DATA DICTIONARY

The data dictionary elements developed for the current system consists of process, data flow, and data structures, data store details. Tables below identify each of the processes included in the systems-level data flow diagram. Each process is briefly described to clarify its purpose. The inbound and outbound data flows for each of the processes are also shown.

Sets of tables below define all the data flows that are included in the system. Each data flow is briefly described so that anyone examining the data gathered during the analysis can quickly see what each data flow does. The processes the data flows originate from and into are also identified by name. Some data flows go out of the system rather than to other process. Others do not originate from a process. These considerations are shown in the data flow entries in the data dictionary.
The data structures that are part of this system are described in table form below.
Some data structures are used much more than others.

This information emphasizes to the analysts that they must organize the data storage and retrieval structures in a manner that will efficiently support all uses of the data across each process.

SID: 16103104
SID: 16103043

OUTLINE:

Process:

Process	
Description	
Input	
Output	
Logic summary	

Data flow:

From	
To	
Description	

Data store:

Data store	
Description	
Inbounds	
Out bounds	
Data description	
Volume	
Access	

Data structure:

Data structure	
Description	
Contents	
Volume	

PROCESSES:

Process	TYPE OF MEMBER
Description	Member can be teacher, student, staff
Input	MEMBER
Output	To STAFF To (STUDENT OR TEACHER)
Logic summary	Splits the coming entry form MEMBER based on its type and directs to either STAFF process or (STUDENT OR TEACHER) process.

Process	STAFF
Description	Handles staff pupil
Input	From TYPE OF MEMBER process
Output	To SEARCH To UPDATE To DELETE To GENERATE
Logic summary	Directs pupil to required process based on type of query

Process	STUDENT OR TEACHER
Description	Handles students or teachers
Input	From TYPE OF MEMBER process
Output	To SEARCH To UPDATE To DELETE To GENERATE To RETURN

	To ISSUE
Logic summary	Directs pupil to required process based on type of query

Process	UPDATE
Description	Updates the data stores student, teacher books as per requirement
Input	From STAFF From (STUDENT OR TEACHER)
Output	To data stores BOOK, STUD, TEACH
Logic summary	Pupil issues, returns a book and records are maintained

Process	SEARCH
Description	Searches the data stores for the required query
Input	From STAFF From (STUDENT OR TEACHER)
Output	Query retrieved on screen
Logic summary	Whether the particular student, book, teacher exists

Process	DELETE
Description	Deletes the entry from database
Input	From STAFF From (STUDENT OR TEACHER)
Output	To data stores BOOK, STUD, TEACH

Logic summary	Deletes particular student, teacher, or book

Process	RETURN
Description	Return of a book
Input	From (STUDENT OR TEACHER)
Output	To VALIDATION
Logic summary	Processes coming entry and directs for further processing

Process	ISSUE
Description	Issue of a book
Input	From (STUDENT OR TEACHER)
Output	To VALIDATION
Logic summary	Processes coming entry and directs for further processing

Process	VALIDATION
Description	Student or teacher is identified appropriately
Input	From RETURN From ISSUE
Output	To CHECK FOR DUEDATE To BOOK ISSUE
Logic summary	Validates the pupil and directs for further processing

Process	CHECK FOR DUE DATE
Description	Fine if any has to be calculated
Input	From VALIDATION
Output	To DELETION IN

	DATABASE To FINE CALCULATION
Logic summary	Duedate=issuedate+maxdays

Process	DELETION IN DATABASE
Description	Deletes the record from database
Input	From CHECK FOR DUEDATE
Output	To DISPLAY STATUS
Logic summary	Displays on screen after deleting entry the new list

Process	DISPLAY STATUS
Description	For displaying details
Input	From DELETION IN DATABASE From ENTRY IN DATABASE
Output	ON SCREEN
Logic summary	Displays details

Process	BOOK ISSUE
Description	Issuing a book
Input	From VALIDATION
Output	To ENTRY IN DATABASE
Logic summary	Decrement quantity and increment issue from BOOK and STUD or TEACH respectively appropriately.

Process	FINE CALCULATION
Description	Fine imposed on exceeding

	due date
Input	From CHECK FOR DUEDATE
Output	To DELETION IN DATABASE
Logic summary	Calculate fine appropriately and display and delete that entry from database, perform actions required appropriately

Process	ENTRY IN DATABASE
Description	For entering new records
Input	From BOOK ISSUE
Output	To DISPLAY STATUS
Logic summary	Add on issue list, decrement book count appropriately and display details on screen

Process	GENERATE
Description	
Input	From STAFF From (STUDENT OR TEACHER)
Output	STUDENT LIST TEACHER LIST BOOK LIST
Logic summary	Generate queried list

DATA STORES:

Data store	BOOKS=BOOK
Description	Librarian edits this list time to time on arrival of new books, decremented on lending and restored on retrieval
Inbounds	UPDATE DELETE
Out bounds	SEARCH UPDATE
Data description	Title Author Quantity
Volume	1000 per month, static, little to no growth
Access	Solely to librarian

Data store	STUDENT=STUD
Description	Students get added as soon as they make a library card and are removed as they graduate from college
Inbounds	UPDATE DELETE ENTRY IN DATABASE DELETION IN DATABASE
Out bounds	CHECK FOR DUE DATE UPDATE VALIDATION SEARCH
Data description	Name Sid Address Books Issued Fine
Volume	1000 new entries and deletions per year, static, little to no growth
Access	Solely to librarian

