

SUKANYA RATANOTAYANON

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EDUCATION

Doctor of Philosophy in Information and Computer Sciences (Software Concentration),
University of California, Irvine, CA, USA September 2003-Present

Master of Science in Information and Computer Sciences (Software Concentration),
University of California, Irvine, CA, USA September 2003- June 2005

Master of Science in Information Technology-Software Engineering Track (MSIT-SE),
Carnegie Mellon University, Pittsburgh, PA, USA August 2001-May 2003

Bachelor of Engineering (Computer Engineering),
Chulalongkorn University, Bangkok, Thailand June 1995-March 1999

RESEARCH PROJECTS

University of California, Irvine, CA, Research Assistant
Kayley *July 2008-Present*

- Designed and implemented a plug-in for Eclipse to locate implementation of concerns in the source code.
- Utilized Eclipse AST, Java, Lucene, and Subversion APIs

Zelda *July 2005-Present*

- Designed and implemented a plug-in for Eclipse to create, visualize and maintain links between concerns and their implementation across software artifacts.
- Utilized Eclipse, Java, XML, MySQL, and Subversion APIs.

Empirical Study of Software Engineering Expertise *July 2004-July2005*

- Designed and conducted a laboratory study to explore and determine the nature of software engineering expertise. Analyze the experiment results for indicators of expertise in information seeking and program comprehending skills.

The Mediating Repository Service for GXL (MRS.G) *July 2003-July2004*

- Designed and implemented a plug-in for Eclipse that provides data mediation services between a standard data format for Re-engineering tools, GXL, and other local formats.

Carnegie Mellon University, MSIT/SE, Pittsburgh, PA, Research Assistant
Architectures for Fault-Tolerant Real-Time CORBA Application *June 2002-July 2003*

- Analyzed and identified tradeoffs in architecture for a distributed system that required both real-time and fault-tolerant properties.
- Developed a prototype of framework for such distributed systems, using C++ and TAO (a real-time implementation of CORBA)

Software Engineering Institute (SEI), Pittsburgh, PA, Intern
Knowledge-Based Component Ensemble Evaluation (K-BACEE) *Summer 2001*

- Gathered component specifications and interaction specifications of off-the-shelf components to input into the component repository used to provide evaluation of component compatibility
- Improved schemas of the specifications and extended K-BACEE web application to reflect the new schemas, using Java, Struts, JSP, XML, and Oracle.

Chulalongkorn University, Bangkok, Thailand, Bachelor's Project
Study of Hand – Eye Coordination in 3-D Space *Spring1999*

- Studied the use of genetic algorithms to teach a robot arm to move towards a target in 3-D space using 2 cameras as input

- Designed and implemented a robot arm, a controller program and a simulator, using C, assembly, and Visual Basic.

