

O-Plan – Open Planning Architecture

The O-Plan Project (1984 to 1999) explored issues of coordinated command, planning and control. It had the objective of developing an architecture within which different agents with command (task assignment), planning and execution monitoring roles could work together in a mixed-initiative fashion. It used an extendable and intelligible representation for plans - <I-N-OVA>.

Each agent has a structure which separates the following components:

- the representation of the processing capabilities of an agent;
- the computational facilities available to perform these capabilities;
- the constraint managers and commonly used support routines which are useful in the construction of command, planning and control systems;
- the decision making about what the agent should do next;
- the handling of communications between one agent and others.

The main contribution of the O-Plan research was to provide a complete vision of a more modular and flexible planning and control system incorporating AI methods.

O-Plan has already been applied in areas such as:

- Space Platform Construction
- Satellite Planning and Control
- Construction and House Building
- Unix administrator's scripting
- Web Services Composition
- Logistics
- Non-Combatant Evacuation Operations
- Crisis Response Planning
- Air Campaign Planning Workflow
- Unmanned Autonomous Vehicles
- Biological Pathway Discovery

<http://www.aiai.ed.ac.uk/project/oplan/>