- Virtual Humans at LAAS-CNRS

People

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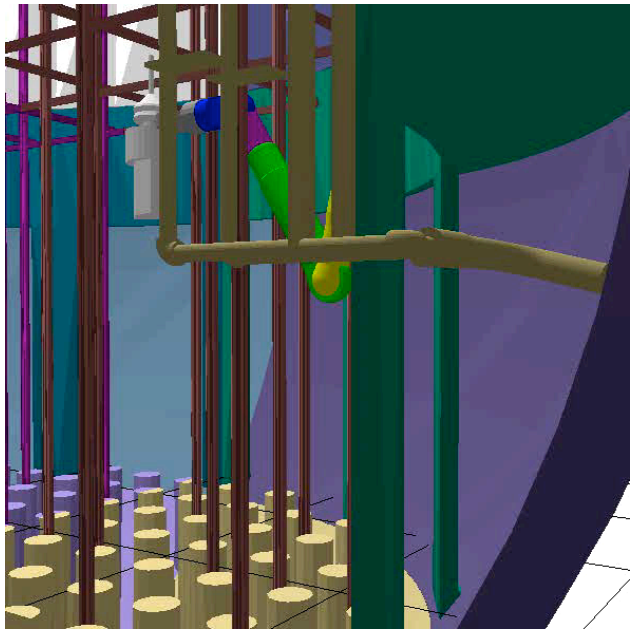
Research Topics

- Motion planning and control for virtual beings
- Man - Robot interaction

Robot algorithms based animation

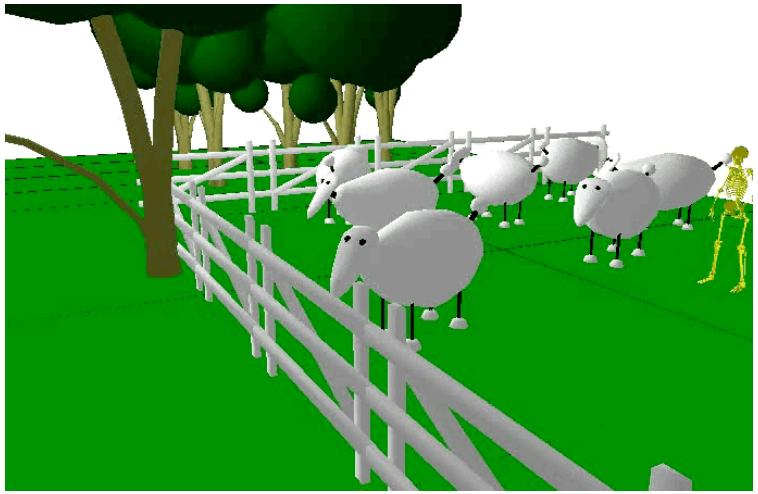
- Take advantadge from robot algorithms



Robot algorithms based animation

- Take advantadge from robot algorithms

  a first approach… after Stanford, Tokyo, Seoul…



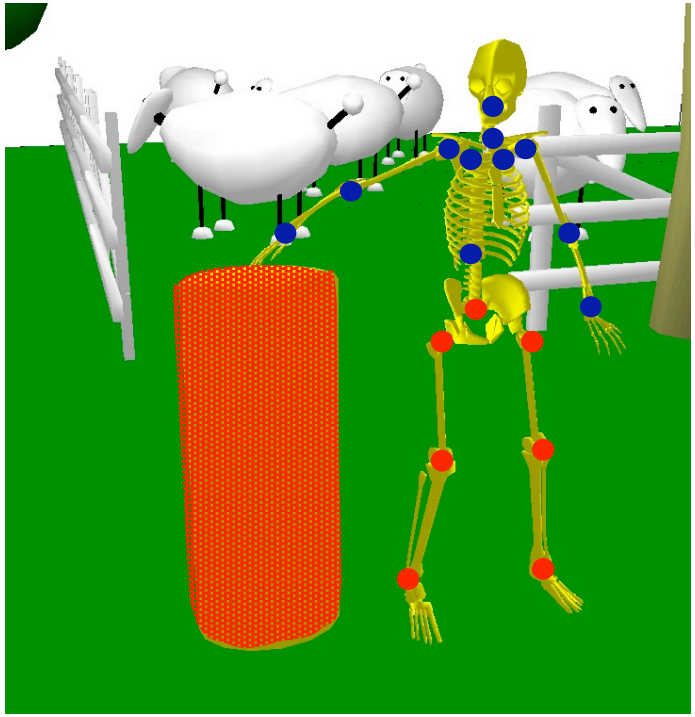
combining

- motion capture (realism) and
- planning (autonomy)

