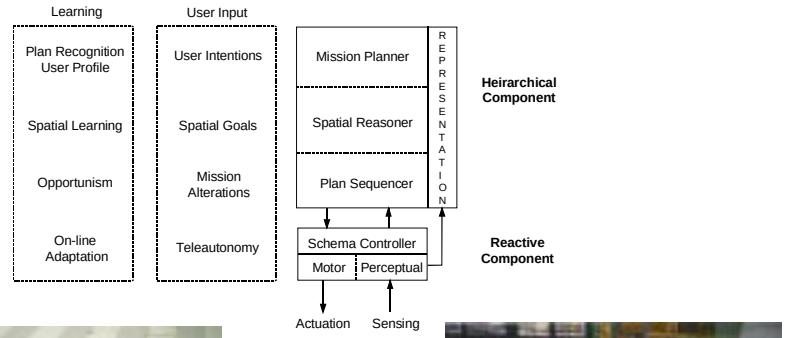
Multi-level Learning in Hybrid Deliberative/Reactive Mobile Robot Architectural Software Systems



NEW IDEAS

- Add machine learning capability to a proven robot-independent architecture with a user-accepted human interface
- Simultaneously explore five different learning approaches at appropriate levels within the same architecture
- Quantify the performance of both the robot and the human interface in military-relevant scenarios

IMPACT

- Provide the DoD community with a platform-independent robot mission specification system, with advanced learning capabilities
- Maximize utility of robotic assets in battlefield operations
- Demonstrate warfighter-oriented tools in three contexts: simulation, laboratory robots, and government-furnished platforms

SCHEDULE

Milestone	GFY01				GFY02				GFY03				GFY04		
	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct	Jan	Apr
Demonstration of all learning algorithms in simulation			♦													
Initial integration within MissionLab on lab robots					♦											
Learning algorithms demonstrated in relevant scenarios								♦								
MissionLab demonstration on government platforms												♦				
Enhanced learning algorithms on government platforms														♦		
Final demonstrations of relevant scenarios with govt. platforms																♦

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