Autonomous Agents and Multi-agent Systems (AASMA)

2018/2019

LAB 5 – SUPPORT TO PROJECT DESIGN

Goals

1. Propose and discuss ideas on your project.
2. Identify the purpose/goals for the agent and the requirements for its internal behavior.
3. Establish a strategy to assess/validate the desirable properties of the foreseen agent behavior.
4. Solve an exercise on decision theory.

Exercise on decision theory

Meet Goppy, an agent that manages your financial portfolio.

Goppy has inferred that, given ongoing opportunities, earning 54k today or 55k next month is indifferent.

Goppy faces a decision: whether to opt to deposit your money in a savings account leading to a return of 100k Eur/year for the next 2 years or invest it in the stock market with a single return after 2 years.

a) Will Goppy opt for savings or an investment assuming the investment return after 2 years is 250k Eur if the stock market has an excelling performance (40% likelihood) and 200k Eur otherwise?
Savings

b) Compare previous rational decision against conservative and risk-taking behavior.
Same as conservative, different from risk-taking

c) What is the value of accessing the information on the upcoming behavior of the stock market?
6.4

d) What is the expected value of Goppy's decision assuming the investment return uniformly varies between 200k and 250k Eur and it will gain access to accurate information on stock market behavior?
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