BINUS UNIVERSITY

Jakarta, 5 October 2018

Concentration Computer Science Program

Competencies, Subjects and Conditions

To focus and shape your competencies to face the Global Employability

VISION

School of Computer Science

”Becoming a world class school in computer science, mathematics and statistics in continuous pursuit of graduate excellence, champion in innovation and international standard in the world of creative industry”.

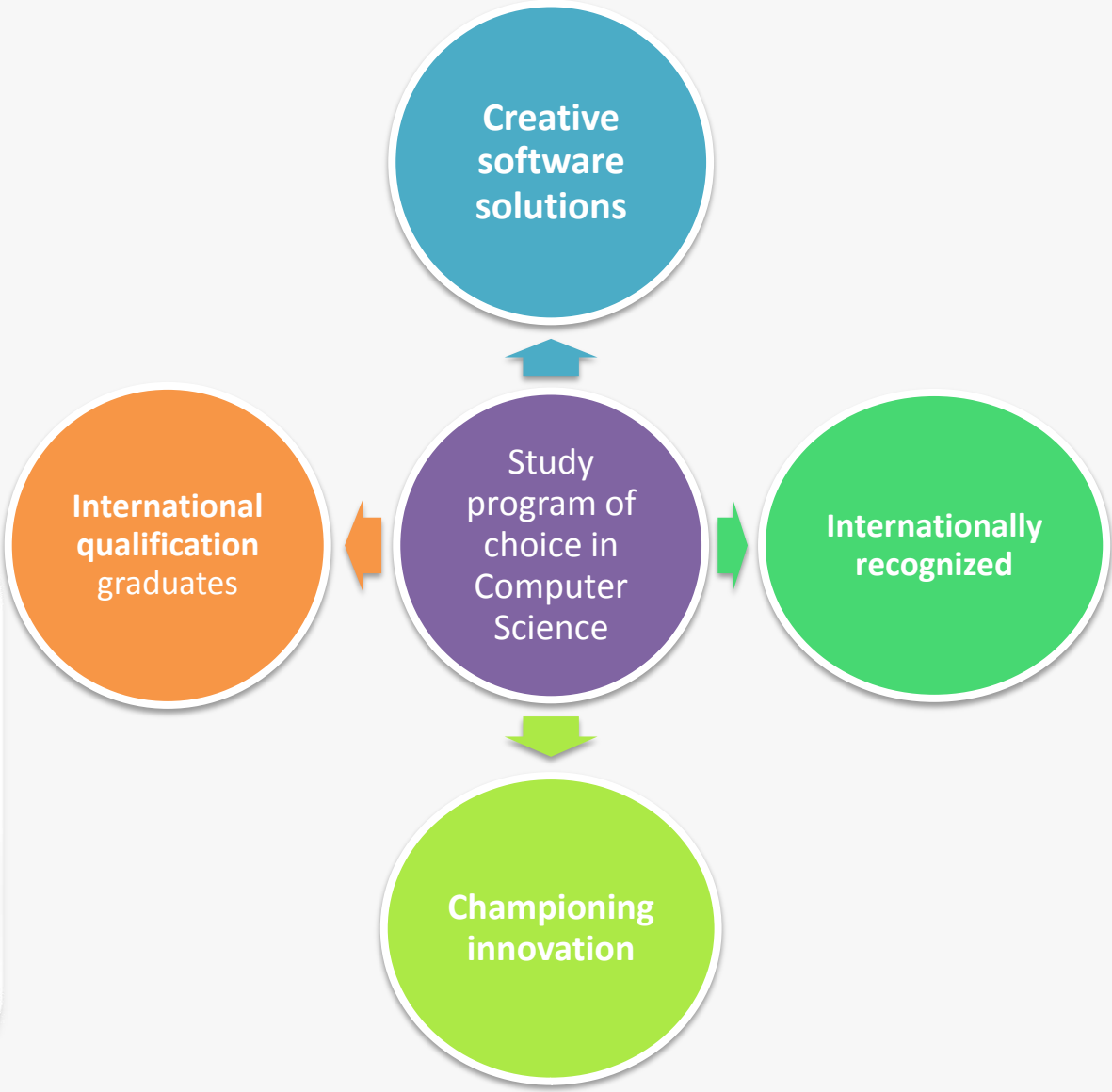
People
Innovation
Excellence

MISSION

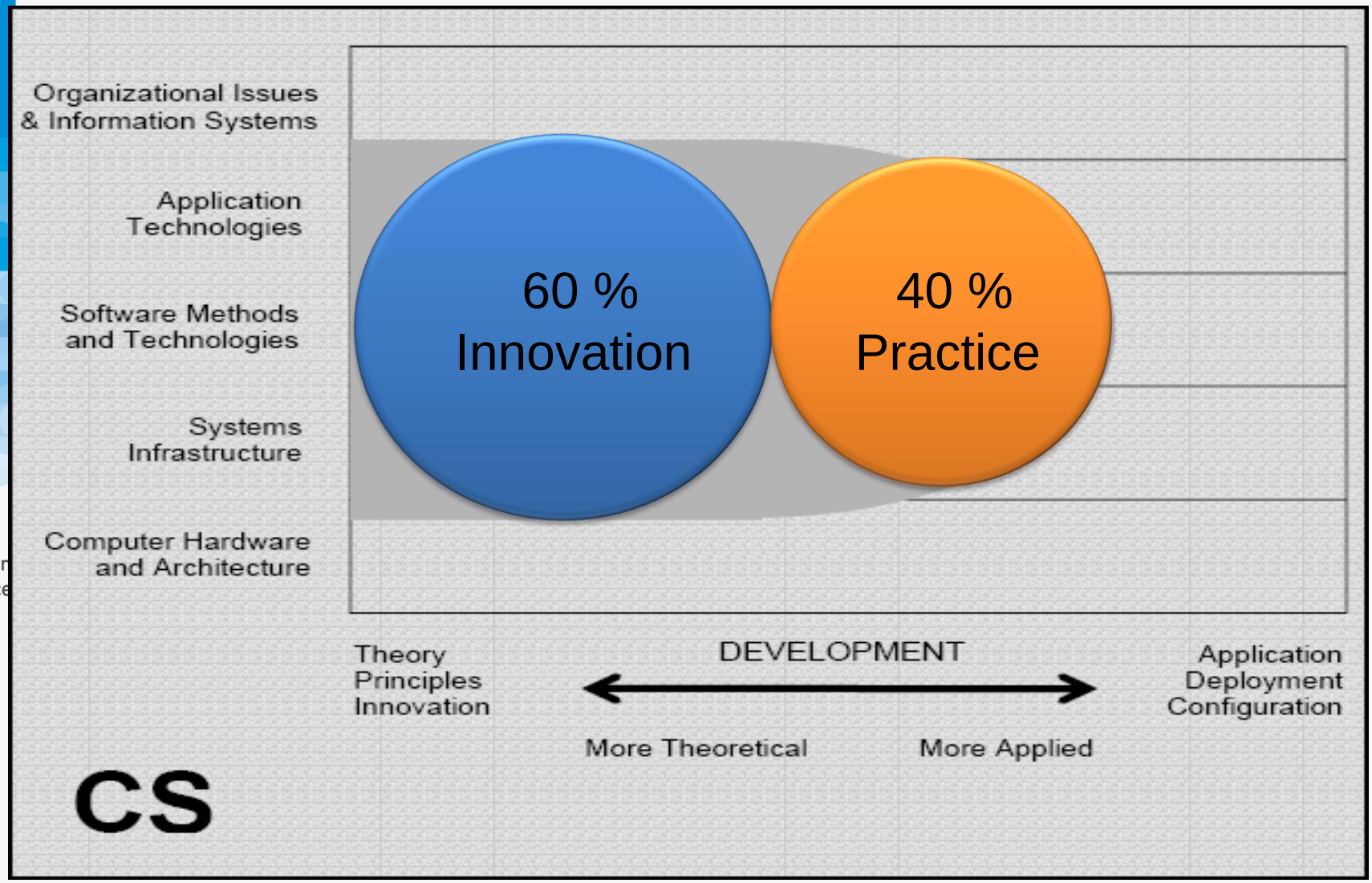
- *To educate students fundamental to advance knowledge, skill and practice in computer algorithm development, computational mathematics and statistics by providing an excellent learning environment and promoting research and collaboration with global industry*
- *To provide creative professional services with emphasis in application of knowledge in terms of society development*
- *To share application of knowledge related to computer science, mathematics and statistics for Indonesian and international community quality of life improvement*
- *To promote students & lecturers to be creative and value-adding talents in computer science, mathematics and statistics by creating suitable environment in order to be able to compete in international level*
- *To prepare students for becoming smart and good professionals leaders and entrepreneurs in global market or for continuing in advanced studies*