General scheme

- Global path planning and animation
- Local post-processing

Modeling Eugene

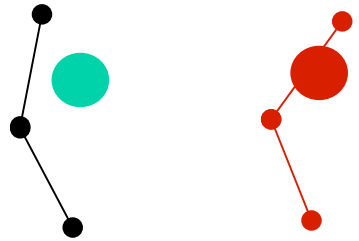


Active DOF

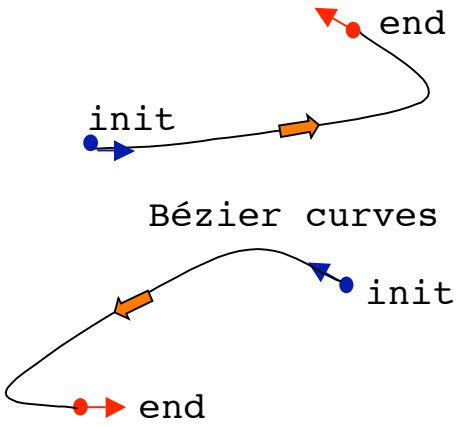
Reactive DOF

Path planner ingredients

- Collision-checker



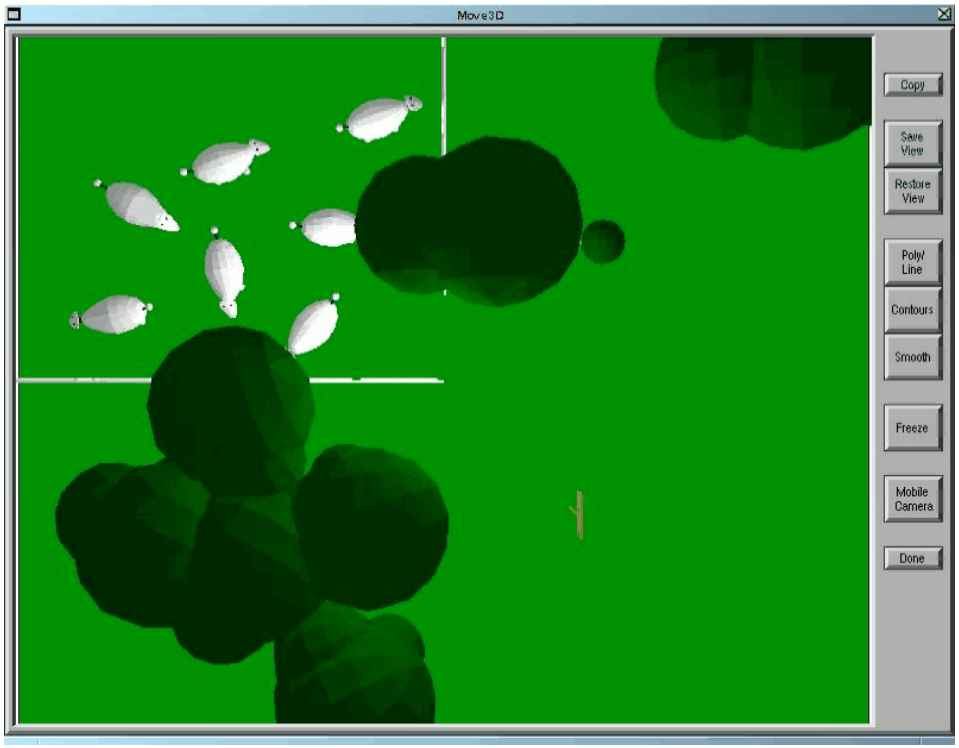
- Steering method



- Visibility probabilistic roadmaps

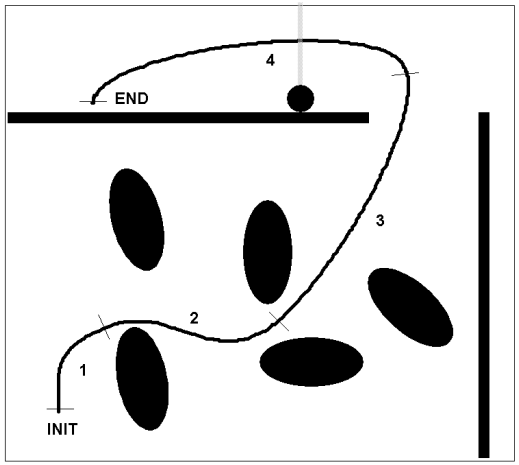
Path planner

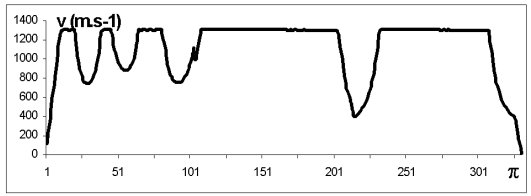
- Sampling - Query - Optimization



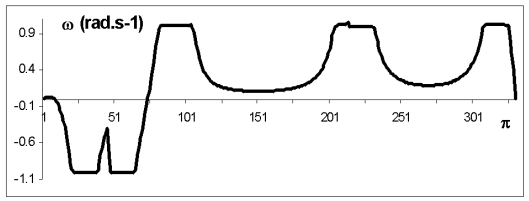
From paths to trajectories

Optimal time parametrization

