# *Systems IV Assignment 7*

# *PEA, Research Presentation*

Date assigned: Tuesday, March 13, 2017

PEA Date due: **Tuesday, March 13, 2017, at the end of the lab**

Research Date due: **Tuesday, March 20, 2017, at the start of the lab**

**Learning Objectives**

Upon successful completion of this assignment, the student will be able to:

* Fulfill the requirements for PEA Deliverable 7 (Design)
* Prepare a presentation based on research they have conducted in the Information Technology field.

To do:

**Part A – PEA**

**Create a folder named YourUserName E42 A07 in your H:\3rdYear\420-E42 folder to hold all the folders and files for this assignment.**

**Copy the folder named YourUserName E42 PEA from the YourUserName E41 A05 folder to the YourUserName E41 A07 folder.**

1. Make the changes/corrections identified in the work submitted for Assignment 6.
2. Based on the discussion in class, complete the following PEA Deliverable:

**Deliverable 7: Design**

**For all the links, make sure that the link is in context and that the linked document has been updated with the changes that were identified by Richard.**

**Database Design**

* Write a short paragraph describing the 3 databases involved in the system: your system database, Clara and the CSAdmin database.
* The physical data model
  + Write a short paragraph defining what a physical data model is and introducing the physical data model for the system.
  + Generate the physical data model for the system from SQL Server. Make sure that the main entities are arranged close together in a logical placement so that it can be easily read on the screen. Your diagram should include the data type and length fields in the model, but you can remove the condensed type and the nullable fields.
  + Include a link or screenshot to the physical data model.
* Database analysis
  + Briefly describe the concept of referential integrity between databases. Explain why there is no referential integrity between your local application database, Clara and CSAdmin, and identify scenarios where that could be problematic.
  + Compare and contrast the database first approach, code first and model first approach to development. Describe which approaches were used for your project. Explain the advantages and disadvantages of your chosen approach.
* Database access paths
  + Describe the 3 most important tables in the database. For each one, identify the access paths (primary keys and foreign keys) and describe why the access paths were chosen.
* The design models for the system.
  + Write a short paragraph introducing the design model, describing the different layers involved in the system (database layer, database access layer, business logic layer and user interface layer). Explain why it is important to layer the software in this manner.
* The data security plan.
  + Include an introductory sentence to your data security plan that you wrote for Lab 13 in Systems III, describing its purpose and a brief summary of the areas of concern.
  + Include a link to the data security plan.

**Check the spelling on all the documents and web pages that were created during this assignment. Copy your work from the Design page into a Word document called YourUserName\_E42\_PEA\_A07.docx. Hand in both the zipped web files and the Word document.**

**Part B – Research Presentation**

1. Develop a PowerPoint or a Prezi presentation based on your research paper. Name the document **YourUserName\_E41\_A07\_Presentation\_Draft.** The presentation must include the following items:

* A slide/Prezi template that is visually appealing
* An introductory slide introducing the agenda
* Slides covering each of the sections in your presentations. Your presentation should be 15 minutes long. You should have approximately 15 slides. Note that your presentation should focus on the technical details of the technology and its future and less on the background of the technology.
* A concluding slide with your summary and recommendations of how the trend can be incorporated into the Computer Science program at Heritage College.

**To submit:**

When you have completed the assignment, upload the following to the Moodle page for the course:

* YourUserName E42 PEA folder, containing all the files in the digital portfolio
* YourUserName\_E42\_PEA\_A07.docx containing the content from the pages you wrote today in Word format.
* YourUserName E42 A07 Presentation