



Bachelor's or Master's thesis project – Designing a movement repertoire for a virtual human

What is it about? A Virtual Human is expected to react to others and the world by selecting an appropriate movement (gesture, locomotion,...) from a big set of movements he is capable of - this set is called a movement repertoire.

Assignments/Research questions: In this project you will be designing a subrepertoire for a certain type of movement of a virtual human. This motion repertoire is to be embedded in our Virtual Human behavior realizer framework (<http://asap-project.org/wiki/AsapRealizer>). Using such a subrepertoire, it should be possible to fully generate animation of a certain movement type given movement parameters (like timing, amplitude, direction, target, intensity). You are free to select what movement type you want to model. Examples include head and eye movement for gaze, arm gestures for pointing, walking, etc.

The movement model used to generate the motion could be based on models from biomechanics or behavior science, or could consist of clever combination and adaptation of recorded motion.

Motion capture (e.g. recordings from our group, or from motion capture libraries that are available online (<http://mocap.cs.cmu.edu/>)) could be used as a basis for your motion repertoire, to get some inspiration for a model that can be used to generate the repertoire and as 'ground truth' for evaluation.

Suitable for projects, bachelor and master (depending on the subrepertoire selected).

