

Empreses i Institucions que ofereixen projectes a l'ETSETB i que gestiona l'escola
Última actualització: 15 Juliol 2005

Quan demaneu una plaça mitjançant l'intranet, ho haureu de fer en referència al codi que surt a la taula.

ATENCIÓ: hi ha empreses que continuament estan ofertant projectes. Un dels requisits és que els has de sol·licitar pel teu compte, però pots demanar-nos qualsevol document que et sol·licitin i tingui a veure amb l'escola. Consulta aquí quines són.

TILAB

NEC

UNISA (University of South Australia)

ACCENTURE

PHILLIPS

EPFL

DLR

CNES

BOSCH

TILAB

TILAB (Itàlia-Torino)

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| Codi | I TILAB Tor-1 |
| Data d'entrada | 28/02/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Implementing Service Delivery Platforms via Web Services</p> <p>One of the cornerstones of Web services interoperability is the SOAP (Simple Object Access Protocol). SOAP is essentially a way of performing a synchronous RPC (Remote Procedure Call) across the Internet over an HTTP connection.</p> <p>However, performing a synchronous operation across multiple processes is an all-or-nothing proposition. In contrast, asynchronous messaging allows each communication operation between two processes to be a self-contained, standalone unit of work. The process initiating the original request need only be concerned with initiating the "request", knowing that it will eventually receive a "response" asynchronously.</p> <p>Such asynchronous behavior is particularly relevant when using Web Services to abstract and control Telco resources.</p> <p><i>Macro-Objective:</i></p> <p>The macro objective of the work proposed is to analyse different solutions/emerging standards for asynchronous Web Services and to implement a prototype Web Service (based on a chosen standard) that allows the asynchronous control of a Telco resource.</p> |
| Durada | The assignment will take between eight to nine months |

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| Requisits | <p>Main Skills:</p> <ul style="list-style-type: none"> - Distributed Applications - Java - Web Services - Telco Control - Fluent English |
| Nombre de places | 1 |

TILAB (Itàlia-Torino)

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| Codi | I TILAB Tor-2 |
| Data d'entrada | 31/03/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Application-aware control plane in ASON/GMPLS networks</p> <p>After a preliminary study about the requirements of an application-aware control plane, master thesis should focus on designing a possible architecture. The implementation of the designed architecture might be integrated in a proprietary ASON test bed.</p> |
| Durada | The assignment will take nine months, beginning on April/May 2005 |
| Requisits | <ul style="list-style-type: none"> - Excellent knowledge of transport network technologies (SDH, WDM) - Excellent knowledge of TCP/IP protocols - Excellent knowledge of C programming Language - Knowledge of socket programming |
| Nombre de places | 1 |

TILAB (Itàlia-Torino)

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| Codi | I TILAB Tor-3 |
| Data d'entrada | 15/07/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Context:</p> <p>Today IT business is based on open architectures for a very competitive market. The idea of extending a similar approach to the Telco market has inspired some advanced technological trends such as "Open Signaling", "Programmable Networking" etc. Currently, some R&D activities have been directed to define and demonstrate innovative openness paradigms (such as service-aware programmability) for IP routers, and in general, for the Networking/Switching Layer. This could be seen also from another perspective i.e. the need (dictated by the Telco services market evolution) that Next Generation Service Layer (Service Delivery Platform) will meet, by the very beginning, the emerging network solutions (e.g. NGN).</p> <p>Macro-Objective of the Thesis:</p> <p>The macro objective of the work proposed is to define and demonstrate (by developing a prototype) architectural solutions enabling IP router programmability in order to meet flexibly Service Delivery Platforms requirements. The Thesis comprises both theoretical and experimental work (in a Lab).</p> |
| Durada | 9 months. |

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| Requisits | Main Skills: -IP/MPLS networking -Programming languages (e.g. C, C++, Java) -Fluent English |
| Nombre de places | 1 |

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NEC

NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-1 |
| Data d'entrada | 20/04/05 |
| Tipus d'estada | PFC |
| Descripció | <p>The most important factor inhibiting VoIP implementation has changed from a lack of budget to concerns about security.</p> <p>Security attacks in the VoIP environment are an increasing concern as VoIP developments are growing dynamically around the globe. Most systems have security holes that if left unmonitored risk to compromise the success of VoIP itself towards the replacement of classical telephony.</p> <p>Currently deployed Intrusion Detection/Prevention Systems are not able to counter VoIP attacks (SPIT, DoS, Call re-routing, Call hijacking, etc.). Therefore it is important to study, design and implement systems and related algorithm able to counter VoIP SPAM and attacks.</p> <p>The student will focus on studying, designing and developing VoIP Security systems in the context of preventing VoIP systems to be broken by intruders and misbehaving users.</p> <p>Validation of results is expected to be done either on simulation or on real implementation (or a combination of both).</p> |
| Durada | Starting date: 1st August/1st September Duration of stay: 6-8 months |
| Requisits | Desired Knowledge: <ul style="list-style-type: none"> - TCP/IP knowledge - Linux/Unix OS knowledge - GNU toolchain (gcc, make, etc.) - VoIP (SIP/H.323) protocols/architecture knowledge Desired Skills: <ul style="list-style-type: none"> - C/C++ - Java - GScripting languages |
| Nombre de places | 1 |

NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-2 |
| Data d'entrada | 25/04/05 |
| Tipus d'estada | PFC |

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| Descripció | <p>Service Creation and Enabling Technologies for Mobile Service Platform</p> <ul style="list-style-type: none"> - Work area is based for service enabling technologies. Some of the primary enabling modules will be presence, charging, context-control. - Basis infrastructure is IP Multimedia Subsystem (IMS) - Advanced application concepts are driven by market evaluation - Work Items are: <ul style="list-style-type: none"> - design of enabling module based on existing standardization - design and implementation of Management Functions - Graphical User Interface Tools for SCE development Kit - development of prototype implementation <p>The work is embedded in ongoing development process.</p> |
| Durada | August 2005 to February 2006 |
| Requisits | <p>The candidates should have experience in most of the areas listed below:</p> <ul style="list-style-type: none"> - Windows and/or Unix operative system (user and administration) - Internet protocols (HTTP, SIP) - Programming in Java (advanced skills) - Basic knowledge in telecommunication and computer networks |
| Nombre de places | 1 |

NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-3 |
| Data d'entrada | 25/04/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Working Area: Context Awareness, Mobile Services, WAN/PAN/BAN, Mobile Devices</p> <p>Context awareness and Mobile Services are part of the activities within the Internet Services Group. Here we are investigating for example in Context inference, Group context, Context aware services, context based service recommendation and adaptation, automatic execution of selected services, Web Services, etc. The research is covering B3G (4G) as well as Local Networks (BAN/PAN/WAN).</p> <p>The thesis work is typically embedded in ongoing research processes within international projects.</p> <p>Topic 1: Service Self-Propagation for Context Aware Proactive Service Recommendation</p> <p>The availability of services offered to users might be valid only in a small area close to the location where they are provided. It makes no sense to register them in globally visible registries like yellow pages, especially if their lifetime is rather short. Here their self advertisement to the user, once the user enters the 'smart space' of the service can be a valuable solution (privacy considerations to prevent abuse and spam might be included in the internship if time permits). The thesis shall cover investigations into a service categorisation, self propagation techniques in different local networks (also P2P) and service management issues. The work will also include the design and implementation of a prototype demonstrating these features.</p> |
| Durada | For all the internships the stay in HD is planned for 6-8 month. Starting on August 2005. |
| Requisits | <p>For all thesis the candidates should have interests and experience in some of the areas listed below:</p> <ul style="list-style-type: none"> - Internet protocols - Programming in Java (advanced skills) - Knowledge in telecommunication and computer networks |

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| | - Ontologies and Ontology languages (e.g., OWL), semantic Web - Context awareness |
| Nombre de places | 1 |

NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-4 |
| Data d'entrada | 25/04/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Working Area: Context Awareness, Mobile Services, WAN/PAN/BAN, Mobile Devices</p> <p>Context awareness and Mobile Services are part of the activities within the Internet Services Group. Here we are investigating for example in Context inference, Group context, Context aware services, context based service recommendation and adaptation, automatic execution of selected services, Web Services, etc. The research is covering B3G (4G) as well as Local Networks (BAN/PAN/WAN).</p> <p>The thesis work is typically embedded in ongoing research processes within international projects.</p> <p>Topic 2: Automatic execution and aggregation of Services</p> <p>Mobile Service execution is normally actively triggered by the user. One goal of this thesis is to elaborate mechanisms that perform automatic execution of services. This involves both context based decision making and a means to ensure privacy and security. Furthermore, service execution can be used to relieve the user from manually inputting the parameters required for specific services. To this end, the data submitted to or produced by another service can sometimes be reused; the problem lies in identifying and triggering this connection. The second goal of the thesis is to investigate the possibilities of service aggregation, applying the mentioned methods.</p> |
| Durada | For all the internships the stay in HD is planned for 6-8 month. Starting on August 2005. |
| Requisits | <p>For all thesis the candidates should have interests and experience in some of the areas listed below:</p> <ul style="list-style-type: none"> - Internet protocols - Programming in Java (advanced skills) - Knowledge in telecommunication and computer networks - Ontologies and Ontology languages (e.g., OWL), semantic Web - Context awareness |
| Nombre de places | 1 |

NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-5 |
| Data d'entrada | 25/04/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Working Area: Context Awareness, Mobile Services, WAN/PAN/BAN, Mobile Devices</p> <p>Context awareness and Mobile Services are part of the activities within the Internet Services Group. Here we are investigating for example in Context inference, Group context, Context aware services, context based service recommendation and adaptation, automatic execution of selected services, Web Services, etc. The research is covering B3G (4G) as well as Local Networks (BAN/PAN/WAN).</p> |

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| | <p>The thesis work is typically embedded in ongoing research processes within international projects.</p> <p>Topic 3: Service Necessity Assessment</p> <p>There are an infinite number of services available inside and outside the web. Nowadays people rely on static bookmarks to quickly access their preferred ones, or else google and browse to find the appropriate one. Users would greatly benefit from a situation analysis that can filter the useful services, reducing them to a small list of top recommendations. However the assessment whether and to what extent a service is useful or even necessary is a challenging task. Different aspects have need to be weighted on a per user basis. The goal of this thesis is to develop such an assessment module and integrate it into an existing service recommendation framework.</p> |
| Durada | For all the internships the stay in HD is planned for 6-8 month. Starting on August 2005. |
| Requisits | <p>For all thesis the candidates should have interests and experience in some of the areas listed below:</p> <ul style="list-style-type: none"> - Internet protocols - Programming in Java (advanced skills) - Knowledge in telecommunication and computer networks - Ontologies and Ontology languages (e.g., OWL), semantic Web - Context awareness |
| Nombre de places | 1 |

NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-6 |
| Data d'entrada | 25/04/05 |
| Tipus d'entrada | PFC |
| Descripció | <p>Working Area: Context Awareness, Mobile Services, WAN/PAN/BAN, Mobile Devices</p> <p>Context awareness and Mobile Services are part of the activities within the Internet Services Group. Here we are investigating for example in Context inference, Group context, Context aware services, context based service recommendation and adaptation, automatic execution of selected services, Web Services, etc. The research is covering B3G (4G) as well as Local Networks (BAN/PAN/WAN).</p> <p>The thesis work is typically embedded in ongoing research processes within international projects.</p> <p>Topic 5: Context Management Framework</p> <p>The increase of context data gathering, inference and interpretation, have highlighted the need for a dedicated management framework. The goal of this thesis is cooperate in its development.. It has to be able to collect context data, perform consistency checks (e.g., compare GPS based with CELL-ID based location information), infer high level context (e.g., 'noon' + 'working day' means 'lunch time' which means the location is the staff canteen'), and finally to provide this processed context data to context aware systems and services.</p> |
| Durada | For all the internships the stay in HD is planned for 6-8 month. Starting on August 2005. |
| Requisits | <p>For all thesis the candidates should have interests and experience in some of the areas listed below:</p> <ul style="list-style-type: none"> - Internet protocols - Programming in Java (advanced skills) - Knowledge in telecommunication and computer networks - Ontologies and Ontology languages (e.g., OWL), semantic Web |

