Department of Computer Engineering
University of Peradeniya

CO226 : Database Systems

Lab 3 : Drawing ER Diagrams using 'Dia'

Aim: The aim of this lab is to provide students hands on experience to create Entity Relationship(ER) Diagrams using *Dia* tool.

Objective: At the end of this lab, students should be able to draw an ER diagram for a given database using *Dia*.

Lab task

The details about a faculty are maintained by Assistant Registrar (AR) office in a DBMS. Suppose it is required to improve the existing database in order to facilitate some new requirements. All the existing cum new requirements is as follows.

- The faculty is organized into departments. Each department has a unique name, unique id and a senior lecturer who serves as the head of the department. The start date when that lecturer started heading the department should be recorded. There may be several buildings maintained by a department to conduct practical sessions.
- Each lecturer has a first name, last name, lecturer id, hometown and salary. A lecturer works for one department and may serve as an advisor for at most thirty students. A lecturer can teach in zero or more course offerings.
- Each student has a name, student id, national identity card (NIC) number, address, birth date and sex. Both registration number and NIC number have unique values for each student. A student belongs to one department and can enroll into course offerings which are not necessarily handled by his/her department. It is required to keep track of enrolment key of each enrolment. Each student is assigned to a lecturer of his/her department for academic advising purposes.
- Each course has a course number, course title, credits, prerequisites and course content. The course number and course title for a course are unique values.
- A course offering is done depending on the availability of lecturers and demand of students. Each course offering has a year, semester, timings, a lecture room and one or more lecturers. A course offering is handled by a department.

Design an ER schema for this application and draw an ER diagram for that schema. Specify key attributes of each entity type and constraints on each relationship type. Identify the week entity type and give a suitable name for the identifying relationship type. Note any unspecified requirement and make appropriate assumption to make the specification complete. Draw the ER schema using Dia and submit the drawing using the following instructions.

Due Date: Session 01 - 09th July 2014 before 17:00
Session 02 - 16th July 2014 before 17:00

Submission: Submit a zip file named **E11XXXLab3.zip** containing both the .dia and .pdf (use export from File menu to create pdf using Dia file) files you created during the lab. Here 'XXX' is your registration number.