

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

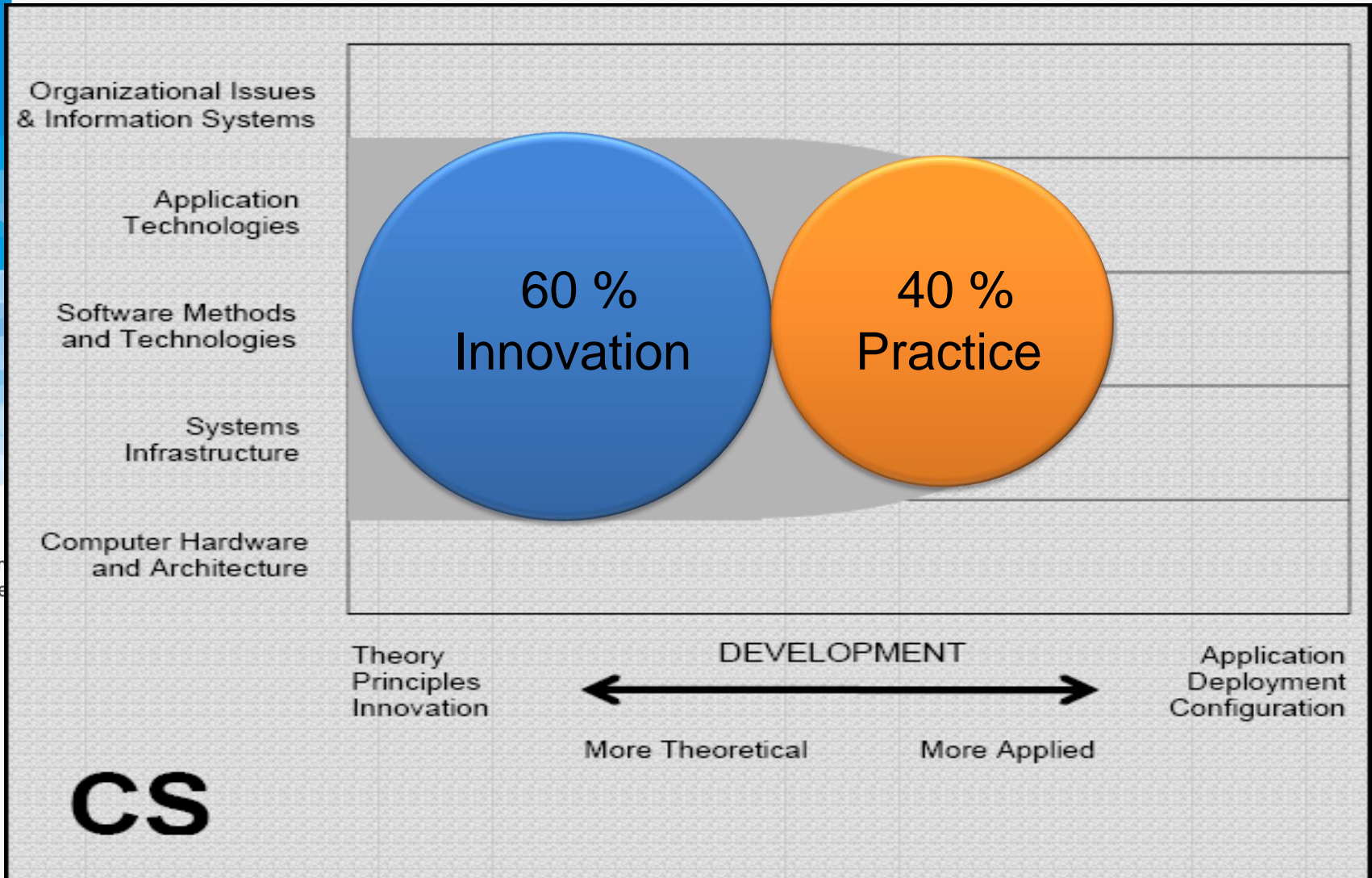
”Becoming a world class school in computer science, mathematics and statistics in continuous pursuit of graduate excellence, champion in innovation and international standard in the world of creative industry”.

