Library system management

1. Workflow

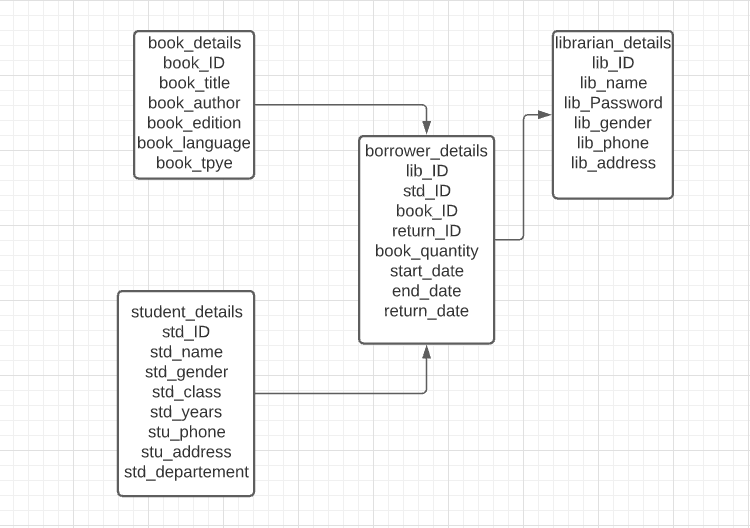
The reason why I want to choose this Project ,is because nowadays I see in Cambodia there is rarely a good system for Management in the library. As I know When I went to the library , I asked the Librarian for some information about the book. Then I realized that the librarian couldn't tell me the proper information of my questions. That's why I want to develop a library management System . To Create this System to be perfectly we need some information such as title of the book, ID of books ,author of the book ,total amount of the book in library, type of the book, the popular book that customer Interested, the book that have some problem or broken, some information about customer information like Name, Phone number ,Sex, Date, Time when they are come to our library and information about the staff ,etc…

The library is a place to collect a lot of books that have different types and are difficult to sort. We use notebook and paper to store all information for a long year so now we want to change it to store our database with library system management.

* Students can choose type, title, author, year, language to borrow or read.
* Librarian can store student information and take note
* Student need to take book return
* Knowing about total of book

1. System Analysis

For more clearly about description we have draft table:



* Relationship Sentences
* One **student** can borrow one or many time from **borrower\_details**
* One **borrower** can be one or many **student**
* One **book** can borrow by one **borrower**
* One​ **librarian** enroll one or many **borrower**
* One **borrower** can borrower one or many **book**
* Meta Data

TABLE **Book\_details**

Book\_ID int PRIMARY KEY

Book\_Title varchar (50)

Book\_Author varchar (30)

BooK\_Edition varchar (30)

Book\_language varchar (50)

Book\_Type varchar (10)

TABLE **Sduedent\_details**

Std\_Id int PRIMARY KEY

Std\_Name varchar (30)

Std\_Gender varchar (10)

Std\_Class varchar (20)

Std\_Years varchar (6)

Std\_Phone varchar (15)

Std\_Address varchar (100)

Stu\_departement varchar(50)

TABLE **Librarian\_details**

Lib\_ID int PRIMARY KEY

Lib\_Name varchar (20)

Lib\_Gender varchar (10)

Lib\_Phone varchar (15)

Password varchar(16)

Lib\_Address varchar (100)

TABLE **Borrower\_details**

Lib\_ID int PRIMARY KEY

Std\_ID int

Book\_ID int

Return\_ID int

Book\_quantity varchar (10)

Start\_date date

End\_date date

Return\_date date

* The following SQL code creates the six tables and adds the PRIMARY KEY

Constraint to each one:

Create TABLE **Book\_details**

Book\_Id int PRIMARY KEY

Book\_Title varchar (50)

Book\_Author varchar (30)

BooK\_Edition varchar (30)

Book\_language varchar (50)

Book\_Type varchar (10)

Constraint pk\_book\_details

Primary key (Book\_id)

Create TABLE **Sduedent\_details**

Std\_Id int PRIMARY KEY

Std\_Name varchar (30)

Std\_Gender varchar (10)

Std\_Class varchar (20)

Std\_Years varchar (6)

Std\_Phone varchar (15)

Std\_Address varchar (100)

Stu\_departement(50)

Constraint pk\_Student\_details

Primary key(Stu\_Id)

Create TABLE **Librarian\_details**

Lib\_Id int PRIMARY KEY

Lib\_Name varchar (20)

