

## Mission Proposal

In the course of my thesis, I have developed an algorithm for finger tracking using computer vision. The algorithm has been implemented in EyesWeb 3, a software application developed by InfoMus laboratory DIST-University of Genoa that provides computer vision building blocks for researchers. The algorithm is designed to work with hand moving on a plane (flat surface like a desk, for example) and was used in my thesis project for the detection of guitarist fingering. The aim of this scientific mission is to explore the possibility to use the algorithm or a similar one to perform a hand-tracking task in space. The objectives of the proposed scientific mission are consequently:

- To migrate the algorithm to EyesWeb 4;
- To modify the algorithm to perform hand tracking in general situations or to develop a new algorithm;
- To validate the algorithm by performing hand-tracking on a database of video image;

The algorithm for hand tracking will then be used to track hands of actors in an emotion database. The hand trajectories will then be analyzed to establish a set of cues (amplitude, rhythm, etc...) that hopefully can characterize hand motion associated with the expression of an emotion. The result of this study will be compiled and published in the form of an article to be distributed on the Gesture Workshop, HUMAINE network or another pertinent network or conference.

March 2007						
S	M	T	W	T	F	S
25	26	27	28	1	2	3
... Migrate algorithm to EyesWeb 4 ...						
4	5	6	7	8	9	10
Mission – Modify and test algorithm for hand tracking						
11	12	13	14	15	16	17
Mission – Modify and test algorithm for hand tracking						
18	19	20	21	22	23	24
Mission – Modify and test algorithm for hand tracking Establish data collection procedure						
25	26	27	28	29	30	31
Mission- Collect and analyze data Write an article ...						