Library Management System DFD (Data Flow Diagram)

The **Library Management System DFD** represents the "flow" of data in all processes present in Library Management. This DFD for Library Management System is also known as Data Flow Diagram. Its diagram has three levels that elaborates the overall data flow.

The Library Management System Data Flow Diagram is made up of data (input and output), external entities, data store, and processes. It uses symbols to define the overall flow of data.

Library Management System DFD: Project Name and Details

The table shows the project name and details of **Library Management System DFD**. It has the complete information about the project's information.

Name:	**Library Management System DFD**
Abstract:	The Library Management System DFD shows the structure of the project in terms of its data management. It contains the important details on the flow of data and alternatives present in the project.
Diagram:	**DFD** also known as Data Flow Diagram
Users:	**School Librarian, Student (Book Borrowers), and School Admin**
Tools Used:	Diagraming tools that provides data flow diagram symbols.
Designer:	ITSourceCode.com

Library Management System DFD - Project Name and Details

Library Management System DFD Definition

The **Library Management System DFD** is one of the methods used for library system development. It represents the system's major processes and alternatives that generate the flow of data within the system. The data included in the Data Flow Diagram was labeled properly to guide the developers on the structure of the Library Management System.

Importance of DFD for Library Management System

The **importance of DFD for Library Management System** is that it aids the audience in understanding what is happening in the system. This is done by helping them visualize the system's data management at various levels of elaboration.

The library management system data flow diagram involves major levels to elaborate the flow of data within the project. These levels have their part in expounding the details of the system's data flow structure. This structure will be the guide of developers in designing the system's data handling.

The data flow diagram describes the flow of data in Library Management System. It denotes the steps involved in transferring data from the input to file storage and report output in library system.

Users of Library Management System DFD

The **users of Library Management System** are the following:

- **School Librarian** : The school librarians will be the ones to use the system most of the time. They will monitor the books from time to time and will cater the borrowing and returning of books. They were also responsible for all the activities related to the library.
- **Book Borrowers** : Book borrowers were not just the students but also the professors or instructors. They will also have access to the system and in order to do that, they will have to log into the system. This will help the librarian and the admin monitor the book borrowers.
- **School Admin** : The Library Management System can be a stand-alone project or a part of a bigger project. Never the less, it always has the admin which can access all of the library information. This is done when there's serious scenario or problems.
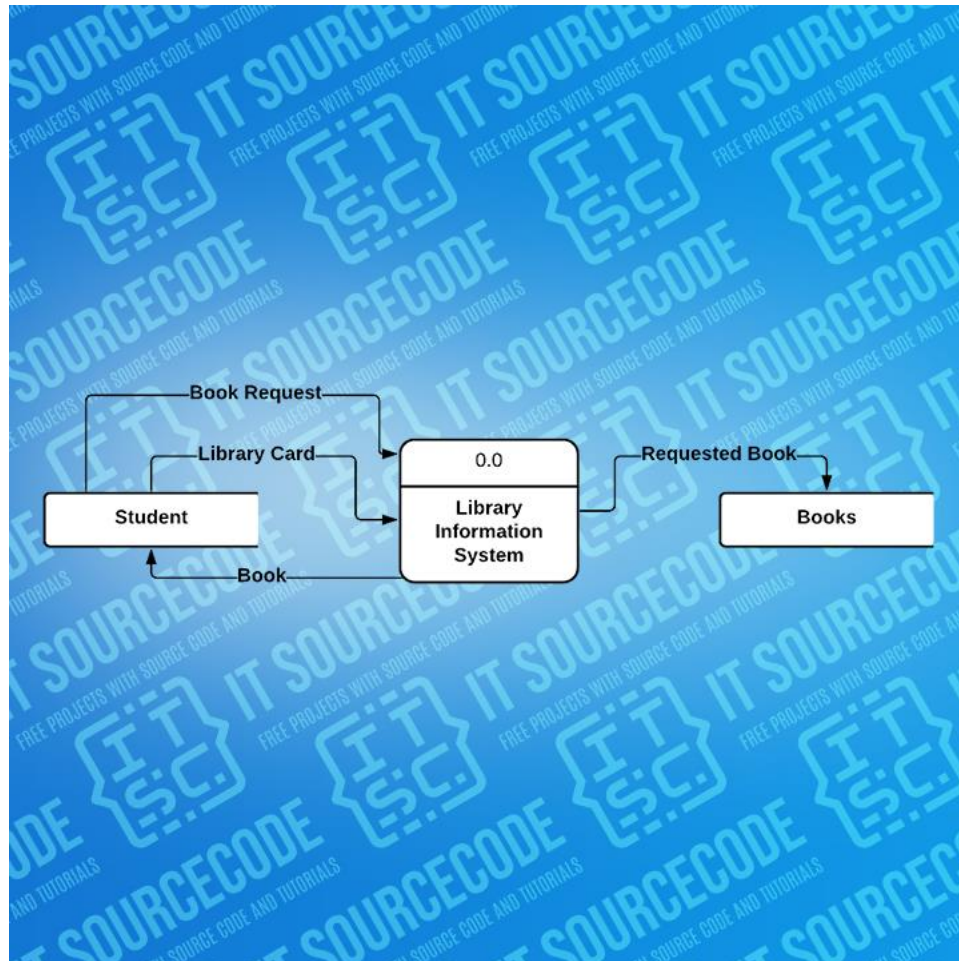
Data Flow Diagram Example of Library Management System