Lib\_Gender varchar (10)

Lib\_Phone varchar (15)

Lib\_Password varchar(16)

Lib\_Address varchar (100)

Constraint pk\_Librarain\_details

Primary key(Lib\_Id)

Create TABLE **Borrower\_details**

lib\_ID int PRIMARY KEY

std\_ID int

book\_ID int

return\_ID int

book\_Quantity varchar (10)

Start\_date date

End\_date date

Return\_date date

Constraint pk\_borrower\_details

Primary key(borrower\_d)

* The following SQL codes add FOREIGN KEY constraints to link the tables together:

ALTER TABLE Borrower\_details

ADD CONSTRAINT fk\_borrower\_details\_student

FOREIGN KEY(stu\_id)

REFERENCES student(stu\_id)

ADD CONSTRAINT fk\_borrower\_details\_book\_details

FOREIGN KEY(book\_id)

REFERENCES book\_details(book\_id)

ADD CONSTRAINT fk\_borrower\_details\_librarian\_details

FOREIGN KEY(lib\_id)

REFERENCES librarian\_details(lib\_id)

* Adding Data to the Tables using SQL INSERT Statements

INSERT INTO Student\_details VALUES(1,' Jeremy Koh', 'F','A1', '4', '012345355', 'Kompong Cham','Physic');

INSERT INTO Student\_details VALUES(2,' Sa Morida', 'F','C1', '1', '070962263', 'Kandal','Mathematics');

INSERT INTO student\_details VALUES(3,' Meng Nun', 'M','A5', '1', '0888237148', 'Takeo','Khmer Lecture');

INSERT INTO student\_details VALUES(4,' Jeremy Koh', 'F','B3', '2', ' 0888567332', 'Kampong Cham','Chinese');

INSERT INTO student\_details VALUES(5,' Keo Dara', 'F','B6', '2', ' 0962230000', Kompong Speu','Information Technology');

INSERT INTO student\_details VALUES(6,'Keang Dy', 'M','A4', '2', ' 0965454683', 'Takeo','Mathematics');

INSERT INTO student\_details VALUES(7,'Chhun Nary’, 'F','A5', '2', ' 0972666005', 'battambang','English');

INSERT INTO student\_details VALUES(8,'Keang Dy', 'F','A5', '3', ' 0972912227', 'Svay Reang','Thai');

INSERT INTO student\_details VALUES(9,'Meng Nun', 'M','A5', '1', ' 0973579088', 'Takeo','Information Technology');

INSERT INTO student\_details VALUES(10,'Nga Dara', 'M','C7', '4', ' 098345355', 'Kampot','Chinese');

INSERT INTO student\_details VALUES(11,'Nimol Man', 'M','B5', '3', ' 099477719', 'Kompot','Chinese');

INSERT INTO student\_details VALUES(12,'Put thea', 'M','B3', '4', ' 010899992', 'Kratie','English');

INSERT INTO student\_details VALUES(13,'Mom Kunthea', 'F','B6', '4', ' 012332538', 'Siem Reap','Khmer Lecture');

INSERT INTO student\_details VALUES(14,'Sa Morida', 'F','C1', '2', ' 012665588', 'Sveay Reing','Physic');

INSERT INTO student\_details VALUES(15,'Keo Nimol', 'M','E7', '2', ' 0184213057', 'Phnom Penh','English');

INSERT INTO student\_details VALUES(16,'Mao Dyna', 'M','A1', '2', ' 0963020751', 'Oddpr Meanchey','Khmer Lecture');

INSERT INTO student\_details VALUES(17,'Chhaileng', 'F','B4', '1', ' 098444455', 'Takeo','Information Technology');

INSERT INTO student\_details VALUES(18,'Kim Mosa', 'F','M6', '2', ' 010555999', 'Phnom Penh','Chinese');

INSERT INTO student\_details VALUES(18,'Khun Thea', 'F','M5', '3', ' 099944000', 'Kep','Chinese');

INSERT INTO student\_details VALUES(19,'Morokot Vy', 'F','A4', '3', ' 013858569', 'Kampot','History');

INSERT INTO student\_details VALUES(20,'Rotha Chan', 'F','M4', '', ' 013858569', 'Kampot','Art and Music');

INSERT INTO book\_details VALUES(

1,'C++ Programming','Thap Boung','2th Edition','Khmer','New');

INSERT INTO book\_details VALUES(

2,'Database','Chenda Sovisal','3th Edition','English','New');

