IE-462
Section 1, CRN: 33602/603/604
Section 2, CRN: 38318/319/320
Section 3, CRN: 76433/434/435

Second Semester 1440-41 H (Spring – 2020) – 2(2,1,1)
"INDUSTRIAL INFORMATION SYSTEMS"

Saturday, April 18, 2020 (25/08/1441H)

Homework 3

Group #:	Student Names:	Student Numbers:	Sections (circle one):
		43	9 AM / 10 AM /11 AM
		43	9 AM / 10 AM /11 AM
		43	9 AM / 10 AM /11 AM
		43	9 AM / 10 AM /11 AM
		43	9 AM / 10 AM /11 AM

1) Consider the case study discussed in class, Electronic Commerce Application - Conceptual Data Modeling for "Pine Valley Furniture" WebStore. You are required to do the following:

a) Create a simplified business model for this case study (use of graphics is appreciated).

b) List and explain the business rules.

c) Redraw the E-R Diagram, this time adding in all relevant attributes you find necessary.

d) Note, you should use the second system discussed in class to draw the E-R Diagram, where cardinalities are shown in parentheses, e.g. $(1, N)$, rather than the "crow's foot" system.

(Source: *Hoffer, Goerge, and Valacich*, 8th ed., 2017, pp 280-284.)

2) The following is a description (business rules) of some data requirements for a chain of pharmacies. Create a simplified business model, then draw the appropriate entity-relationship (E-R) diagram. Clearly show all cardinality constraints, cardinality limits, etc. Use the crow's foot" system for this problem.

(a) A pharmaceutical company manufactures one or more drugs, and each drug is manufactured and marketed by exactly one pharmaceutical company.

(b) Drugs are sold in pharmacies. Each pharmacy has a unique identification. Every pharmacy sells one or more drugs, but some pharmacies do not sell every drug.

(c) Drug sales must be recorded by prescription, which are kept as a record by the pharmacy. A prescription clearly identifies the drug, physician, and patient, as well as the date it is filled.

(d) Doctors prescribe drugs for patients. A doctor can prescribe one or more drugs for a patient and a patient can get one or more prescriptions, but a prescription is written by only one doctor.

(e) Pharmaceutical companies may have long-term contracts with pharmacies and a pharmacy can contract with zero, one, or more pharmaceutical companies. Each contract is uniquely identified by a contract number.

(Source: Q3.3; *Boucher and Yalcin*, 2006 textbook, pp 100.)

Rules:

- You should work with your **project group** for this assignment.

- Attempt all questions.

- Read carefully the question and **answer the requirements** stated along with each question statement.

- You are first required to show the list of activities involved in the IIS; e.g. using a **business model** similar to the *Hoosier Burger Inventory Control System* (*Valacich, Fig 7-12*).

- You must then use **modeling software** (e.g. *MS Visio*) to produce the requested models in each question. You must state the name of the utilized software in the supporting documentation.

- You must also provide **screenshots of all your diagrams** and provide them (with appropriate description) in a *MS Word* (.docx) file.

- Any written supplemental material must be **typed** and written in **proper English**.

- You must **submit your work by email** (in one zipped file, e.g. "HW03_G07.zip" to aelsherbeeny@ksu.edu.sa), containing all work that you have done, including:

  o models (saved in their original formats)

  o diagram screenshots (in the .docx file)

- Due date: **Thursday, April 23rd, 2020** (30/08/1441) at **2:00 PM**