

Department's Information

@ Department of Computer Engineering,
Faculty of Engineering, PSU, Thailand



14 July 2008



About Computer Engineering Dept.

- One of 7 departments in the Faculty of Engineering,
 - Considered as the biggest department
 - Recruit the most number of undergraduate students
- Provide academic service in two campuses
 - HatYai (Main campus)
 - Phuket



About Computer Engineering Dept. (cont.)

● HatYai Campus

- Good environment
(Hill side & Reservoir nearby)
- ~ 50 Km to Malaysia Border



● Phuket Campus

- Good environment
(Sea & beaches nearby)
- ~10 Km to Patong Beach,
a world-famous Beach



Study Programs

- B.Eng. Program in Computer Engineering
 - Computer Networks
 - Information Engineering
 - Computer System and VLSI Design
 - Robotics and Control Systems
- M.Eng. Program in Computer Engineering
- Ph.D. in Computer Engineering



Student Recruitment Plan

- **Bachelor Degree Program** (*4-year program*)
 - 140 students each year (at Hatyai Campus)
 - 120 students each year (at Phuket Campus)
- **Master Degree Program** (*2-year program*)
 - 30 students each year
 - 5 students each year (at Phuket Campus from 2009/2010)
- **Ph.D. Program** (*3/4-year program*)
 - 5 students each year



Semester System

- The first semester commences at the beginning of **June**
 - Midterm Exam during the end of **July** and the beginning of **August**
 - Final Exam during the end of **September** and beginning of **October**
- The second semester commences at the beginning of **November**
 - Midterm Exam at the end of **December**
 - Final Exam during mid of **February**
- Summer vacation during **March** and **May**



Hat Yai Campus

Academic Staff in Hat Yai Campus

- We have both Thai and Foreign lecturers in our department
- Thai Lecturers
 - Ph.D. (13)
 - M. Eng. (10)
 - B.Eng. (1)
- Foreign Lecturers (2)
 - Dr. Andrew Davison
 - Robert Elz

PG Staff in Hat Yai Campus

- **Assoc. Prof. Dr. Sinchai KAMOLPHIWONG**

- Computer Networking , Data Communications,
- Computer Simulation, Performance Evaluation,
- IP/ATM Networks, Network Protocols, Multimedia over Data Networks, Mobility on IP Networks, 3G Protocol,
- E-learning/Distance Learning.



- **Assoc. Prof. Dr. Mitchai Chongcheawchamnan**

- Wireless Communication



- **Assoc. Prof. Dr. Montri Karnjanadecha**

- DSP, Speech Recognition, Image Processing, Robotics



- **Assoc. Prof. Thossaporn KAMOLPHIWONG**

- Computer Networks, E-Learning System, Virtual Classroom



PG Staff in Hat Yai Campus

- ***Asst. Prof. Dr. Taweesak Reungpeerakul***

- IC Testing



- ***Asst. Prof. Dr. Pichaya Tandayya***

- Parallel and Distributed Computing, Braille Computer System



- ***Asst. Prof. Dr. Suntorn Witosurapot***

- Differentiated Services, Information Engineering, Web Services and Applications



- ***Asst. Prof. Dr. Thanate Kaorapapong***

- Image processing, Control System, Robotics, DSP



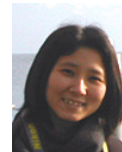
PG Staff in Hat Yai Campus

- **Dr. Wannarat Suntiamorntut**



- VLSI Design, Embedded Systems, Wireless Sensor networks

- **Dr. Aree Teeraparbserree**



- Lexical Inter-Language

- **Dr. Anant Choksiriwong**



- Pattern Recognition, Image Processing

- **Dr. Sangsuree Vasupongayya**



- Intelligent Scheduling, Computer Security, Operating Systems

- **Dr. Somchai Limsiroratana**



- Image Processing, Artificial Intelligence

- **Dr. Nikom Suwanworn**

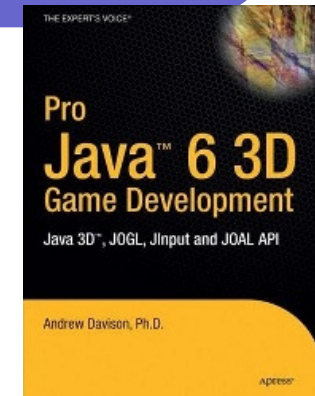
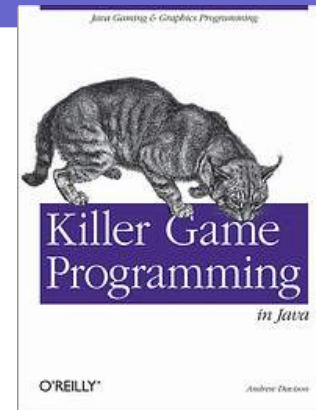