The **Data Flow Diagram Example of Library Management System** is given with explanation. This example Data Flow Diagram are elaborated in three Levels which were the DFD Level 0, 1, and 2.

Level 0 DFD Diagram for Library Management System

The **Level 0 DFD Diagram for Library Management System** is also known as the context diagram. It is composed of the **main process**, **users** and **data flows**. The concept is shown in a single process visualization.

DFD Level 0 shows the entities that interact with the system. It defines the border between the system and its environment. This context diagram depicts Library Management Project at a high level.
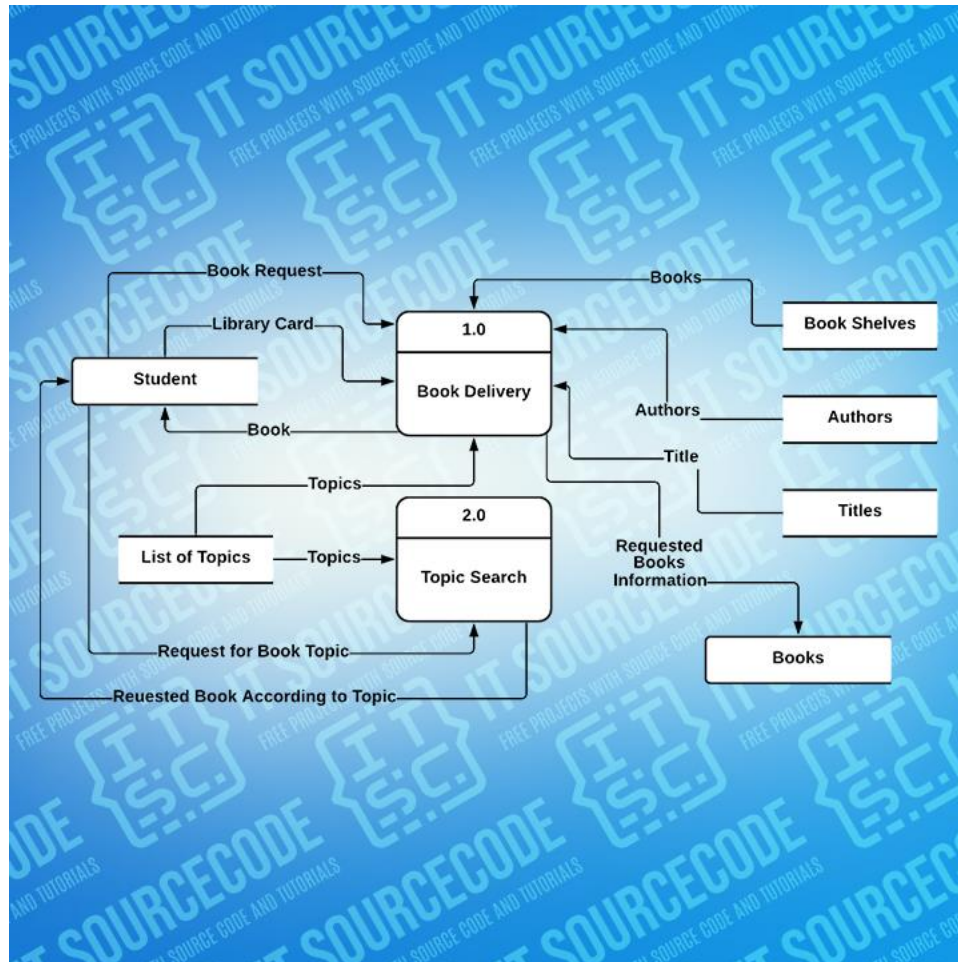

Library Management System DFD - Level 0

The illustration presents the main process in a single node to introduce the project context. This context is explaining how the project work in just one look. The users feed data into the system and then receives the output from it.

You will perceive through the diagram that there is already the presence of data flow. Though the process is very general, the flow of data is clear. This could also be modified to meet the other requirements and could include other matters regarding with Library Management.

