# Phase 2

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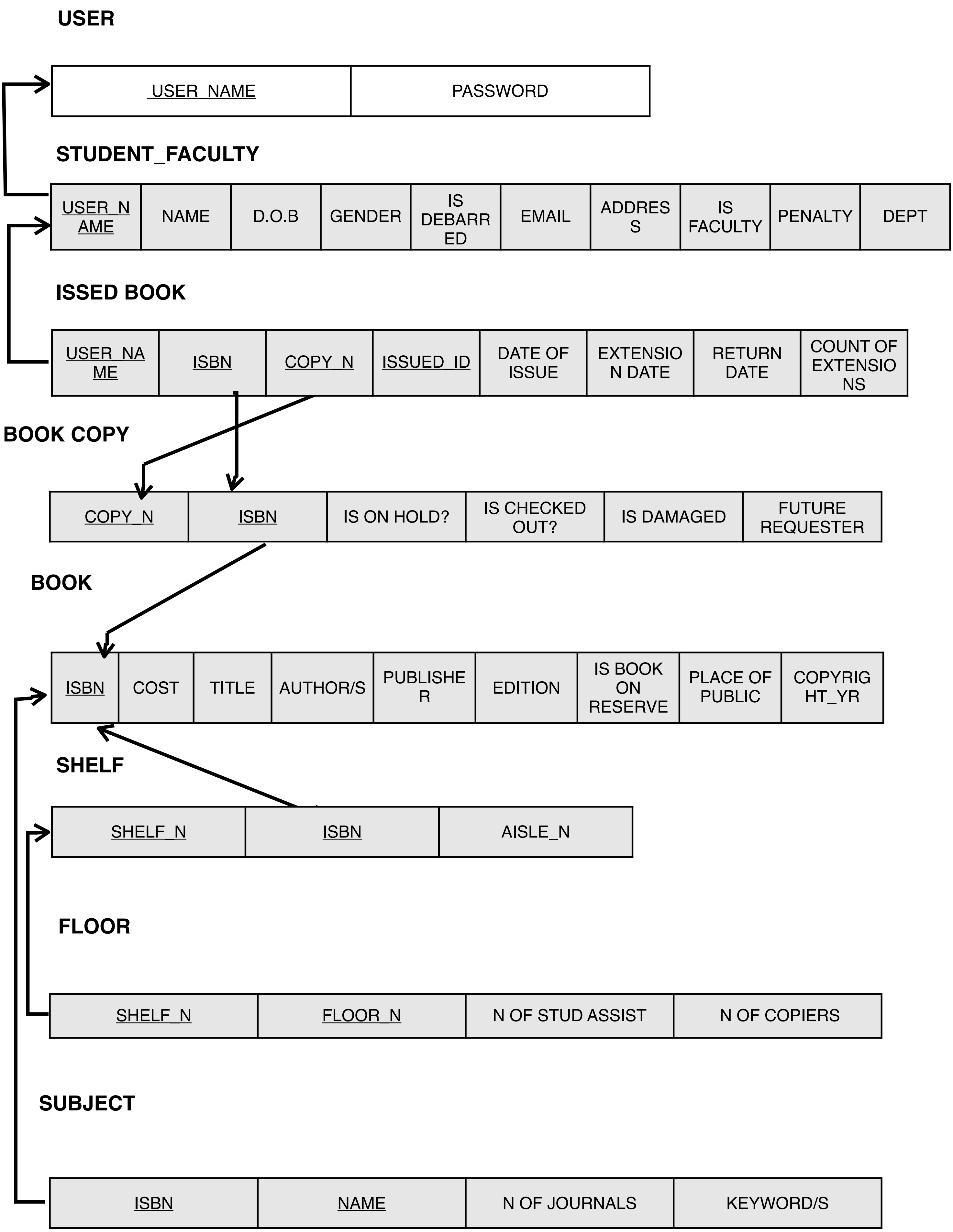
Group Number:75



USER

| | |
|---|---|
| USER_NAME | PASSWORD |

STUDENT_FACULTY

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| USER_NAME | NAME | D.O.B | GENDER | IS DEBARRED | EMAIL | ADDRESS | IS FACULTY | PENALTY | DEPT |

ISSED BOOK

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| USER_NAME | ISBN | COPY_N | ISSUED_ID | DATE OF ISSUE | EXTENSION DATE | RETURN DATE | COUNT OF EXTENSIONS |

BOOK COPY

| | | | | | |
|---|---|---|---|---|---|
| COPY_N | ISBN | IS ON HOLD? | IS CHECKED OUT? | IS DAMAGED | FUTURE REQUESTER |