- Computer Vision, Image Processing

Foreign Staff in Hat Yai Campus

- **Dr. Andrew Davison**

- Expert in Java
- Some of his publications



- **Robert Elz**

- Expert in Internet-related field, IPv6, Unix Enhancement
- Internet Engineering Task Force (IETF) committee
- **Request For Comments (RFCs):**
 - **[RFC 1924]** A Compact Representation of IPv6 Addresses.
 - **[RFC 1982]** Serial Number Arithmetic.
 - **[RFC 2181]** Clarifications to the DNS Specification.
 - **[RFC 2182]** Selection and Operation of Secondary DNS Servers.
 - **[RFC 2389]** Feature negotiation mechanism for File Transfer Protocol.

Research Groups and Issues

- **Center for Network Research (CNR)**
 - Computer Networks
- **ANW Informatics Laboratory**
 - Advanced Information Engineering
- **Wireless Sensor Network (WSN)**
- **Intelligent System (iSys) Research Team**
 - Computer Control and Robotics
 - Computer System Design and VLSI Design



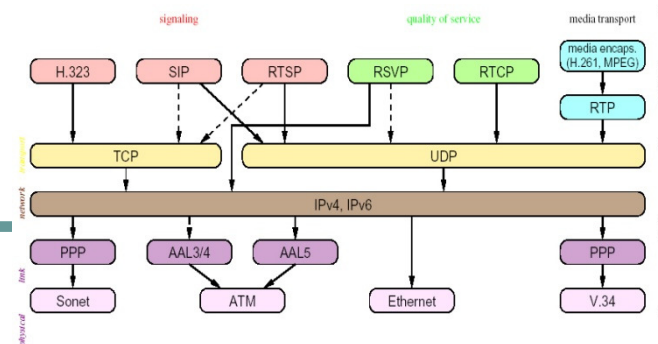
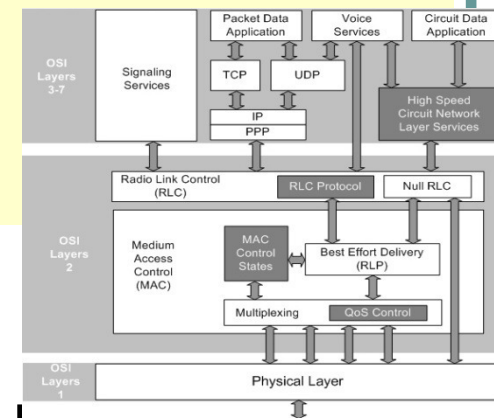
CNR: Past and Current Works

- **R&D of Next Generation Network Protocol**

- Collaboration work:
 - **French:**
 - Department of Networks and Telecommunications, Institut National Polytechnique de Toulouse (INPT), ENSEEIHT, Toulouse, France
 - University of Paris VI
 - **Thailand:** PSU + CU + KMITNB + AIT

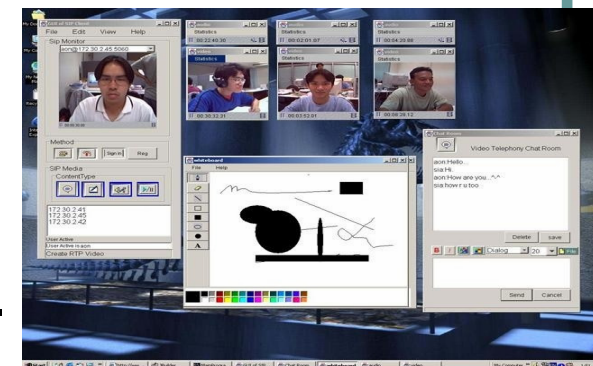
- **3G Mobile Phone Stack (Layer 2: RLC)**

- National Research Collaboration Project
 - SIIT, PSU, KU, KMITL, KMITNB, SU, MTU
- 80 people in this project
- 53 MB for 3 years



CNR: Current Works (cont.)

- PSU Virtual Classroom
 - Interactive Distance Learning
- Voice/Video over IP Networks
 - Real-time Videoconference
- E-Learning Projects
 - Research Collaboration on Mobile and Adaptive Environment Collaboration with:
 - Thailand: PSU + CU + KU
 - France: Univ. La Rochelle + Univ. Poitiers



CNR: Current Works (cont.)

