Autonomous Software Agents
LogicLegion - Final Report

10 Giugno, 2024

github.com/giulianbiolo/asa_agent

Giulian Biolo - 248726 giulian.biolo@studenti.unitn.it

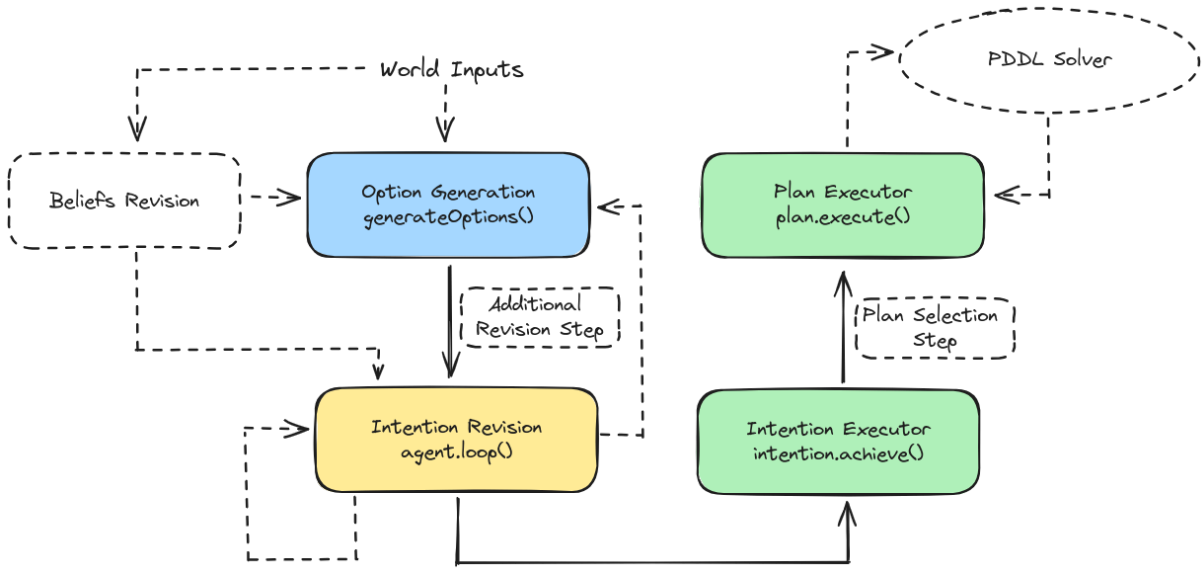
Project Overview & Objectives:

The following is a report regarding the detailed steps taken to implement and execute an autonomous agent capable of collecting packages and delivering them to the designated delivery zones in the Deliveroo.js simulation environment. It is divided in two main parts:

- The first part focuses on the implementation and testing of Agent A, which is responsible for achieving it's tasks autonomously.
- The second part focuses on the implementation and testing of the code necessary to coordinate two agents, with same underlying engine as the first part agent, such that they can work together to achieve the same goals.

Design and Implementation of Agent A:

The basic model around which the entire codebase is designed is the BDI Model.
Every world sensing events executes a belief revision step, which updates the agent's beliefs about the world.
The Agent implements a loop that continously updates the actions it could perform (Options) and pushes the actions it decides to perform (Intentions) to the execution queue.
Every time a new event gets sensed by the agent, the method: `generateOptions()` is called.
The following is a diagram of the engine's flow:



Algorithms & Techniques Used: