Programme Name: B.Tech (ICT)   Semester: 4

Database Management System

Project Title: Archive of Our Own (An E-book Reader)

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Problem Definition:

We read books based on fiction, philosophy, sci-fi, romance, comedy etc. but what happens when you only want characters in the story of whom you are a die hard fan? Well, this is the place where you can get both.

Objective and End Users:

A book reader to serve the interests of fans by providing access to multiple fandom works written by unofficial authors.
Teenagers, small children who are a stans of myriad characters and for all the book reading lovers.

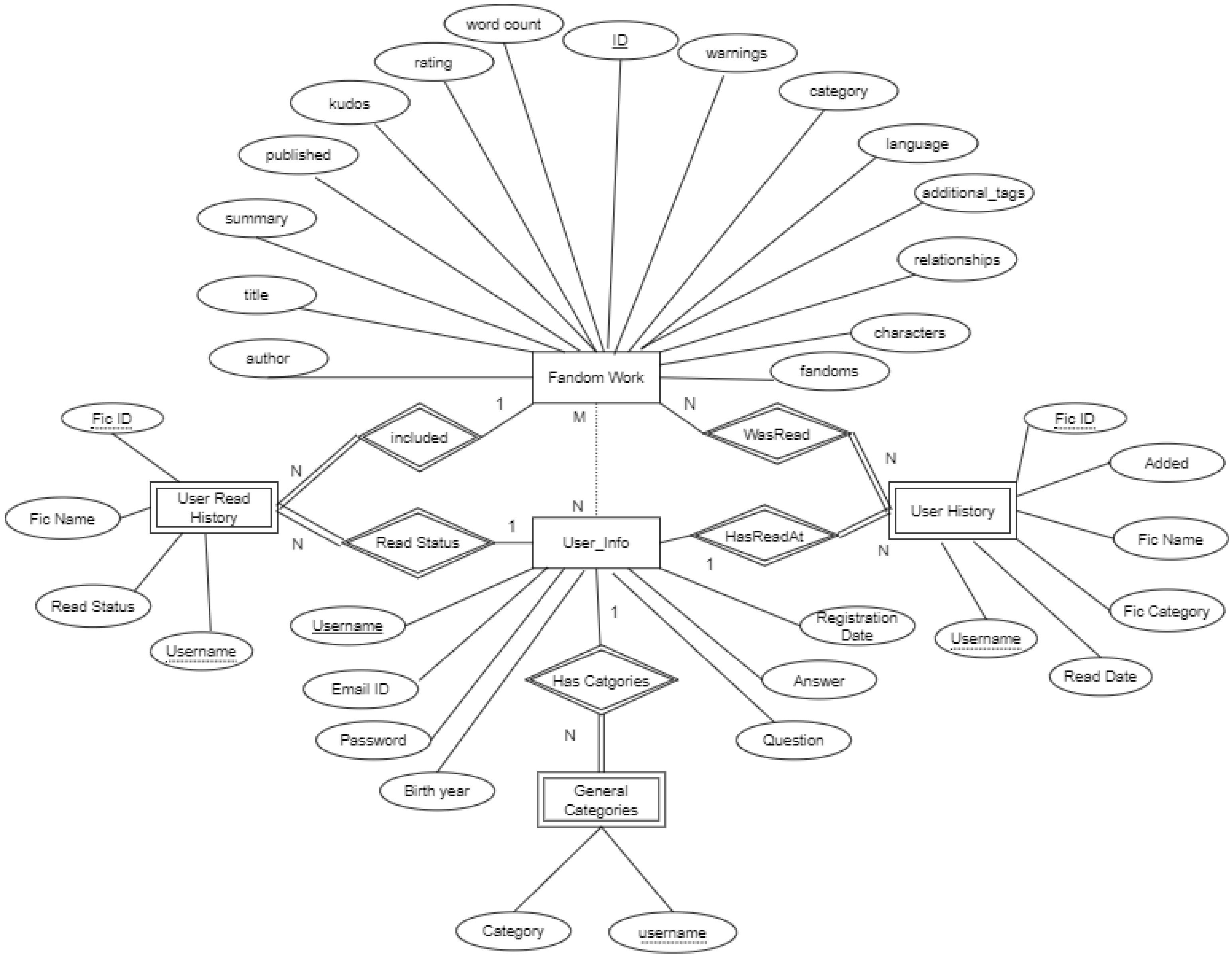
System Flow of the Project:

