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Company Description & Expertise:

IPT - Intellectual Products & Technologies is a Bulgarian SME founded in 2003 primarily engaged in research, education, and software development. Expertise: *Java EE 6 & Web technologies, Web Portals development using Java Portlet 2.0 and JavaScript Portlets, Web 2.0 mashups, Multi-agent systems, FIPA standards, Semantic Web - Ontologies, RDF, OWL, eLearning - LMS, CMS, IMS specifications, Object-oriented modelling, UML, Java, Java EE & Web technologies, Service Oriented Architecture (SOA, SOAP, WSDL, REST, UDDI, WSIL), Business Process Modelling (BPMN, BPEL), 3D Modelling, Web-based 3D interactive visualization using HTML5 & WebGL.*

Collaboration Interests:

IPT is interested in project participation under EU IST programmes as well as other collaborative research projects. IPT has special interest in development of *interactive multimedia, game-based learning, multi-agent and dynamic ontology-based systems* (with application areas: e-Learning and digital libraries, network and service infrastructures, mobile services & portals), *business process modeling and portal development, web-based interactive 3D visualization, virtual & augmented reality, mobile learning.*

Potential role for IPT: project partner, technology provider

Areas for R&D Collaboration:

- Intelligent Agent and Multi-agent Systems (Autonomous agents, Interface Agents, Information agents, Learning support agents)
- Semantic Web and Ontology-based Knowledge Modeling
- UML Object-oriented and Agent-oriented Software Modeling
- UML Use-case Based System Requirements Specification
- 3D Modelling using open source technologies
- Virtual and Augmented Reality using open source technologies

Reference Projects:

E-ACADEMIA (Electronic Adaptive Courseware Authoring and Delivery using Multiple Intelligent Agents): develop a software architecture and system for collaborative and adaptive courseware delivery based on psychological and pedagogical principles (<http://e-acad.com/>).

Internet TV – VOD & UGC: development of Video-on-Demand and User-Generated-Content for web-based TV portal using state-of-the-art Java Portlet 2.0 & JavaScript Portlets.



The I-Track: next generation integrated and interactive vehicle tracking system using GPS, Google Maps, AJAX and Web 2.0 mashups.

What Makes Us a Good Partner:

- Unique competencies in focused R&D areas – e-Learning, UML, multi-agent, semantic web, ontology-based systems, SOA & BPM, 3D WebGL visualization
- Accuracy and flexibility
- Small company with strong R&D orientation
- Good connections with private companies, universities and NGOs

Related Publications:

- [1] Iliev, T., Context Based Reasoning for Learning Support Agents in E-ACADEMIA, Int. Conference on Interactive Computer-aided Learning ICL'2007, Villach, Austria, September 26-28, 2007.
- [2] Iliev, T., Active Learning in Context: Reusable Learning Cases and Learning Support Agents, Int. Conference on Interactive Computer-aided Learning ICL'2006, Villach, Austria, September 28-30, 2006.
- [3] Iliev, T., E-ACADEMIA: Adaptive Courseware Authoring and Delivery Using Learning Support Agents, Int. Conference on Interactive Computer-aided Learning ICL'2005, Villach, Austria, September 28-30, 2005.
- [4] Iliev, T., Ontology Based Multi-Agent Architecture for Adaptive Courseware Delivery, Int. Conference on Interactive Computer-aided Learning ICL'2003, Villach, Austria, September 24-26, 2003.
- [5] Iliev, T., Bontchev B., Adaptive E-Learning with ARCADE. Proc. of MASSEE'2003 Conference, Borovetz, Bulgaria, September 15-21, 2003.
- [6] Bontchev B., Iliev, T. ARCADE - a Web-based Authoring and Delivery Platform for Distance Education, Proc. of 1st Balkan Conference on Informatics - BCI'2003, Thessaloniki, Greece, November 21-23, 2003.
- [7] Vladinova, L.; Petrov, M.; Iliev, T., Assessing Students' Performance in Distance Education Courses. In: Computer Systems and Technologies International Conference CompSysTech'2003, Sofia, June 19-20, 2003
- [8] Aleksieva, A., Vladinova L., Iliev T., ARCADE - Software Architecture for Web-based Education, in Proceedings of Next Generation Network Technologies International Workshop, Rouse, October 11-12, 2002, 5th framework programme of the EC project "Centre of Excellence BIS-21"
- [9] Dicheva, D., Iliev, T., Handling the Diversity in a Reactive Microworld: A Case-Based Approach, International Journal for Continuing Engineering Education and Life-long Learning, Vol. 9, No. 2, 1999.
- [10] Iliev T., Dicheva D., MYCROFT-CBR: A Case-Based Debugger for Simple Logo Programs. In: Brna P. & Dicheva D. (Eds) Proceedings of the Eighth International PEG Conference "Meeting the Challenge of the New Technologies", Sozopol, Bulgaria, pp. 396-397.