Web Programming
COP4849 01Z
Summer 2021
Team Project Requirements

Create a Web application (using the J2EE Glassfish Server 4.1 [J2EE 7]) that will display the "Bachelors of Applied Science, Computer Information Systems Technology" curriculum. The application will interact with an Apache Derby database (see Database Design section on pg. 6). **Please coordinate all activities with members of the team (i.e., classmates). Only submit one completed J2EE Web Application project that includes all the pages. Also please use the provided discussion board for project communication within the team.** The application must perform the following functions.

Project Responsibilities

Name	**Activity**
Group A Jonathan & Joel	Create a Apache Derby database populated with data based on the data provided in the CIST degree on the EFSC website http://www.easternflorida.edu/academics/degrees-certifications/bachelors/computer-info-systems-tech.cfm Also create a common layout for all the pages that provides for navigation to all the pages. The page should contain a link at the top for each page of the Web Application (coordinate w/ team members) Distribute the SQL database script (or database folder that can be embedded) & Facelets-Template (used for page layout) to all classmates to be used with the pages they are creating.
Group B Norman & Kevin G	The Project Assembler will be responsible for configuring the Glassfish Server with required Basic Authentication, user accounts, creating the web.xml, glassfish-web.xml, & faces-config.xml files, and combining all the web pages and java files necessary to successfully run the web application. In addition, the following is also required. Create a class CTBSConnectBean that performs the following (refer to Java How to program section 24.6) • Provide Application Scope Annotation w/ name

	• Create the database connection Note: 1. An entry for the CTBSConnectBean must be added to the faces.config.xml file. The scope must be “Application” and “Eager” instantiation must also be added. 2. CTBSConnectBean class, web.xml, glassfish-web.xml, faces-config.xml files & user account information must all be provided to the other team members. A script (w/ instructions) must be provided for adding the user accounts to the Glassfish server. Distribute CTBSConnectBean class, web.xml, glassfish-web.xml, faces-config.xml & user-creation script files to all classmates to be used with the pages they are creating.
Kenneth	Create a web page that displays All courses in the curriculum (refer to pg. 8). This will be the first page of the Web Application and must use the Facelets-Template provided by Group B. In addition, the following is also required. Create a class CTBSDegreeBean (refer to Java How to program section 24.6) • Provide Request Scope Annotation w/ name • Inject w/ CTBSConnectBean (refer to section 23.1, J2EE Tutorial for example) • Create statement object • Create query to generate info for entire degree • Iterate over the resultSet ▪ Create a "CourseEntry" object that contains all information for each course ▪ Add object to an ArrayList object
Mark	Create a web page that displays all courses in the “Project Management Specialization” (refer to EFSC website link above). This will be the second page of the Web Application and must use the Facelets-Template provided by Group B In addition, the following is also

	required. Create a class CTBSPMCTDegreeBean (refer to Java How to program section 24.6) • Provide Request Scope Annotation w/ name • Inject w/ CTBSConnectBean (refer to section 23.1, J2EE Tutorial for example) • Create statement object • Create query to generate info for entire degree • Iterate over the resultSet ▪ Create a "CourseEntry" object that contains all information for each course ▪ Add object to an ArrayList object
Anthony	Create a web page that displays all courses in the “Software Development Specialization” (refer to EFSC website link above). This will be the first page of the Web Application and must use the Facelets-Template provided by Group B. In addition, the following is also required. Create a class CTBSPDCTDegreeBean (refer to Java How to program section 24.6) • Provide Request Scope Annotation w/ name • Inject w/ CTBSConnectBean (refer to section 23.1, J2EE Tutorial for example) • Create statement object • Create query to generate info for entire degree • Iterate over the resultSet ▪ Create a "CourseEntry" object that contains all information for each course ▪ Add object to an ArrayList object
Kevin R	Create a web page that displays all courses in the “Networking Systems

	Specialization" (refer EFSC website link above). This will be the first page of the Web Application and must use the Facelets-Template provided by Group B. In addition, the following is also required. Create a class CTBSNSCTDegreeBean (refer to Java How to program section 24.6) • Provide Request Scope Annotation w/ name • Inject w/ CTBSConnectBean (refer to section 23.1, J2EE Tutorial for example) • Create statement object • Create query to generate info for entire degree • Iterate over the resultSet ▪ Create a "CourseEntry" object that contains all information for each course ▪ Add object to an ArrayList object
Jose	Create a web page that displays all courses in the "Cybersecurity Specialization" (refer EFSC website link above). This will be the first page of the Web Application and must use the Facelets-Template provided by Group B. In addition, the following is also required. Create a class CTBSCSCTDegreeBean (refer to Java How to program section 24.6) • Provide Request Scope Annotation w/ name • Inject w/ CTBSConnectBean (refer to section 23.1, J2EE Tutorial for example) • Create statement object • Create query to generate info for entire degree • Iterate over the resultSet ▪ Create a "CourseEntry" object that contains all information for each course ▪ Add object to an ArrayList object

