

**Lista proiecte (Master, Diploma, R&D)
 2006 - 2007**

Nr.	Status	Type	General Fields	Project Title	Project Team	Project Management
1	Partially Taken	R&D/ Diploma	[Image processing] [Visual interfaces] [GIS systems]	AURORA GeoData Platform	3 Students: > Irina BEG, An V Calc. > Mihai GIUCOANE, An V Calc. >, An IV sau III Calc.	Mihai MICEA, Mihai FAGADAR
Project description: GeoData Platform, codenamed AURORA, is a standalone Microsoft .NET-based Windows application, designed for handling geodata (GIS data), using a project-based environment. As a GIS platform, it must provide the following range of functions, accessible to the user via a Graphical User Interface (GUI): 1. import and export from/to various raster and vector geodata formats; 2. visualization of geodata, using a layer-based display with geocoding between layers; 3. operations with geodata, such as merge, divide, crop, coordinate and resolution transformations etc; 4. an API which provides the means of implementing new operations on the geodata; 5. a log system which stores the application messages and signals the possible errors encountered during tool operation; 6. an integrated help system.				Observations: R&D Grant from "ALCATEL ROMANIA" Company, Timisoara. UPT team: Mihai MICEA (director), UPT students. Collaboration with Alcatel: Mihai FAGADAR (project manager).		
2	Taken	R&D	[Manufacturing systems] [Scheduling techniques]	Scheduling Techniques for Manufacturing Systems With Applications in Semiconductor Manufacturing Facilities	1 Student: > Artur KUCZAPSKI, PhD. student	Vladimir CRETU, Mihai MICEA
Project description: PhD. research project on manufacturing process scheduling. It includes the following steps: 1. Research on various scheduling techniques of complex manufacturing processes involved in manufacturing facilities such as the semiconductor production plants. 2. Formal representation/modeling and simulation of the scheduling techniques. 3. Development of a scheduling application able to control a complex set of manufacturing processes in a flexible and interactive manner with direct applicability in semiconductor industry.				Observations: R&D Grant from "ACP-IT" Company, Timisoara. UPT team: Vladimir CRETU (director), Mihai MICEA (co-director), UPT students. Colaboration with the ACP-IT team: Laurentiu MANIU (director), Vlad VALEA, Silviu TREBUIAN.		

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3	Free	R&D/ Diploma	[Manufacturing systems] [Process simulation]	Modeling and simulation of an automatic production facility	2 Students: >, An V Calc. >, An IV sau III Calc.	Mihai MICEA, Vladimir CRETU
Project description: Implementation of a simulation model of an automatic production facility (e.g. a semiconductor processing equipment with 10 processing chambers/units and with internal sorter/transport facility). The development of the model will be based on the "simulated production mini-models" provided by various semiconductor manufacturers. The model will be developed in the Java language, using the "AnyLogic" simulator (XJ Technologies, http://www.xjtek.com).				Observations: R&D Grant from "ACP-IT" Company, Timisoara. UPT team: Vladimir CRETU (director), Mihai MICEA (co-director), UPT students. Colaboration with the ACP-IT team: Laurentiu MANIU (director), Vlad VALEA, Silviu TREBUIAN.		
4	Taken	R&D/ Diploma	[Real-time systems] [Intelligent sensors]	Porting and development of the HARETICK real-time operating kernel on ARM-based embedded platforms	3 Students: > Ana-Maria MARCU, An V Calc. > Cristina PETRA, An V Calc. > Bogdan ANCA, An V Calc.	Mihai MICEA, Razvan CIOARGA
Project description: HARETICK is a hard real-time compact kernel, designed and developed at the DSPLabs Timisoara for embedded and DSP-based platforms. A prototype has been implemented and tested on a Motorola DSP56307 platform using the assembly language. The HARETICK kernel will be ported and tested, using the C language for the ARM7 core based LPC22xx controllers. The kernel prototype will then be further developed towards its full functionality, by implementing some of its remaining modules: 1. DATALINK module, which interfaces the HARETICK with a host computer through a data communication link (e.g. serial link, etc.); 2. SSCD (Soft real-time SCheDuler) module, which schedules regular (soft real-time) tasks using classic scheduling techniques (e.g. round-robin with priorities, etc.); 3. MONITOR module, which is the kernel user interface/command interpreter.				Observations: R&D Grant of Excellency, CEEX type, from Romanian Ministry of Education and Research (director: Mihai MICEA).		