1. User opens AO3.
2. Top stories are displayed in it's home page, can browse through them and can read.
3. Clicking on the title tag will link the user to the source publication.
4. User can login or register, and can get to their timeline.
5. User can browse anonymously.
6. In the timeline, there's a functionality of bookmarks where they can keep their favorites, can access it whenever they want.
7. Users can keep track of their reading status of the fic as well.
8. User can search for a book through a search method.
9. There are myriad fandom and user can get A-Z list by clicking it which is exhaustive of the database
10. User can click on the tags associated with the fic on the display and find fics which are tagged in the same manner.
11. User can make a collection of their own and add fics in it.
12. They can logout whenever they want.
13. They can delete their account and all their data from the server as well.

Functionalities/ Key Features in the Project:

Made in Java using Netbeans and MySQL (phpMyAdmin) for database storage.

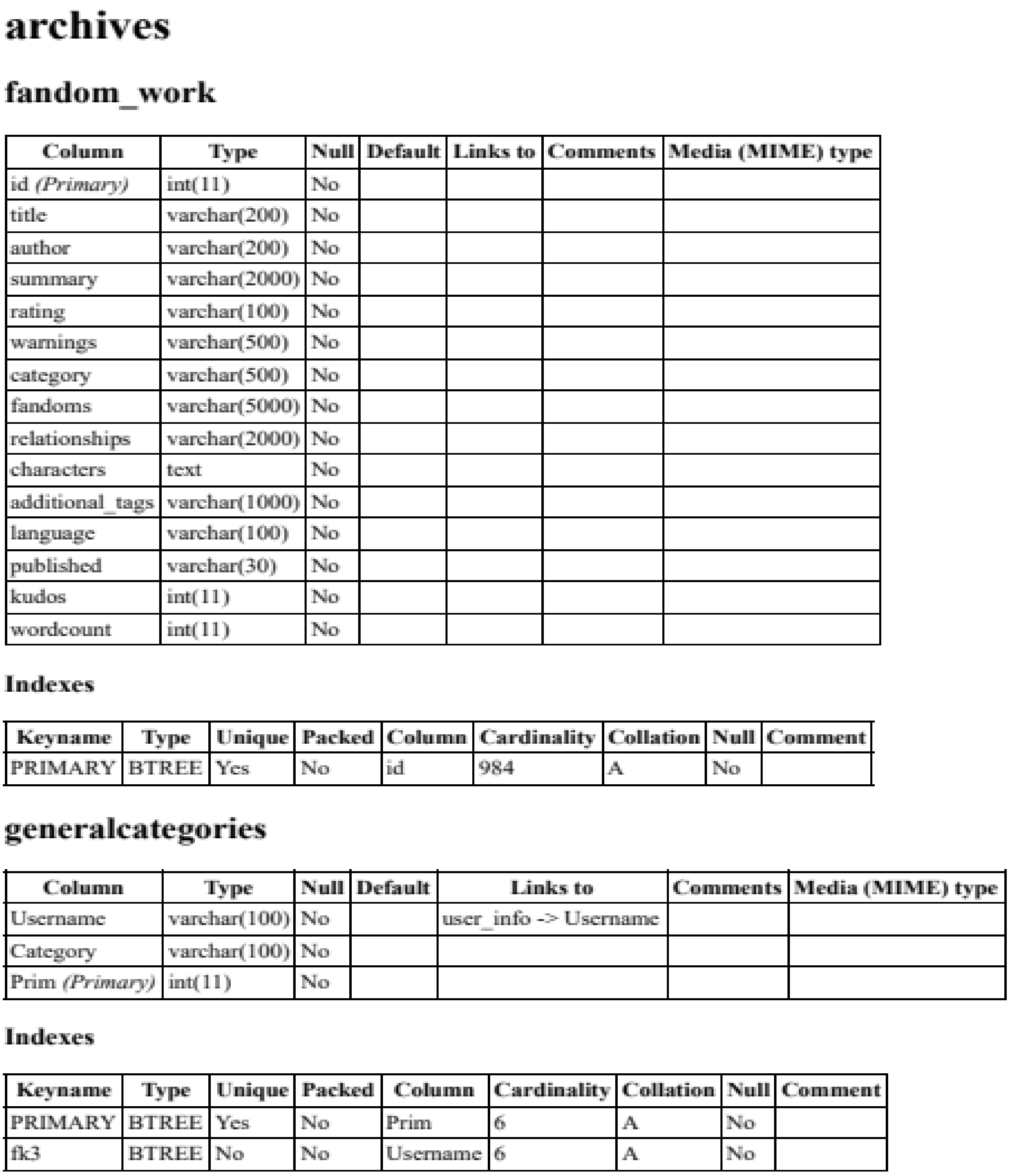
1. A fine collection of data obtained by web scraping, upto 1000 rows.
2. Password protected account with forgot password option.
3. Anonymous browsing option with limited features.
4. Tag-wise (fics are differentiated with tags, like genres, fandoms etc) linking of the main database.
5. Interactive GUI.
6. Predictive search of titles.
7. Search through works.
8. Record user activity
9. Integrity of user activity across history tables.
10. Record user reading status of individual fic.
11. Fics exist only in one bookmark shelf at a time to make sure there is no overlapping, autocheck assures that.
12. Generate Report of User Activity.
13. Give fic recommendation