Chandler	Create a web page that displays all courses in the “Data Science Specialization” (refer EFSC website link above). This will be the first page of the Web Application and must use the Facelets-Template provided by Group B. In addition, the following is also required. Create a class CTBSDSBSDegreeBean (refer to Java How to program section 24.6) • Provide Request Scope Annotation w/ name • Inject w/ CTBSConnectBean (refer to section 23.1, J2EE Tutorial for example) • Create statement object • Create query to generate info for entire degree • Iterate over the resultSet ▪ Create a "CourseEntry" object that contains all information for each course ▪ Add object to an ArrayList object

Database Design

Table Design

Schedule – { CourseNumber (PK), CourseName, PB_40, ME_40, CO_40, TI_40,EL_40, PB_10, ME_10, CO_10, TI_10,EL_10, PB_20, ME_20, CO_20, TI_20,EL_20, ProjMgmt, SoftwareDev, Networking, CyberSec, DataSci }

Notes:

1. In the "Schedule" table, a numeric code is used to represent the semester (i.e., 40 represents Fall, 10 represents Spring, 20 represents Summer). The fields that represent the semester include a designation for the campus and the semester (e.g., PB_40 designates Fall semester at the Palm Bay Campus). The campus designations are as follows:

PB – Palm Bay
ME – Melbourne
CO – Cocoa
TI – Titusville
EL - eLearning

The last 5 fields of the "Schedule" table designate whether the course is part of a specialization. For example, the "Networking" field designates whether the course is part of the "Networking Systems Specialization".

2. The Java Server Faces Tutorial for NetBeans is a very helpful resource. This tool contains many resource that can be used to shortcut the process of web application development, https://netbeans.apache.org//kb/docs/web/jsf20-intro.html.

3. The Application configuration Resource file (faces-config.xml , described in section 16.2, J2EE Tutorial) is required for this application. This is mainly so that the "CTBSConnectBean" class will be instantiated by the Web Container at the start of running the web application. This class will be responsible for creating the database connection. This instance will be passed to each Managed Bean class for each web page, by using dependency injection (an example described in section 23.1, J2EE Tutorial).

4. The "CTBS*DegreeBean" classes will be Managed Bean classes (one used for each web page). These each will store an ArrayList object as a property (i.e., get/set methods required) that contains all the data that will be displayed in the "h:dataTable" used on each page. The ArrayList object will be used as a data source to a "dataTable" control (described in section 10.2, J2EE Tutorial; another example provided at https://www.tutorialspoint.com/jsf/jsf_display_datatable.htm).

5. The web pages all must have a consistent interface that provides a menu at the top for accessing each page (i.e., menu name area “Computer Information Systems Technology”, “Project Management”, “Software Development”, “Networking Systems”, “Cybersecurity”, “Data Science”), implemented by using Facelets-Template (described in section 8.4, J2EE Tutorial) . In addition, a title “Bachelors of Applied Science Computer Information Systems Technology Degree” must be displayed on each page. The application security to be set to satisfy the following.

- The creator of each page should only be able to access that page.
- Members of Group A & B will be able to access all the pages

Bachelors of Applied Science (B.A.S.)

Computer Information Systems Technology Degree

Course Number	Course Name	Fall					Spring					Summer				
		PB	ME	CO	TI	eLearning	PB	ME	CO	TI	eLearning	PB	ME	CO	TI	eLearning
ISM3011	Introduction to Information Tech Mgmt	X		X		X		X			X			X		X
ISM4300	Information Systems Operations Management		X	X			X				X				X	X
CEN4341	Platform Technology		X													
CAP3783	Database Systems with Big Data															
CAP3940	Data Science Internship (must be taken in last semester															
CAP4770	Data Mining															
CAP4773	Capstone Project - Data Management Science (must be taken in last semester)															
CEN3024	Software Development I	X				X			X		X					
CEN4025	Software Development 2					X	X				X			X		
CEN4722	Human Computer Interaction		X													
CEN4802	Software Integration, Configuration and Testing	X				X			X		X					X
CEN4949	Internship	X					X					X				
CIS3510	Advanced I.T. Project Management										X					
CISC3391	Computer Forensics	X			X		X			X						
CISC3392	Windows Forensics	X								X						
CNT3403	Network Defense Security			X				X								
CNT3406	Information Security Management								X				X			
CNT3702	Infrastructure and Facilities Planning			X									X			
CNT4704	Network Planning and Design		X						X							
COP3330	Object Oriented Programming			X		X	X				X	X				X
COP3530	Data Structures and Algorithm Analysis		X													
COP3703	Database Design/Architecture	X							X							X
COP3813	Internet Programming	X							X		X					
COP4849	Web Programming						X									X
COT4500	Numerical Analysis							X								
COP4655	Applications Development for Mobile Devices						X									X
ISM3113	Information Systems Analysis and Design	X			X	X			X		X					X
ISM3320	Information Systems Control							X								
ISM3321	Cybersecurity Fundamentals	X					X									
ISM3324	Applications in Information Security			X		X					X	X				
ISM4041	Emerging Information Technologies (formerly CNT4798)		X			X	X				X			X		
ISM4220	Network Management for Information Professionals		X						X							
ISM4314	Project and Change Management for Technology		X													
STA3024	Statistics 2 for Data Scientists		X				X									