- *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





SINCE
1987

Application
Technology



Systems
Infrastructure in
ICT development

Software
Methods and
Technology



People
Innovation
Excellence

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

People
Innovation
Excellence



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

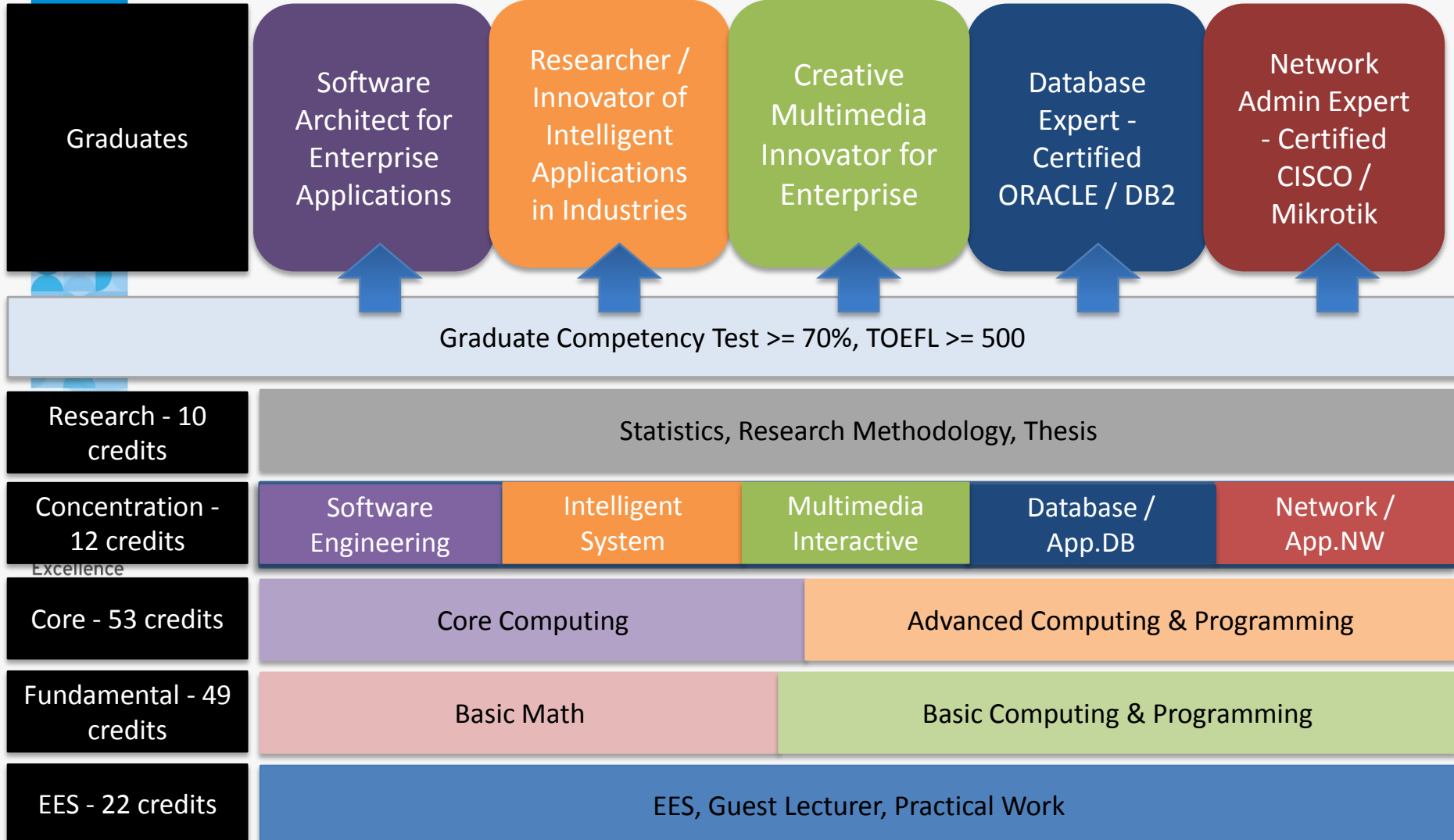


Meiliana, S.Kom., MSc.
CCC Software Engineering



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

Curriculum Structure



The background is a solid blue color with several overlapping, semi-transparent circles of varying shades of blue, creating a layered effect. The text is centered in the middle of the image.