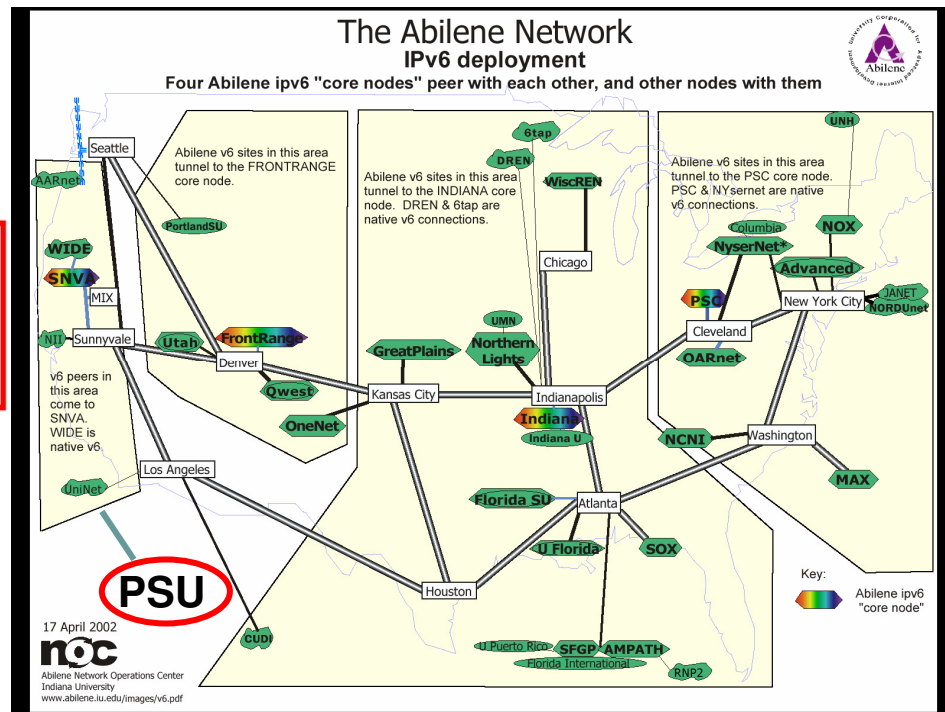


We are the first hub of Thailand

Our staff are key committee in

- Thailand IPv6 Council
- National IPv6 Testbed of Thailand

This project is funded by NECTEC (the National Electronic and Computer Technology), Ministry of Science Technology and Environment, and CHE (Commission of Higher Education, Ministry of Education).



ANW: Research Summary

- Current and Past Works:
 - 3G Mobile Phone Applications
 - Advanced Information Technologies & Applications in
 - Advanced Java & Software Engineering
 - Web Services & Service Oriented Architecture (SOA)
 - Wireless Information Technology
 - Home Networking (UPnP and OSGi environment)
 - Virtual Intelligent Systems and Services (VISS)
 - Medical Informatics



ANW: Past and Current Works

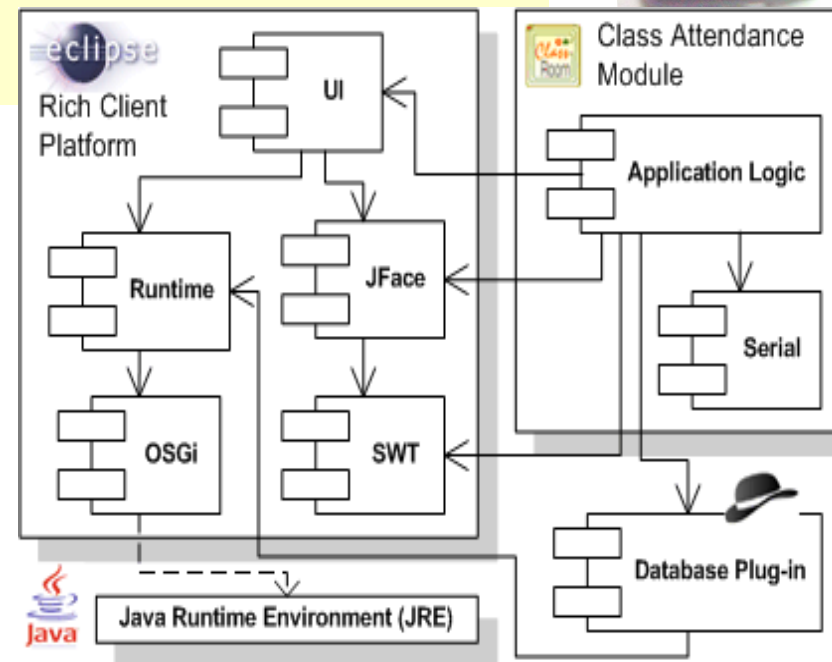
- **3G Mobile Phone Stack (Layer3: RRC)**

- National Research Collaboration Project
 - SIIT, PSU, KU, KMITL, KMITNB, SU, MTU
- 80 people in this project
- 53 MB for 3 years



