FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Computers & Information Technology

Game Programming

Information :

Course Code :	DM436	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours
Department :	Digital Media Technology				

Area Of Study :

•Understand knowledge that enhances skills in game programming.
•Use and adopt fundamental and advanced mathematics in computing and information
•Comprehend deeply the basic concepts to develop a software system to be ready for further and continuous learning.
•Develop and evaluate a computer based system process and components.
•Compare, evaluate and select a design from a set of alternatives.

Description :

This course focuses on the subject of game programming using a cross-platform game library called Allegro. This library is extremely powerful and versatile. The course is divided into 3 main parts. The first part introduces how to get started writing cross-platform games with Allegro. The second part provides the main functions in the Allegro game library, including functions for loading images, manipulating sprites, double-buffering, and other core features of any game. The third part introduces the different techniques to create scrolling games including vertical and horizontal scrolling

Course outcomes :

a.Knowledge and Understanding: :	
1 -	Define principles of game design that make for a playable experience
2 -	Describe the fundamental algorithms, data structures, and optimization for successful game development
3 -	Discuss the basic concept of video game, and develop a design document
4 -	Explain the principles and techniques of identify a complete 2D game, including the game play, character design and animation, multiple levels, the user interface, and game audio
b.Intellectual Skills: :	
1 -	Illustrate transformations to shapes
2 -	Propose a set of alternative solutions to analyze the problem and decompose it to a set of tasks
3 -	Analyze complex computation problems with less computational approaches
4 -	Classify techniques and algorithms to detect relationships between designed shapes from their primitives and the sprite.
c.Professional and Practical Skills: :	
1 -	Design and implement game based applications in 2D.
2 -	Apply effective information to develop game applications
3 -	Deploy effective supporting tools for mastering the Audible realm for the game programming and perform Game analysis

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d.General and Transferable Skills: :	
1 -	Work in a team to develop the requirement documentation
2 -	Apply communication skills in presentations and report writing using various methods and tools.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introduction to the Class, Role of the Game programming	4	2	2
Getting Started with the Game libraries	4	2	2
I/O and Arithmetic	4	2	2
Writing an Allegro Game	4	2	2
Getting Input from the Player	4	2	2
Mastering the Audible Realm	4	2	2
Basic Bitmap Handling and Blitting	4	2	2
Sprite Programming	4	2	2
Mid Term Exam	2		
Sprite Programming-II	4	2	2
Advanced Sprite Programming	4	2	2
Programming the Perfect Game Loop	4	2	2
Project presentation	4	2	2
Final Exam	2		

Teaching And Learning Methodologies :

Interactive Lectures including Discussions
Practical Lab Sessions
Self-Study (Project / Reading Materials / Online Material / Presentations)
Case Studies

Course Assessment :

Methods of assessment	Relative weight %	Week No	Assess What
Assignments	5.00	4	
Final Exam	40.00	14	
Midterm Exam (s)	20.00	8	
Others (Participations)	5.00		
Practical Exam	5.00	13	
Presentations	5.00	12	
Quizzes	10.00	5	
Team Work Projects	10.00	12	

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Course Notes :
An Electronic form of the Course Notes and all the slides of the Lectures is available on the Students Learning Management System (Moodle)

Web Sites :
www.ekb.eg

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