**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



SUBJECTS

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

Research Topics

People
Innovation
Excellence

- E-Health
- E-Commerce
- E-Learning
- E-Workflow Business
- Enterprise Integration System

E-Application

Mobile Application

- Mobile Ubiquitous Computing
- Mobile Application

- Integrated Development Environment (IDE)
- Code Editor
- Diagram Software Tools
- Project Management Tools

Computer Aided
Software Engineering
Tools



Students Projects

DOC MANAGER

Home Share Upload Reports Control Panel Logout

Search by tags or name

- Help
- Document
 - CV
 - CV-Adri-Rosyidi.pdf
 - CV-Masayu-Adiska.pdf
 - CV-Zsa-Zsa-Lauditta.pdf
 - Employment-Contract
 - Overtime-List
 - Training-Material

Welcome, admin

Doc Type	Name	Type	Upload Date	Uploader	Size
CV	CV-Adri-Rosyidi	PDF File	2013-12-23 21:10	admin	160 KB
CV	CV-Masayu-Adiska	PDF File	2013-12-23 20:01	admin	212 KB
CV	CV-Zsa-Zsa-Lauditta	PDF File	2013-12-23 21:10	admin	205 KB

iOS Simulator - iPhone Retina (4-inch 64-bit) / iOS 7.1 (11D167)

Carrier 2:42 PM

Back Dog with mustache Edit

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Reprehenderit, iusto, tempora illum iure itaque quae id illo eius atque praesentium!

Lorem ipsum dolor sit amet, consectetur adipisicing elit. Aspernatur, tempore eaque sint porro quaerat.

