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GROUP ONE  LUBAGA CAMPUS

DIGITAL lIBRARY MANAGEMENT SYSTEM

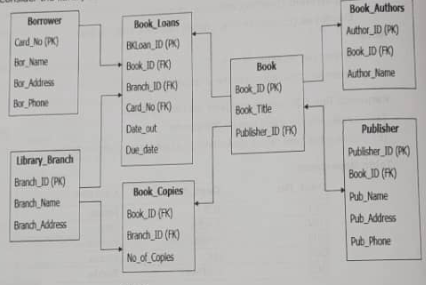
DIGITAL LIBRARY MANAGEMENT SYSTEM

1. CASE STUDY

In the current system, there is a Library branch which has various copies of books, and a table of book loans. A borrower can borrow any number of books as long as the copies are available. Each book has a given number of copies and these are the maximum number of loans that can be lent out.

The system has tables of the book author and the publisher. To identify the borrower, there is a Card\_No. as the Primary key which is reflected as a Foreign key in the Book\_Loans table. The Book copies and Book Loans tables are related to the Library branch using the Branch\_ID key. The Book loans table and the Book copies table are related to the Books table using the Book\_ID key. The Publisher table is related to the Book table using the Book\_ID key which is a good representation of data consistence.

Below is the current system’s relational diagram.



BUSINESS PROCESSES THAT NEED RE-DESIGNING

With the current system, there is no identification of the institution under which the library branch exists. This does not limit the borrowers and the library users which makes it hard to track the library’s resource usage.

The current system doesn’t have a report table to show the usage data and transactions made in the library system.

The current system doesn’t show the transaction made by the borrower. This ignores the penalties that are supposed to happen in case of loss or damage to the books.

The system doesn’t show the entity-relationship multiplicities.

1. The proposed Library management system database keeps track of the readers with the following considerations.

* The system keeps track of the university which comprises of the university\_name, campus\_name, location, address, student\_id, branch\_id and contact.
* The system contains students tables which in includes the stud\_ID, stud\_name, gender, contact and stud\_email.
* This library shows the book\_category, working hours, branch\_id and branch\_name, branch\_address.
* Borrower consists of the borrowing\_id, book\_id, stud\_id, date\_out, Due\_date, book\_name.
* Report presents the report\_id, trans\_id, borrower\_id, report\_date
* Books identifies the book\_id, bk\_name, publisher\_name, author\_name, pub\_date
* Transaction presents the trans\_id, trans\_name, borrower\_id
* Book\_copies contain book\_id, branch\_id, numbers\_of\_copies.
* Librarian contains of librarian\_id, librarian\_contact, librarian\_name, branch\_id.

ENTITY-RELATIONSHIP DIAGRAM OF PROPOSED SYSTEM.