UNIVERSITÄT BIELEFELD
Faculty of Technology

SOCIAL COGNITIVE SYSTEMS
AG Kognitive Systeme und soziale Interaktion

Virtual 3D Simulation Environments for Multi-Agent Collaboration

Bachelor - This thesis project involves integrating the Python-based cooperative multi-player game “Cooperative Cuisine,” similar to Overcooked, into suitable 3D simulation environments such as VirtualHome (a first-person 3D simulator) or MuJoCo (a physics-based environment). The aim is to create a seamless and immersive simulation experience that combines the cooperative game-play mechanics of the game with the sophisticated features of these advanced simulators (e.g. collisions, field of view, object handling, immersive 3D visualization).

Tasks

- Evaluate the compatibility and integration requirements for VirtualHome and MuJoCo environments.
- Develop and implement the necessary object updates to transfer the Cooperative Cuisine logic into the selected 3D simulator.
- Test and debug the integrated simulation to ensure functionality and performance.

Your Profile / Learning Goals

- Strong proficiency in Python and experience with object-oriented programming.
- Interest in 3D simulation environments (VirtualHome or Mujoco).
- Ability to analyze and understand complex codebases.
- Experience or interest in game development and simulation design.

Interested?

If you are interested or have further questions, please send an email to `fschroeder@techfak.uni-bielefeld.de`.

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