Data store	TEACHER=TEACH
Description	Teachers get added as soon as a new teacher joins the college and deleted as they retire or leave the college in intermediate.
Inbounds	ENTRY IN DATABASE DELETION IN DATABASE UPDATE
Out bounds	SEARCH UPDATE VALIDATION CHECK FOR DUE DATE
Data description	NAME Tid Address Books Issued Fine
Volume	10 teachers every year, static, little to no growth
Access	Solely to librarian

DATA SRUCTURES:

Data structure	MEMBER
Description	Members of the library
Contents	Name Address Identification key Fine due Books issued
Volume	100 daily

Data structure	STUDENT LIST
Description	List of members who are students
Contents	Name Address Identification key Fine due Books issued
Volume	1000 yearly

Data structure	TEACHER LIST
Description	List of members who are teachers
Contents	Name Address Identification key Fine due Books issued
Volume	20 yearly

Data structure	BOOK LIST
Description	List of books
Contents	Title

	Author Quantity
Volume	100 monthly

Data structure	ON SCREEN
Description	Abstract data structure, basically the output screen, generally monitor to display queries and other details
Contents	Really? – LCD, circuits, power, etc.
Volume	---

DATA FLOWS:

From	MEMBER
To	TYPE OF MEMBER
Description	Discretion of members

From	TYPE OF MEMBER
To	STAFF
Description	Directing to module

From	TYPE OF MEMBER
To	(STUDENT OR TEACHER)
Description	Directing to module

From	STAFF
To	GENERATE
Description	Directing to module

From	(STUDENT OR TEACHER)
To	GENERATE
Description	Directing to module

From	GENERATE
To	STUDENTS LIST
Description	For generation of list

From	GENERATE
To	TEACHERS LIST
Description	For generation of list

From	GENERATE
To	BOOK LIST
Description	For generation of list

From	(STUDENT OR TEACHER)
To	UPDATE
Description	Directing to module

From	STAFF
To	UPDATE
Description	Directing to module

From	STAFF
To	SEARCH
Description	Directing to module

From	STAFF
To	DELETE
Description	Directing to module

From	(STUDENT OR TEACHER)
To	SEARCH
Description	Directing to module

From	(STUDENT OR TEACHER)
To	DELETE
Description	Directing to module

From	(STUDENT OR TEACHER)
To	RETURN
Description	Directing to module

From	(STUDENT OR TEACHER)
To	ISSUE
Description	Directing to module

From	RETURN
To	VALIDATION
Description	Directing to module

From	ISSUE
To	VALIDATION
Description	Directing to module

From	UPDATE
To	BOOK
Description	Updating in database

From	UPDATE
To	STUD
Description	Updating in database

From	UPDATE
To	TEACH
Description	Updating in database

From	SEARCH
To	BOOK
Description	Querying in database

From	SEARCH
To	STUD
Description	Querying in database

From	SEARCH
To	TEACH
Description	Querying in database

From	DELETE
To	BOOK
Description	Deletion in database

From	DELETE
To	STUD
Description	Deletion in database

From	DELETE
To	TEACH
Description	Deletion in database

From	VALIDATION
To	STUD
Description	Querying in database

From	VALIDATION
To	TEACH
Description	Querying in database

From	TEACH
To	VALIDATION
Description	Retrieval from database

From	STUD
To	VALIDATION
Description	Retrieval from database

From	BOOK
To	SEARCH
Description	Retrieval from database

From	BOOK
To	DELETE
Description	Retrieval from database

From	BOOK
To	UPDATE
Description	Retrieval from database

From	TEACH
To	SEARCH
Description	Retrieval from database

From	TEACH
To	UPDATE
Description	Retrieval from database

From	TEACH
To	DELETE
Description	Retrieval from database

From	STUD
To	SEARCH
Description	Retrieval from database

From	STUD
To	UPDATE
Description	Retrieval from database

From	STUD
To	DELETE
Description	Retrieval from database

From	VALIDATION
To	BOOK ISSUE
Description	Directing to module

From	VALIDATION
To	CHECK FOR DUEDATE
Description	Directing to module

From	STUD
To	CHECK FOR DUE DATE
Description	Retrieval from database

From	TEACH
To	CHECK FOR DUEDATE
Description	Retrieval from database

From	BOOK ISSUE
To	ENTRY IN DATABASE
Description	Directing to module

From	ENTRY IN DATABASE
To	DISPLAY STATTUS
Description	Directing to module

From	ENTRY IN DATABASE
To	STUD
Description	Querying in database

From	ENTRY IN DATABASE
To	TEACH
Description	Querying in database

From	CHECK FOR DUEDATE
To	FINE CALCULATION
Description	Directing to module

From	CHECK FOR DUEDATE
To	DELETION IN DATABASE
Description	Directing to module

From	FINE CALCULATION
To	DELETION IN DATABSAE
Description	Directing to module

From	DELETION IN DATABASE
To	STUD
Description	Querying in database

From	DELETION IN DATABASE
To	TEACH
Description	Querying in database

From	DELETION IN DATABASE
To	DISPLAY STATUS
Description	Directing to module

From	DISPLAY STATUS
To	ON SCREEN
Description	Displayed data passed in buffer