PUBLISHED WORK

- S. Ratanotayanon, S.E. Sim, R. Gallardo-Valencia, “Supporting Program Comprehension in Agile with Links to User Stories,” Agile 2009 Conference, Chicago, USA, August, 2009
- S. Ratanotayanon and S. E. Sim, “Discovering Task-Based Concern Maps by Merging Concern Fragments,” 17th IEEE International Conference on Program Comprehension, Vancouver, Canada, May 2009 (Poster)
- S. E. Sim and S. Ratanotayanon, “An Initial Study to Measure the Heartbeat of Program Comprehension Using Structure Traversal Graphs,” 17th IEEE International Conference on Program Comprehension, Vancouver, Canada, May 2009 (Poster)
- S. Ratanotayanon, S.E. Sim and D.J. Raycraft, "Cross-Artifact Traceability using Lightweight Links," The 5th International Workshop on Traceability in Emerging Forms of Software Engineering, Vancouver, Canada, May 2009
- S. Ratanotayanon and S. E. Sim, "Inventive Tool Use to Comprehend Big Code," IEEE Software, Vol. 25 , Issue 5, pp. 91-92, 2008
- S. Ratanotayanon and S. Elliott Sim, "When Programmers Don't Ask," the Second International Workshop on Supporting Knowledge Collaboration in Software Development, Tokyo, Japan, 19 September 2006
- S. Ratanotayanon, J. Kotak, and S. Elliott Sim, "After the Scrum: Twenty Years of Working without Documentation," Eighteenth International Conference on Software Engineering and Knowledge Engineering (SEKE), San Francisco Bay, CA, pp. 200-205, 5-7 July 2006.
- S. Elliott Sim, S. Ratanotayanon, O. Aiyelokun, and E. Morris, "An Initial Study to Develop an Empirical Test for Software Engineering Expertise," Institute for Software Research, University of California, Irvine, Irvine, CA, USA, Technical Report #UCI-ISR-06-6, May 2006.
- S. Ratanotayanon and P. Narasimhan, “Estimating Fault-Detection and Fail-Over Times for Nested Real-Time CORBA Applications,” International Conference on Parallel and Distributed Processing Techniques and Applications, Las Vegas, NV, June 2003
- P. Narasimhan, S. Ratanotayanon and C. F. Reverte, “The MEAD Architecture for Real-Time Fault-Tolerant Middleware,” OMG Real-Time and Distributed Object Computing Workshop, Washington D.C., July 2003 (Presentation)
- P. Narasimhan, C. F. Reverte, S. Ratanotayanon and G. S. Hartman, “Middleware for Embedded Adaptive Dependability,” IEEE Workshop on Large Scale Real-Time and Embedded Systems, Austin, TX, December 2002

INDUSTRIAL EXPERIENCE

MOTIF Co. Ltd., Bangkok, Thailand, Software Engineer Apr 2000 – Jul 2001

American International Assurance (AIA) Web Applications:

- Analyzed, designed and developed web applications that manage insurance policy information, using Java (servlets), JSP, Sybase, and IBM Websphere (as web and application server)

ISONET Co. Ltd., Bangkok, Thailand, Software Engineer Mar 1999 – Apr 2000

Human Resource Management Application

- Gathered and analyzed requirements of human resource information management application
- Design and implement a Client – Server application, using MS Visual Basic and MS SQL server

Siam Cement Co. Ltd., Bangkok, Thailand, Programmer, Internship Apr 1998 – Jun 1998

- Created supplement reports for the company’s SAP/3 human resource system, using ABAP/4 language

CERTIFICATE, HONORS RECEIVED, SCHOLARSHIPS

- Scholarship from Royal Thai Government, 2000
- 2nd in class honor, Computer Engineering Department, Chulalongkorn University, 1999
- Microsoft Certified Professional (MCP) in MS Visual Basic, Microsoft, 2000

COMPUTER SKILLS

Programming Languages: Java, JSP, SQL, XML, JavaScript, C/C++, Visual Basic, Perl, HTML, Pascal, COBOL, Assembly

Framework: CORBA, J2EE, JUnit

Operating system: Windows, Linux (Redhat), Unix

Tools: Eclipse, Visual Studio, Subversion, CVS, Ant

Database: MySQL, Oracle, Sybase, MS SQL ServerS

Web/Application Server: Apache, Tomcat, Websphere

OTHER TRAINING

- “ABAP/4 Programming on SAP/3 System”, Siam Cement Co. Ltd., Bangkok, Thailand
- “Implementing a Database Design on Microsoft SQL Server 6.5”, ISONET Education Services, Bangkok, Thailand
- “Performance Tuning and Optimization of Microsoft SQL Server 6.5”, ISONET Education Services, Bangkok, Thailand
- “Mastering Visual Basic6 Development”, ISONET Education Services, Bangkok, Thailand

EXTRACURRICULAR ACTIVITIES

- Staff member of the Engineering Public Relations Club, Chulalongkorn University, Bangkok, Thailand, 1995-1999
- Secretary of Engineering Broadcasting Club, Chulalongkorn University, Bangkok, Thailand, 1996
- Staff member of various Engineering Student Activities, Chulalongkorn University, Bangkok, Thailand

REFERENCES

Available upon request