Mobile Application Development

Kolb Library
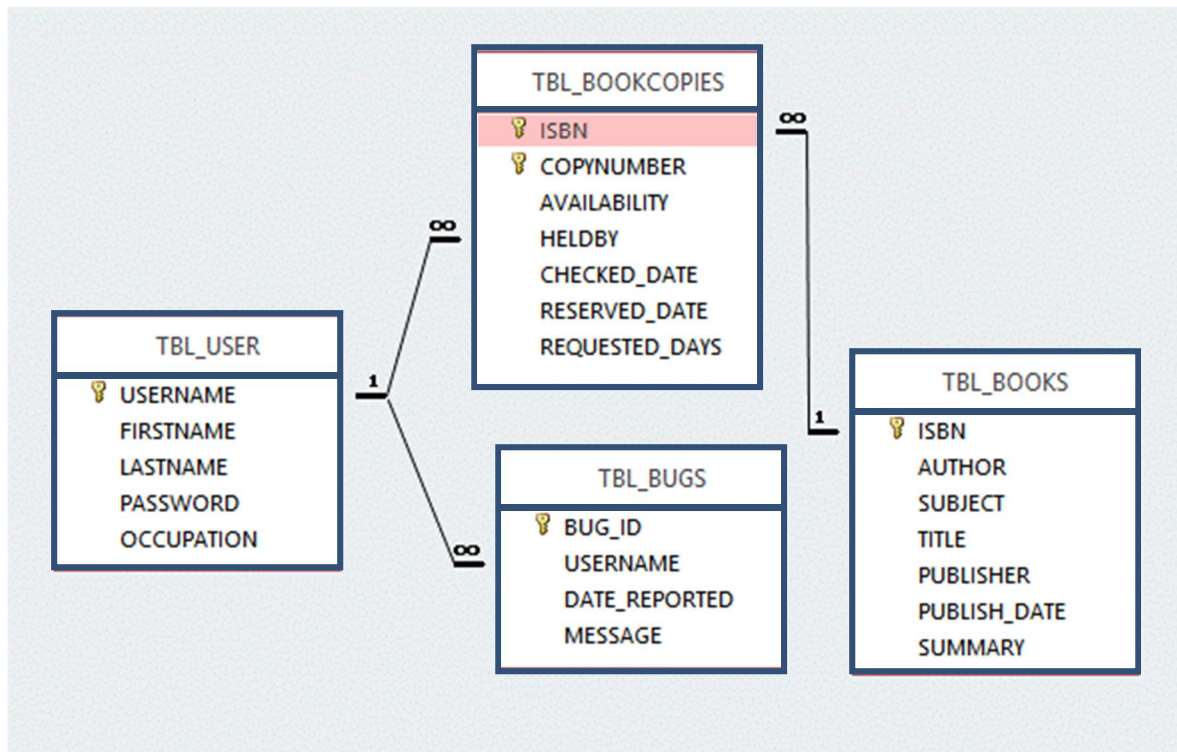

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RDS Database Entity Relationship Diagram

RDS Database Sample SQL Commands

The following SQL queries are the commands that are most commonly executed by the server code. ISBNs, book copy numbers, and usernames are modified by the server code. For the purposes of this document, all ISBNs are set to "0316769177", all book copy numbers are set to "1", and all usernames are set to "appJudges"

Executing a Bug Report

INSERT INTO TBL_BUGS

VALUES(SEQ_BUGID.NEXTVAL, 'appJudges', '09-MAY-18', 'This is bug reporting system is amazing!');

Deleting a User

DELETE FROM TBL_USER

WHERE USERNAME='appJudges';

Adding a User

```sql
INSERT INTO TBL_USER
VALUES('Application','Judges','Administrator','appJudges','nlc2018');
```

Estimating Time Until a Given Book Becomes Available

```sql
SELECT MIN(DAYS_LEFT) AS ESTIMATED_DAYS_LEFT
FROM(
    SELECT 0 AS DAYS_LEFT
    FROM TBL_BOOKCOPIES
    WHERE CHECKED_DATE IS NOT NULL
    AND TBL_BOOKCOPIES.ISBN = '0316769177'
    UNION
    SELECT MIN (REQUESTED_DAYS - (ROUND (SYSDATE - CHECKED_DATE))) AS DAYS_LEFT
    FROM TBL_BOOKS
    INNER JOIN TBL_BOOKCOPIES ON TBL_BOOKS.ISBN = TBL_BOOKCOPIES.ISBN
    WHERE (CHECKED_DATE IS NOT NULL)
    AND TBL_BOOKCOPIES.ISBN = '0316769177'
    AND (REQUESTED_DAYS - (ROUND (SYSDATE - CHECKED_DATE)))>0
    GROUP BY TBL_BOOKCOPIES.ISBN
);
```

Determining Overdue Books for a Given User

```sql
SELECT HELDBY, TITLE, TBL_BOOKS.ISBN, CHECKED_DATE, (ROUND (SYSDATE - CHECKED_DATE)) AS HELD_TIME, ((ROUND (SYSDATE - CHECKED_DATE)) - REQUESTED_DAYS) AS OVERDUE_BY
FROM TBL_BOOKS
INNER JOIN TBL_BOOKCOPIES on TBL_BOOKS.ISBN = TBL_BOOKCOPIES.ISBN
WHERE (CHECKED_DATE IS NOT NULL)
AND ((SYSDATE - CHECKED_DATE)>(REQUESTED_DAYS))
AND HELDBY = 'appJudges';
```

Determining Books that are Requested Reserves, Requested Checkouts, Reserves, or Checkouts for a Given User

SELECT TBL_BOOKS.TITLE, TBL_BOOKS.AUTHOR, TBL_BOOKS.SUBJECT, TBL_BOOKS.ISBN, TBL_BOOKCOPIES.RESERVED_DATE

FROM TBL_BOOKS

INNER JOIN TBL_BOOKCOPIES ON TBL_BOOKS.ISBN=TBL_BOOKCOPIES.ISBN

WHERE TBL_BOOKCOPIES.HELDBY = 'appJudges'

AND TBL_BOOKCOPIES.AVAILABILITY = -2;

Changing the Status of a Book

UPDATE TBL_BOOKCOPIES

SET AVAILABILITY = -1, HELDBY = 'appJudges', RESERVED_DATE=SYSDATE, REQUESTED_DAYS='14'

WHERE ISBN = '0316769177'

AND COPYNUMBER = 1;

The server code can also execute queries that change a book's availability to one of the following:

> *Requested Checkout: -2*

> *Requested Reservation: -1*

> *In Circulation: 0*

> *Reserved: 1*

> *Checked Out: 2*

Searching for a Book

SELECT TBL_BOOKS.TITLE, TBL_BOOKCOPIES.COPYNUMBER, TBL_BOOKCOPIES.AVAILABILITY

FROM TBL_BOOKS INNER JOIN TBL_BOOKCOPIES ON TBL_BOOKS.ISBN = TBL_BOOKCOPIES.ISBN

WHERE TBL_BOOKS.ISBN='0316769177';

SELECT TITLE, AUTHOR, SUBJECT, ISBN, LCCN, PUBLISHER, YEAR, SUMMARY

FROM TBL_BOOKS

WHERE TITLE LIKE 'Catcher in the Rye';

The server code can also execute queries that search by subject, author, and keyword