VISION

Computer Science Program



Computer Science (ACM Curricula 2005)



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Computer Science

SINCE
1987

Application Technology

Systems Infrastructure in ICT development

Software Methods and Technology

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Fredy Purnomo, S.Kom., M.Kom.
Dean of School of Computer Science

Dr. Derwin Suhartono, S.Kom., M.T.I.
Head of Computer Science Program

Computer Science Program
CCC

Yulyani Arifin, S.Kom., M.M.
CCC Interactive Multimedia

Bayu Kanigoro, S.Kom., M.T.
CCC Networking

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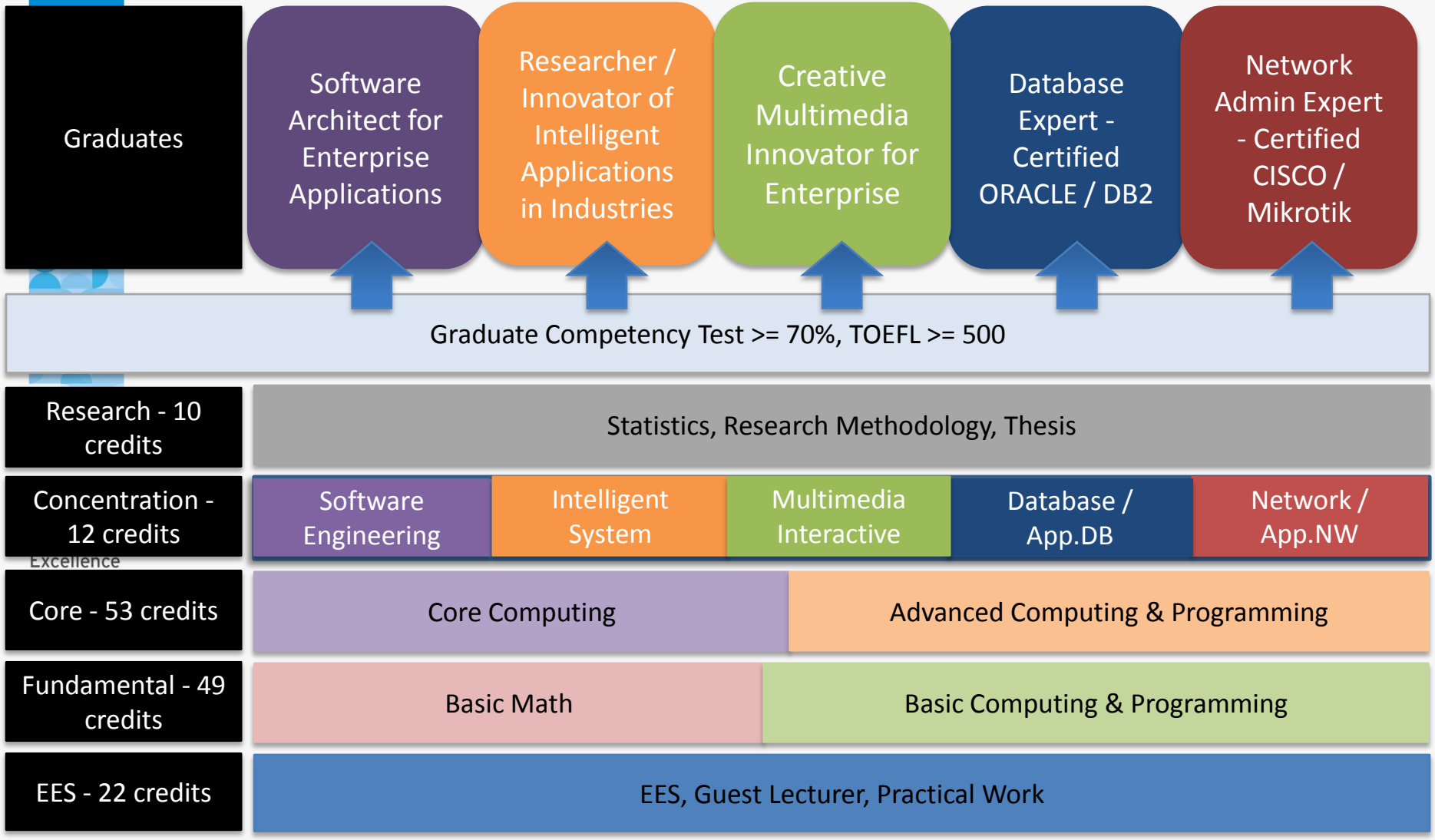
Dewi Suryani, S.Kom., M.Eng.
CCC Database Technology

Meiliana, S.Kom., MSc.
CCC Software Engineering

Novita Hanafiah, S.Kom., MSc.
CCC Intelligent Systems

Curriculum Structure



CONCENTRATION
SOFTWARE ENGINEERING

Software Engineering

Software Engineering

It applies both computer science and engineering principles and practices to the creation, operation, and maintenance of software

What to Learn

Various techniques in software engineering methodology and complex software architecture

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Software Engineering

SUBJECTS

- Code Reengineering
- Agile Software Development
- Pattern Software Design
- Object Oriented Analysis & Design
- Framework Layer Architecture

