



Republic of the Philippines
BATANGAS STATE UNIVERSITY
Pablo Borbon Main II, Alangilan, Batangas City
College of Informatics and Computing Sciences
www.batstate-u.edu.ph Tel. No. (043) 425-0139 loc. 118



LIBRARY MANAGEMENT SYSTEM

A Project Presented to
the Faculty of the College of Informatics and Computing Sciences

In partial fulfillment of the
requirements for the course:

IT222: ADVANCED DATABASE MANAGEMENT SYSTEM

Submitted by:

Dimayuga, Charles Keane C.
Camat, Judea Hazel Mae A.
Monreal, Jeriko L.
Tag-at, Gerlie B.
Quinto, Mark Gabriel M.

IT 2204

Submitted to:

Ms. JELEEN MANGUBAT

Instructor



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TOPIC

LIBRARY MANAGEMENT SYSTEM

OVERVIEW OF TOPIC

This Library Management System is built in Python and a SQL database. A Library Management system is designed to manage all the functions of a library. It will help the librarian or the administrator to maintain the database of new books and the books that are borrowed. This can also help the students to easily manage their details along with the books they've borrowed.

This system automates all your library's activities. The best way to maintain, organize, and handle countless books systematically with different features for easy accessibility. You can find books in an instant, issue/reissue books quickly, and manage all the data efficiently and orderly using this system.

In addition to that, this database's purpose is to display different tables that contain fields that have primary keys, as well as the entities, attributes, and relationships of the Library Management System. Lastly is to provide instant and accurate data regarding any type of book, thereby saving a lot of time and effort.



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BENEFITS

The potential benefits of the Library Management System are that it is organized and simple to manage users, books, and administrators. This enables the Administrator to quickly retrieve, manage and organize records or lists of students who log in, borrow, and return books. Furthermore, it also benefits the students because they can see their borrowed books, which they must return to the library. Both the administrator and the students benefit from this approach because both are handled quickly. It also helps because it prevents the loss of borrower lists or records, as well as the loss of books.

FEATURES

The Library Management System's features are divided into two categories.
The first is in the *Administrator* preview, followed by the *Student* preview.

These are the features options to the **Administrator**.

- **Add Student** is a feature that allows the administrator to add users who will use this system.
- **Add Book** is a feature that allows the admin to add new books to your library.
- **View Student** where the administrator manages only added users.
- **View Book** to see a complete list of books in a library.
- **View Borrowed Book** the admin view borrowed book records.
- **Delete Book** is also a feature that allows the admin to remove a book from the library.
- **Delete Record** is a feature that allows the admin to remove a record in borrowed book
- **Delete Student** is a last feature in the administrator that removes a user in the library system.
- **LogOut** in which will terminate the account.

Secondly, the features available in the **Students**.

- Borrow Book** is a feature that allows students to borrow only the books they want.
- Return Book** that allows you to return the borrowed book.
- View Book** is a student's feature where you'll see a list of all the available books.
- Borrowed Book** feature that allows you to view your library records that you have borrowed.
- LogOut** in which will terminate the account.



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THE DESIGN PROCESS

- **Determine the purpose of your database**

This database's purpose is to display different tables that contain fields that have primary key, as well as the entities, attributes, and relationships of the Library Management System. Database design is used to manage amounts of data, this database describes all tables in the system which are used to store all records.

- **Find and organize the information required**

- Student name, Year Level, Course
- Book Title, Author, Genre
- Date Borrow, Return

- **Divide the information into tables**

- **Student Table**
 - Student name
 - Year level
 - Course
- **Book Table**
 - Book Title
 - Book Author
 - Genre
- **Borrowing Table**
 - Date Borrow
 - Date Return



- Turn information items into columns

Student Table

StudentID	Name	YearLevel	Course
1	Charles Keane Dimay	Second	BSIT
2	Mark Gabriel Quinto	Second	BSIT
3	Jeriko Monreal	Second	BSIT
4	Judea Hazel Mae Carr	Second	BSIT
5	Princess Gerlie Tag-a	Second	BSIT
*	(New)		

Book Table

BookID	Author	BookTitle	Genre
1	Luise Penny	The Madness of	Mystery
2	Stephen King	Billy Summers	Fiction
3	Collen Hoover	It Ends With Us	Romance
4	Laura Dave	The Last Thing	Fantasy
5	William Kruger	Lightning Strike	Mystery

Borrowing Table

BorrowKey	BookID	StudentID	DateBorrowed	DateReturned
387	1	1	5/3/2022	5/9/2022
388	2	2	5/1/2022	5/10/2022
399	3	3	5/2/2022	5/11/2022
400	4	4	5/4/2022	5/12/2022
401	5	5	5/5/2022	5/8/2022



- Specify primary keys

StudentID is the primary key

	Field Name	Data Type
🔑	StudentID	AutoNumber
	Name	Short Text
	YearLevel	Short Text
	Course	Short Text