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| | - Context awareness |
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NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-7 |
| Data d'entrada | 25/04/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Working Area: Context Awareness, Mobile Services, WAN/PAN/BAN, Mobile Devices</p> <p>Context awareness and Mobile Services are part of the activities within the Internet Services Group. Here we are investigating for example in Context inference, Group context, Context aware services, context based service recommendation and adaptation, automatic execution of selected services, Web Services, etc. The research is covering B3G (4G) as well as Local Networks (BAN/PAN/WAN).</p> <p>The thesis work is typically embedded in ongoing research processes within international projects.</p> <p>Topic 6: Group Context</p> <p>Context awareness is considered the next step in mobile services, but an individual's situation is not just determined by the characteristics of his environment, such as location, time or even temperature, but also by the people that surround him. Likewise, the environment of the user also determines what people he might like to group with and what kind of activities are possible, and so context becomes a trigger for group building. The objective of the thesis is to design and prototype a system that is capable of detecting nearby peers and assess the convenience of establishing a group. The decision must be based on the known context of the members, and the group lifecycle must also be taken into consideration.</p> |
| Durada | For all the internships the stay in HD is planned for 6-8 month. Starting on August 2005. |
| Requisitis | <p>For all thesis the candidates should have interests and experience in some of the areas listed below:</p> <ul style="list-style-type: none"> - Internet protocols - Programming in Java (advanced skills) - Knowledge in telecommunication and computer networks - Ontologies and Ontology languages (e.g., OWL), semantic Web - Context awareness |
| Nombre de places | 1 |

NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-8 |
| Data d'entrada | 25/04/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Efficient reliability mechanisms for point-to-multipoint information distribution in vehicular ad hoc networks</p> <p>A challenging aspect of current ad hoc networking research is focusing on car-to-car communication - e.g., wireless multi-hop distribution of emergency notification messages. The most significant characteristic of these vehicular networks is the high degree of dynamic, resulting in frequent topology changes. These challenges have to be considered in the design of network and transport-layer protocols. The most promising routing approach in this</p> |

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| | <p>environment is 'position-based' routing, i.e., messages are forwarded on a per-hop basis: The next hop is determined by means of the distance towards the destination. Therefore, every car knows its own position (e.g. via GPS) and learns about the position of its direct neighbours via beacons. Furthermore, for point-to-point communication the position of the (final) destination must be known and is to be acquired via different forms of 'location services'. Position-based routing allows the addressing of a geographic region via GeoCast-messages, which is particularly beneficial for the distribution of emergency notifications, e.g., in order to warn only the cars behind me when encountering the end of a traffic jam. For further details see [2]. After the successful completion of the FleetNet project, the 'Network on Wheels' (NoW) project continues the ad hoc networking research in vehicular communication networks, e.g., focusing on robust routing in realistic radio environments, map-assisted routing in city scenarios and reliable data/information distribution.</p> <p>This internship proposal addresses the latter aspect: Design and evaluation (e.g., simulative analysis or measurements) of algorithms that provide efficient and reliable distribution of information into a geographical target area over time. I.e., all vehicles inside or entering a pre-defined geographical target area must be informed about a hazard situation in this area. Due to the importance safety information, the reliable distribution is essential in combination with efficiency, e.g., redundant re-transmissions on the wireless medium must be avoided. The reliable distribution particularly includes vehicles that enter the target area at a later point in time, i.e., reliability must be provided during the lifetime of a safety event. Furthermore, since the bandwidth of the wireless medium is shared between safety information traffic and data traffic, such as communication, entertainment etc. scheduling issues are considered as an important part in the reliable and timely information distribution process.</p> |
| Durada | August 2005 to February 2006 |
| Requisits | The internship requires at least a basic knowledge in C, C++ and TCL/TK, as well as theoretical and practical networking knowledge and experience - e.g., the Internet Protocol IP, TCP and ad hoc networking protocols. The operating system will be Linux (e.g., Red Hat / Fedora), which should be familiar to the internship student. |
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NEC (Alemania-Heidelberg)

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| Codi | D NEC Hei-9 |
| Data d'entreda | 02/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Network Composition: An novel Approach to Meet the Demands of the Evolving Internet</p> <p>The current Internet architecture has been developed for fairly static, well managed and flat network expansion that is based on the principles of end-to-end addressing and global routeability.</p> <p>However, in recent years it has become clear that the future Internet will increasingly suffer from this flat structure due to the multitude of network and service providers and the problems resulting from the divergent interests of the various role-players (i.e. competing ISPs, mobile end-users, and ad-hoc edge networks).</p> <p>As a consequence, a series of diploma theses will be offered to contribute to a novel network architecture that provides a fundamentally new vision based on the concept of mobility, self-organizing, and dynamic composition of networks. Such composable networks, for example, are expected to give mobile end-users access to any available network through instant establishment of internetwork agreements.</p> <p>The work-plan for this thesis will entail the design and simulation of different architectural approaches, as well as the proto-typing of relevant aspects of such architectures accompanied by experimental evaluation.</p> |
| Durada | 8 month, start in July-October 2005 |

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| Requisits | - Programmin in C - User of Unix-flavour (Linux, NetBSD, FreeBSD), protocol design |
| Nombre de places | 1 |