DFD Level 1 Diagram for Library Management System

DFD Level 1 Diagram for Shopping Cart is considered as the detonated view of context diagram. Its function is to deepen the concept derive from the DFD Level 0.

The DFD Level 1 shows the wider details of Library DFD Level 0. This is to clarify the paths (flow) of data and its transformation from being an input to an output. The designed diagram portrays two different scenario which is the Book Delivery and the topic search.

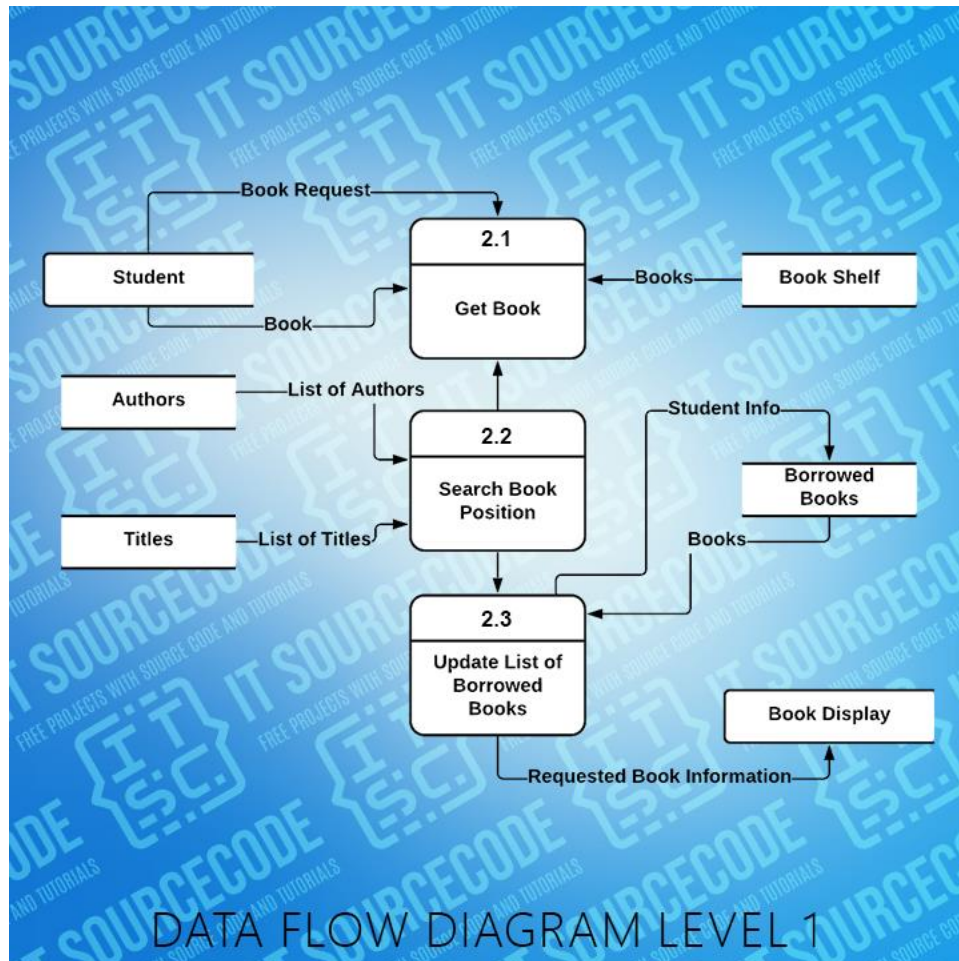*Library Management System DFD - Level 1*

The flow of data starts from the student giving the borrowing request and his/her information. The system then caters the information and process the request. By that, the processes generate the data flow and transformation until it reaches the desired output.

You can also see the data store used or the database. The database is used as the storage of the data processed and given by the users and then it also serves as the source of outputs.

You can add more to this and it is up to you on how will you create your data flow diagram. Only be precise with your information and consider the data flow that should be included.

Level 2 DFD for Library Management System

Level 2 DFD for Shopping Cart is also called as the highest abstraction of data flow diagram. This level also broadens the idea from the DFD level 1. It includes the sub-processes from level 1 as well as the data that flows.

Data Flow Diagram (DFD) Level 2 for Library Management System

This diagram has elaborated the sub-processes derives from "topic search" process. The sub-processes were **get book**, **search book position**, and **update**. These processes were invoked by the book borrower and then catered by the system.

The processes there were all managed by the system without the librarian attending the transaction. But then the librarian can still monitor all the transaction made by the borrower.

Remember that not all of the processes in the project must have sub-processes. Only provide this diagram if needed. It is not required as long as your previous diagrams were clear and precise.