Mobile Application & Technology

Introduction

Mobile computing is a growing trend technology that provide the infrastructure and technology for all businesses to ride on. With mobile computing, the future is borderless. Mobile Application & Technology (MAT) program is designed to provide students with the knowledge and skills in mobile computing, communications and entrepreneurships. The aims of Mobile Application Technology program to provide students with an understanding of mobile/wireless technologies, how these technologies are utilized and integrated to meet specific business needs. The course builds a solid foundation of software development skills and introduces the specific skills needed for developing mobile/wireless applications. Students will also gain the necessary understanding of current technologies and architectures that provide the network and communications infrastructure for mobile enabled enterprise computer systems, planning, management and how to build a mobile enterprise. Students will also develop skills in the design of modern distributed software systems, using appropriate technologies, architectures and techniques, and in the advanced network technologies supporting the upper layers, together with their planning, management and security. The structure of the course allows students to gain valuable practical experience in building software systems, and also apply knowledge in mobile game creative design.

The MAT program was found in September 2011, under BINUS UNIVERSITY, it became one of the programs under the coordination of School of Computer Science.

Vision

A program of choice in Mobile Application and Technology, which specializes in developing creative mobile software solutions for businesses, is recognized internationally, champions innovation and delivers graduates with international qualifications.

Mission

The mission of Mobile Application and Technology Program is to contribute to the global community through the provision of world-class education by:

1. Educating student in the fundamental skills, knowledge, and practice of recent mobile technologies and architectures, wireless technologies, mobile software development, and game design
2. Conducting research and providing mobile application and technology professional services with an emphasis on the application of knowledge for society's development
3. Sharing the application of knowledge related to mobile application & technology with a view to Indonesians' and the international community quality of life
4. Influencing students & lecturers to be creative, value-adding and competitive at an international level in mobile application & technology, by creating a suitable environment
5. Preparing students as smart and skilled mobile application & technology professionals, leaders, and entrepreneurs in the global market and/ or to continue in related disciplines

Program objective

The objectives of the program are:

1. To provide students with a solid foundation in computer science knowledge, and especially mathematical, algorithm principles, that are needed for mobile software solutions
2. To provide students with skills to apply design and development principles in the construction of recent mobile technologies, such as architectures, wireless technologies, mobile software development, and game design
3. To prepare students with abilities to keep up-to-date with the latest Mobile Application and Technology trends
4. To prepare students with abilities in problem solving, good communication skills and ethics to be able to work as an individual or in a team in an IT environment

Graduate Competency

At the end of the program, graduates will be able to:

1. Apply knowledge and understanding of mathematical concepts, principles and theories relating to computer science knowledge
2. Demonstrate knowledge and understanding of algorithm concepts, principles and theories relating to mobile solution knowledge
3. Classify problems and to apply design and development principles for specific problems
4. Plan strategies and design mobile solution development
5. Depict trend mobile technologies in the future
6. Construct a solution by applying latest mobile application and technologies

Prospective Career of the Graduates

After finishing the program, the graduate of Mobile Application & Technology Program could follow a career as:

1. Mobile Software Engineer/Developer
2. Mobile Application/Developer
3. Games Designer & Games Developer
4. Mobile Business Application Developer.
5. Information Analyst in Decentralized Businesses.
6. IT Support/Consultant
7. Lecturer/Trainer

Curriculum

The present curriculum used in the Mobile Application & Technology program has been developed in line with the National Curriculum. Also, the local content has been developed in line with the Computer Science Curriculum standard of ACM (Association for Computing Machineries), several local and foreign universities, mobile technologies and market trends, so that the graduates of the Mobile Application & Technology program are expected to be able to face competition at both a national and international level.

Generally, the subjects of the curriculum 2013 are divided into these following groups of subjects:

Mathematics Group (Science)

The objective of this group is to provide an understanding of mathematics as one of the principal foundations in computer science. Another objective is to give an understanding of scientific methodology (data collection, hypothesis, research, analysis) in problem solving.

Character Building Group (Professional Practices)

The objective of this group is to develop the personal strengths of the student and to provide him or her with a professional character, professionalism in their field, management skills, oral and written communication skills, understanding of business ethic, ability to work as a team, and to develop a "Binusian" Character.