DOC MANAGER

File Help Notification Account

Tampilan Workspace

```

1 #include <sstream>
2 #include <string>
3 #include <string.h>
4 #include <vector>
5 #include <list>
6 #include <map>
7 #include <set>
8 #include <algorithm>
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10 #include <functional>
11 #include <memory>
12 #include <numeric>
13 #include <random>
14 #include <chrono>
15 #include <regex>
16 #include <thread>
17 #include <mutex>
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19 #include <future>
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```

Tampilan Tree Project

Tampilan Group Management

Tampilan Sprint Management

Sprint Management Detail Project

No	Sprint	Task	Task Status
			On Progress Finish

Electronic Medical Record

dr. Indrayana SP. Og

Patient Information

Insert Patient ID

Submit

MR ID: 4

Nama: Ny. Diah

View Patient Profile

Medical Record

Diagnose	Lab Result	Radiology	Document
Operasi Cesar	Document	2014-02-03 10:38:44	
Pemeriksaan Kandungan	Diagnosis	2014-02-03 10:36:52	
Hasil Pemeriksaan USG	Diagnosis	2014-02-03 10:35:42	
Uji Lab	Lab	2014-02-03 10:21:00	
USG	Rontgen	2014-02-03 10:19:34	
Pemeriksaan Kandungan	Diagnosis	2014-02-03 10:18:36	

MindKeepin – IOS
OCR MindMap

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

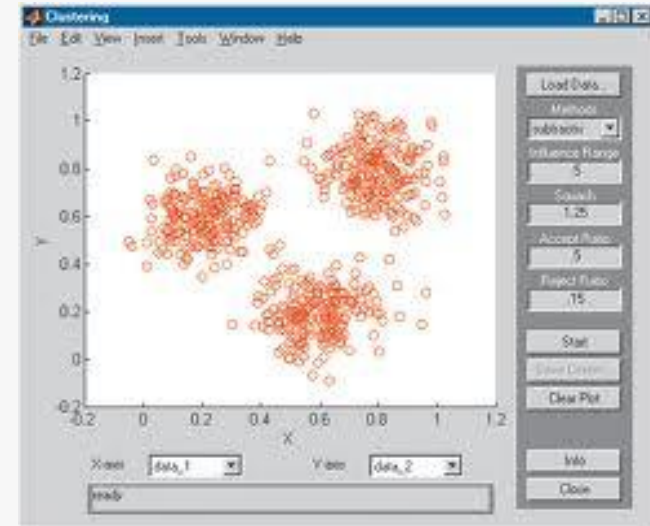
- Lecturer / Trainer
- Researcher

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CONCENTRATION 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



SUBJECTS

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

Research Topics

- automatic summarization
- co-reference resolution
- discourse analysis
- machine translation
- etc

Natural Language Processing