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UNISA (University of South Australia)

UNISA (Australia-Adelaria)

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| Codi | AU UNISA Ade-1 |
| Data d'entrada | 02/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Iterative Decoding Analysis of Turbo Codes in the Block Fading Channel</p> <p>It is well known how to approach the capacity of ergodic fading channels. On the other hand, constructing efficient codes that approach the outage probability limit in non-ergodic fading channels is still an open problem. Non-ergodic fading channels arise in a number of important applications such as real-time audio and video transmission over slowly varying indoor wireless communication channels.</p> <p>Recently, turbo-codes have been shown to approach within 0.8dB the outage probability limit for any block length. Analyzing the performance of such codes is in general a complicated problem. Some analytical methods exist to characterize the performance of the optimal (maximum-likelihood) decoder for such codes. On the other hand, there is no analysis of the behavior of the iterative decoder. This can be in general a hard problem, since, for every channel realization, the code will have a decoding threshold (found with density evolution, EXIT charts or other approximated methods), and therefore, the overall error probability is given by the distribution of this decoding threshold.</p> <p>In this work, we will tackle this problem, by first developing a fast iterative decoding analysis method, and then applying it to compute the overall error probability. This will represent a powerful code search tool to find the codes exhibiting best error probability in this channel.</p> |
| Durada | 6 month, start in July 2005 |
| Requisits | Coneixements desitjables : teoria de codis, decodificacio iterativa i teoria de la informació. |
| Nombre de places | 1 |

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ACCENTURE

ACCENTURE (França-Sophia-Antipolis(Niça))

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| Codi | F Accenture Niç-1 |
| Data d'entrada | 02/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Persuasive Mirror Project: image processing research and system integration</p> <p>Visual Technologies (Image Processing and Computer Graphics) are starting to be used to enhance people's daily life. With the "Persuasive Mirror" project, researchers from the Accenture Technology Labs will study the technology behind building a device that visually motivates people to achieve their daily goals.</p> |

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| | <p>The "Persuasive Mirror" is conceived to provide a new way of helping people, specifically the elderly, to achieve their personal goals. With this initiative, researchers at the Accenture Tech Labs aim at exploring the influence of captology (Computers As Persuasive Technologies) in ordinary people's life. In order to analyze this influence, researchers propose the creation of what has been called a "Persuasive Mirror"; an augmented-reality mirror capable of providing help using visual motivation feedback to encourage people to persevere in their goals, for instance, by encouraging healthy lifestyle. This will be done by analyzing activity data in a novel way and developing original and efficient visual technologies to replicate a natural home object: a mirror. (check http://www.newscientist.com/article.ns?id=dn6952 for a media overview).</p> <p>This internship will take over the last stages of the project. The intern will have to develop image processing techniques to alter the person's reflection on the persuasive mirror (making the person look slimmer or fatter, for instance). He/she will be also in charge of integrating the different prototypes that have been built during the Persuasive Mirror project.</p> |
| Durada | from beginning of September 2005 (dates are flexible), 6-9 months (extendable) |
| Requisits | <ul style="list-style-type: none"> - Minimum 3 years of higher education in Computer Science or Engineering - Proficiency in C, C++ - Fluent English - Experience with computer vision, image processing, good learning skills - Creativity - Willingness to do teamwork and capability of working autonomously. |
| Nombre de places | 1 |

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PHILLIPS

PHILLIPS (Alemania-Aachen)

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| Codi | D Philips Aac-1 |
| Data d'entrada | 03/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Near-field Communication Protocol for Body-coupled communication</p> <p>Body-coupled communication is a new short-range communication technology for personalized, safe communication and intuitive interaction. It is enabled via a so-called Active Digital Aura, where the human body is the carrier. This technology is going to be used for identification systems, access control, personalization, as well as for reliable transactions.</p> <p>Near-field communication (NFC) is another technology for short-range communication, which is currently being standardized. While Active Digital Aura is based on body-coupled communication NFC bases on short-range communication between devices, e.g. mobile phones. This project will make Body communication compatible to NFC.</p> <p>The master thesis realizes an NFC-compatible protocol stack for Body communication. The work bases on our new Active Digital Aura systems, which allows reliable body-coupled data transfer. Main task of this master thesis is to identify, specify and develop the different protocol layers being required to achieve -on higher protocol level- compatibility to NFC.</p> <p>Objectives:</p> <ul style="list-style-type: none"> - Analysis of NFC protocol stack - Specification of mapping to Body-coupled communication protocols. - Design and implementation of an NFC protocol stack for Body-coupled communication - Develop test scenarios for system evaluation - Build demonstrator showing the developed concepts at one application |

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| Durada | Starting Date: July / August 2005 Period of stay: 6 Month |
| Requisits | Required skills: <ul style="list-style-type: none"> - Background in wireless networking and communication protocols. - Interest in mobile distributed systems and medical applications. - Experience in programming, at least in one of Java, C++, C#. - Knowledge in assembler programming, preferably also practical experience. - Fluent English in speaking and writing. |
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PHILLIPS (Alemania-Aachen)