BOOK

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ISBN | COST | TITLE | AUTHOR/S | PUBLISHER | EDITION | IS BOOK ON RESERVE | PLACE OF PUBLIC | COPYRIGHT_YR |

SHELF

| | | |
|---|---|---|
| SHELF_N | ISBN | AISLE_N |

FLOOR

| | | | |
|---|---|---|---|
| SHELF_N | FLOOR_N | N OF STUD ASSIST | N OF COPIERS |

SUBJECT

| | | | |
|---|---|---|---|
| ISBN | NAME | N OF JOURNALS | KEYWORD/S |

```
CREATE TABLE `User`(
          USERNAME  VARCHAR(50) NOT NULL,
          PASSWORD  CHAR(50) NOT NULL,
          PRIMARY KEY (USERNAME));

CREATE TABLE STUDENT_FACULTY(
              USERNAME     VARCHAR(50) NOT NULL,
              NAME           VARCHAR(50) NOT NULL,
              D.O.B            DATETIME,           NULL,
              GENDER         CHAR(1),              NULL,
              IS DEBARRED  CHAR(1),             NULL,
              EMAIL            VARCHAR(50)      NULL,
              ADDRESS         VARCHAR(30)      NULL,
              IS FACULTY       CHAR(1)             NOT NULL,
          PENALTY          CHAR(1)             NOT NULL,
          DEPT               CHAR(30)           NULL,
                PRIMARY KEY (USERNAME ),
            FOREIGN KEY (USERNAME )
              REFERENCES `User` (USERNAME ));
             ON DELETE CASCADE

CREATE TABLE ISSUED_BOOK(
          USERNAME                   VARCHAR(50) NOT NULL,

CREATE TABLE BOOK COPY(
          COPY_N                      INT              NOT NULL,
              IS ON HOLD                CHAR(1)        NULL,
              IS CHECKED OUT           CHAR(1)        NULL,
          IS DAMAGED                 CHAR(1)        NULL,
          FUTURE REQUESTER        VARCHAR(50)   NULL,
          PRIMARY KEY (COPY_N));

CREATE TABLE BOOK BOOK(
          COPY_N                      INT              NOT NULL,
              ISBN                          INT             NOT NULL,
          COST                         INT              NULL,
          TITLE                         VARCHAR(50)   NULL,
          AUTHOR/S                    VARCHAR(50)    NULL,
          PUBLISHER                   VARCHAR(50)   NULL,
          EDITION                      INT                NULL,
          IS BOOK ON RESERVE       CHAR(1)          NULL,
          PLACE OF PUBLIC            VARCHAR(50)    NULL,
          COPYRIGHT YR               INT                NULL
          PRIMARY KEY (COPY_N,ISBN),
            FOREIGN KEY (COPY_N,) REFERENCES BOOK COPY (COPY_N));
                ON DELETE CASCADE

CREATE TABLE SHELF(
            SHELF_N    INT         NOT NULL,
            ISBN        INT         NOT NULL,
            AISLE_N     INT         NULL,
            PRIMARY KEY (SHELF#, ISBN ),
            FOREIGN KEY (ISBN )   REFERENCES BOOK COPY (BOOK));
                ON DELETE CASCADE

CREATE TABLE SHELF(
            SHELF_N                  INT         NOT NULL,
            FLOOR_N                  INT         NOT NULL,
            N_OF_STUD_ASSIST      INT         NULL,
            N_OF_COPIERS            INT         NULL,
            PRIMARY KEY (SHELF#, FLOOR#),
            FOREIGN KEY (SHELF#)   REFERENCES SHELF (SHELF#));
                ON DELETE CASCADE

CREATE TABLE SUBJECT(
            NAME          CHAR(30)        NOT NULL,
            ISBN            INT                NOT NULL,
            N_JOURNALS  INT                 NULL,
            KEYWORD/S   VARCHAR(30)    NULL,
            PRIMARY KEY (NAME , ISBN ),
            FOREIGN KEY (ISBN )   REFERENCES BOOK COPY (BOOK));
                ON DELETE CASCADE
```

## SQL Statement

1. Log in

```
SELECT
        COUNT(*) // if this returns 1, then go further
FROM
        USER
WHERE
        USER_NAME = $USER_NAME, PASSWORD = $PASSWORD
```

2. Registration

```
INSERT INTO
        USER (USER_NAME, PASSWORD) VALUES ($USER_NAME, $PASSWORD);
```

Make Profile

```
INSERT INTO
        STUDENT_FACULTY (USER_NAME, NAME, D.O.B, GENDER, IS_FACULTY, EMAIL,
                                ADDRESS, DEPT) VALUES ($USER_NAME , $First_Name+
                $Last_Name, $D.O.B, $GENDER, $EMAIL, $IS_FACULTY, $ADDRESS, $DEPT);
```

3. Search Books

```
SELECT // Look for desired book
        BOOK.TITLE, BOOK.EDITION, BOOK.ISBN, BOOK.COPY_N
FROM
        BOOK WHERE TITLE = $TITLE AND
        ISBN = $ISBN AND
        AUTHOR = $AUTHOR
```

```
SELECT// Show available number of books
        COUNT(COPY_N)
FROM
        BOOK_COPY
WHERE
        ISBN = $ISBN AND
        IS_HOLD = ’N’ AND
        IS_CHECKEDOUT = ‘N’
```

4.Future Hold Request for a Book

```
SELECT COPY_N, REUTRNDATE FROM ISSED_BOOK, BOOK_COPY WHERE
(ISSED_BOOK.ISBN = BOOK_COPY.ISBN) AND (ISSED_BOOK.COPY_N =
BOOK_COPY.COPY_N ) AND  (RETURN_DATE=  (SELECT RETURN_DATE FROM
ISSED_BOOK ORDER BY RETURN_DATE DESC LIMIT 1);
```

```
UPDATE
        BOOK_COPY
SET
        FUTURE_REQUESTER = $USER_NAME
WHERE
```

```
        COPY_N = $COPY_N
```

5.Track Location

```
SELECT FLOOR_N, SHELF_N, AISLE_N, NAME FROM FLOOR, SHELF, SUBJECT
WHERE(SHELF.SHELF_N = FLOOR.SHELF_N) AND (SHELF.ISBN = SUBJECT.ISBN)
AND (ISBN = $ISBN);
```

6.Check out screen

```
// Delete Hold status and update is_checked_out to ‘yes’
UPDATE
        BOOK COPY
SET
        BOOK COPY.IS HOLD = ’N’, IS_CHECKED_OUT = ‘Y’
WHERE
        ISSED_BOOK.USER_NAME = $USER_NAME AND
        BOOK COPY.ISBN = ISSED_BOOK.ISBN AND
        BOOK COPY.COPY_N = ISSED_BOOK.COPY_N
// update issued_book
UPDATE
        ISSED_BOOK
SET
        DATE_OF_ISSUE = $DATE_OF_ISSUE
        RETURN_DATE = $RETURN_DATE
        COUNT_OF_EXTENSION = COUNT_OF_EXTENSION + 1
WHERE
        ISSED_BOOK.USER_NAME = $USER_NAME

//Update book_copy table if user is late for checking out
UPDATE
        BOOK_COPY
SET
        IS_HOLD = ’N’
WHERE
        BOOK_COPY.IS_HOLD = ‘Y’
        ISSED_BOOK.ISBN = BOOK_COPY.ISBN
        ISSED_BOOK.COPY_N = BOOK_COPY.COPY_N
        DAY(ISSED_BOOK.DATE_OF_ISSUE) > DAY(NOW()) + 3 // user are late
```

7.Return Book Screen

```
UPDATE
        BOOK_COPY
SET
        IS_CHECKED_OUT = “N” AND
        IS_ON_HOLD = “N” AND
        IS_DAMAGED = $IS_DAMAGED
WHERE
        COPY_N = $COPY_N
UPDATE
        STUDENT_FACULTY
SET
        PENALTY = 0.5 * (DAY(NOW()) - DAY(ISSED_BOOK.RETURN_DATE))
WHERE
        ISSED_BOOK.USER_NAME = STUDENT_FACULTY.USER_NAME
        (DAY(NOW()) - DAY(ISSED_BOOK.RETURN_DATE)) > 0
```

8.Lost/damaged books

1. show last user // Parameters: $ISBN, $COPY_N, $CURRENT TIME

```
SELECT USER_NAME FROM ISSED_BOOK, BOOK_COPY WHERE
(ISSED_BOOK.ISBN = BOOK_COPY.ISBN) AND (ISSED_BOOK.COPY_N =
BOOK_COPY.COPY_N ) AND  (RETURN_DATE=  (SELECT RETURN_DATE FROM
ISSED_BOOK ORDER BY RETURN_DATE DESC LIMIT 1)) AND (IS_DAMAGED = “Y”)
```

2. update penalty charge // Parameters: $ISBN, $COPY_N, $PENALTY, $USER NAME

```
DELETE FROM
        BOOK_COPY
WHERE
        BOOK_COPY.ISBN = $ISBN, BOOK_COPY.COPY_N = $COPY_N
UPDATE
        STUDENT_FACULTY
SET
        STUDENT_FACULTY.PENALTY = $PENALTY
WHERE
        USER NAME = $USER NAME
UPDATE
        BOOK COPY
SET
        IS_DAMAGED = ‘Y’
WHERE
        ISBN = $ISBN AND
        COPY_N = $COPY_N
```

