



# News N Views

DEPARTMENT OF COMPUTER SCIENCE  
CIIT LAHORE

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## SPRING 2012 ORIENTATION

An Orientation ceremony for newly admitted students (Fall 2011) was being arranged at the Campus on 6th February 2012 at 09:30 AM. Dr. David Simm from Lancaster University also visited the Lahore campus on that day. This type of direct academic interaction of Delegates of Computing Department of Lancaster University with the faculty CS department of CIIT certainly improved the confidence level of both the institutions and will open up

new doors and avenues for further strength



ening of the collaboration in teaching, research and funding projects.

An orientation session was also being scheduled for the Faculty members who have been assigned to teach DDP courses in spring 2012. HoDs and DDP Coordinators and faculty teaching DDP

courses participated with full devotion. Dr. David Simm from Lancaster University and Dr. farooqui was the resource person. They guided the faculty for different aspects off DDP related aspects including course folder maintenance, monitoring academic progress of students, counseling of students, monitoring and reporting absentees



## Computer science faculty meeting with director ciit lahore

Director, CIIT Lahore, Dr. M.A Bodla, arranged an meeting with computer science faculty on 29<sup>th</sup> Feb, 2012 at A Block. One of the objectives of the meeting was to persuade

PhD faculty to bid for funded projects. He urged non-PhD faculty members, especially seniors, to start his PhD studies as soon as possible. He stressed that each non-PhD faculty

member should attach himself/herself with some research group existing in the department and play an active role rather than just merely becoming a member of the research

## S e m i n a r s   a n d   w o r k s h o p s

- Dr. Muhammad Salman Khan gave a presentation titled “Aspects of Content Quality Management in Digital Libraries of Scholarly Publications” on Thursday dated 19.01.2012 in C-6, C-Block. All faculty members participated in it.
- Dr. Muhammad Humayoun gave a presentation on the following titled on Thursday February 02, 2012 in C-5, C-block.



**Title: Developing the System MathNat for Automatic Formalization of Mathematical Texts**



There is a wide gap between the language of mathematics and its formalized versions. The term “language of mathematics” or “mathematical language” refers to prose that the mathematician uses in authoring textbooks and publications. It mainly consists of natural language, symbolic expressions and notations. It is flexible, structured and semantically well-understood by mathematicians. However, it is very difficult to formalize it automatically. Some of the main reasons are: complex and rich linguistic features of natural language and its inherent ambiguity; intermixing of natural language with symbolic mathematics causing problems which are unique of its kind, and therefore, posing more ambiguity; and the possibility of containing reasoning gaps, which are hard to fill using the current state of art theorem proving (both automated and interactive). One way to work around this problem is to abandon the use of the language of mathematics. Therefore in current state of art of theorem proving, mathematics is formalized manually in very precise, specific and well-defined logical systems. The languages supported by these systems impose strong restrictions. For instance, these languages have non-ambiguous syntax with a limited number of possible syntactic constructions.

This enterprise divides the world of mathematics in two groups. The first group consists of a vast majority of mathematicians whose rely on the language of mathematics only. In contrast, the second group consists of a minority of mathematicians. They use formal systems such as theorem proves (interactive ones mostly) in addition to the language of mathematics. To bridge the gap between the language of mathematics and its formalized versions, we may ask the following gigantic question: Can we build a program that understands the language of mathematics used by mathematicians and can we mechanically verify its correctness?

This problem can naturally be divided in two sub-problems, both very hard:

1. Parsing mathematical texts (mainly proofs) and translating those parse trees to a formal language after resolving linguistic issues.
2. Verification of this formal version of mathematics.

The project MathNat (Mathematics in controlled Natural language) aims at being the first step towards solving this problem, focusing mainly on the first question.

The whole work and some future directions.