-ER Diagram:

Fic as ‘fiction’

Data design:



archives

fandom_work

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
id *(Primary)*	int(11)	No				
title	varchar(200)	No				
author	varchar(200)	No				
summary	varchar(2000)	No				
rating	varchar(100)	No				
warnings	varchar(500)	No				
category	varchar(500)	No				
fandoms	varchar(5000)	No				
relationships	varchar(2000)	No				
characters	text	No				
additional_tags	varchar(1000)	No				
language	varchar(100)	No				
published	varchar(30)	No				
kudos	int(11)	No				
wordcount	int(11)	No				

Indexes

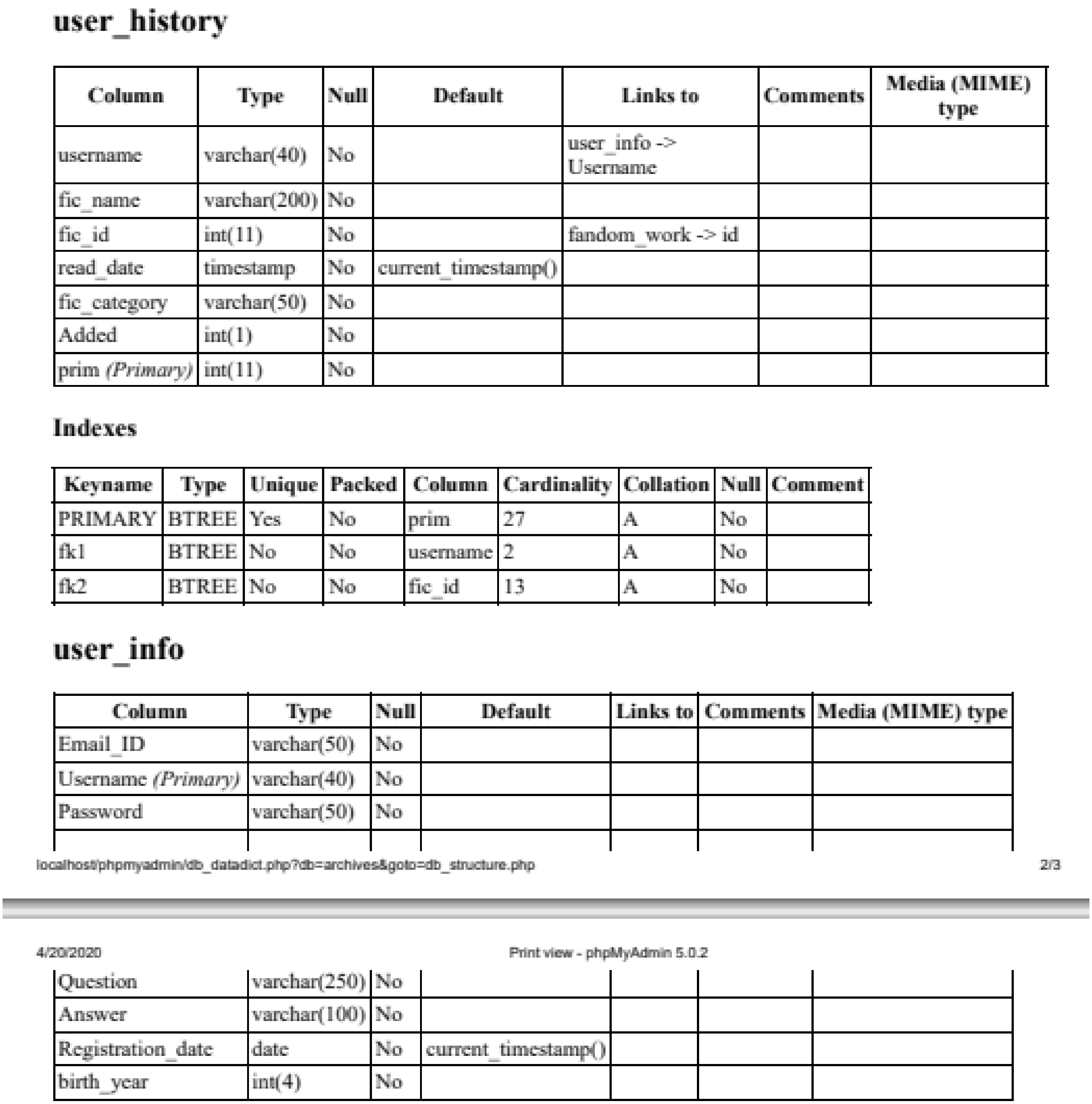
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	984	A	No	

generalcategories

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
Username	varchar(100)	No		user_info -> Username		
Category	varchar(100)	No				
Prim *(Primary)*	int(11)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	Prim	6	A	No	
fk3	BTREE	No	No	Username	6	A	No	



user_history

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
username	varchar(40)	No		user_info -> Username		
fic_name	varchar(200)	No				
fic_id	int(11)	No		fandom_work -> id		
read_date	timestamp	No	current_timestamp()			
fic_category	varchar(50)	No				
Added	int(1)	No				
prim *(Primary)*	int(11)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	prim	27	A	No	
fk1	BTREE	No	No	username	2	A	No	
fk2	BTREE	No	No	fic_id	13	A	No	

user_info

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
Email_ID	varchar(50)	No				
Username *(Primary)*	varchar(40)	No				
Password	varchar(50)	No				
Question	varchar(250)	No				
Answer	varchar(100)	No				
Registration_date	date	No	current_timestamp()			
birth_year	int(4)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	Username	1	A	No	
Email_ID	BTREE	Yes	No	Email_ID	1	A	No	

user_read_history

Column	Type	Null	Default	Links to	Comments	Media (MIME) type
username	varchar(40)	No		user_info -> Username		
fic_name	varchar(200)	No				
fic_id	int(11)	No		fandom_work -> id		
read_status	int(1)	No				
read_date	timestamp	No	current_timestamp()			
prim *(Primary)*	int(11)	No				

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	prim	6	A	No	
ufk	BTREE	No	No	username	2	A	No	
ffk	BTREE	No	No	fic_id	6	A	No	