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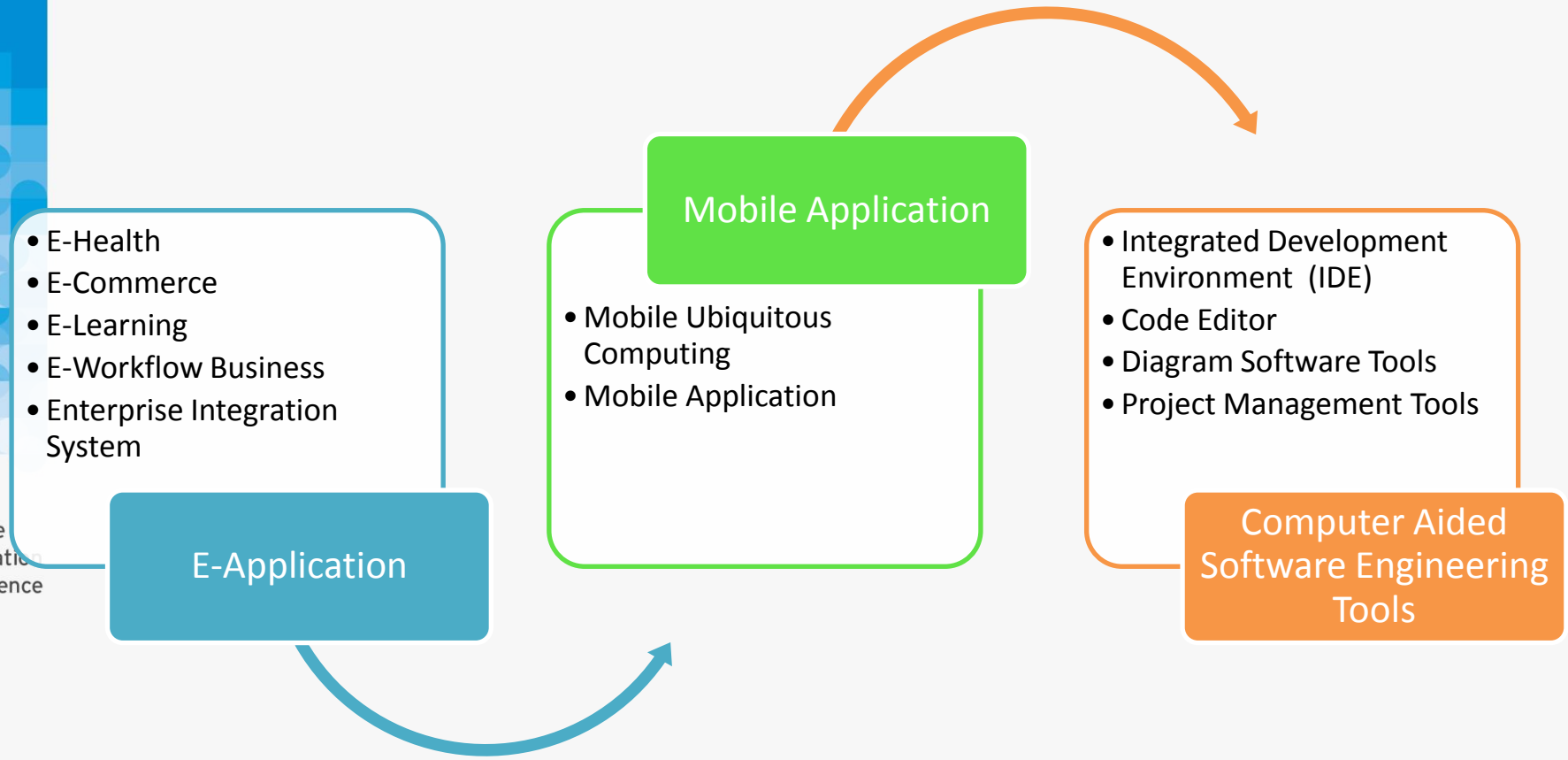
Research Topics



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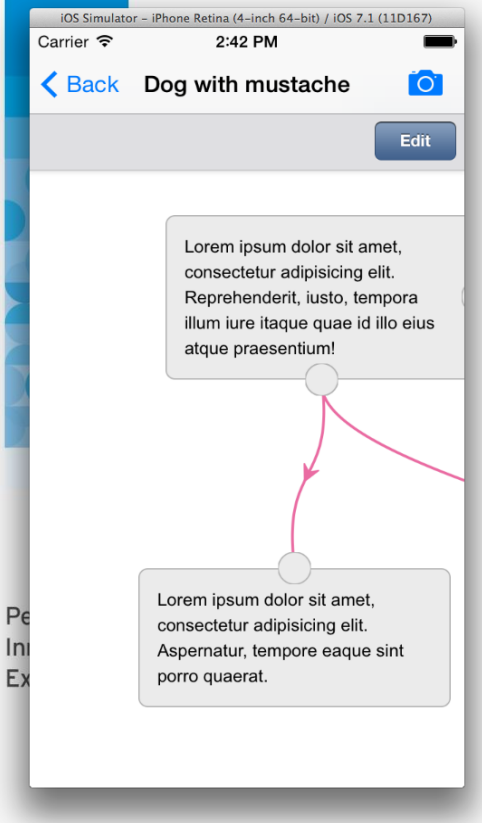
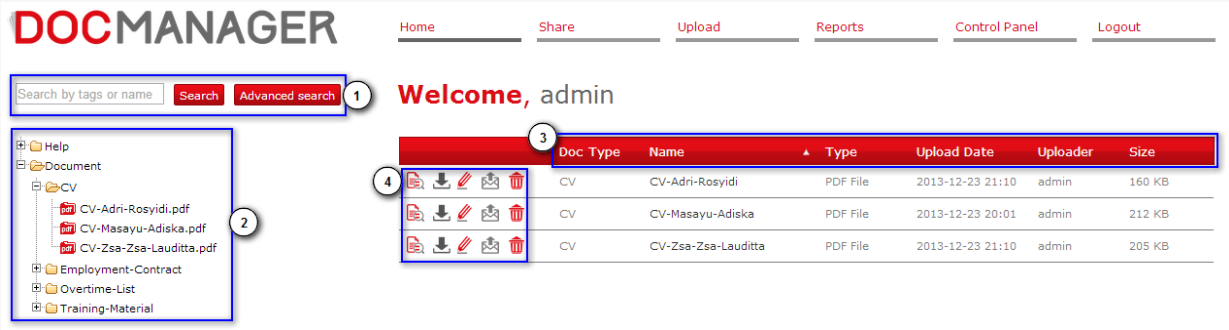
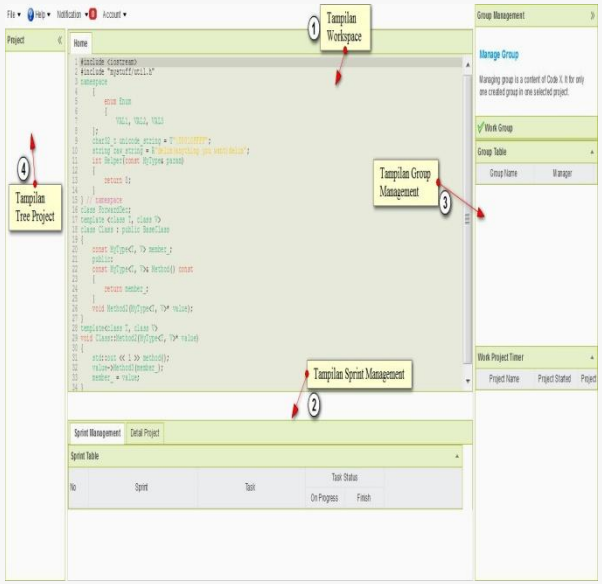
Students Projects



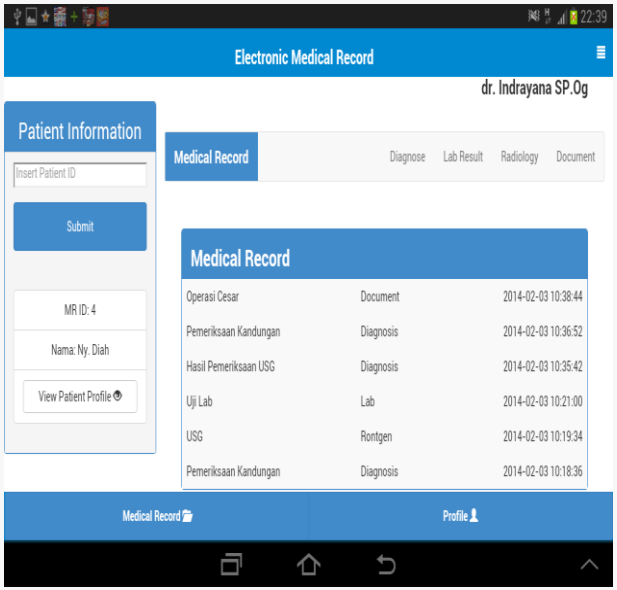
MindKeepin – IOS
OCR MindMap



DOC MANAGER



WEB IDE SCRUM
METHODOLOGY



Medical Record System

Prospective Careers

Management

- Chief Technology Officer
- Chief Information Officer
- IT Consultant

System Development

- Project Manager
- Systems Analyst
- Systems Administrator
- Systems Programmer
- Applications Programmer