BookID is the primary key

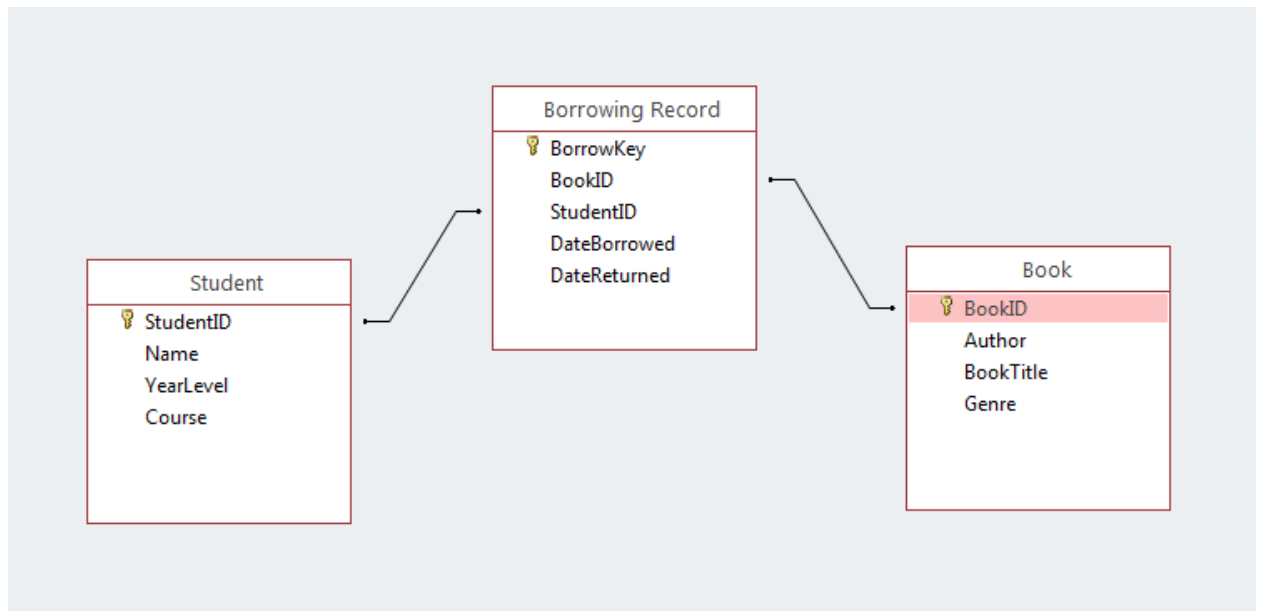
	Field Name	Data Type
🔑	BookID	AutoNumber
	Author	Short Text
	BookTitle	Short Text
	Genre	Short Text

BorrowKey is the primary key

	Field Name	Data Type
🔑	BorrowKey	Short Text
	BookID	Number
	StudentID	Number
	DateBorrowed	Date/Time
	DateReturned	Date/Time

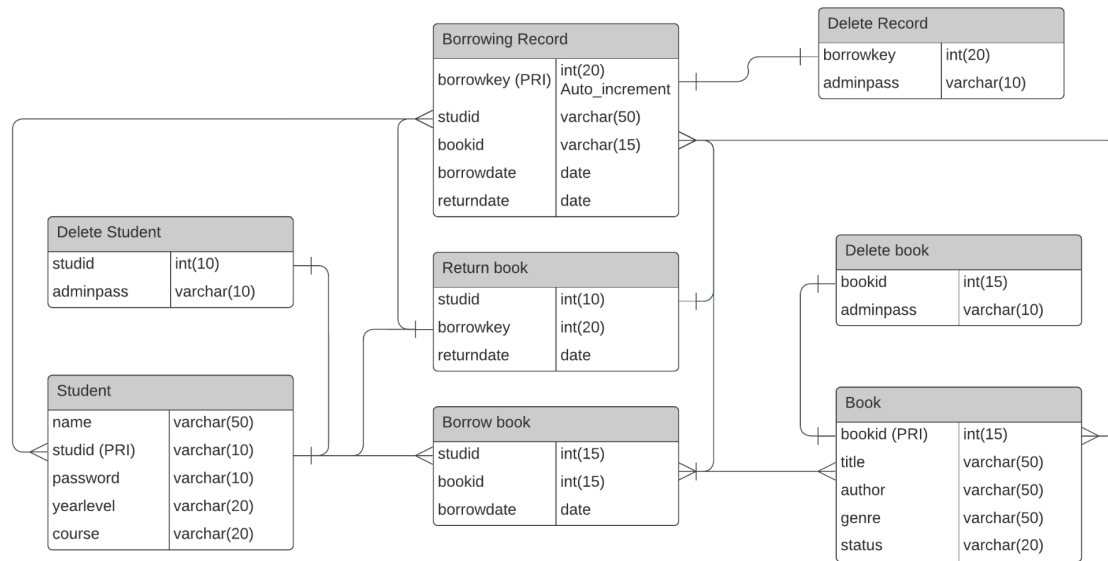


- Set up the table relationships





- **Refine your design**





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May 20, 2022

Zoom video conference interface showing five participants in a grid:

- JERIKO MONREAL
- MARK GABRIEL QUINTO
- GERLIE TAG-AT
- CHARLES KEANE DIMAYUGA
- You

Windows taskbar at the bottom shows the time as 8:52 AM on 20/05/2022.