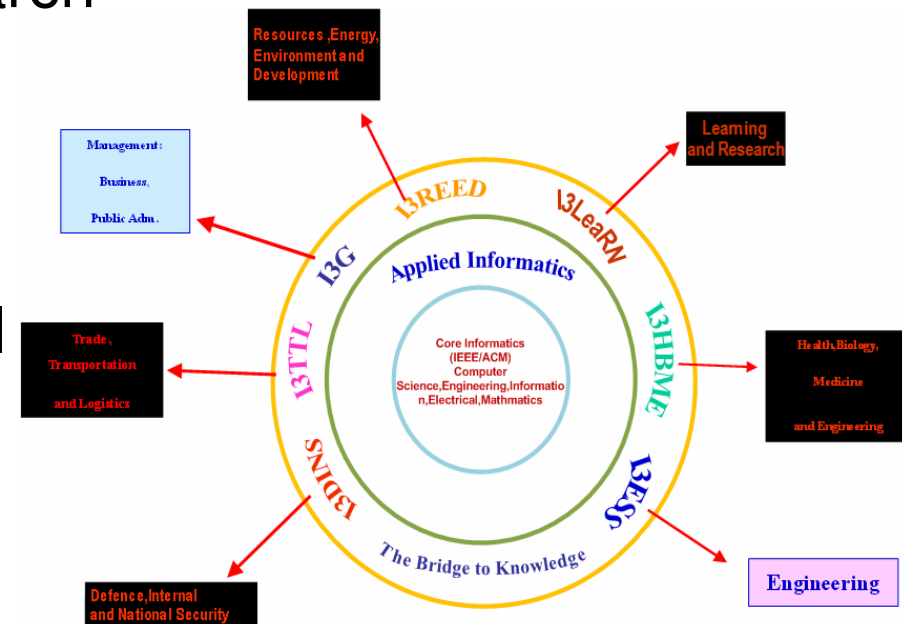
- **A Design of Portable RFID System for Class Attending Management**