Web Specialist

- Web Designer
- Web Programmer
- Web Administrator

Scientist

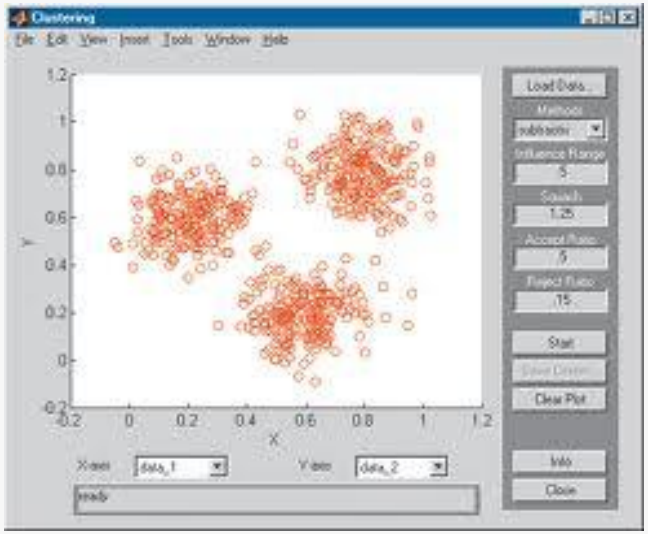
- Lecturer / Trainer
- Researcher

CONCENTRATION INTELLIGENT SYSTEM

Intelligent System

Artificial Intelligence

a machine with an embedded, Internet-connected computer with capacity to gather, analyze data and communicate with other system



What to Learn

Various techniques to make intelligent systems such as algorithms, methods, and problem solving cases

Intelligent System

SUBJECTS

- Natural Language Processing
- Expert Systems
- Computer Vision – C++ library OpenCV, FLTK
- Artificial Neural Network
- Artificial Intelligence in Games

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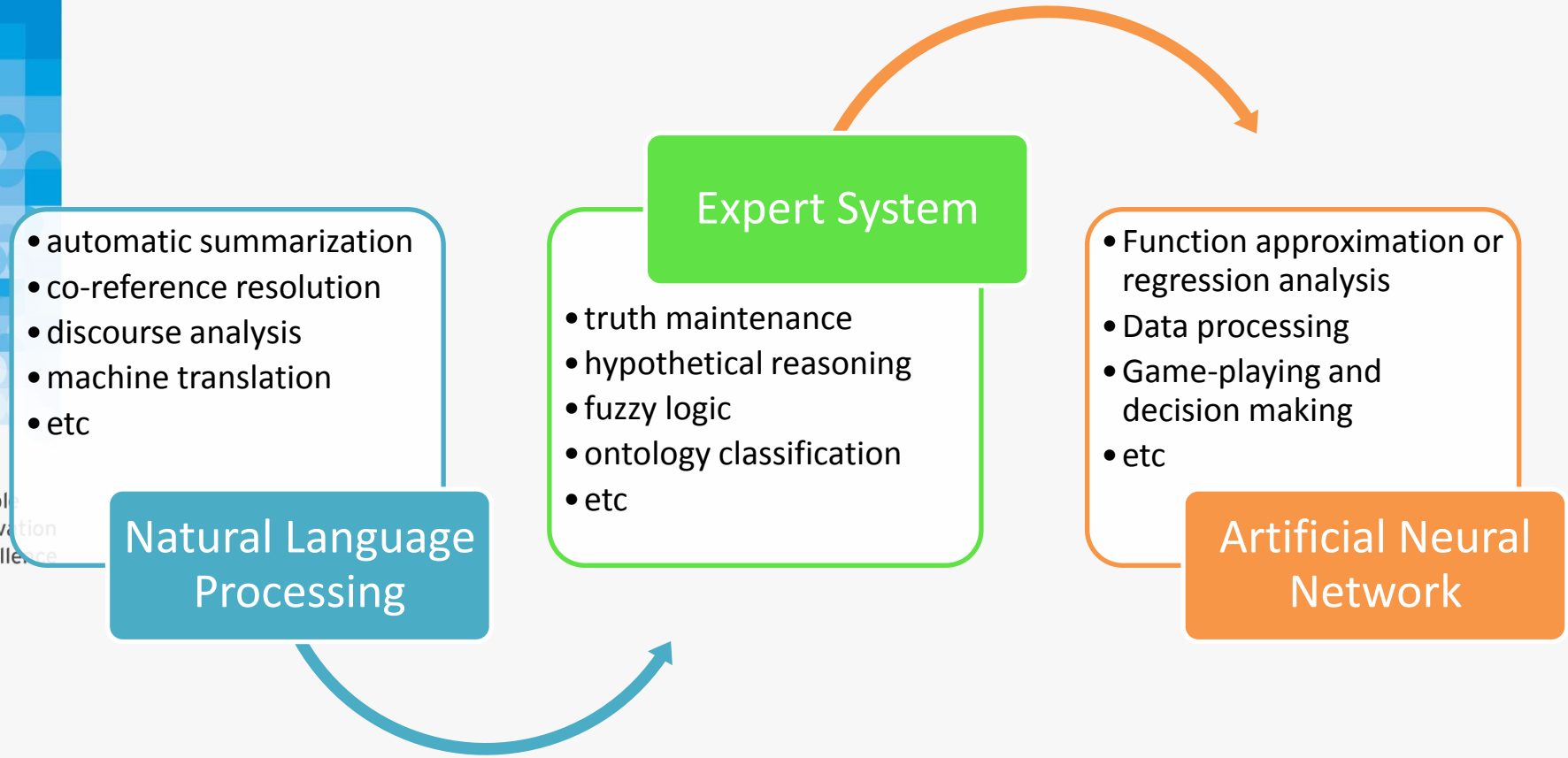
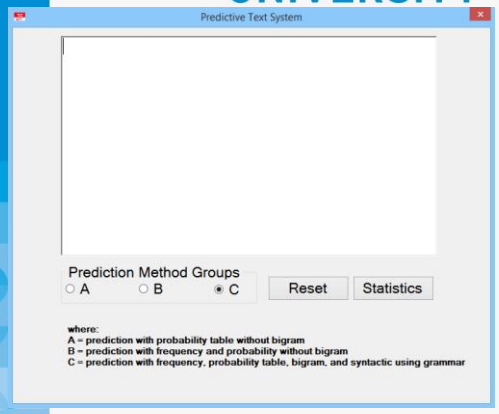
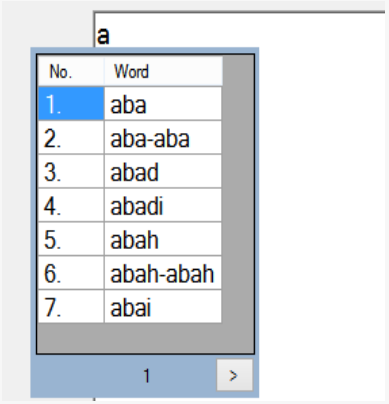
Research Topics