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| Codi | D Philips Aac-2 |
| Data d'entrada | 03/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Personal Healthcare monitoring</p> <p>Personal Healthcare (PHC) is of growing importance, ranging from fitness up to monitoring specific health risks. Applications like home health monitoring increase quality of care as people can stay at home with risks that today demand a stay in hospital.</p> <p>This project will develop a home health management system for multiparameter health monitoring. The system will be capable to collect measurements of one or more health parameters (ECG, Blood pressure, weight, temperature, etc.) that a user takes with his wireless medical devices. In addition to the measurement data, the system will detect and store the context in which each measurement was done (e.g. who used the sensor, where was the measurement done, when was the medication taken). The user will get feedback from the system via a monitor or a portable device.</p> <p>The task of the master thesis is to develop communication protocols and context management for such a home monitoring system, and apply this for a concrete medical scenario, e.g. blood pressure -measurement and -management.</p> <p>Objectives:</p> <ul style="list-style-type: none"> - Describe application scenarios for home health monitoring system. - Specify architecture for personal home health monitoring system, covering interface to health measurements, context recording, user interaction. - Design and implementation of a measurement recording function, in combination with identification and positioning. - Build demonstrator showing the developed concepts at one application. |
| Durada | Starting Date: August / September 2005 Period of stay: 6 Month |
| Requisits | Required skills: <ul style="list-style-type: none"> - Background in wireless networking and communication protocols. - Interest in mobile distributed systems and medical applications. - Experience in programming, at least in one of Java, C++, C#. - Knowledge in assembler programming, preferably also practical experience. - Fluent English in speaking and writing. |
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PHILLIPS (Alemania-Aachen)

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| Codi | D Philips Aac-3 |
| Data d'entrada | 09/05/05 |

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| Tipus d'estada | PFC |
| Descripció | <p>High frequency switching half bridge with output filter</p> <p>High frequency modulated PWM inverters can be used to amplify arbitrary waveforms at medium frequencies. However, the implementation of a high frequency switching inverter (> 200kHz) at medium voltage levels (100V .. 200V) has numerous practical issues such as MOSFET driving, protection circuit and filter design, and a proper PCB-layout design.</p> <p>In this project possible ultrafast MOSFET driver concepts for the given power range and switching frequency have to be benchmarked. Half bridge modifications shall be evaluated by means of simulations. A PCB-layout for the inverter shall be prepared. Verification measurements can be done with this board.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | <p>Required skills:</p> <ul style="list-style-type: none"> - Basic practical and theoretical knowledge in power electronics. - Familiar with Pspice / Orcad. - Knowledge of Protel desirable. - Practical skills to measure and to set up circuits. - High motivation and good English skills. |
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PHILLIPS (Alemania-Aachen)

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| Codi | D Philips Aac-4 |
| Data d'entrada | 09/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Red, Green and Blue LED-based White Light Source</p> <p>Combining red, green and blue (RGB) LEDs can provide a compact white light source with unique features such as instant colour variability. However, the implementation of an RGB-LED light source has numerous practical issues such as sensor placement, LED driving, control design and stability with temperature and time.</p> <p>In this project, a dSPACE rapid control prototyping system shall be used to investigate control, drive and sensing issues for an available RGB-LED light engine. Control algorithms have to be implemented in the MATLAB / Simulink / dSPACE environment. Some modifications shall be made to existing driver and sensor boards.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | <p>Required skills:</p> <ul style="list-style-type: none"> - Basic knowledge in control, power electronics and sensors. - Familiar with MATLAB and Simulink. - Practical skills to measure and to set up circuits - High motivation and good English skills. |
| Nombre de places | 1 |

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EPFL

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-1 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Non-Rigid Registration of the Neck structures using a reference atlas</p> <p>In radiotherapy treatments, a source emits radiations which penetrate through the skin in the cancerous volume to be irradiated. To be both effective in cancerous tissues and respectful to healthy ones, the dose of radiation should vary according to the area. In the neck, several distinct spaces are counted out by specialists; for each space a specific intensity is required. This requires thus a precise definition of the region of interest, i.e. the segmentation of the target image. In this project, a local non-rigid registration algorithm based on Radial Basis Function (RBF) should be developed to segment the structures of interest. The method is based on landmarks points and compacted supported basis function. Thus, another goal of this project is to optimally select the landmarks points to exploit the reference atlas information. Since this project will be done in the ITK environment (http://www.itk.org), a general framework of the RBF registration within this environment should be defined.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | C++ and some background on signal processing |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-2 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Brain Tissue Multi-modal Classification</p> <p>Brain tissue classification is an important task for many medical processing analysis. Several methods are proposed to perform this task and to extract the three main tissues: Gray Matter, White Matter and Cerebrospinal Fluid. So far, this classification is done essentially on one single image, namely a T1-weighted Magnetic Resonance image. In this project, we want to develop a solution that performs this classification using, in addition to the T1 modality, some other acquisition like the T2-weighted images. We also want to use other data derived from the diffusion weighted images such as the Fractional Anisotropy which is particularly intensity discriminating for the white matter. Subsequently, this work can be applied to surgical application like tumour segmentation, visible in the Fractional Anisotropy modality.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | C/C++, Matlab |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-3 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |

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| Descripció | Automatic brain lobe segmentation in medical imaging In the field of neuroscience, the segmentation of the Brain into the four main lobes (parietal, occipital, temporal and frontal) is still a challenging problem. The lobes are anatomically delimited by some major sulcus. Because of the human variability, these sulci are different in terms of shape and size from one person to the other. The registration could be a good solution to determine these sulci and therefore to segment the brain into the main lobes. |
| Durada | Starting Date: July 2005 Period of stay: 6 Month |
| Requisits | C/C++, Matlab |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-4 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | Brain Surface Extraction The fast development of new technologies such as digital medical imaging brought to the expansion of brain functional studies. One of the methodological key issues in brain functional studies is to compare neuronal activation between individuals. In this context, the great variability of brain size and shape is a major problem. In order to diminish this intersubject variability, we are developing a new technique for registration, i.e. non-linear landmark-based registration. This technique needs extraction of identifiable anatomical features, in our case: sulci. For this purpose we need precise cortical surface that we can obtain by having precise brain segmentation. The purpose of this project is to develop an algorithm for accurate and efficient extraction of the surface of a brain from magnetic resonance imaging data. In the initial part of the project different approaches should be tested such as level set methods which offer highly robust and accurate methods for detecting interfaces of complex structures. The resulting extracted surface should be represented as a triangular mesh and the curvature values computed at each point stored. The algorithm will be implemented using the framework of the ITK http://www.itk.org and VTK http://www.vtk.org libraries and its utilities. |
| Durada | Starting Date: July 2005 Period of stay: 6 Month |
| Requisits | Good knowledge in C++ |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-5 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | A hierarchical level-set based registration algorithm for atlas-based segmentation of 3D brain medical images In many medical treatments such as radiation therapy or neurosurgical planning, the automatic delineation of brain structures is a key issue. Non-rigid inter-subject brain registration has been an important research topic since it allows us to automatically segment |