Basic JDBC Code:

```
private static Connection conn;
private static Statement stmt;
private static CallableStatement cstmt, cstmt1, cstmt2;
private static String chkbk="{call checkBookmark(?,?,?,?,?)}";
private static String searchq="{call search(?,?,?,?,?)}";
private static String rep="{call userReport(?,?,?,?,?,?,?)}";
private static String username = "root";
private static String password = "";
private static String dbName = "archives";
private static String dbURL = "jdbc:mysql://localhost:3306/" +
dbName;
String driverName = "com.mysql.jdbc.Driver";

public ArchiveLogic() {
       if(conn==null)
        {try{
            conn = DriverManager.getConnection(dbURL, username,
            password);
            stmt = conn.createStatement();
            cstmt = conn.prepareCall(chkbk);
            cstmt1 = conn.prepareCall(searchq);
            cstmt2 = conn.prepareCall(rep);
        } catch (SQLException ex) {
            System.out.println("Exception = " + ex);
        }}
        else
        {
        ;
        }
    }
```

Stored Procedures

1. userReadInsert : Used in a trigger to maintain integrity between user_history, which tracks user activity in general, including adding to bookmarks, reading a book, marking it for later and user_read_history which keeps a track of reading status of books.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` PROCEDURE
`userReadInsert`(IN `username` VARCHAR(40), IN `fic_name`
VARCHAR(200), IN `fic_id` INT(11), IN `added` INT(1), IN
`read_date` TIMESTAMP, IN `cat` VARCHAR(50))
    NO SQL
BEGIN
DECLARE stat1, stat2, chk int(1);
IF(added='1')
THEN
SELECT `readStatusonAdd`(cat) into stat1;
SELECT `checkRead`(fic_id, username) INTO chk;
IF(chk='1') THEN
UPDATE `user_read_history` SET
`read_status`=stat1,`read_date`=read_date WHERE
`username`=username AND `fic_id`=fic_id;
ELSE
INSERT INTO `user_read_history`(`username`, `fic_name`,
`fic_id`, `read_status`, `read_date`) VALUES (username,
fic_name, fic_id, stat1, read_date);
END IF;
ELSEIF(cat='Marked for later' OR cat='Currently reading')
THEN
SELECT `readStatusonRem`(cat) into stat2;
UPDATE `user_read_history` SET
`read_status`=stat2,`read_date`=read_date WHERE
`username`=username AND `fic_id`=fic_id;
END IF;
END$$
```

```
DELIMITER ;
```

2. checkBookmark:

To remove a fic from an alloted bookmark before adding it to another. As triggers don’t allow changes on the host table, we run this procedure before every insert operation to maintain integrity.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` PROCEDURE
`checkBookmark`(IN `usern` VARCHAR(40), IN `ficid` INT(11),
IN `ficname` VARCHAR(200), OUT `cat` VARCHAR(50), OUT
`addvar` INT(1))
    NO SQL
BEGIN

DECLARE done INT DEFAULT FALSE;
DECLARE cur1 CURSOR FOR SELECT `fic_category`  FROM
`user_history` WHERE `username`=usern AND `fic_id`=ficid
ORDER BY `read_date` DESC LIMIT 1;
DECLARE cur2 CURSOR FOR SELECT `Added`  FROM `user_history`
WHERE `username`=usern AND `fic_id`=ficid ORDER BY
`read_date` DESC LIMIT 1;
DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = TRUE;

OPEN cur1;
OPEN cur2;

read_loop: LOOP
    FETCH cur1 INTO cat;
    FETCH cur2 INTO addvar;
    IF done THEN
      LEAVE read_loop;
    END IF;
    IF (cat IS NOT null) THEN
      IF(addvar='1') THEN
          INSERT INTO
`user_history`(`username`,`fic_id`,`fic_category`, `Added`,
`fic_name`)    VALUES (usern, ficid, cat,'0', ficname);
    END IF;
```

```
   END IF;
  END LOOP;

  CLOSE cur1;
  CLOSE cur2;
END$$
DELIMITER ;
```