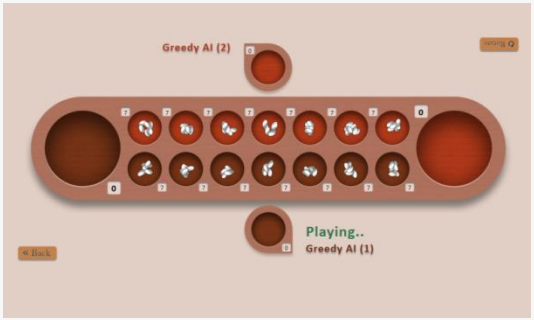


Students Projects

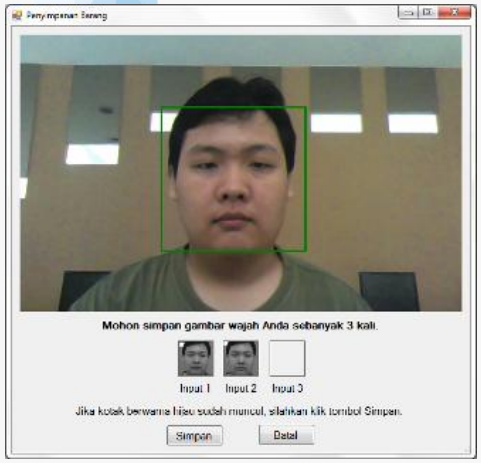




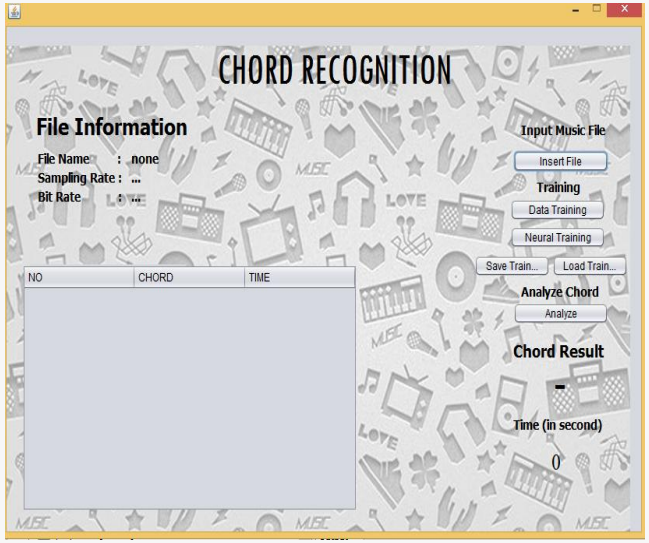
Predictive Text



Congklak



Storage locker



Chord recognizer

Document Summarizer

Prospective Careers

Management

- Chief Technology Officer
- Chief Information Officer
- IT Consultant

Intelligence System Development

- Intelligence System Developer

Scientist

- Lecturer / Trainer
- Researcher

CONCENTRATION

INTERACTIVE MULTIMEDIA

Interactive Multimedia

Multimedia System

Digital integration of text, image, video, audio and animation which user can control when, how and what content to be viewed

What to Learn :

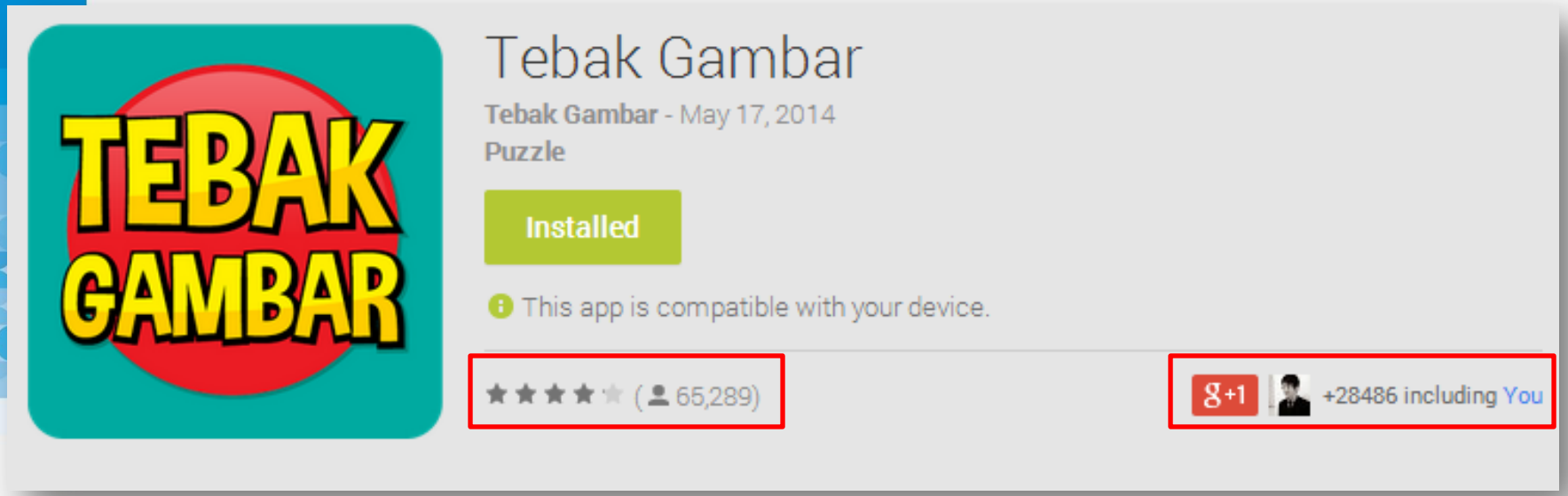
ability to manipulate multimedia-based applications and able to create various multimedia applications such as games, computer-assisted instruction, information kiosk, etc.

Students Projects

- Computer-Assisted-Instruction (CAI) Apps
- Published on Windows Store
- The winner of HACKATHON 2013

ANIMOCLOPEDIA

Students Projects



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- More than 65,000- download and 24,000 share and likes.
- Revenue based on ads placed on the apps.

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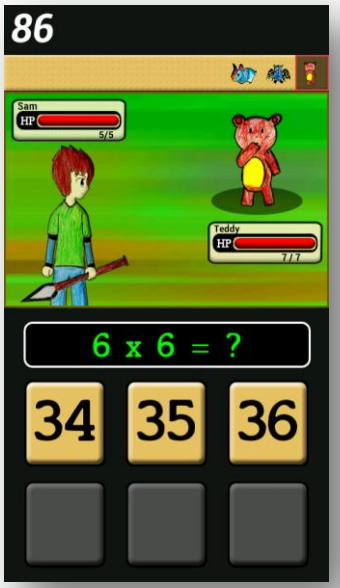
Students Projects

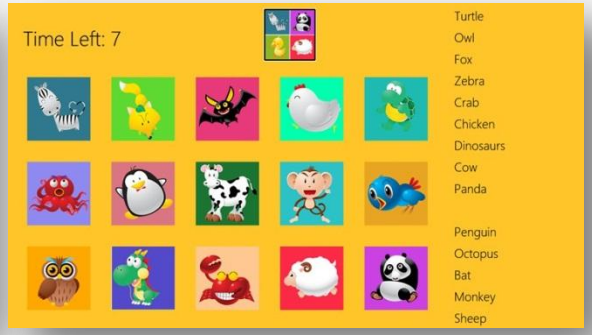
Math Maze

Switch It On



Let's Do Math

MonstaMania



Animal Guess

Poka-Poka

Interactive Multimedia

SUBJECTS

- Game Design
- Computer Graphic
- Multimedia Programming Foundation
- User Experience
- Game Programming

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Research Topics

Multimedia Processing and Coding

- multimedia content analysis
- content-based multimedia retrieval
- multimedia security
- audio / image / video processing, compression
- etc

Multimedia System Support and Networking

- multimedia communication
- multimedia streaming

Multimedia Tools, End Systems, and Applications

- hypermedia systems
- user interfaces
- authoring systems
- multimedia interaction
- multimedia integration

Prospective Careers

Management

- Chief Technology Officer
- Chief Information Officer
- IT Consultant

Multi Media

- Multimedia Designer
- Multimedia Engineer
- Game Engineer
- Game Designer

Scientist

- Lecturer / Trainer
- Researcher

CONCENTRATION

DATABASE TECHNOLOGY

&

APPLIED DATABASE

Database Technology & Applied Database

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Data Base System

A shared, integrated computer structure that stores a collection of end user data and meta data