- Eclipse's Rich Client Platform (RCP) Application Framework

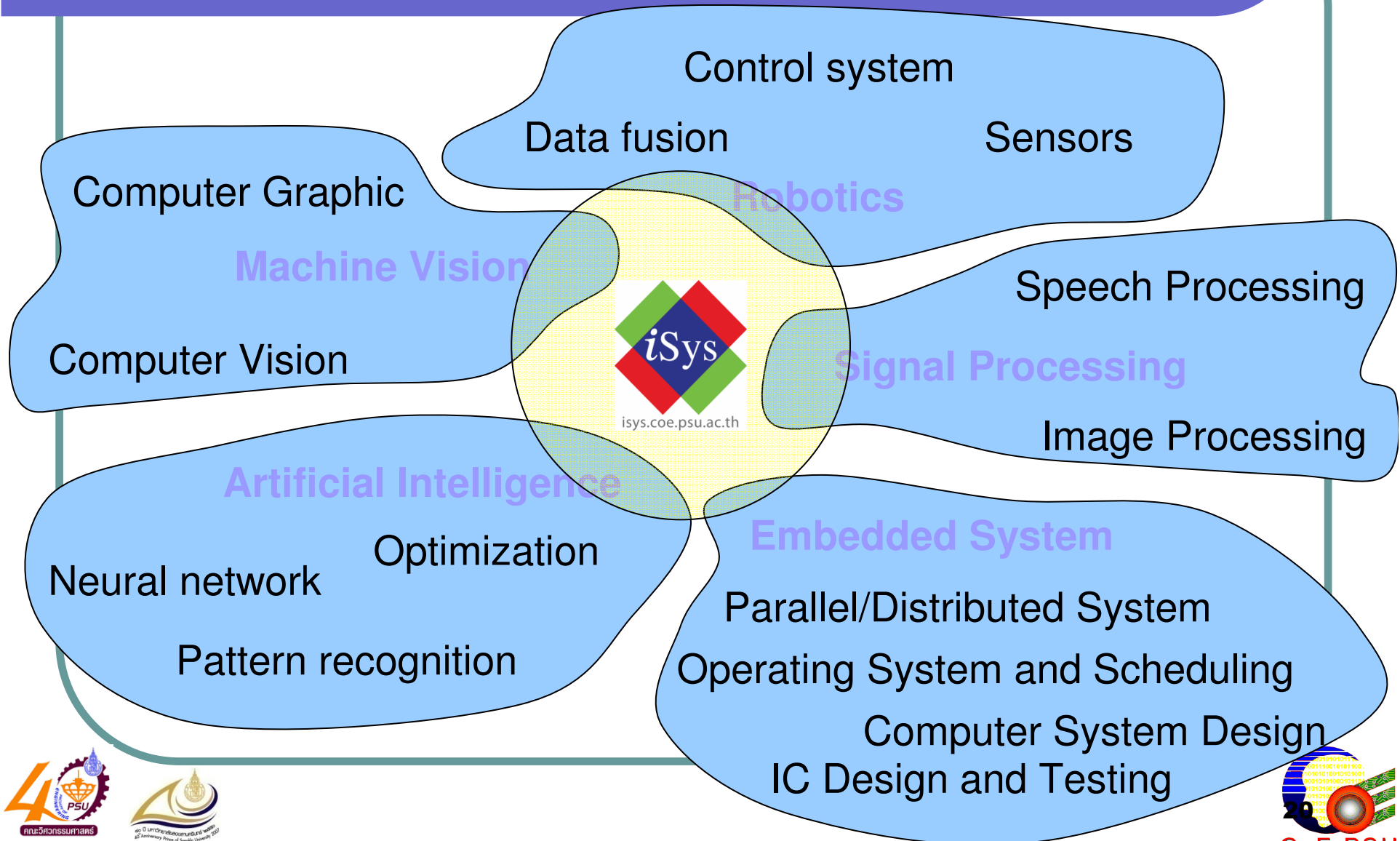


ANW: Past and Current Works

- **Informatics for Integrated Intelligent (I3) Systems**
- I3 for Learning and Research Network (I3LeaRN)
- I3 for Governance (I3G)
- I3 for Health & Biomedical Engineering (I3HBME)

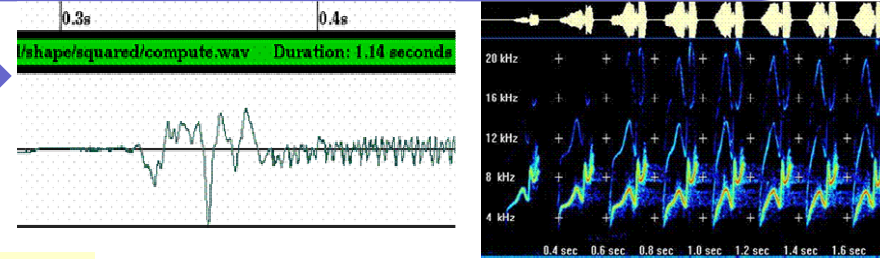


iSys - Research Domains



iSys: Past Works

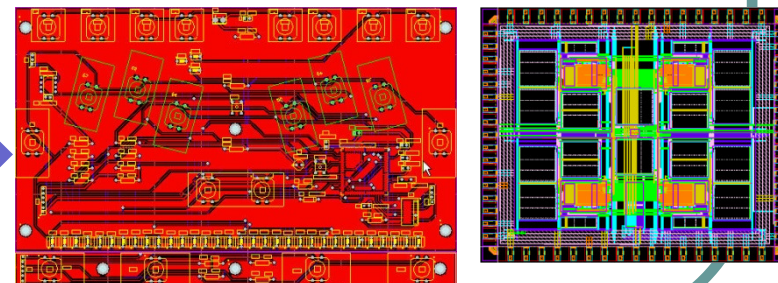
- Thai Speech Recognition



- Distributed Interactive Simulation/High Level Architecture

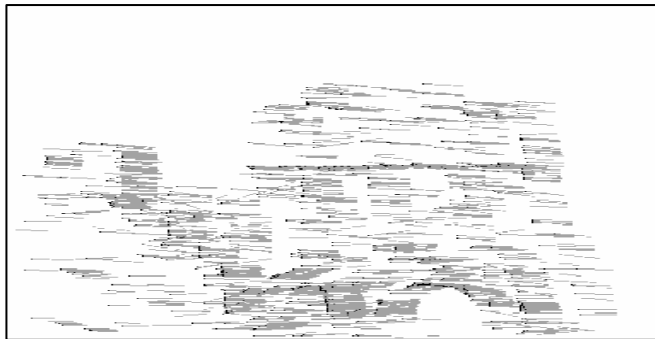


- VLSI and PCB Design
 - FPGA/VHDL
 - IC Testing



iSys: Current Works

- Computer Vision & Image Processing



- Development of 3D Graphic Software and Hardware for Operation Simulation

- Grid and Cluster Computing

- Parallel & Distributed Simulation Systems
- Intelligent Scheduling Systems
- Biogrid/Bioinformatics

- Image Processing

- Counting cancer cells
- Finding bubbles and dirt in rubber sheets
- Fruit ripe status

iSys – Visual Surveillance System

Cameras

- 172.23.21.11
- 172.23.21.12
- 172.23.21.13
- 172.23.21.14
- 172.23.21.15
- 172.23.21.16
- 172.23.21.17
- 172.23.21.18
- 172.23.21.19
- 172.23.21.20
- 172.23.21.21
- 172.23.21.22
- 172.23.21.23
- 172.23.21.24
- 172.23.21.25
- 172.23.21.26
- 172.23.21.27
- 172.23.21.28
- 172.23.21.29
- 172.23.21.30
- 172.23.21.31
- 172.23.21.32
- 172.23.21.33
- 172.23.21.34
- 172.23.21.35
- 172.23.21.36
- 172.23.21.37
- 172.23.21.38
- 172.23.21.39
- 172.23.21.40
- 172.23.21.41
- 172.23.21.42
- 172.23.21.43
- 172.23.21.44
- 172.23.21.45
- 172.23.21.46
- 172.23.21.47
- 172.23.21.48
- 172.23.21.49