Thesis Homepage: <http://www.lama.univ-savoie.fr/~humayoun/phd/mathnat.html>

Online demo: <http://www.lama.univ-savoie.fr/~humayoun/imathnat/>

PhD thesis: <http://www.lama.univ-savoie.fr/~humayoun/phd/thesis.html>

Authors homepage: <http://www.lama.univ-savoie.fr/~humayoun/>

## Presentation on occupy wall street: end of capitalism



Mr. Nadeem Ghafoor Chaudhary

A presentation session was arranged by Mr. Nadeem Ghaffor Ch (Assistant Professor) accompanied by Prof. Ghalib Atta from University of the Punjab delivered a presentation on Occupy

Wall Street End of Capitalism, an Interactive session on Taxation, Land, Currency, Banks on February 20,2012 at seminar room of A-block. Below is the abstract of this representation

Occupy Wall Street ( OWS ) is a people-powered movement that began on September 17, 2011 in Liberty Square in Manhattan's Financial District, and has spread to over 100 cities in the United States and actions in over 1,500 cities globally. OWS is fighting back against the corrosive power of major banks and multinational corporations over the democratic process, and the role of Wall

Street in creating an economic collapse that has caused great hardship in many parts of the world. The presentation consisted of the following four parts

- 1) A Brief History of the movement
- 2) Motivating Factors
- 3) What Is Our Response?
- 4) What Should Be Our Response?



## New hiring and rejoining

- Dr. Muhammad Intezar Ali has joined Department of Computer Science as Assistant Professor on February 15, 2012. He has recently completed his PhD from Vienna University of Technology, Austria. His Dissertation title was "Distributed Heterogeneous Web Data Sources Integration".
- Dr. Muhammad Umair has resumed his duties at department of computer science as Assistant Professor, after completing his PhD from VRIJE University Amsterdam, The Netherlands from 22, February 2012.
- Dr. Muhammad Adnan Hashmi, his PhD research topic was "An Agent Oriented Programming Language integrating Temporal Planning and the Plan Coordination Mechanisms".



Dr. Muhammad Intezar



Dr. Muhammad Umair

## p r e s e n t a t i o n

### **An Agent Oriented Programming Language Integrating Temporal Planning and the Plan Coordination Mechanisms**



Dr. Adnan Hashmi

Dr. Muhammad Adnan Hashmi give a presentation on the following titled on Friday, March 02, 2012 at 2:30 p.m in C-15, C-block. All faculty member attended the presentation session.

#### **Abstract**

Over the years a lot of research has been carried out on designing new languages and platforms to program intelligent and autonomous agents. As a result, now we have the necessary tools available to develop autonomous, intelligent, adaptive, communicating and mobile agents. Most of these languages do not give agents the ability to plan ahead. But, sometimes the execution of actions without planning results in the inability to achieve the goals. Moreover, the duration of agent actions and the uncertainty of the environment has not been taken into account in the planning based agent oriented programming (AOP) languages.

This work tries to fill this gap by proposing an AOP language P-CLAIM that endows the agents with planning capability. We are interested in the temporal planning of *on the fly* goals having different priorities. A coherent framework is proposed in which agents are able to generate, execute and monitor their temporal plans. A plan is repaired if some unanticipated changes in the environment cause the plan to become unfeasible.

Handling and the coordination of plans for the achievement of different priority goals have not been discussed in either of the multi-agent planning and AOP languages communities. So this work also proposes coordination mechanisms for the plans of different priorities in two different scenarios. In the first scenario, that we call Proactive-Reactive Coordination Problem (PRCP), an agent has to modify its temporal plan in order to remove any conflicts with the plan of another agent having higher priority. This work proposes a plan merging algorithm supported by a sound plan repairing technique to solve this problem.

In the second scenario, that we call Coordinated Planning Problem (CPP), an agent has to compute a plan for the achievement of its own goals, but without violating the constraints of another agent's higher priority plan, and utilizing where possible the cooperative opportunities offered by the latter. We present two multi-agent planners to solve this planning problem. First planner Coordinated-*Sapa* is an extension of the well known temporal planner *Sapa*, and it solves CPP for the temporal domains. The second planner  $\mu$ -SATPLAN is an extension of the well known classical planner SATPLAN, and it solves CPP for non-temporal classical domains. The techniques are presented for both the planners to handle the negative (conflicting situations) as well as positive interactions (cooperative situations).

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*DIGITAL LINUX JOURNAL*

Library Information Services has subscribed the Linux journal; Linux journal is now digital. Faculty members can get any article by getting account.

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