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5	Free	R&D/ Diploma/ Master	[Real-time systems] [Scheduling techniques]	Program scheduling and execution on embedded targets under variable clock frequencies	1-2 Students: > >	Mihai MICEA
Project description: Power consumption minimization for embedded systems became relatively recently a key research and development topic. New techniques of program scheduling and execution are being investigated making use of various power-saving processor modes provided by nowadays equipments. The project will study such techniques and will implement prototypes on the embedded targets existing at the DSPLabs.				Observations: R&D Grant of Excellency, CEEX type, from Romanian Ministry of Education and Research (director: Mihai MICEA).		
6	Free	Diploma	[Image and video processing]	Video testing tool	2 Students: > An V Calc. > An V Calc.	Mihai MICEA, Dan CHICIUDEAN
Project description: Develop on a PC workstation a tool based on the existing free libraries to generate and play real-time H.263 / H.264 / MPEG4 streams				Observations: R&D Grant from "Freescale Semiconductor", Bucuresti (former "Motorola"), withing the DALT annual collaboration program. UPT team: Mihai MICEA (director), Dan CHICIUDEAN, UPT students.		
7	Free	Diploma	[Wireless and mobile systems]	Bridge TCP/IP - 802.15.4 (ZigBee)	2 Students: > An V Calc. > An V Calc.	Dan CHICIUDEAN, Mihai MICEA
Project description: Create a device allowing the expansion of a Personal Area Network (PAN) using TCP/IP for the transport layer. Because there are no ZigBee embedded platforms with Ethernet interface currently available for the project, the bridge will be implemented as a PC software module. It will communicate with the embedded platform through an UART port. The software module will be written in such a manner that will allow it to be easily portable on an embedded platform.				Observations: R&D Grant from "Freescale Semiconductor", Bucuresti (former "Motorola"), withing the DALT annual collaboration program. UPT team: Mihai MICEA (director), Dan CHICIUDEAN, UPT students.		

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8	Free	Diploma	[Signal acquisition and conditioning]	Modular acquisition board built on ARM7 platform	1-2 Students: > >	Dan CHICIUDEAN, Mihai MICEA
Project description: Dezvoltarea unui sistem modular de achizitie si prelucrare numerica a semnalelor, construit pe o platforma tip "motherboard" bazat pe un microcontroler ARM7, cu conexiune Ethernet si sistem de operare Nut/OS, si cu placi de extensie, specializate. Cunostiinte necesare: sisteme de achizitie de date, proiectarea sistemelor digitale, programare in limbajul C pentru sisteme embedded.					Observations:	
9	Taken	Diploma	[Embedded systems]	USB mass storage device interface	1 Student: > Valeriu BORDAS, An V Calc.	Dan CHICIUDEAN, Mihai MICEA
Project description: Implementarea unei interfete intre un sistem cu microcontroler si medii de stocare a datelor de tip "USB mass storage". Aplicatie: - Sistem autonom portabil de inregistrare a imaginilor. Solutia va integra controlerul "Vinculum" de la FTDI					Observations:	
10	Free	R&D/ Diploma	[Embedded systems]	Power supply with power management features for embedded platforms	1-2 Students: > >	Bogdan CIUBOTARU, Mihai MICEA
Project description: Dezvoltarea unei platforme de alimentare pentru sisteme incorporate care sa asigure mai multe surse de tensiune reglabile. Sistemul va masura consumul de curent, independent pentru fiecare sursa disponibila, cu posibilitatea de stocare si prelucrare a valorilor masurate. Sistemul va contine: - Surse stabilizate de alimentare; - Echipamente de conditionare a semnalelor; - Echipamente de masurare a parametrilor electrici (curenti, tensiuni) - Suport de stocare a datelor - Componente software de prelucrare, stocare si statistica					Observations:	

