

STSM Work Plan for Till Bovermann

The primary goal of this STSM is to participate to the one week workshop on tangible gesture desks, organized by Martin Kaltenbrunner and held at Universitat Pompeu Fabra.

In his Diploma thesis Till Bovermann has worked among others on a multi-modal framework for interactive exploration, called *EmSie*.

His research interests are therefore focused on interactive and multimodal techniques for exploration of high-dimensional data.

Till Bovermann is involved in setting up a tangible desk (*tDesk*) offering besides tangible interactions also the possibility to use arm gestures to interact with sonification, which is an ongoing project at Neuroinformatics Group, Bielefeld University.

In this context the experience and knowledge of Martin Kaltenbrunner as a designer of the human computer interface of the *reactTable* can be used to improve the design of the Bielefeld *tDesk*.

In particular during the stay we plan to

- § communicate the experiences during the set-up of the different tangible desks,
- § exchange our frameworks on interactive data exploration systems (*EmSie*) and gestural HCI (*reactTable*, *tDesk*),
- § establish an interface between the *reactTable* and *EmSie*, which implies an interconnection between *reactTable* and *tDesk*, and
- § investigate different gesture types which can be used to explore virtual data spaces.

The work on the interconnection of the different approaches will mainly be done using the *reactTable* located at the STSM-host.

This STSM offers the opportunity to combine knowledge on the domain of gestural human computer interaction (from the research in Barcelona) and interactive data exploration/data mining at Bielefeld University.

This combination of techniques will help to force the development of model-based and physical motivated aspects in human-computer interaction at Barcelona, whereas the knowledge on human computer interaction will be of use in the development of the *tDesk* at Bielefeld.

Since *EmSie* is at least a framework for distributed exploration systems, it would be possible to implement an interface to use both, the *reactTable* and the *tDesk* to conjointly explore high-dimensional data sets, and show the results to each other on the fly.

As a result of the STSM the connection of different hardware systems (*tDesk* and *reactTable*) will also establish a closer connection between the participating research centers, and therefore of the whole *ConGAS* community.