Method To Call It In JAVA:

```
public void procCheckMark(String username, String title,
String id, JFrame fr){
        try {
            cstmt.setString("usern", username);
            cstmt.setInt("ficid", Integer.parseInt(id));
            cstmt.setString("ficname", title);
            cstmt.execute();
            String cat = cstmt.getString("cat");
            int addvar = cstmt.getInt("addvar");
            System.out.println(cat);
            System.out.println(addvar);
            cstmt.execute();
            if ((addvar==1)) {
                    int dialogType =
JOptionPane.INFORMATION_MESSAGE;
                    JOptionPane.showMessageDialog(fr, title
+ " has been removed from "+ cat+ ".", "Success",
dialogType);

                }
            System.out.println("in try");
        } catch (SQLException ex) {
            System.out.println("Exception = " + ex);
        }
        }
```

3.userReport: Uses a number of predefined functions to compute values which the user might find useful to generate a mini report. This could be developed further.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` PROCEDURE
`userReport`(IN `usern` VARCHAR(40), OUT `cnt`
INT, OUT `fand` VARCHAR(5000), OUT `fic`
VARCHAR(200), OUT `rec` VARCHAR(200), OUT `lastf`
VARCHAR(200), OUT `timed` INT)
    NO SQL
BEGIN
SELECT `bookCount`(usern) into cnt;
SELECT `faveFandom`(usern) into fand;
SELECT `fic_name` INTO fic FROM `user_history`
WHERE `username`=usern AND
`fic_category`='Currently reading' AND `Added`=1
ORDER BY `read_date` DESC LIMIT 1;
SELECT `nextRead`(usern) INTO rec;
SELECT `fic_name` INTO lastf FROM
`user_read_history` WHERE `username`=usern AND
`read_status`='1' ORDER BY `read_date`DESC LIMIT
1;
SELECT `duration`(usern) INTO timed;
END$$
DELIMITER ;
```

Method to call it on JAVA

```
public String[] report(String username){
        String[] output = new String[6];
        try {
            cstmt2.setString("usern", username);
            cstmt2.execute();
            output[0] =
String.valueOf(cstmt2.getInt("cnt"));
```

```
            output[1] =
removeSqBrackets(cstmt2.getString("fand"));
            output[2] = cstmt2.getString("fic");
            output[3] =
cstmt2.getString("lastf");
            output[4] = cstmt2.getString("rec");
            output[5] =
String.valueOf(cstmt2.getInt("timed"));
            for (String string : output) {
                System.out.println(string);
            }
            System.out.println("in try");
        } catch (SQLException ex) {
            System.out.println("Exception = " +
ex);
        }

        return output;
    }
```

4. Search: To search more specifically to get as narrow a dataset as possible.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` PROCEDURE
`search`(IN `s_title` VARCHAR(200), IN `s_author`
VARCHAR(200), IN `s_wordcountL` INT(11), IN
`s_wordcountG` INT(11), IN `s_language`
VARCHAR(100))
BEGIN

DECLARE
cnt int DEFAULT 0;

IF (s_title ='') THEN
 SET cnt = cnt+1;
 SET s_title = null;
```

```
END IF;
IF (s_author = '') THEN
 SET cnt = cnt+1;
 SET s_author = null;
END IF;
IF (s_wordcountL = 0) THEN
 SET cnt = cnt+1;
 SET s_wordcountL = null;
END IF;
IF (s_wordcountG = 0) THEN
 SET cnt = cnt+1;
 SET s_wordcountG = null;
END IF;
IF (s_language = '') THEN
 SET cnt = cnt+1;
 SET s_language = null;
END IF;

IF (s_title is not null) THEN
IF (s_author is not null) THEN
SELECT * FROM fandom_work WHERE fandom_work.title
= s_title or fandom_work.author = s_author LIMIT
10;
else
SELECT * FROM fandom_work WHERE fandom_work.title
= s_title LIMIT 10;
end if;
ELSE
IF(cnt != 5) THEN
IF (s_wordcountL IS NOT NULL OR s_wordcountG IS
NOT NULL) THEN
SELECT * FROM fandom_work WHERE
(s_title IS NULL OR fandom_work.title=s_title)
AND
(s_author IS NULL OR fandom_work.author=s_author)
AND
(s_language IS NULL OR fandom_work.language =
s_language) AND
```

```
(s_wordcountL IS  NULL OR fandom_work.wordcount >
s_wordcountL) AND
(s_wordcountG IS  NULL OR fandom_work.wordcount <
s_wordcountG)LIMIT 10;
ELSE
SELECT * FROM fandom_work WHERE
(s_title IS NULL OR fandom_work.title=s_title)
AND
(s_author IS NULL OR fandom_work.author=s_author)
AND
(s_language IS NULL OR fandom_work.language =
s_language) AND
(s_wordcountL IS  NULL OR s_wordcountG IS  NULL)
LIMIT 10;
END IF;
END IF;
end if;
END$$
DELIMITER ;
11
```