Core Group

The objective of this group is to provide grounding in Mobile Application Technology program through practice as well as applied theory which are required by business both now and in the future. The subjects that are included in this group are programming, algorithm design and analysis, software engineering, databases, computer graphs, multimedia, computer and human interaction, operation system, mobile device architecture, and mobile network.

The Field of MAT Subject

The objective of builds the field of subject in Mobile Application Technology is to give the students a solid foundation of software development skills and to introduce the specific skills needed for developing mobile/wireless applications. Students will also gain the necessary understanding of current technologies and architectures that provide the network and communications infrastructure for mobile enabled enterprise computer systems, also to give students the opportunity to obtain a deep understanding of a range of disciplines in Mobile Application Technology. The students are expected to develop their skills and master the techniques which will allow them to conduct research for both their thesis and/or to continue their studies.

The field of MAT subjects :

1. Mobile Programming: to explore the various methodologies and mobile software engineering equipment
2. Mobile Entrepreneurships: to explore the various techniques of planning, management skills and how to build a mobile application & technology company.
3. Current Mobile Technology: to explore the various of the trend technology in mobile application & device.

All students of MAT program must follow these three fields to become Mobile Application Technology graduates.

The objective of these three fields is to provide the students with the knowledge and skills required by business & industry and who wants to develop the own mobile application company. Although it is distributed across 8 semesters, in fact, it is possible for the students to finish their studies before the eighth semester.

Course Structure

Sem	Code	Course Name	SCU	Total
1	CB412	CB: Self Development	2	20
	K0144	Discrete Mathematics	4	
	K0292	Linear Algebra	2	
	T0016	Algorithm and Programming	4/2	
	T1004	Introduction to Mobile Application and Technology	4	
	G1372	English Entrant	2	
2	CB422	CB: Spiritual Development	2	20
	K0424	Calculus I	4	
	T0026	Data Structures	4/2	
	T1022	Ubiquitous Computing	2	
	T0994	Mobile Object Oriented Programming	2/2	
	G1382	English in Focus	2	
3	I0262	Probability and Statistics	2	22
	T0034	Algorithm Design and Analysis	4	
	G1392	English Savvy	2	
	EN001	Entrepreneurship I	2	
	T0104	Program Design Methods	4	
	T1034	Mobile Community Solution	2/2	
	T1044	Mobile Push Technology Solution	2/2	
4	CB432	CB: Interpersonal Development	2	23
	H0515	Computer Network	4/1	
	T0206	Database Systems	4/2	
	T1414	Software Engineering*	4	
	T1052	Mobile Game Creative Design	2	
	T1064	Mobile Multimedia Solution	2/2	
5	CB442	CB: Professional Development	2	23
	T1082	Market Research Methodologies	2	
	T0316	Operating System	4/2	
	T0593	Human and Computer Interaction	2/1	
	EN002	Entrepreneurship II	2	
	T0264	Artificial Intelligence	4	
	T1094	Web Design	2/2	
6	G0012	Indonesian	2	20
	T0174	Compilation Techniques	4	
	T1014	Mobile Application Security	4	
	T1104	Mobile Cloud Computing	2/2	
	T1114	Applied Project in Mobile System Solution	4	
	T1432	Company Development Planning*	2	

Sem	Code	Course Name	SCU	Total
7	I0192	Research Methodology	2	12
	T0922	Guest Lecturer	2	
	T1122	Mobile Testing and Implementation	2	
	T1882	Mobile User Experience	2	
	T1152	Business Process Standardization	2	
	T1162	Mobile Project Management	2	
8	T1896	Thesis	6	6
	Elective Courses			
	G1402	English for Business Presentation	2	
	G1412	English for Written Business Communication	2	
TOTAL CREDIT 146				

*) Entrepreneurship Embedded

Student should pass all of these quality controlled examinations as listed below:

No	Code	Course Name	Minimum Grade
1	CB412	CB: Self Development	B
2	EN002	Entrepreneurship II	C
3	T0016	Algorithm and Programming*	C
4	T0026	Data Structures	C
5	T0104	Program Design Methods	C
6	T1414	Software Engineering	C
7	T0994	Mobile Object Oriented Programming*	C
8	T1052	Mobile Game Creative Design*	C

*) Tutorial & Multipaper