

# User Guided Tracking Quick Guide

This is a quick guide for running the Matlab application UGT (User Guided Tracking). For details on using this application please read *User\_Guided\_Tracking\_Full\_Guide*.

## 1) Start UGT

Open Matlab. Type the following into the command line and press enter

```
cd C:\Simulated_Surgery_Software\Matlab
```

This will change the current Matlab folder. Now type the following in the command line and press enter

```
pathScrip
```

A message will be displayed saying Simulated Surgery Folders are being added to the Matlab path. UGT is started by typing the following into the command line and pressing enter

```
UGT
```

## 2) Open VirtualDub

VirtualDub is a tool for quickly browsing video frames. To open it, type the following into the Matlab command line and press enter

```
VirtualDub
```

You should open the file you plan to perform tracking on in VirtualDub first. To do this select "File"-->"Open Video File". A bar near the bottom of the program provides frame seeking. The frame number is given by a text indicator below the seek bar. Use VirtualDub to identify the first and last frame you want to perform tracking on.

## 3) Start New Tracking File in UGT

In UGT select "File" --> "New Tracking". Select the surgical exercise video followed by the background video captured using *vidCaptureGUI*.

## 4) Initialize Marker Template

Set the current frame of UGT to the first frame identified using VirtualDub. This can be done by editing the box containing the current frame number. Then, press the "Initialize Template" button. Initialize the marker window and mask. See **Section III b** and **V d** of the full guide for a detailed explanation on how to do this properly. The window should contain the striped region along with the top of the paper marker. The mask should enclose the entire striped region of the marker.

## 5) Save Tracking File

To save the tracking data, select "File" --> "Save Tracking". A window will open allowing you to save the tracking information to a .mat file. This file can be updated. Additionally, it can be loaded and tracking can be continued. You should remember to save the file before exiting or starting a new tracking file if you want to save the changes since your last save.

## 6) Run the Tracking

Using the labeling buttons and "Auto-Pilot" automation routine, perform instrument tracking. Please see the Full Guide document on how to do this.

## 7) Start New Tracking

After finishing tracking on this file, save the tracking data. To start a new tracking file using the same video, navigate to the desired starting frame and press "Initialize Template". Tracking will initialize at this frame after the template is set. To start a new file (different video) select "File" --> "New Tracking". Otherwise you can close with "File" --> "Exit".