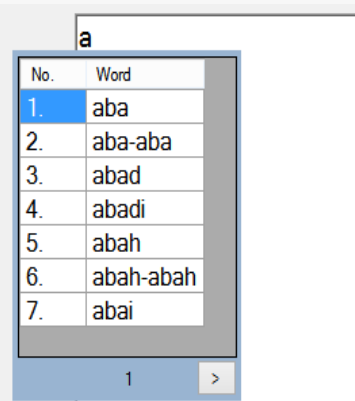
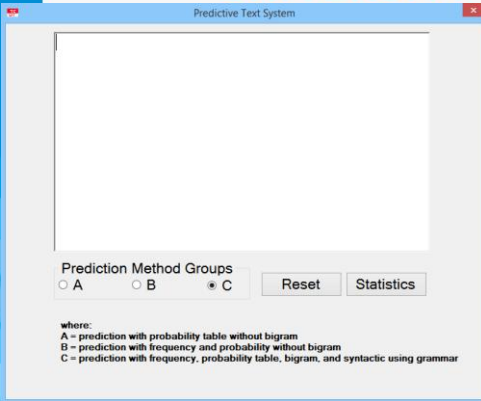
- truth maintenance
- hypothetical reasoning
- fuzzy logic
- ontology classification
- etc

Expert System

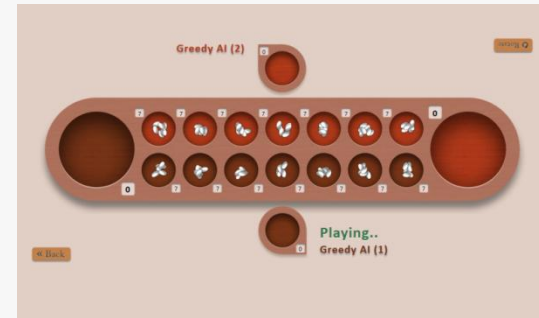
- Function approximation or regression analysis
- Data processing
- Game-playing and decision making
- etc

Artificial Neural Network

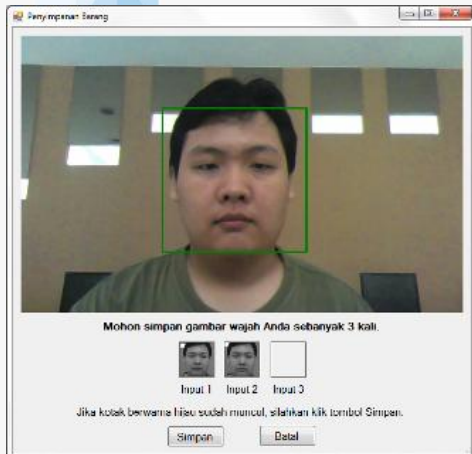
Students Projects



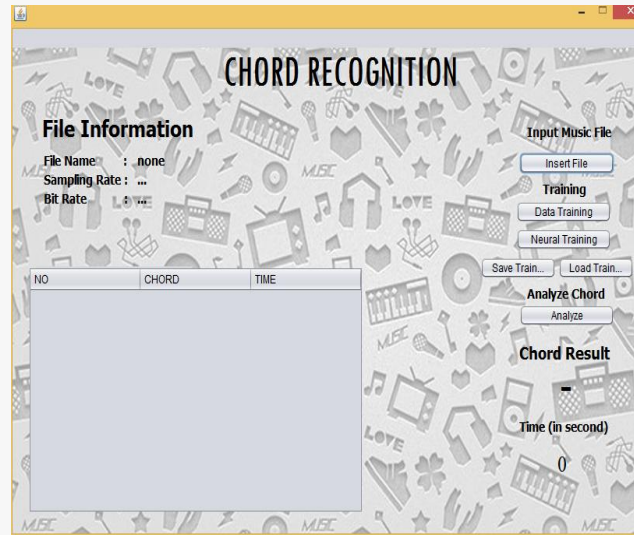
Predictive Text



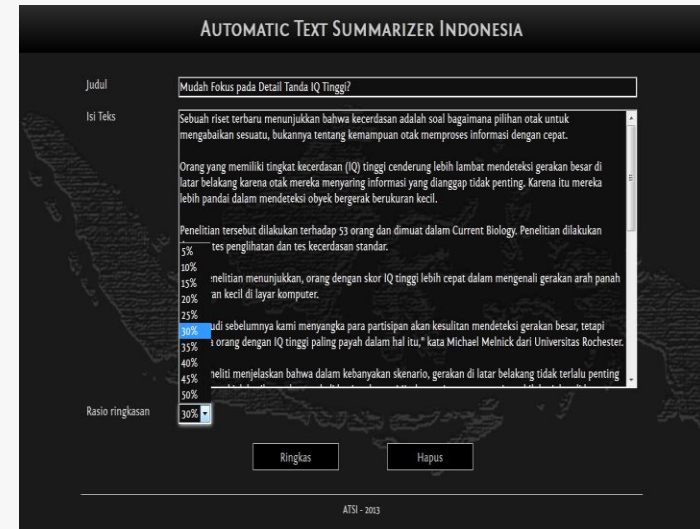
Congklak



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

The background is a solid blue color with several overlapping, semi-transparent circles of varying shades of blue, creating a layered effect. The text is centered in the middle of the image.

CONCENTRATION
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





Tebak Gambar

Tebak Gambar - May 17, 2014
Puzzle

Installed

 This app is compatible with your device.

★★★★★ ( 65,289)

  +28486 including You

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

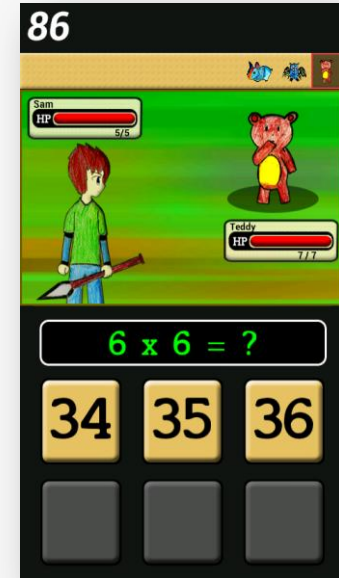
Students Projects



Math Maze



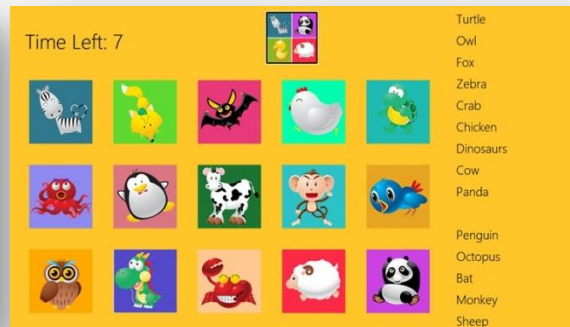
Switch It On



Let's Do Math



MonstaMania



Animal Guess



Poka-Poka

SUBJECTS

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

Research Topics

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

Multimedia Processing and Coding

- multimedia communication
- multimedia streaming

Multimedia System Support and Networking

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

Multimedia Tools, End Systems, and Applications

Prospective Careers

Management

- Chief Technology Officer
- Chief Information Officer
