Autonomous Software Agents Project Report

Cappelletti Samuele - 247367 samuele.cappelletti@studenti.unitn.it
Lazzerini Thomas - 247368 thomas.lazzerini@studenti.unitn.it

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1 Introduction

This document contains the final report for the Autonomous Software Agents project, where one or more agents have to play in the Deliveroo.js game. Agents developed in this project must implement the BDI (*Beliefs, Desires, Intentions*) architecture (Fig. 1) where the agent is able to sense the environment defining an internal belief, generate a set of possible intentions, and commit to one or multiple of them via a plan-based system while performing a constant revision of both intentions and beliefs.

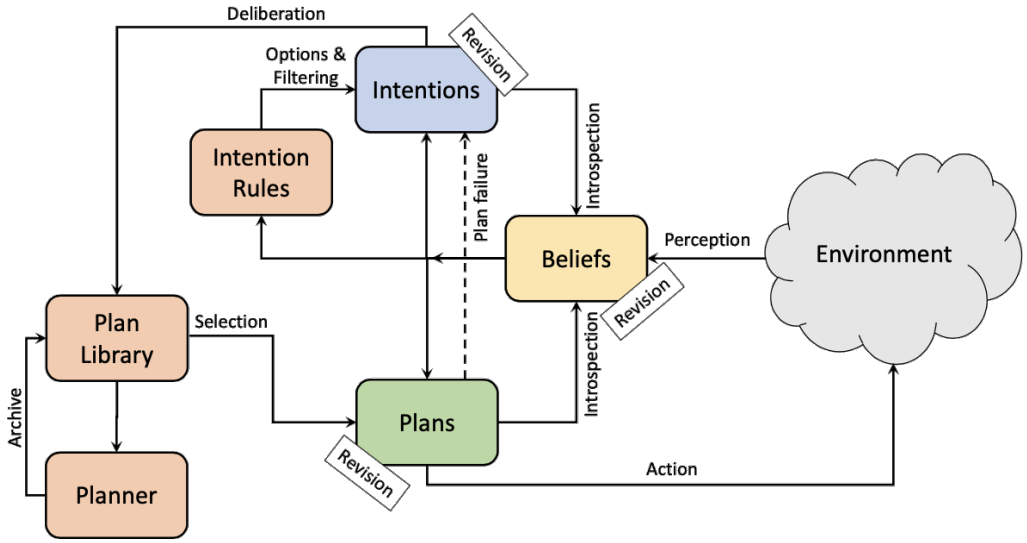

Figure 1: BDI architecture diagram used during the agent development

The project is composed by a single agent part and a multi agent part. The former should include a single agent implementing the basic functions necessary to him to work correctly. In particular, the agent should represents and mange beliefs from sensing data activate intentions and act on the environment and use predefined plans to achieve its intentions. All of this, while performing a constant revision of beliefs and intentions to allow him to stop, hold or invalid the current running intention. This permits the agent to act accordingly in a rapid evolving environment. Once these functions have been achieved, the agent should interact with an automated planning utility to get the actions to perform.

The latter should include two agents that cooperate to achieve the goal, communicating to exchange beliefs, coordinate and negotiate.