What to Learn

DBT - Methodology, database design, technology, and how to design, implement, and supervised database which are needed by organization

App DB - Explore various technologies and development of database System(ORACLE)

Database Technology

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Database Technology

- Database Design
- Object-Oriented Database
- Data Warehouse
- Geographical Information System (GIS)
- Database Administration
- Data Mining

Applied Database

- Applied Database I
- Geographical Information System (GIS)
- Database Design
- Applied Database II
- Applied Database III

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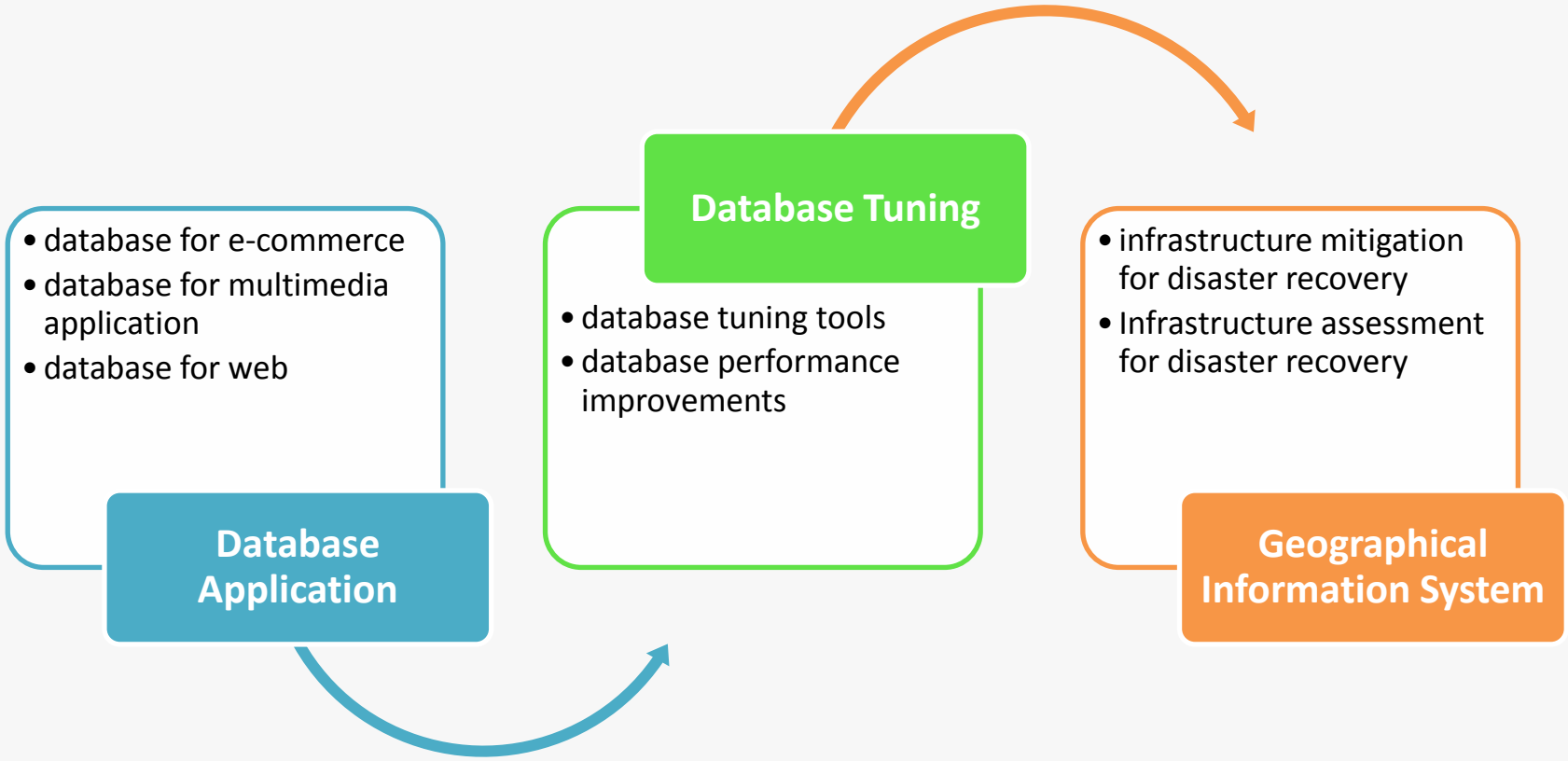
Research Topics



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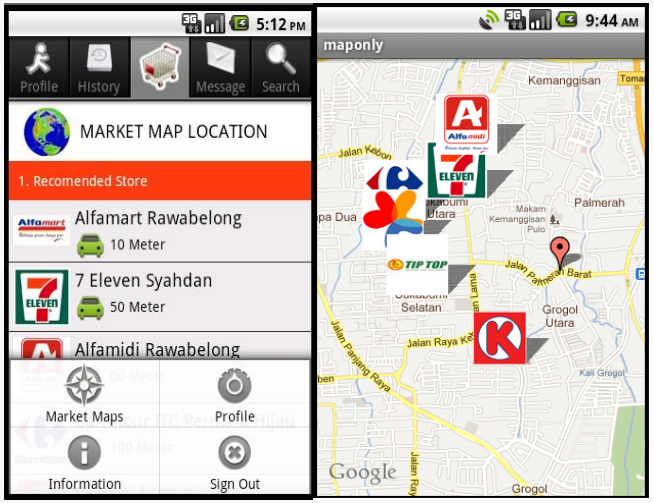
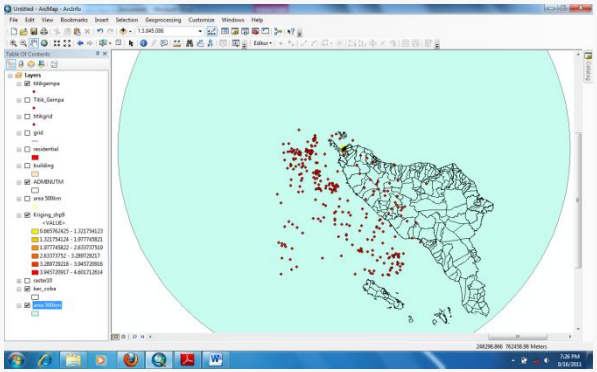
Students Projects

Bali Vancance



E-Market



GIS Earthquake Disaster Risk

Tuntun

Prospective Careers

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Management

- Chief Technology Officer
- Chief Information Officer
- IT Consultant

Database Specialist

- Database Designer
- Database Programmer
- Database Administrator
- GIS Specialist

Scientist

- Lecturer / Trainer
- Researcher

Applied Database Pre-Requisite

Majors

- Computer Science or Information System

Conditions :

- TOEFL >= 500
- GPA >= 3,25 (GPA of 2nd semester)
- Algorithm & Programming = A
- Capacity : 2 classes @ 30 students
- If the capacity cannot hold the number of students who choose Applied Database, students will be ranked by the score of Algorithm & Programming subjects
- If you meet the pre-requisite, however you're score for pre-requisite subjects are out of rank, then you will go for your 2nd priority of concentration