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11	Free	R&D/ Diploma	[Embedded systems]	Mobile platform for data acquisition in hostile environments	1-2 Students: > >	Bogdan CIUBOTARU, Mihai MICEA
Project description: Se doreste dezvoltarea unei platforme mobile care sa aiba rolul de a transporta sisteme de achizitie de date (senzori) in medii ostile. Sistemul va contine: - Platforma mobile; - Logica de comanda actuatori; - Sistem de pozitionare (GPS si/sau ultrasonic si/sau RSSI si/sau senzori de proximitate); - Sistem de comanda avansat pentru operatii complexe (ex. deplasarea in diferite locatii si efectuarea unor opratii prestabilite) - Modul de comunicatie fara fir					Observations:	
12	Free	R&D/ Diploma/ Master	[Embedded systems]	Protocol stack implementation for ad-hoc mobile communication	1-2 Students: > >	Bogdan CIUBOTARU, Mihai MICEA
Project description: Implementarea unei stive de protocoale specifice retelelor ad-hoc wireless in general si retelelor de senzori inteligenti in particular. Protocoalele care vor fi implementate sunt protocoale de acces la mediu, rutare, sincronizare si localizare. Implementarea se va realiza in C/C++ pe simulator (NS2 - Network Simulator) si pe platforma reala (Module XBee).					Observations:	

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13	Free	R&D/ Diploma/ Master	[Client/Server Architecture] [Distributed Software] [Communication Sockets]	WIT (Wireless Intelligent Terminal) Simulator	2 Students: > >	Razvan-Dorel CIOARGA, Mihai MICEA
Project description: Simulator de comportament pentru WIT in cadrul mediului CORE-TX: Se doreste implementarea unui container de fire de executie, fiecare fir de executie sa reprezinte un WIT (terminal inteligent). Firele de executie trebuie sa comunice prin socket atat intre ele cat si cu entitati externe (si reale); aplicatia trebuie proiectata pentru a evita deadlock si alte probleme specifice sistemelor multi threaded. Fiecare fir de executie trebuie sa prezinte un comportament anume: de tip ping (raspunde daca este pornit), echo (returneaza caracterele primite) si specific (se poate implementa un dialog bine stabilit) CERINTE: - implementarea Thread Pool pentru firele de executie - implementarea unui front-end in care se specifica numarul de fire de executie, adresele lor, tipul comportamentului si se lanseaza in executie; aceasta aplicatie urmareste totodata si executia acestor fire intr-un mod asemanator cu cel de "debug" si prezinta starea acestor fire de executie in timp real.					Observations:	

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14	Free	R&D/ Diploma/ Master	[Emergent Behavior] [Formal Languages] [UML]	eBML (Emergent Behavioral Modelling Language) Interpreter	2 Students: > Milorad MILENOVICI, An V Calc. >	Razvan-Dorel CIOARGA, Mihai MICEA
Project description: Exista proiectat un limbaj formal pentru descrierea comportamentelor unor entitati. Exemplu: simplu algoritim de ocolire a unui obstacol: <i>behavior is</i> <i>go (forward)</i> <i>if obstacle</i> <i>avoid (obstacle, random(left,right))</i> <i>end if</i> <i>end behavior</i> Pentru un acest limbaj se doreste crearea unui interpretor care sa transforme componentele atomice ale acestui limbaj in secvente de program din alt limbaj (C, C pentru microcontrollere, ASM etc). Asocierea initiala dintre atomii limbajului comportamental si limbajul in care se doreste a se efectua "traducerea" exista sub forma unui fisier structurat (de preferinta XML). CERINTE: - implementarea unui front-end pentru editarea fisierului XML - implementarea interpretorului					Observations:	

For further information or if you have any questions, please visit our website or contact us at the following addresses:

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