Views

- view2x2
- view4x3_1
- view4x3_2
- view4x3_3

VsNavigatorView properties

Description	Structure				
172.23.21.11		172.23.21.35	172.23.21.36	172.23.21.37	172.23.21.38
172.23.21.12					
172.23.21.13					
172.23.21.14					
172.23.21.15					
172.23.21.16		172.23.21.39	172.23.21.40	172.23.21.41	172.23.21.42
172.23.21.17					
172.23.21.18					
172.23.21.19					
172.23.21.20					
172.23.21.21					
172.23.21.22		172.23.21.43	172.23.21.44	172.23.21.45	172.23.21.46
172.23.21.23					
172.23.21.24					
172.23.21.25					
172.23.21.26					

Apply Ok Cancel

• Dr. Nikom



CoE PSU

iSys – RoboCup & Vehicle Intelligent



- Control system
- Image processing
 - Dr. Montri
 - Dr. Thanate
 - Dr. Anant



iSys – RoboCup & Vehicle Intelligent

- **RoboCup** is an autonomous robotic system which integrates several of knowledge in Electrical Engineering, Computer Engineering, and Mechanical Engineering.
 - **Goal:** To win Thailand RoboCup Championship and qualify for competing in World RoboCup tournament
 - Students Involved:
Current:
 - 14** UG students
 - 1** PG student
- Thailand RoboCup Championship:**
- 2005: qualified to compete in the final round
 - 2006: **Best Technical Award** and **the 3rd place winner**
 - 2007: **the 2nd place winner**, the **Best Technical Award**, and the **Popular Vote Award**
 - 2007: **3rd place winner**, the **Best Technical Award**.



iSys – RoboCup & Vehicle Intelligent

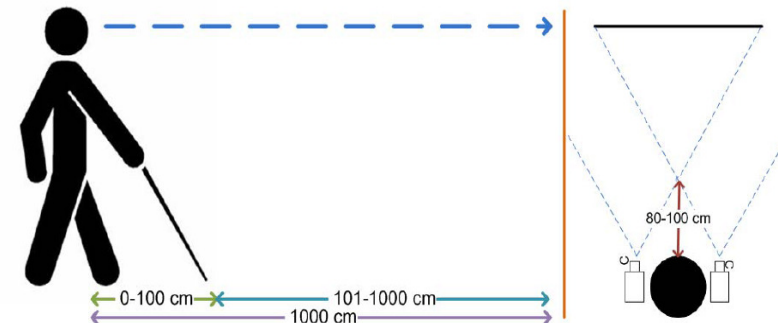
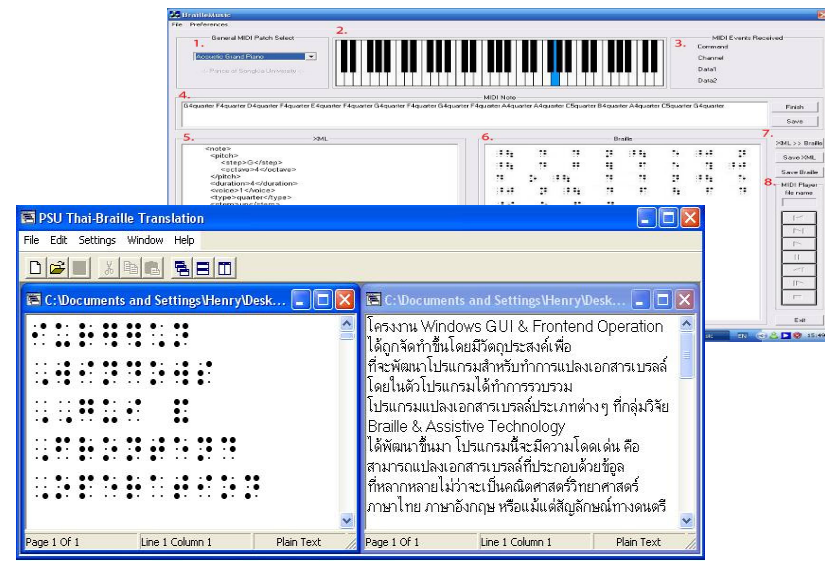
- An intelligent vehicle is an **autonomous vehicle** that can navigate a specific path without collision and can correctly response to traffic signs
- Students Involved:
 - 4 graduate students
- Achievements from **Thailand Intelligent Vehicle Challenge:**
 - 2007: the Creativity Award
 - 2008: the Creativity Award



iSys: Braille Notebook



- Braille Notebook and Braille I/O Device
- Braille -XML– Thai Translation/Conversion
- Stereo Vision for the Visually Impaired
- 3rd Price Award and Peer's Choice Award in Student Design Challenge in 2nd International Convention on Rehabilitation Engineering & Assistive Technology (i-CREATE 2008)