functionally or anatomically important structures using atlas-based methods. These methods rely on the existence of a reference image volume (called an atlas) in which structures of interest have been carefully segmented, usually by hand. To segment a new image volume (the patient), a transformation that registers the atlas to this volume is first computed. This transformation is then used to project labels assigned to structures from the atlas onto the image volume to be segmented. A new non-rigid registration algorithm exploiting both intensity and contour features is being developed in our laboratory. This new method, based on level sets, permits to bring useful a priori information into the registration in addition to that already contained in the atlas. The project proposed here consists to study the advantages and limitations of a hierarchical approach. Actually, the algorithm is particularly well appropriated to perform hierarchical registrations, that is, decomposing the atlas in many layers where there are the most important atlas contours. The resulting deformation field is then used as initial condition for the registration of the next layer including less visible and more complex objects. This project also consists in developing new constraints to prevent that contours registered in a particular layer to move under the effect of the registration of the structures of the next layers. This algorithm is implemented in the ITK environment (<http://www.itk.org>).

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| Durada | Starting Date: July 2005 Period of stay: 6 Month |
| Requisits | C++ |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-6 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Model-Based Tracking of a 3D Object Using a Variational Approach</p> <p>The variational approach is becoming increasingly popular in the image analysis community, due to its capacity to elegantly model a large number of problems in a rigorous mathematical setting. The problems are formulated in terms of energy functionals, which are then minimized to find the solution. Among the most well-known variational methods are "snakes" or active contours, used for image segmentation. These are curves which evolve in the image domain in order to minimize an energy functional, which is formulated such that its minimum corresponds to the curve position giving the desired segmentation.</p> <p>In this context, the goal of this project is to use the power of variational techniques for the tracking of 3D objects from monocular or stereoscopic images. More precisely, our target is the class of objects which can be described using (simple) geometric models. These range from simple geometric primitives, such as a cube, sphere or cylinder, to more complex shapes, such as articulated bodies (a human hand, the human body). Potential applications of this method include the area of human-computer interfaces (hand tracking) and motion capture for different purposes (medical studies, entertainment industry, athletic performance studies etc). The main idea is to formulate an energy functional in terms of the unknown 3D pose parameters of the object in the current frame and then to minimize this functional in order to find the right values of these parameters, starting from their (known) values for the previous frame. In this way, the 3D pose of the object can be deduced for each frame in an image sequence, starting from an initial known pose.</p> |
| Durada | Starting Date: July 2005 Period of stay: 6 Month |
| Requisits | Matlab and/or C/C++ |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-7 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Face Features Extraction using parametric models</p> <p>This project consists on studying the appearance of faces by means of a parametric model. Parametric model will be then used to obtain a precise location of facial features such as mouth, nose, eyes, and eyebrows.</p> <p>Applications for projects like this span from low bitrate coding of Facial Animation Parameters, Face Recognition, Assisted Speech Recognition, Virtual Character Animation, just to mention a few examples.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | C/C++ |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-8 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Segmentation and classification of multi-temporal SAR images</p> <p>Synthetic Aperture Radar (SAR) images are more and more used for earth observation, with applications like ground monitoring (forests, agricultural fields, etc). In this project, we will explore the segmentation and classification of SAR images from the same area obtained at different acquisition times, to exploit as much as possible the complementary information of those series. Advanced segmentation techniques (Hidden Markov Random Field) and classification (Support Vector Machines) will be investigated.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | Image processing, statistics, Matlab and/or C/C++ |
| Nombre de places | 1 |

EPFL (Suïssa-Lausanne)

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| Codi | CH EPFL Lau-9 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Shape-based lip feature extraction for audio-visual speech recognition</p> <p>Over the past years traditional information processing has been usually focused on one media type. Due to the continuous advances in digital technologies and computer processing the information available nowadays in the form of audio, video, images, text, etc. pervade our environment. The key issue is how to benefit from the fact that data is not limited to a single medium and take into account different modalities and their interaction. Our particular field of interest is audio-visual speech processing (lip/speech reading) where integration of visual lip motion information and acoustic features can increase speech recognition accuracy</p> |

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| | in noisy environments. An initial step is the choice of visual representation of lip movement and according the state-of-the-art, can broadly be divided in two categories: appearance-based and shape-based techniques. The goal of the project is to focus on the former ones and extract lip contour information using some of the well known methods from image processing and computer vision, such as active shape models, Fourier and image moment descriptors of the lip contours or active contour models. |
| Durada | Starting Date: July 2005 Period of stay: 6 Month |
| Requisits | Image processing, statistics, Matlab and/or C/C++ |
| Nombre de places | 1 |

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DLR

DLR (Alemania-Munich)

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| Codi | D DLR Mun-1 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Measurement Campaign for a Satellite Ku-Band Mobile Demonstrator</p> <p>The topic of the diploma thesis is the setup and analysis of a measurement campaign for a Ku-mobile broadcast system using equipment developed in an ESA project. Besides normal channel measurements a special aim is to show and analyse the working of a new approach called "Personalized Radio Systems", where instead of a continuous stream, single files are transmitted and after a given personalisation a special radio program is reassembled at the receive.</p> <p>The task includes devising measurement strategies for the most important parameters, programming the measurement and logging software, testing & measuring the system and the analysis of the system based on the measurement data.</p> |
| Durada | Starting Date: Between June and December 2005, preferably around July Period of stay: 6 Month |
| Requisits | <ul style="list-style-type: none"> - Basic background of communications systems. - Fluency in English. - Linux knowledge might be helpful, but is not required. |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-2 |
| Data d'entrada | 04/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Study of Suitability of Current and Planned SatCom Systems for Air Traffic Management Communications</p> <p>Given the increasing air traffic, capacity in current communications facilities for Air Traffic Management (ATM), in particular for Air Traffic Control (ATC), are expected to reach their limit by 2020. In this context, the Anastasia Project (Airborne New and Advanced Satellite techniques & Technologies in A System Integrated Approach), aims at research, evaluation and cost benefit analysis to define COM (and NAV) new technologies and new avionics architecture suitable for aircraft operation in the future satellite based European Air Traffic</p> |

