AJAX-based Process and Service Mashup

AJAX and mashup technologies have contributed significantly to the success of many highly interactive Web 2.0 applications ranging from Google Apps to social networks. However, existing the mashup technologies focus on "data" mashup rather than composing process-intensive applications. This project looks into the state-of-art Web technologies, for example Computational REST (REpresentational State Transfer) and Goolge Chrome OS (Web OS). The students will design and build a prototype using REST frameworks and some mashup libraries to support business process mashups. The student will have the opportunity to work on the latest in-browser technologies and mobile devices (Google Android or iPhone) to create AJAX-based process engines for both server software and mobile browsers. Students will work closely with researchers at National ICT Australia in a very friendly team environment. The project is suitable for students interested in web technologies and mobile programming.

For more information, please email: Liming Zhu limingz@cse.unsw.edu.au or visit http://www.nicta.com.au/research/projects/business_adaptation_and_interoperation/business_process_mashup

Architecture Design for Platforms

Platforms (such as facebook and salesforce) and their APIs are deliberately designed for third parties to build Apps and extensions many of which are smart but unplanned use of the original platform. There are many challenging issues in building these platforms effectively for different business and consumer domains. Rather than building them from scratch in ad-hoc ways, there are design patterns/principles and supporting technologies for different types of platforms. This project will leverage the latest web technologies (such as Google Web Intent, Cloud platforms) to provide further framework and tooling support for platform building.

Students will work closely with researchers at National ICT Australia in a very friendly team environment. The project is suitable for students interested in software design, web technologies and large-scale Internet applications. For more information, please email: Liming Zhu limingz@cse.unsw.edu.au.

References
http://www.programmableweb.com/
http://apigee.com/about/resources

Prerequisites: strong programming skills required.
Architecture Modeling for Real-time Embedded Systems

Embedded systems are ubiquitous these days but there are challenging issues in modeling such systems at an early stage and performing some analysis before committing to detailed design and implementation. This project will use and tailor the AADL [1] language for embedded system modeling and analysis. The student will learn to extend AADL and transform a system model into analysis-friendly models. Tooling support for such extension and transformation will be supported by an EMF[2]-based tool [3].

Students will work closely with researchers at National ICT Australia in a very friendly team environment. The project is suitable for students interested in embedded systems and high-level software design. For more information, please email: Liming Zhu limingz@cse.unsw.edu.au.

References:

Prerequisites: strong programming skills in Java are required. Embedded systems and Model driven development experiences are plus.

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