BRaille &
ASSISTIVE TECHNOLOGY



iSys – Printer Quota Controller



Dr. Somchai
Dr. Thanate



Linux Research Gurus



Our gurus:
Chatchai Janataraprim
Touchchai Angchuan
Robert Elz



debian



PSU LUG: PSU Linux User Group

We are a pioneer of using Linux in Thailand. Most of our server farm are running various Linux.



Phuket Campus

Academic Staff in Phuket Campus

- We have both Thai and Foreign lecturers in our department
- Thai Lecturers
 - M. Eng. (11)
 - B.Eng. (1)
- Visiting Foreign Lecturers (2)
 - Dr. Charlie Krey
 - Upal Mahfuz

Software laboratory



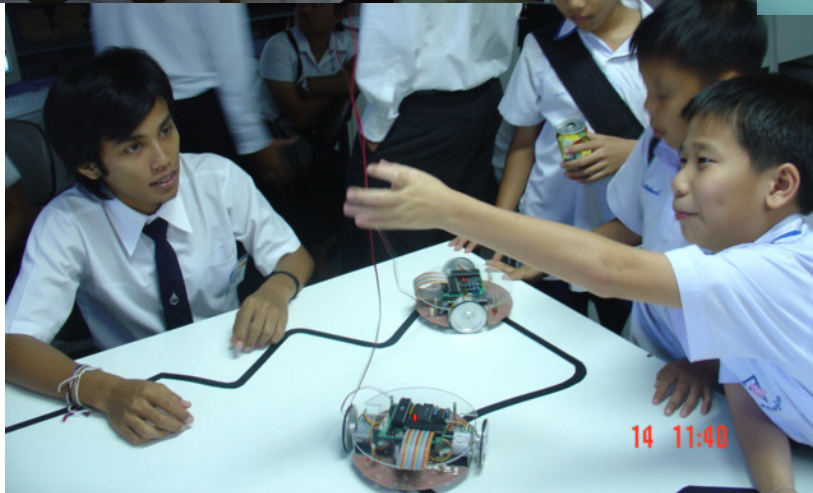
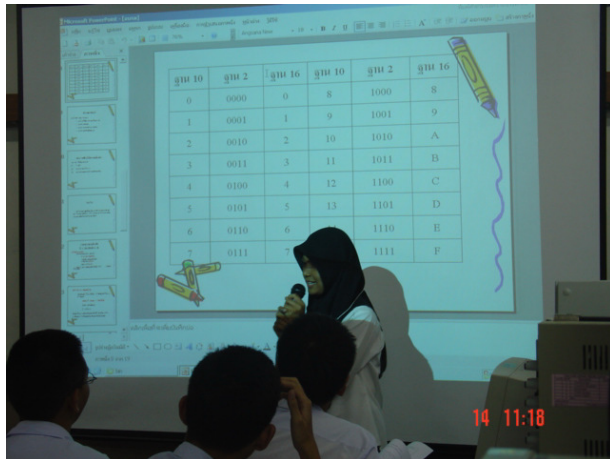
Hardware laboratory



Student Accommodation



Robotic Camp



Training Services



Meeting Hall



Academic Activities

- Number of Publications
 - ~ 18 papers/year
- National Competition Awards
 - 4-8 awards/year (since 2000)
- Research Projects
 - 6 projects from external grants (about 10 millions Thai-Baht)