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CONCENTRATION
NETWORKING
&
APPLIED NETWORKING

Networking & Applied Networking

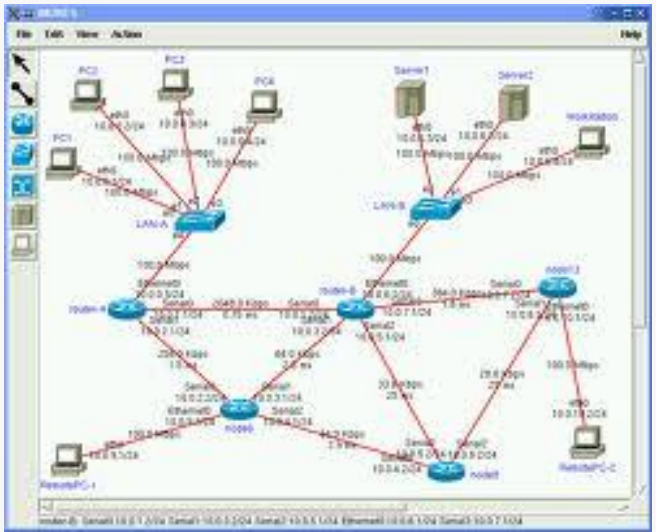
Computer Network

developing network based application, designing, and management

What to Learn

NW - network based application development, designing, implementing, and properly managing computer network in an organization

App NW - Explore network technology which based on CISCO technology and equipment



Networking & Applied Networking

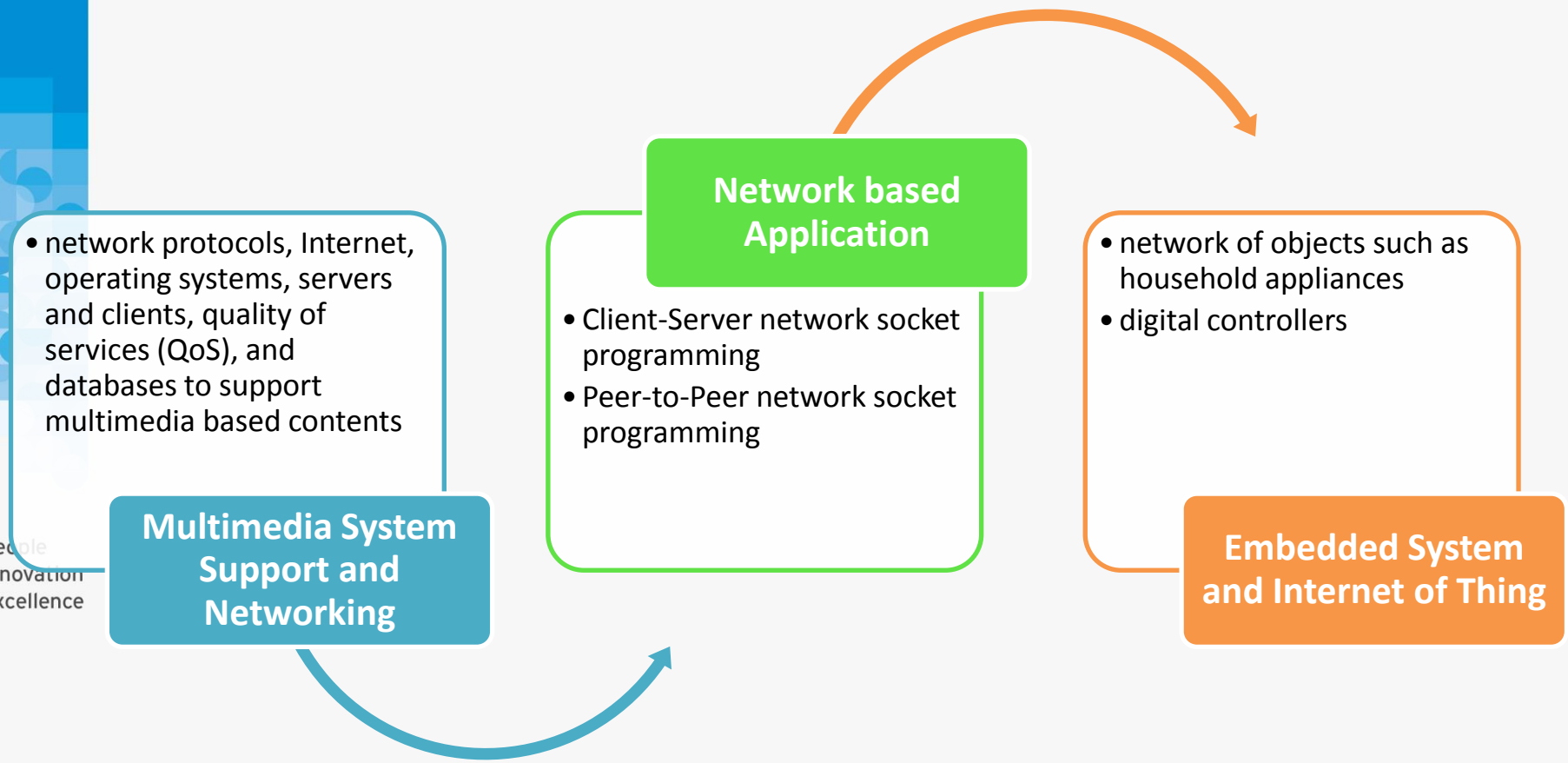
Networking

- Network Design
- Network Programming
- Linux Operating System
- Server Technology
- Popular Network Technology

Applied Networking

- Applied Networking I
- Network Design
- Network Programming
- Applied Networking II
- Applied Networking III

Research Topics



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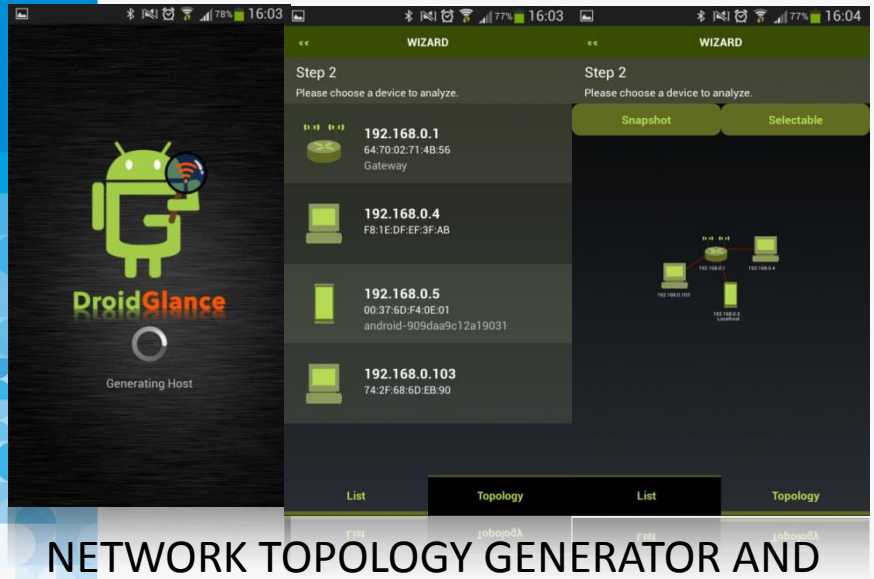
Students Projects



NETWORK TOPOLOGY GENERATOR AND DEVICE SECURITY ASSESSMENT ON ANDROID MOBILE DEVICE

AUTOMATIC SYNCHRONIZATION FOR LECTURER STATUS USING RASPBERRY PI THROUGH FACEBOOK GRAPH PI

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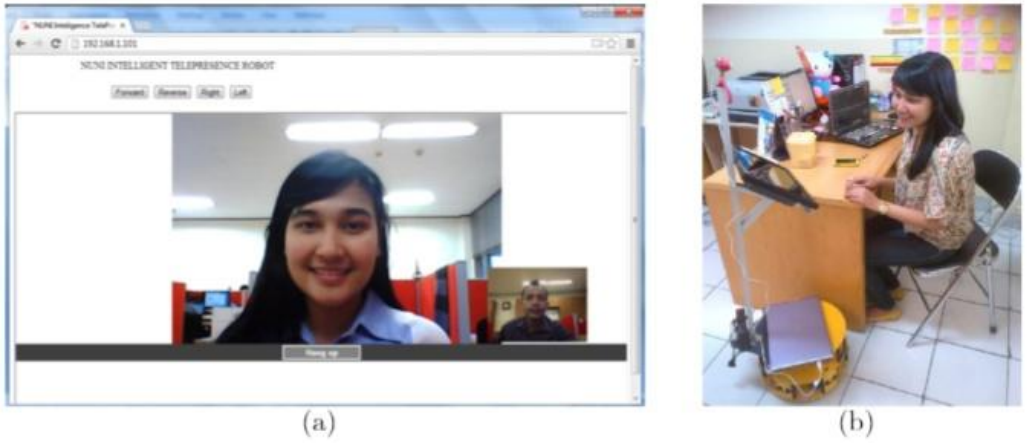