INSERT INTO book\_details VALUES(

3,'Matematic','Mam Mareth','4th Edition','Khmer','Old');

INSERT INTO book\_details VALUES(

4,'Data Structure And Algorithms','Mr Chon Chandara','1th Edition','Khmer','New');

INSERT INTO book\_details VALUES(

5,'Data Communication','Mr Peng Kun','5th Edition','Khmer','Old');

INSERT INTO book\_details VALUES(

6,'Computer Architecture','Ouk Polyvann','2th Edition','English','New');

INSERT INTO book\_details VALUES(

7,'Reading and Writing','Mr Pamela Harmann','2th Edition','English','New');

INSERT INTO book\_details VALUES(

8,'Fundamental Of Computer','Mr Peng Kun','2th Edition','Khmer','Old');

INSERT INTO book\_details VALUES(

9,'History','Mr Nop Sokha And Vong Sotheara','2th Edition','Khmer','Old');

INSERT INTO book\_details VALUES(

10,'Basic Electronic','Mr Long Khy','8th Edition','English','New');

INSERT INTO book\_details VALUES(

11,'Math World','Jemery K','9th Edition','English','New');

INSERT INTO book\_details VALUES(

12,'Marketing 5.0','PHILIP KOTLER','5th Edition','English','New');

INSERT INTO book\_details VALUES(

13,'6 Tips for Speaking Natural English','Vannse','10th Edition','English','New');

INSERT INTO book\_details VALUES(

14,'The Four Winds','Kristin Hannah','5th Edition','English','New');

INSERT INTO book\_details VALUES(

15,'Interior Chinatown','Charles Yu','7th Edition','English','New');

INSERT INTO book\_details VALUES(

16,'Win','Harlan Coben','4th Edition','English','New');

INSERT INTO book\_details VALUES(

17,'A Single Thread','Marie Bostwick','8th Edition','English','New');

INSERT INTO book\_details VALUES(

18,'A Gambling','David Baldacci','9th Edition','English','New');

INSERT INTO book\_details VALUES(

19,'The Rebel','Kendall Ryan','2th Edition','English','New');

INSERT INTO book\_details VALUES(

20,'The Black book','James Batterson ','8th Edition','English','New');

INSERT INTO book\_details VALUES(

21,'C Programming','Ly Sokun','6th Edition','Khmer','Old');

INSERT INTO book\_details VALUES(

22,'TOEFL','Jerry Bobrow','1th Edition','English','New');

INSERT INTO book\_details VALUES(

23,'English For Computer','Mr Thou Reno and Ms.Shou Phea',

'1th Edition','English','New');

INSERT INTO book\_details VALUES(

24,'English ','Mr Chan Saramphong','9th Edition','English','Old');

INSERT INTO book\_details VALUES(

25,'Dictionary ','Mr Delisis',

'11th Edition','English','New');

Library

insert into librarian\_details values(

1,'Tim Chhaileng','168168','M,'011212112','Takeo');

insert into librarian\_details values(

2,'Nga','123','F,'012212111','Phnom Penh ');

insert into librarian\_details values(

3,'Roth','8855','M,'015111115','Siem Reap');

insert into librarian\_details values(

4,'Vid','9999','M,'017111113','Takeo');

insert into librarian\_details values(

5,'Heng','2222','M,'095111115','Siem Reap');

insert into librarian\_details values(

6,'Za','4545','F,'098111110','Kep');

insert into librarian\_details values(

7,'Thi Thyda','3625','F,'0881111111','Siem Reap');

insert into librarian\_details values(

8,'Sey Lylea','254','M,'095111110','Takeo');

insert into librarian\_details values(

9,'Hou Tola','24','M,'011111119','Kompot');

insert into librarian\_details values(

10,'Say Kimheng','12','F,'087111117','Takeo');

Borrower

1,2,3,4,5,'01-April-2021','04-April-2021','04-April-2021');

insert into Borrower\_details values(

2,4,'8',2,3,'01-April-2021','05-April-2021','05-April-2021');

insert into Borrower\_details values(

3,5,'8',9,1,'02-April-2021','10-April-2021','10-April-2021');

insert into Borrower\_details values(

4,16,7,'8',1,'01-May-2021','07-April-2021','07-May-2021');

**Group Member**

1. Tim Chhaileng (group leader)
2. Moeurn Sodavid
3. Sor Nga
4. Thoern Phearoth
5. El Mosa
6. Ly Bunheng