## COMP310 Multi Agent Systems Video 1 "What is an Agent?"

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See Vital for all material

#### **V1.1 Overview**

- Recap of L1: How did MAS come to be?
- Introduce the concept of an "agent"
- Introduce the concept of a "Multi Agent System"
- Viewpoints
- What MAS is / isn't
- Application

"In the beginning, there was light..."

#### Where Did This All Come From?

- Scientific discoveries / scientific fields don't just appear
- They come from natural progression of existing fields of study
- 5 Computing Trends lead us in to the world of Multi Agent Systems:
- 1. Ubiquity
- 2. Interconnection
- 3. Intelligence
- 4. Delegation
- 5. Human Orientation

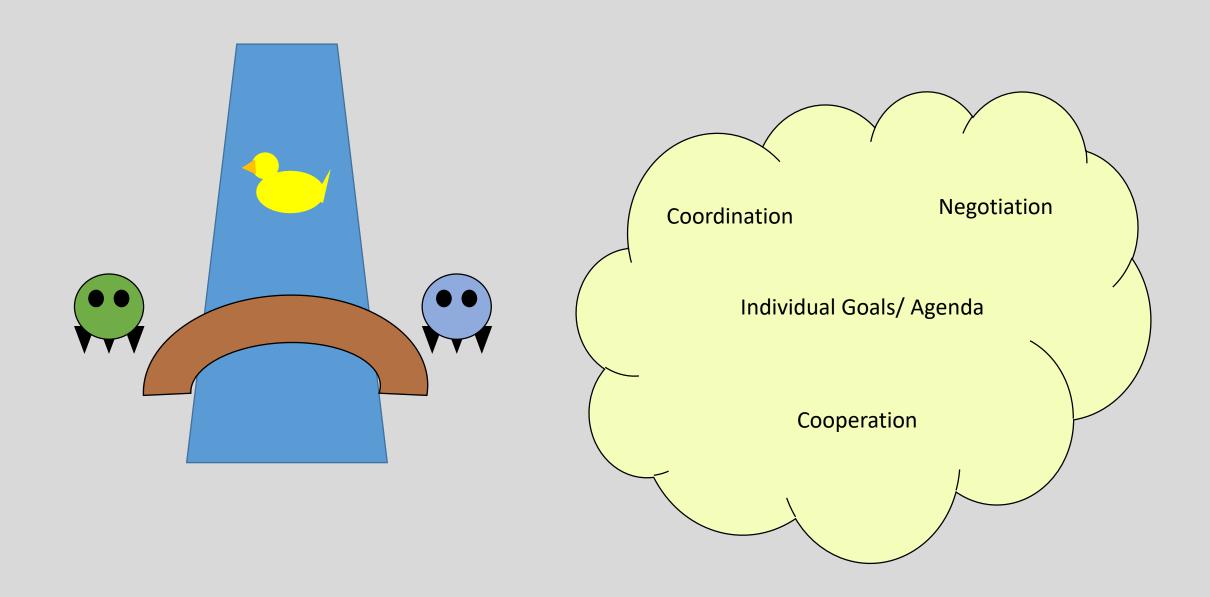
## What is an Agent?

## An Agent – first definition

An agent is a computer system that is capable of independent (*autonomous*) action on behalf of its user or owner

### A Multi Agent System – first Definition

A Multi Agent System consists of multiple agents which interact with one another



Isnt it all just....?

## Isn't it all just...

Distributed Computing?

• AI?

• Game Theory?

Social Science?

## Agents in... Autonomous Space Probes

## NASA DS1 Space Probe (1998)

- Space probes are normally controlled by a ground crew
- This can be costly, slow, and inflexible
- NASA's DS1 probe had a degree of autonomy
  - Goals
  - Decision Making Capability and Responsibility

# Agents in... Internet Search Agents

## **Internet Search Agents**

- Searching the Internet for the answer to a specific query is often long and tedious.
- Can an agent do it for us?
- It will require:
  - Synthesis of input query
  - Searching of the internet
  - Synthesis of gathered information
  - Deciding if the query is answered
  - Presentation of information
- Have we seen something similar to this?