

# **CS 631 - DATA MANAGEMENT SYSTEMS DESIGN**

**(Prof. Dimitrios Theodoratos)**

## **PROJECT - THE CITY LIBRARY**

### **DELIVERABLE 2**

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## **1. GOALS OF PHASE 2 PROJECT**

- In this phase, we need to design a relational database schema based on our conceptual schema design.
- To focus on the logical database design step of database design.

## **2. REVISIONS**

We have used the ER diagram given by the Professor for this project deliverable.

## **3. EER to Relational Mapping:**

We have illustrated the EER to Relational mapping below (In the last page of the document).

## **4. CONSTRAINTS**

- JOURNAL\_VOLUME - A journal volume can have up to 10 issues .
- BRANCH - Position of every copy in the branch is recorded by encoding a string of 6 alphanumeric characters.
- RESERVATION - A reserved copy has to be picked up before 6 pm or else reservation is cancelled.
- READER - A reader cannot borrow or reserve more than 10 documents
- BOR - TRANSACTION - A reader can borrow a document and keep it for a maximum of 20 days.
- BOR\_TRANSACTION - Documents are fined at a rate of 20 cents per each day after the due date.

## **4. PROBLEMS ENCOUNTERED**

- Unable to mention constraints on the relations.

