 08-Jan-2001 Acq: 12:11:05 Se: 3/8 Im: 1/20 Loc: P26.3 |
|--|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| 256 x 128 ET: 0 TR: 75.60 ms TE: 1.70 ms HEAD Thk: 5.0 mm Zoom: 1.20x W:812 L:406 (Au...) | | 15000.0T STATION_NAME GENESIS_SIGNA DFOV: 24.0 x 24.0 cm | 512 x 192 ET: 0 TR: 450.00 ms TE: 9.00 ms HEAD Thk: 3.0 mm Zoom: 0.60x W:1916 L:958 (A...) | | 15000.0T STATION_NAME GENESIS_SIGNA DFOV: 20.0 x 20.0 cm | 512 x 192 ET: 0 TR: 650.00 ms TE: 9.00 ms HEAD Thk: 3.0 mm Zoom: 0.60x W:1568 L:779 (A...) | | 15000.0T STATION_NAME GENESIS_SIGNA DFOV: 20.0 x 20.0 cm |

DICOM Viewer

Our Goal

- control DICOM viewer image with gestures



Motivation

- Doctor cannot touch keyboard and mouse
- Keep sterile hands

Motivation

- Doctor cannot touch keyboard and mouse



What have we done?

- Simple DICOM viewer in Matlab

What have we done?

- Simple DICOM viewer in Matlab
- Tracker
- Gesture classifier
 - Dynamic time warping (DTW)

