King Mongkut's University of Technology Thonburi

Faculty of Industrial Education and Technology   Department of Media Technology

Code: GDM 352   Subject: Fundamental for Game Programming   Credit: 3 (3-0-6)

Instructor: Asst.Prof.Dr. Arsa Tangchitsomkit   E-Mail: arsa@sarosworld.com

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Course Description

This course consists of basic of computer language, input - output commands, variable pointer, conditional commands, recursion, arrays, function writing, structural variable, programs on window development, data type of declaring, size of data, transforming of data types, mathematical operators, logical operators, bit - Y operators, recursive circuits, selection, static register, external variables, mathematical address, line command, data passing, output display, errors management, a set of command of functions, low – level of preprocessor language, and object - oriented programming.

Objective

1. Understand basis of programming for game development.
2. Understand ARSA Framework tools.
3. Understand cross platform game programming.

Content

Week	Description
1	• Basis of programming for game development. • Introduction ARSA Framework. • Cross Platform Game Development. • First Program! • Understand game loop.
2-3	• Load 2D Image. • Load Sound, Music. • Touch Input. • Launch game to store.
4	• Image Collision

5-6	2D Image Layer - Audio / Video - Missile
7	Special FX
8	- Save Game - Load Game
9	Midterm.
10	- Player Status - Gage Parameter
11-12	- Game State - Server - Client Connection
13-14	- Game Theory Techniques. - Artificial Intelligence. - Manager. - FSM (Finite State Machine). - Fuzzy Logic System. - OOP VS Top to Down Program. - Game Business.
15	Final.

Activity

1. Lecture 2. Lab

Adjustment (100 Points)

1. Midterm (70 Points)

Class	10 Points
Midterm exam	20 Points
Homework	20 Points
Reports	20 Points

2 . Final exam (30 Points)

Adjustment Rule

Points	0-49	50-54	55-59	60-69	70-79	80-84	85-89	90-100
Grade	F	D	D+	C	C+	B	B+	A

Book & Handouts

Handouts.

1. Arsa Tangchitsomkit. 2017. **ARSA Framework: Cross Platform Game Programming**. Bangkok. www.sarosworld.com/site

Additional book and website.

1. Arsa T. "Hardcore Game Programming Episode II+III+IV". Published by Innovation media printing. 2005

2. Arsa T. "Hardcore Game Programming Episode I". Published by ARIP Public Company Limited. 2004

3. Arsa T. "Advanced DirectX". Published by   SE-EDUCATION Public Company Limited. 2002

4. Arsa T. "DirectX Game Programming". Published by SE-EDUCATION Public Company Limited. 2001

5. Game developer network. 2548. www.gamedev.net

6. Game developer resources. 2548. www.gamasutra.com

7. Game programming. 2548. www.flipcode.com

8. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice-Hall, Inc.

9. Byron S. Gottfried, Theory and Problems of Programming with C, Schaum's Outline Series, International Edition, McGraw-Hill, Inc, ISBN 0-07-023854-5

10. Borland International, Inc., Borland C++ Version 2.0 Getting Started

11. Greg Voss and Paul Chui, Turbo C++ Disk Tutor 2nd edition, Osborne McGraw-Hill, ISBN 0-07-881737-4

12. Lawrence H. Miller, Alexander E. Quilici, The joy of C, 3rd Edition, John Wiley & Sons, 1997

13. Steven C. Lawlor, , West Publishing Company, 1996. The art of programming computer science with C