TELEPRESENCE ROBOT

Prospective Careers

Management

- Chief Technology Officer
- Chief Information Officer
- IT Consultant

Network Specialist

- Networks Designer
- Networks Administrator

Network Specialist (CISCO)

- Networks Designer
- Networks Administrator

Scientist

- Lecturer / Trainer
- Researcher

Networking Pre-Requisite

Majors

- CS

Conditions :

- **Algorithm & Programming (COMP6047) >= A-**
- Capacity : 1 ALS @ 60 students / class, 3 KMG @ 70 students / class
- If the capacity cannot hold the number of students who choose Networking, students will be ranked by the score of Algorithm & Programming subjects
- If you meet the pre-requisite, however you're score for pre-requisite subjects are out of rank, then you will go for your 2nd priority of concentration

Applied Networking Pre-Requisite

Majors

- CS or CE

Conditions :

- TOEFL >= 500
- IPK >= 3,25 (IPK semester 2)
- Algorithm & Programming = A
- Capacity : 2 classes @ 24 students
- If the capacity cannot hold the number of students who choose Applied Networking, students will be ranked by the score of Algorithm & Programming subjects
- If you meet the pre-requisite, however you're score for pre-requisite subjects are out of rank, then you will go for your 2nd priority of concentration

Applied Networking

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COMP6047<>
A

+

COMP6047 = A, over capacity and score out of rank

→

You can take Applied Networking concentration at BINUS Center (of course with your own cost) / choose another concentration

SKS Fee for Applied DB & Applied NW

Subjects	Execution SKS	Acknowledged SKS
Applied DB/NT - 1	0/8	0/4
Applied DB/NT - 2	0/8	0/4
Applied DB/NT - 3	0/8	0/4
Total	24	12

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Special SKS fee will be applied and charged based on the number of Execution SKS

Special SKS Fee = Normal SKS fee + Additional Cost

Only those 3 subjects will be charged with special SKS Fee

of Class

Unlimited Number of Class Concentration

• Software Engineering	@ 70 students / class (for Alsut 60)
• Database Technology	@ 70 students / class (for Alsut 60)
• Intelligence System	@ 70 students / class (for Alsut 60)
• Interactive Multimedia	@ 70 students / class (for Alsut 60)

Limited Number of Class Concentration

• Networking	4 classes (1 ALS @ 60 students / class, 3 KMG @ 70 students / class).
• Applied Networking	2 classes @ 24 students / class
• Applied Database	2 classes @ 30 students / class

Class Capacity

Program	Capacity	Notes
Regular - Kemanggisan	Mins 30 students / class	-
Regular - Alam Sutera	Mins 20 students / class	If the number of students choosing the concentration is less than minimal capacity **Option 1** : choose other concentration **OR** **Option 2** : join the concentration at Kemanggisan Campus or will be arranged by HoP

Others

- You will **choose 2 concentrations** as your concentration priorities. Choose wisely, since it will determine your future.
- Students that are not accepted in their first priority, will be considered to be accepted in their **second priority**, but still considering the capacity of the class and pre-requisite subject grade (if any)

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Others

- Students who decide not to choose any concentrations, then their **concentration will be determined** by HoP by considering the pre-requisite subject grades and class capacity
- If there are any other things have not been mentioned above, the concentration of the student will be determined by HoP

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NOTES FOR MASTER TRACK

There are 3 concentrations available for Master Track Students:

Database Technology	**min 10 students / class**
Intelligence System	
Networking	

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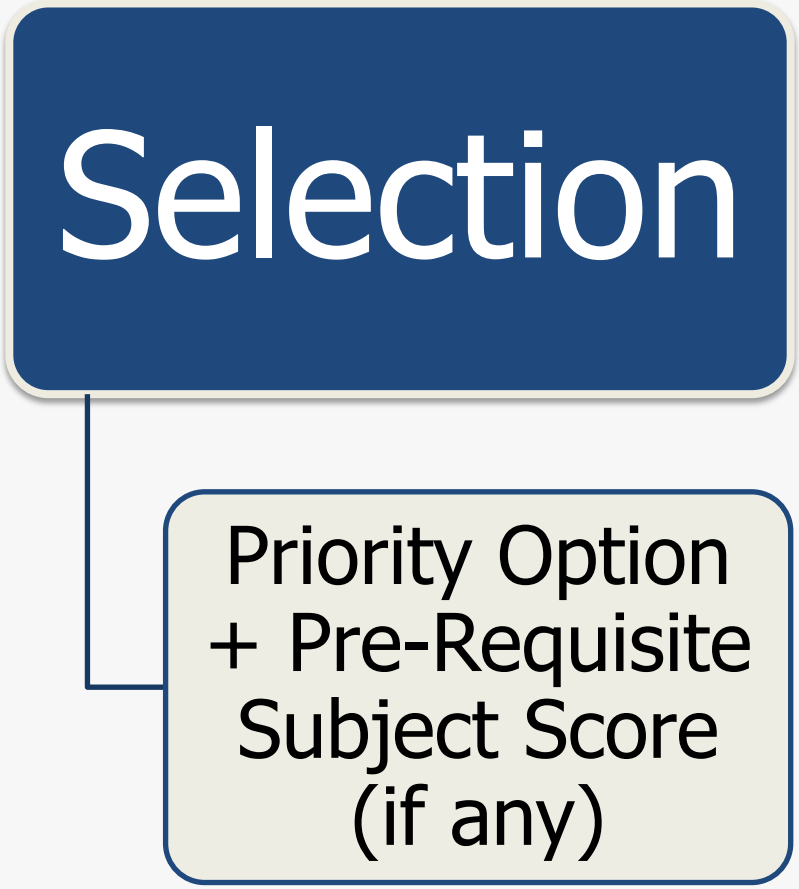
Concentration Selection Procedure



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Session Concentration

Date	Time	Concentration	Room
Friday, 5th October 2018	15.20 – 17.00	Interactive Multimedia	501
Monday, 8th October 2018	09.20 – 11.00	Database / Applied Database	Aula Lt. 8
Tuesday, 9th October 2018	09.20 – 11.00	Software Engineering	K1E
Tuesday, 9th October 2018	15.20 – 17.00	Artificial Intelligent	K3A-B
Wednesday, 10th October 2018	15.20 – 17.00	Network / Applied Network	K3A-B

Contact Us

PIC Concentration	Contact
CCC – Intelligence System Concentration (Novita Hanafiah, S.Kom.,M.Sc.)	nhanafiah@binus.edu
CCC – Software Engineering Concentration (Meiliana, S.Kom., M.Sc.)	meiliana@binus.edu
CCC – Interactive Multimedia Concentration (Yulyani Arifin, S.Kom., MM)	yarifin@binus.edu
CCC – Networking Concentration (Bayu Kanigoro, S.Kom., M.T.)	bkanigoro@binus.edu
CCC - Database Technology Concentration (Dewi Suryani, S.Kom., M.Eng.)	dsuryani@binus.edu

School of Computer Science

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Keep being updated through our website and social media

http://socs.binus.ac.id/

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Thank You

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