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| | <p>Management environment for an enhanced capacity and global coverage.</p> <p>This diploma thesis deals with the suitability study of current and planned SatCom systems for ATM/ATC in the frame of the Anastasia project, comparing system performance with requirements for ATM communications over satellite. In particular, the following tasks should be developed in this diploma thesis:</p> <ul style="list-style-type: none"> - Focused literature research. - Analysis of requirements for ATM/ATC communications over satellite - Performance analysis of a selection of satellite communications systems: Inmarsat GAN, B-GAN, Iridium, eventually also Globalstar in terms of coverage, provided services, capacity, QoS, availability, robustness, supported modulation and coding. - Competitive analysis of considered systems - Report |
| Durada | <p>Starting Date: Between August and December 2005, preferably around October</p> <p>Period of stay: 6 Month</p> |
| Requisits | <ul style="list-style-type: none"> - Basic background of communications systems. - Fluency in English and C/C++ programming knowledge. - Knowledge on Forward Error Correction Techniques and interest in Coding Theory - Linux knowledge might be helpful, but is not required. |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-3 |
| Data d'entrada | 05/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>LDPC Based Transport Layer Coding for Satellite Communication.</p> <p>The work will be part of DLR contribution to the ESA Project Ku-mobile, whose primary goal is to build and analyse a multimedia satellite system for vehicles. A major goal is thereby to build a personalized radio application, based on file transfers from satellite to the vehicle.</p> <p>DLR will study and design an additional coding layer at IP layer. Especially the usage of special kinds of LDPC codes in this context will be researched.</p> <p>The protocols and LDPC codes are planned to be implemented using Linux OS.</p> <p>The student's contribution will be more on the coding side will be discussed in detail with the supervisor.</p> |
| Durada | <p>Starting Date: Between August and December 2005, preferably around October</p> <p>Period of stay: 6 Month</p> |
| Requisits | <ul style="list-style-type: none"> - Basic background of communications systems. - Fluency in English. - C/C++ programming knowledge. - Knowledge on Forward Error Correction Techniques and interest in Coding Theory. - Linux knowledge might be helpful, but is not required. |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-4 |
| Data d'entrada | 05/05/05 |

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| Tipus d'estada | PFC |
| Descripció | <p>Synchronisation Techniques for Mobile Satellite Communications at Ku/Ka Band</p> <p>The aim of this work is to study robust digital synchronisation schemes for mobile satellite communications at Ku/Ka band. Due to the nearly on-off channel behaviour in land-mobile and railway scenarios, frequent signal losses are to be expected. Consequently, latencies due to resynchronisation time may severely limit the performance of many fading mitigation techniques, such as FEC strategies combined with long interleavers. Furthermore, even in LOS condition, some powerful coding schemes, such as Turbo Codes, have a high sensitivity to residual synchronisation errors, thus limiting the effective usage of low coderates.</p> <p>The student work will mainly consist in a literature review of available algorithms, selection of the most suitable candidates for the above described mobile scenarios, and performance assessment by means of SW simulations.</p> |
| Durada | Starting Date: July 2005 Period of stay: 6 Month |
| Requisits | Starting Date: July 2005 Period of stay: 6 Month |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-5 |
| Data d'entrada | 09/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Usage of Wavelength Diversity Techniques in long-range atmospheric optical communications</p> <p>En les comunicacions lliures òptiques-atmosfèriques l'efecte de Scintillation deriva a grans esvaneïments a causa de la interferència de les perturbacions del senyal. Aquestes poden ser trobades per mitjà de la diversitat de longituds d'ona en molts escenaris de transmissió. Per això, la informació és transmesa a través de dues longituds d'ona diferents i ambdós senyals es combinen favorablement en un receptor amb diversitat.</p> <p>El treball en aquest Projecte Final de Carrera consisteix a comprobar i quantificar el fenomen per mitjà d'un seguiment òptim de la transmissió i comparar el resultat final amb la teoria.</p> |
| Durada | Starting Date: July 2005 Period of stay: 6-8 Month |
| Requisits | Experiència amb hardware en muntages de laboratori. |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-6 |
| Data d'entrada | 10/05/05 |
| Tipus d'estada | PFC |
| Descripció | Planificació, construcció i experimentació d'un Tracking-Receiver per a les aplicacions en comunicacions mòbils òptiques i atmosfèriques. |