9.Damaged book report  // month will be given as a argument $MONTH.

```
SELECT
        SUBJECT.NAME AS [Subject], COUNT(BOOKCOPY.IS DAMAGED)  AS [_Ndamaged
books]
FROM
        BOOKCOPY
WHERE
        BOOKCOPY.IS DAMAGED = ‘Y’
        MONTHNAME(ISSUED BOOK.RETURN DATE) = $MONTH AND
        ISSUED BOOK.ISBN = SUBJECT.ISBN
        BOOKCOPY.ISBN = SUBJECT.ISBN
GROUP BY
        SUBJECT.NAME
```

10.Popular books report

```
SELECT // Show Jan
        MONTHNAME(ISSUED BOOK.RETURN DATE) AS [Month], BOOK.TITLE AS [Title],
        COUNT(ISSED BOOK.ISBN) AS [_NCheckouts]
FROM
        ISSED BOOK
WHERE
        BOOK.ISBN = ISSED BOOK.ISBN AND
        MONTH(ISSUED BOOK.RETURN DATE) = 1 OR
        MONTH(ISSUED BOOK.RETURN DATE) = 2
GROUP BY
```

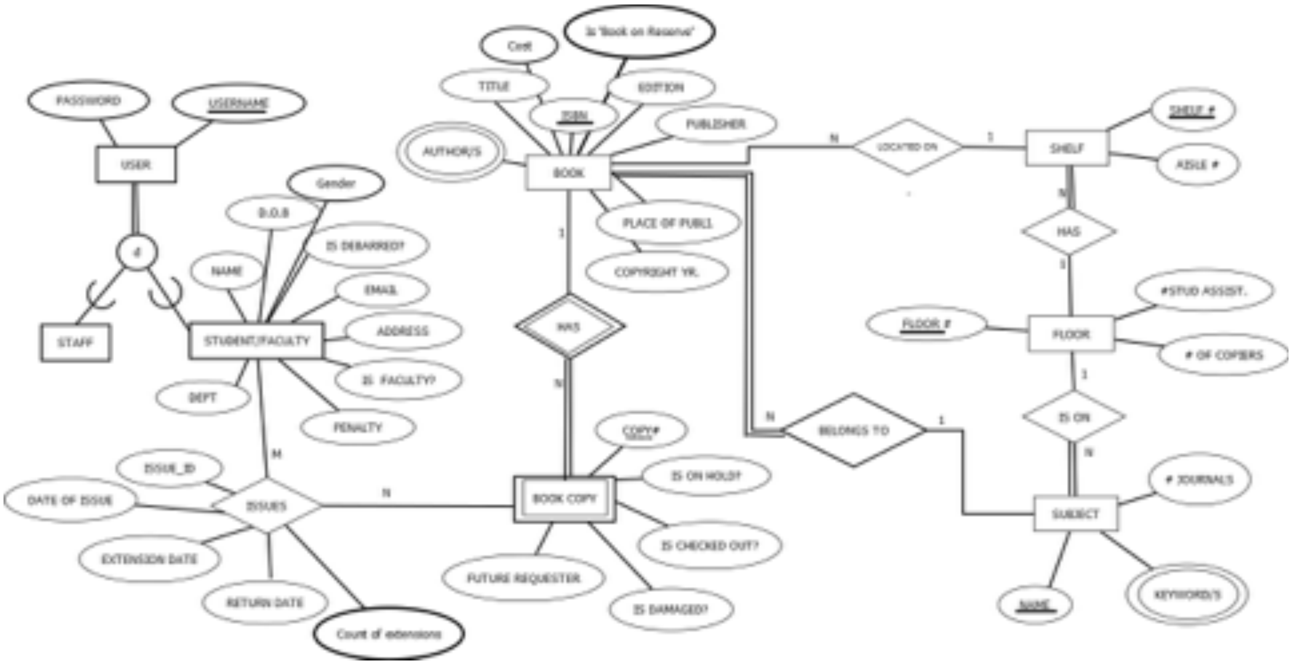
```
        MONTH(ISSED BOOK.RETURN DATE), BOOK.TITLE
LIMIT 3
```