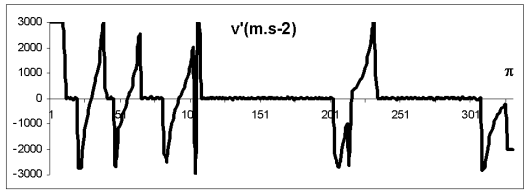




linear velocity



angular velocity



acceleration

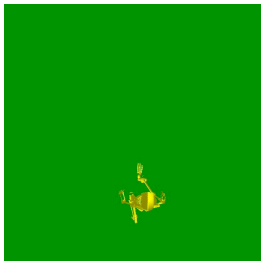
From motion capture to motion control

Trajectory tracking

Motion capture basis

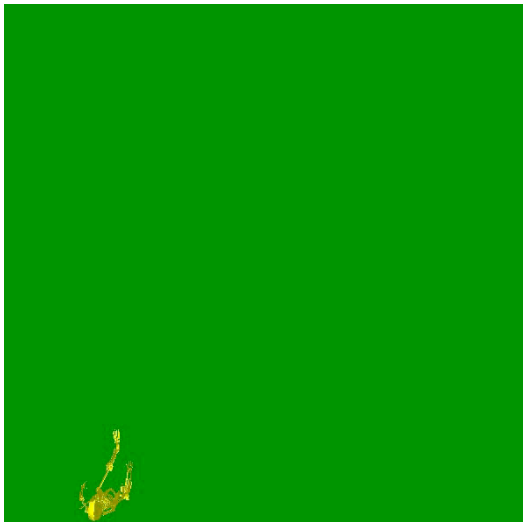
run

walk



turn

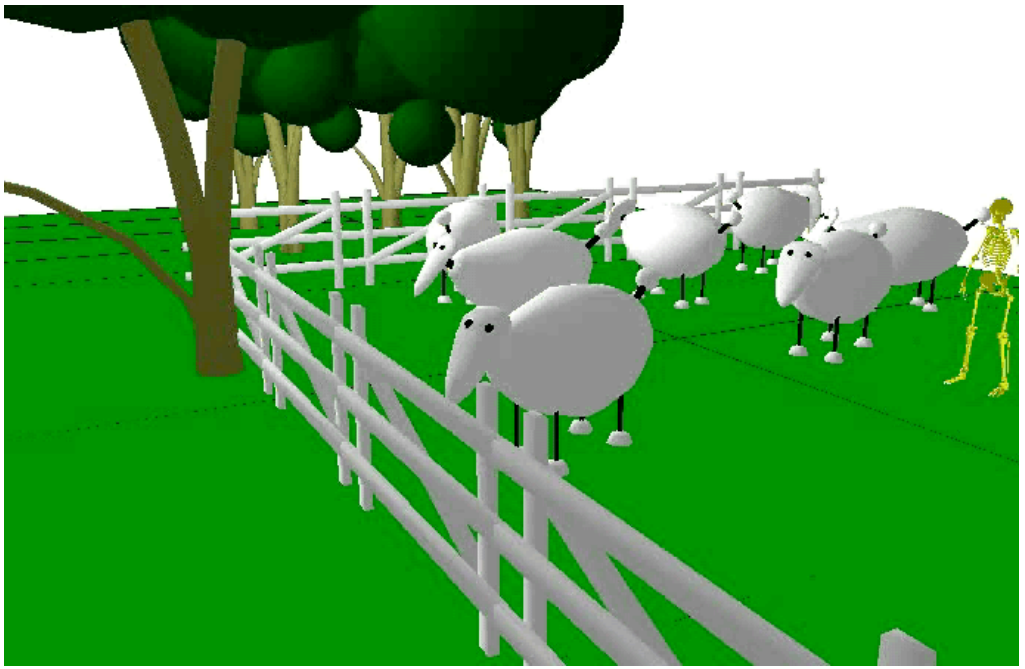
Motion control



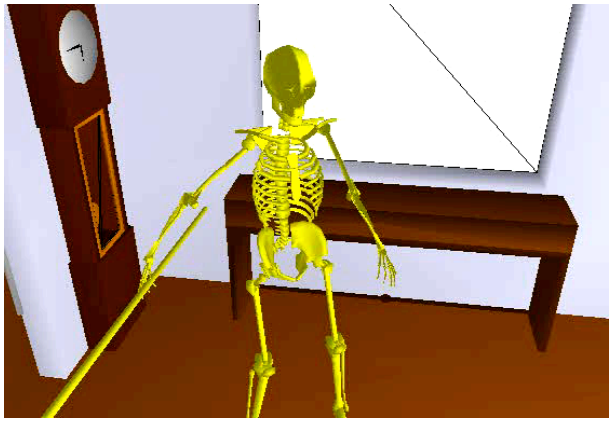
Residual collision

- Configuration warping on reactive dof

Results



Results



Current directions

- Add dynamics to geometry and kinematics
- Manipulation task planning
- Human being - Robots interaction modelling
- Transfer KINEO