- IT Consultant

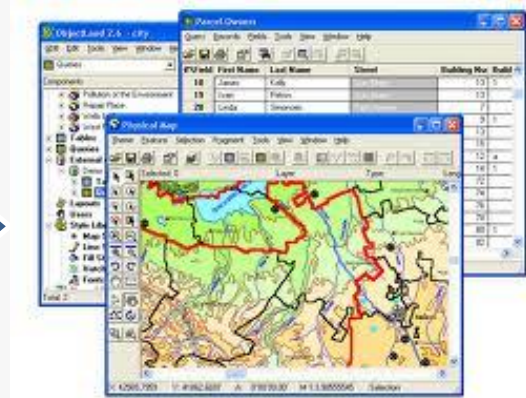
Multi Media

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

Scientist

- Lecturer / Trainer
- Researcher

**CONCENTRATION
DATABASE TECHNOLOGY
&
APPLIED DATABASE**



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

- 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

Research Topics

- database for e-commerce
- database for multimedia application
- database for web

Database Application

Database Tuning

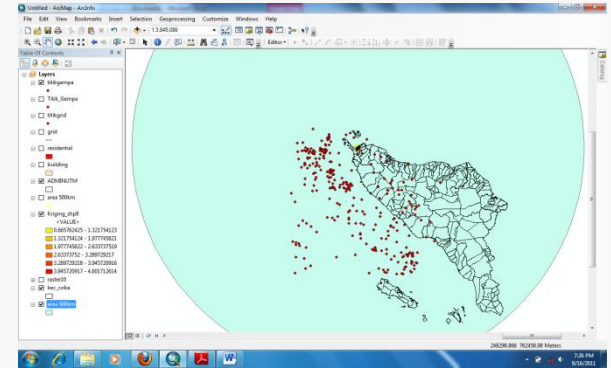
- database tuning tools
- database performance improvements

- infrastructure mitigation for disaster recovery
- Infrastructure assessment for disaster recovery

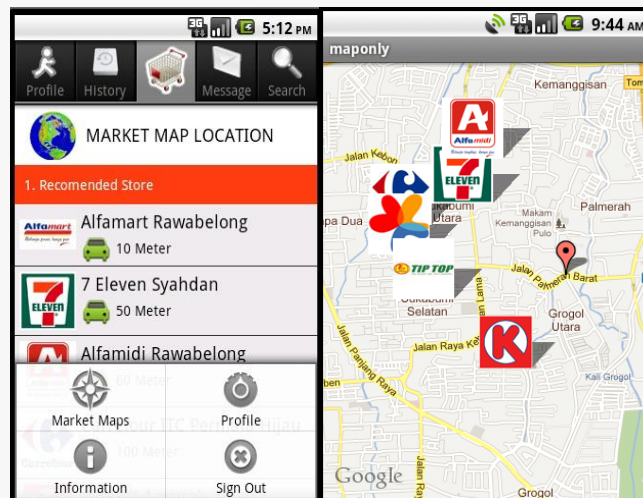
Geographical Information System



Bali Vancance



GIS Earthquake Disaster Risk



E-Market



Tuntun

Prospective Careers

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 \geq 500
- GPA \geq 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

**CONCENTRATION
NETWORKING
&
APPLIED NETWORKING**

Networking & Applied Networking

Computer Network

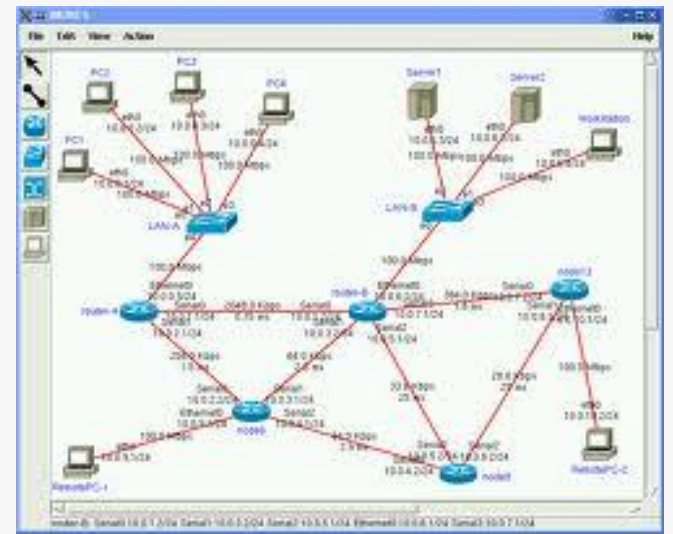
developing network based application, designing, and management



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

- network protocols, Internet, operating systems, servers and clients, quality of services (QoS), and databases to support multimedia based contents

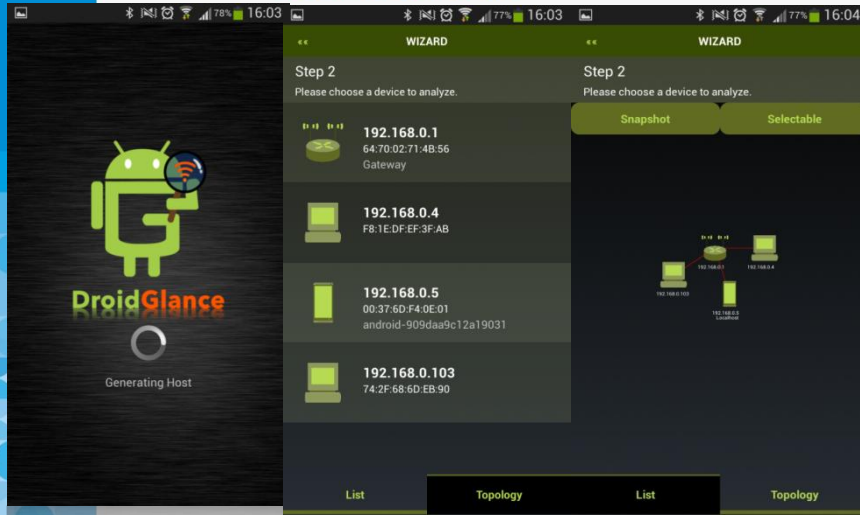
Multimedia System Support and Networking

Network based Application

- Client-Server network socket programming
- Peer-to-Peer network socket programming

- network of objects such as household appliances
- digital controllers

Embedded System and Internet of Thing