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| | En el cas de comunicacions òptiques mòbils el precís seguiment del senyal que arriba del nostre interlocutor és crucial. En aquest projecte s'haurà de verificar un nou procediment que promet un augment en la robustesa a través de la miniaturització. |
| Durada | Starting Date: July 2005 Period of stay: 6-8 Month |
| Requisits | Experiència amb Hardware, C-Programació / DSP-Programació. |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-7 |
| Data d'entrada | 10/05/05 |
| Tipus d'estada | PFC |
| Descripció | Simulació i prova de la funcionalitat d'un nou Y-acoplador òptic de fase En les comunicacions lliures mòbils òptiques, per tal d'aconseguir un augment en la robustesa i la miniaturització és important que tant el senyal òptic transmès com el que arriba tinguin la mateixa longitud d'ona en un multimode desfassador comú. No obstant, la llum que enviem i que rebem ha d'estar separada en dos canals i la seva interacció ha de ser mínima. L'objecte d'aquest treball és el desenvolupament d'un determinat acoplador per mitjà de Raytracing Simulation i l'elaboració de prototips amb l'ajuda d'un soci industrial. |
| Durada | Starting Date: July 2005 Period of stay: 6-8 Month |
| Requisits | Bons coneixements en òptica de fase i programació. |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-8 |
| Data d'entrada | 10/05/05 |
| Tipus d'estada | PFC |
| Descripció | Disseny de forma òptima d'un Receptor per a múltiples velocitats de transmissió a les comunicacions lliures òptiques. En les comunicacions lliures mòbils òptiques la velocitat de transmissió de dades pot variar de forma ràpida a causa de diferents influències (esmoreïment atmosfèric, nubolositat variació de la distància). Per això, el receptor s'ha d'adaptar de forma dinàmica a aquestes velocitats . L'objectiu del treball és el disseny i el test un receptor d'alta sensibilitat que pugui ser activat de forma òptima amb el seu propi fotodíode. |
| Durada | Starting Date: September 2005 Period of stay: 6 Month |
| Requisits | Bons coneixements en disseny de connexions i Platinenlayout. |
| Nombre de places | 1 |

DLR (Alemania-Munich)

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| Codi | D DLR Mun-9 |
| Data d'entrada | 10/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Development of DIMM and Profiler instruments for atmospheric turbulence measurement.</p> <ul style="list-style-type: none"> - Vista general de les aplicacions dels instruments i recerca i elaboració de la teoria que tenen per base. - Realització del Software (Labview oder Matlab) per l'instrument DIMM- (Differential Image Motion Monitor) - Realització del Software (Labview oder Matlab) pel Profiler-Instrument. - Cal·libració del DIMM amb el telescopi de 40 cm de l'estació terrestre òptica i testeig de l'instrument. - Cal·libració del Profiler amb el telescopi de 40 cm de l'estació terrestre òptica i testeig de l'instrument |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | Bons coneixements en matemàtiques de l'enginyeria. |
| Nombre de places | 1 |

DLR (Alemanya-Munich)

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| Codi | D DLR Mun-10 |
| Data d'entrada | 10/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Disseny avançat de packet-level FEC tecnologies per a l'aplicació en comunicacions d'òptiques lliures.</p> <p>A causa dels esvaniments lents en un canal òptic-atmosfèric una codificació de canal ha de disposar de grans longituds d'influència. Aquestes longituds d'influència tractades amb codificació de bit i Interleaving només poden aconseguir-se amb un gran cost. Per això en aquest context és raonable implementar una codificació sobre els paquets de dades i reconstruir amb una decodificador els paquets transmesos amb errors. D'aquesta manera es pot aconseguir de manera relativament senzilla un gran longitud de influència. En aquest projecte s'han d'optimitzar el paràmetres de codificació per mitjà d'una prova ja realitzada en un treball anterior i han de ser verificats després a través de tests analítics i numèrics.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6-8 Month</p> |
| Requisits | |
| Nombre de places | 1 |

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CNES

CNES (França-Toulouse)

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| Codi | F CNES Tou-1 |
| Data d'entrada | 10/05/05 |
| Tipus d'estada | PFC |

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| | <p>SAR/Galileo simulations (Localisation/Navigation)</p> <p>The Galileo navigation satellites constellation will carry "Search And Rescue" (SAR) payloads, in addition of Navigation payloads. These SAR payloads will acquire and downlink messages emitted by specific beacons embarked aboard mobiles (boats, airplanes, cars, etc.) and activated in case of distress. These distress messages will be downlinked to the ground where dedicated equipment will detect and locate the active beacons, then will allow to launch rescue teams (Cospas/Sarsat system).</p> <p>Simulation study proposed consists in determining the minimal number and relevant position of SAR payloads (on which satellites of the constellation), in order to comply with Galileo et Cospas/Sarsat specifications (beacon/satellite and satellite/ground visibilities, dynamic link budgets, beacons location accuracy). Beacon location using these SAR payloads will concern beacons equipped with Navigation receiver or not (FDOA/TDOA location). Study will deal on Galileo constellation only, then on Galileo+GPS. Full constellations or not, due satellites or SAR payloads failures, will be considered. Back-up strategies will be proposed.</p> <p>Simulation tools are: VISUALYSE simulation SW (constellation and RF aspects) and MATLAB s/programs.</p> |
| Descripció | |
| Durada | <p>Starting Date: Setember 2005 Period of stay: 4 Month</p> |
| Requisits | Coneixements en localització i navegació. |
| Nombre de places | 1 |

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BOSCH

BOSCH (Alemania-Hildesheim)

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| Codi | D BOSCH Hil-1 |
| Data d'entrada | 18/05/05 |
| Tipus d'estada | PFC |
| Descripció | <p>Java/OSGi development for a driver information system</p> <p>Future driver information systems will not only include radio and navigation systems but they will also offer the integration of Java components. These components will be managed by an OSGi application platform.</p> <p>One of the advantages is the possibility to develop the components independently from each other. Furthermore the Java components may be upgraded later during runtime of the system.</p> <p>The Java components have to be integrated into the existing application framework in order to interact with native components. The main mechanisms for communication and management between non-Java applications have to be accessible to Java components.</p> <p>Aim of this work is to develop a concept for the integration of a Java application platform into a native environment and to implement the result on an embedded development board. It offers insight into the central currently used mechanisms for communication and application management along with their utilisation in a Java/OSGi system.</p> |
| Durada | <p>Starting Date: July 2005 Period of stay: 6 Month</p> |
| Requisits | You are a student in the field of information technology or electrical engineering and have shown above-average success in the university so far. You are characterized by creativity, initiative and team spirit. In-depth knowledge of the Java language is required, an inclination towards working with embedded platforms is preferred. |

Nombre de
places | 1