Miami Dade College

DIG 2625   Network Programming for Game Development

Course Description: This course is for students majoring in game development. It introduces network programming and communication in a distributed computing environment for game development. Students will learn network technologies, architecture, protocols, programming across different environments. (3-hour lecture, 2-hour lab)

Course Competency	Learning Outcomes
Competency 1: The student will demonstrate a comprehension of network programming terminology by:	- Communication - Information Literacy
1. Summarizing research papers on multi-player game development, client/server and peer-to-peer networking. 2. Explaining the future of networking and multi-player game development. 3. Creating a presentation on a game networking topic for the class.	
Competency 2: The student will demonstrate an application of network protocols by:	Computer / Technology Usage
1. Modifying existing programs that use different protocols to communicate between computers. 2. Using existing network programming libraries for creating a network messaging program. 3. Creating simple games that use the TCP and IPX protocols to communicate between computers.	
Competency 3: The student will demonstrate a comprehension of ISP (Internet Service Providers) types and their effect on network game development by:	Critical thinking
1. Distinguishing different types of ISP provider connections. 2. Examining the limitations of game development for certain types of ISP connections.	

Competency 4: The student will demonstrate comprehension of the OSI (Open Systems Interconnection) model by:	
1. Distinguishing all of the layers of the OSI Model in terms of what is the function of each layer and how they work together. 2. Summarizing each of the layers of the OSI model.	
Competency 5: The student will analyze the application layer of OSI model by:	
1. Relating the application layer and game development. 2. Modifying existing programs that use the application layer. 3. Diagramming the application layer of the OSI model.	
Course Competency 6: The student will demonstrate an application of networking models by:	
1. Modifying existing programs that use peer-to-peer application programming. 2. Writing peer-to-peer based programs and games. 3. Modifying existing programs that use the client server model for network application.	
Course Competency 7: The student will demonstrate an application of DirectX's DirectPlay programming by:	
1. Installing the DirectX Standard Development Kit (SDK) and its programming libraries. 2. Modifying existing programs that uses the DirectX's DirectPlay for network and game applications. 3. Writing small games that use DirectX's DirectPlay to communicate over the network for their final project.	
Course Competency 8: The student will demonstrate a comprehension of DirectPlay lobbies programming by:	

1. Identifying lobby-based games and application. 2. Explaining code for lobby initialization and startup. 3. Retrieving connection information for lobby-based games and applications.	
Course Competency 9: The student will demonstrate an application of socket programming by:	
1. Modifying existing program that uses the sockets for application communication. 2. Writing sockets base programs for game communication. 3. Using built in C++ libraries for creating a simple network based game.	
Course Competency 10: The student will demonstrate a comprehension of the future of network game development by:	• Communication • Information Literacy
1. Examining new network technologies for game development. 2. Summarizing articles by giving a class presentation on future of networking and game development.	