**NETWORK TOPOLOGY GENERATOR AND
DEVICE SECURITY ASSESSMENT ON
ANDROID MOBILE DEVICE**



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

People
Innovation
Excellence



(a)



(b)

**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

Majors

- CS

Conditions :

- **Algorithm & Programming (COMP6047) \geq 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-Requirement

Majors

- CS or CE

Conditions :

- TOEFL \geq 500
- IPK \geq 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-requirement, however your score for pre-requirement subjects are out of rank, then you will go for your 2nd priority of concentration

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

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

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

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

- 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)

- 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

NOTES FOR MASTER TRACK

There are 3 concentrations available for Master Track Students:

Database Technology

Intelligence System

Networking

min 10 students / class

Concentration Selection Procedure

Selection

Priority Option
+ Pre-Requisite
Subject Score
(if any)

Session Concentration

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

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



People
Innovation
Excellence

Keep being updated through our website and social media



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



School of Computer Science - BINUS University



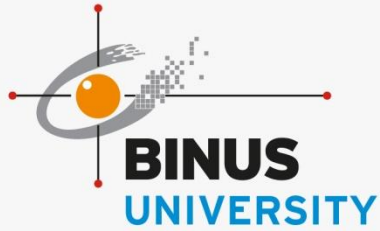
socsbinusuniv



socsbinusuniv



socsbinus



Thank You

People
Innovation
Excellence