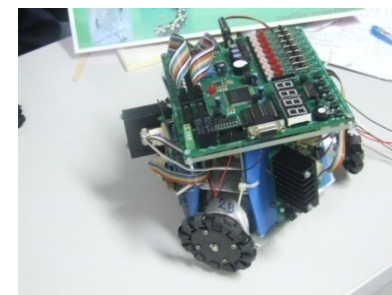
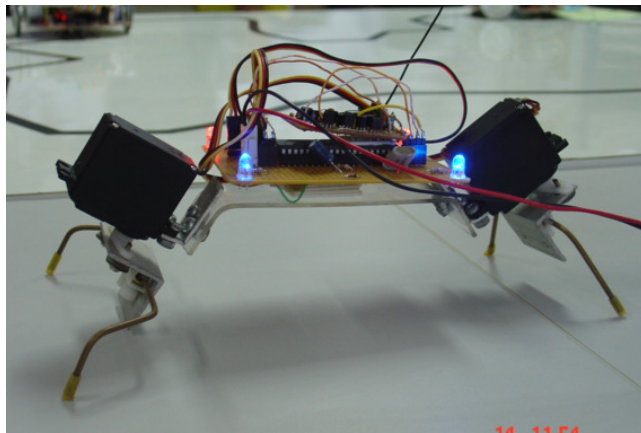
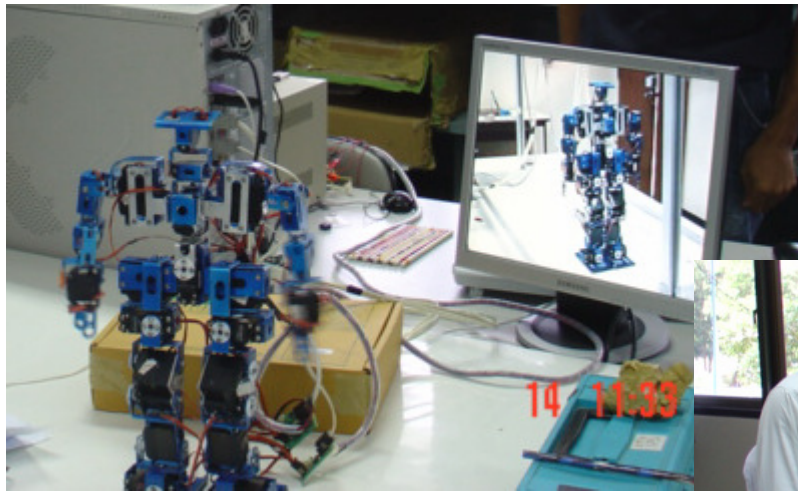


SOI and All Meeting Conference

- Participants from 12 countries in Asia



PSU Open in Phuket Campus



PSU Open in Phuket Campus



ACMICPC



ABU Robocon



44

Visit to Singapore and Malaysia



Participated Annual Competitions

- Actively involved in many competitions in Thailand:
 - National Software Contest
 - Thailand Robocup Championship
 - Engineering Innovation
 - Innovation of Thailand
 - Embedded System Contest
 - Thailand Intelligent Vehicle Challenge
 - Smart Innovation Award
 - Nokia N-Gage University Game Design and Challenge



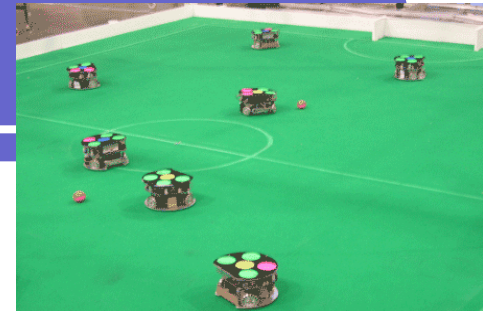
Achievements

- 1st, 2nd and 3rd prizes in National Software Contest for several years



Achievements

- Thailand Robocup Championship
 - 2nd prize in year 2007
 - 3rd prize in year 2006, 2008
 - Best Technical Award in 3 consecutive years (2006-2008)



Achievements (cont.)

- Creative Award in Thailand: Intelligent Vehicle Challenge 2007 and 2008

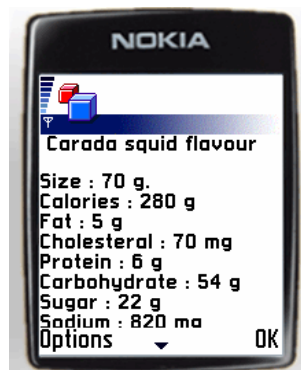
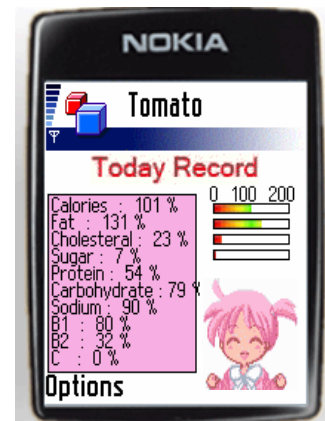


- 3rd prize in Embedded System Contest 2007
- 2nd prize in Engineering Innovation 2004
- 3rd prize in Innovation of Thailand 2004
- 3rd Price Award and Peer's Choice Award in Student Design Challenge in i-CREATe 2008



Achievements (cont.)

- 3rd prize in Samart Innovation Award 2006



Achievements (cont.)

- One of our prides: Receiving a trophy from **Royal Highness Princess Maha Chakri Sirinthorn** for the 1st prize in National Software Contest



Our Ranking

- The 4th rank among the Computer Eng. Department in Thailand (in both Teaching and Research)
- Ranked by Higher Education Committee, Ministry of Education



Questions and Answers

