Soar – First impressions

SOAR Workshop

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Plan

1. Introduction

- ✓ School & Labs
- ✓ Résumé & Ph.D. Thesis

2. First steps with Soar

- Why Soar ?
- Difficulties encountered
- Expectations for the workshop

Université de Technologie de Compiègne

> **FRANCE**

- 40 min from Paris by train
- Member of « Grandes Ecoles »
- 5,000 students
- Both University & Engineering school
  - ✓ Computer Science, Biology, Mechanics, Architecture & Civil Engineering, Chemistry

Heudyasic Laboratory

➤ **Complex Systems Heuristics and Diagnosis**

- 4 research teams (~150 people)
  - ✓ Robotics, Image & Decision, Networks & Optimisation
  - ✓ ICI : Information Knowledge Interaction

    Knowledge Management

    Tutoring systems & Serious Games

    Multi-agent systems

    Virtual Reality

    Autonomous Virtual Agents

My Team

> **Ph.D. supervisors**

- Domitile Lourdeaux
  - ✓ Virtual Reality & Knowledge Representation
- Jean-Paul Barthès
  - ✓ Multi-agent systems

> **V3S Project**

- Intelligent tutoring system
- Build virtual autonomous agents using human factors and show how it influences decision making in risky environment
- Lydie Edward, Kahina Amokrane
- Small contribution during my 1st year of Master's Degree -> Graph of personal characteristics evolution (hunger, thirst, tiredness…)

V3S Project

➢ **Almost done!**
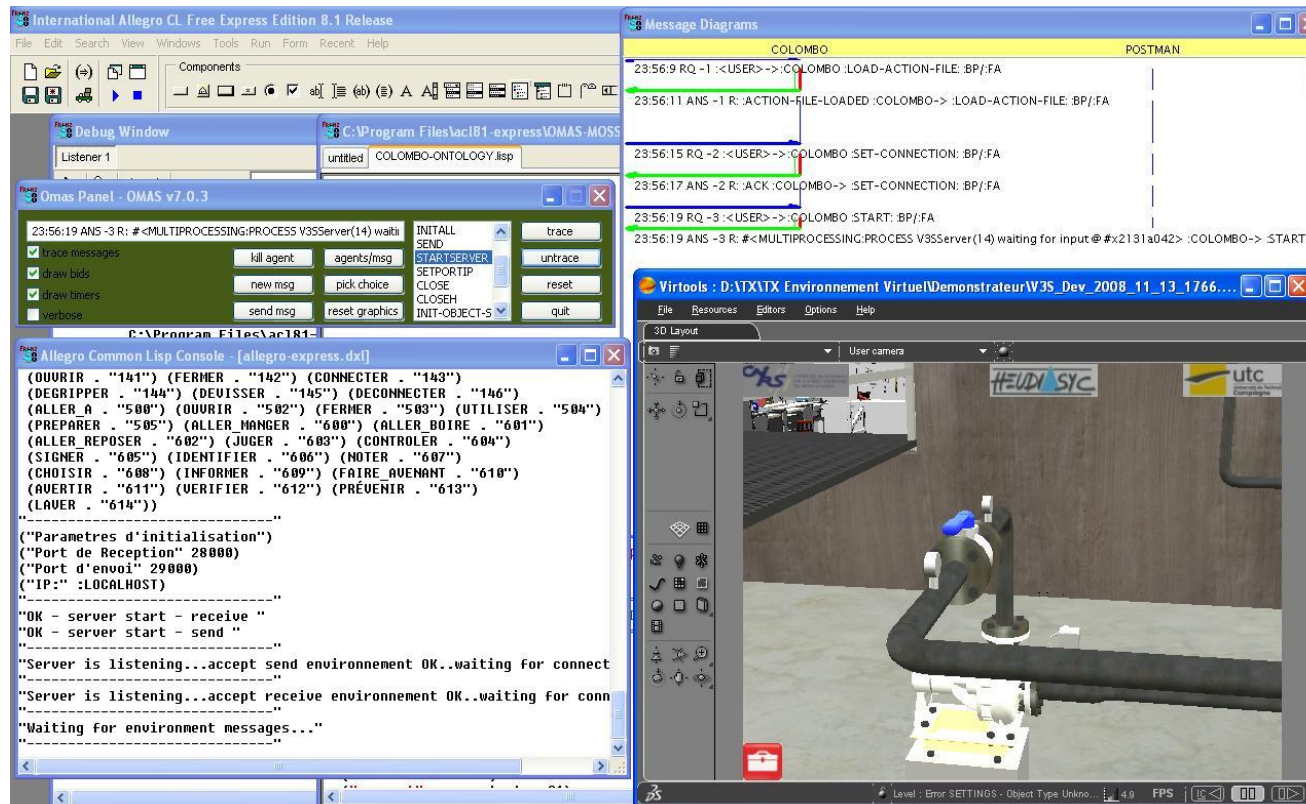
Resume

- **Bachelor's Degree in Maths & CS (3 years)**
- **Master's & Engineering Degree in CS (3 years, UTC)**
- **6-month internship at MASA Group**
  - Behavioural modelling (Army Training simulation SCIPIO)

- **Ph.D. Thesis (3 years, UTC)**
  - From 10/2009 to 10/2012
  - Defense Ministry Grant (DGA = french DARPA)
  - « Autonomous virtual agents: from emotions to collective behaviours »

Problematics

- ➢ **WHAT ?**
  - To formalize emerging collective behaviors (social, cultural) from individual behaviors
- ➢ **WHY ?**
  - To simulate complex interactions for training needs or decision-making support.
- ➢ **HOW ?**
  - Human Virtual agents
  - Deal with uncertainty (BDI-model)
  - Implement Emotions & Personnality (OCC & OCEAN)
  - Physiological and physical models
  - Knowledge representation (world objects, agents, actions)

SAGECE Project

➢ **Objective :**

- Train firemen to deal with crowds

➢ **Scenario :**

- Radioactive & biological terrorist attack in a crowded mall

- Victims gathered in lines waiting for individual decontamination

- Firemen have to deal with the mall's evacuation and victim gatherings.

Soar

- ➢ **Why Soar?**
  - Solid architecture
  - Evolving architecture
  - Open-source
  - Big community of researchers
  - Internet support
  - Still plenty of things to discover : curiosity !

Soar – First steps

➢ **Soar**

  - Generally « ok » (thanks to the tutorials)
  - Except on the planning part (still not very clear)
  - Have not tried new kinds of memories yet

➢ **Integration with third-party**

  - Difficulties to have the project compiled
  - SML & Thread composition not easy to understand

Soar – Expectations

- **Workshop**

  - Meet the Community
  - Have a global view of Who does What and discover the different domains Soar is used in.
  - Clear « unclear » points !

- **Later**

  - More documentations for « newcomers » ?
  - Best Practice Guides ?
  - Microsoft Visual Studio 2010 compliance ?

The End !

➢ **Thank you for your attention.**

➢ **Any questions ?**