11.Frequent User report

```
SELECT
        MONTHNAME(ISSUED BOOK.RETURN DATE) AS [Month],  ISSED BOOK.USER_NAME
        AS [User Name], COUNT( ISSED BOOK.USER_NAME) AS [_Ncheckouts]
FROM
        ISSED BOOK
WHERE
        COUNT(ISSED BOOK.USER_NAME) > 10 AND
        MONTH(ISSUED BOOK.RETURN DATE) = 1 OR
        MONTH(ISSUED BOOK.RETURN DATE) = 1
GROUP BY MONTH(ISSUED BOOK.RETURN DATE)
LIMIT 5
```

12.Popular Subject report

```
SELECT // Show two month’s ago’s popular subject
        MONTHNAME(ISSUED BOOK.RETURN DATE) AS [Month], SUBJECT.NAME AS [Top
        Subject], COUNT(ISSED BOOK.ISBN) AS [_Ncheckouts ]
FROM
        ISSUED BOOK
WHERE
        ISSUED BOOK.ISBN = SUBJECT.ISBN AND
        MONTH(ISSUED BOOK.RETURN DATE) >= $TWOMONTHAGO AND
        MONTH(ISSUED BOOK.RETURN DATE) < $CURRENTMONTH
GROUP BY
        MONTH(ISSUED BOOK.RETURN DATE), SUBJECT.NAME
LIMIT 3
```


Cost
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DATE OF ISSUE
ISSUES
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EXTENSION DATE
RETURN DATE
Count of extensions
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SHELF #
AISLE #
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FLOOR #
FLOOR
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# OF COPIERS
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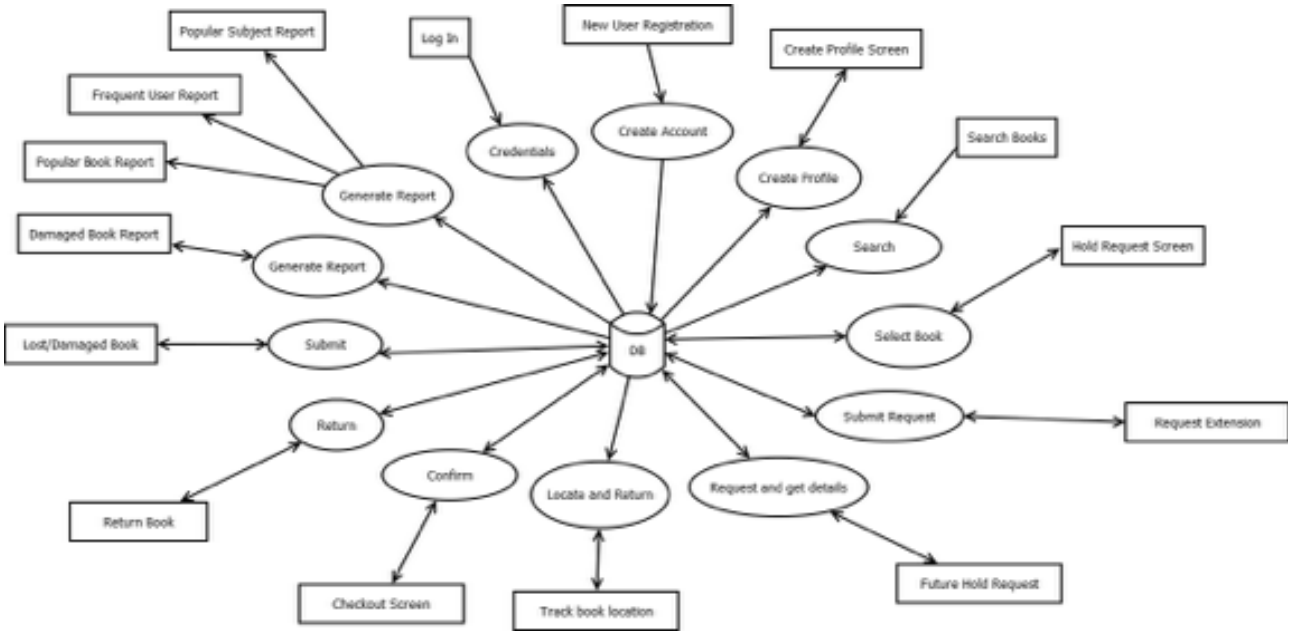
1
SUBJECT
# JOURNALS
NAME
KEYWORD/S


Popular Subject Report
Log In
New User Registration
Create Profile Screen
Frequent User Report
Popular Book Report
Credentials
Create Account
Create Profile
Search Books
Generate Report
Damaged Book Report
Generate Report
Search
Hold Request Screen
Lost/Damaged Book
Submit
DB
Select Book
Return
Submit Request
Request Extension
Confirm
Locate and Return
Request and get details
Return Book
Future Hold Request
Checkout Screen
Track book location