Method To Call It In JAVA:

```
public ArrayList<Fanfics> search(String title, String
author, String wordcl, String wordcg, String lang){
        ArrayList<Fanfics> ficList = new
ArrayList<Fanfics>(10);
        try {
            cstmt1.setString("s_title", title);
            cstmt1.setString("s_author", author);
            cstmt1.setInt("s_wordcountL",
Integer.parseInt(wordcl));
            cstmt1.setInt("s_wordcountG",
Integer.parseInt(wordcg));
            cstmt1.setString("s_language", lang);
            boolean hadResults = cstmt1.execute();
            while (hadResults) {
    ResultSet rs = cstmt1.getResultSet();
```

```
         Fanfics ff = new Fanfics();
         ff.setAuthor(rs.getString("author"));
         ff.setFandoms(rs.getString("fandoms"));
         ff.setId(rs.getString("id"));
         ff.setTitle(rs.getString("title"));
         ff.setSummary(rs.getString("summary"));
         ff.setRating(rs.getString("rating"));
         ff.setWarnings(rs.getString("warnings"));
         ff.setCategory(rs.getString("category"));

ff.setRelationships(rs.getString("relationships"));
         ff.setCharacters(rs.getString("characters"));

ff.setAdditional_tags(rs.getString("additional_tags"));
         ff.setLanguage(rs.getString("language"));
         ff.setPublished(rs.getString("published"));
         ff.setKudos(rs.getString("kudos"));
         ff.setWordcount(rs.getString("wordcount"));

         ficList.add(ff);

        hadResults = cstmt1.getMoreResults();
    }

        } catch (SQLException ex) {
            System.out.println("Exception = " + ex);
        }
        return ficList;
    }
```

Functions:

1. bookCount: Used in userReport procedure

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`bookCount`(`usern` VARCHAR(40)) RETURNS int(11)
    NO SQL
BEGIN
```

```
DECLARE ret int;
SELECT COUNT(*) INTO ret FROM `user_read_history`
WHERE`username`=usern AND`read_status`='1';
RETURN ret;
END$$
DELIMITER ;
```

2. checkRead: Used in userReadInsert to make sure that read status is user_read_history.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`checkRead`(`id` INT, `usern` VARCHAR(40))
RETURNS int(1)
     NO SQL
BEGIN
DECLARE readvar int(1);
SELECT `read_status` INTO readvar FROM
`user_read_history` WHERE `username`=usern AND
`fic_id`=id;
 IF (readvar IS NOT null) THEN
     RETURN 1;
 ELSE
         RETURN 0;
 END IF;
END$$
DELIMITER ;
```

3. duration: To calculate the time taken to read the latest fic. Could have more uses when the project is developed. Used in userReport procedure.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`duration`(`usern` VARCHAR(11)) RETURNS int(11)
BEGIN
DECLARE done INT DEFAULT FALSE;
DECLARE cid int(11);
DECLARE vcid int(11);
DECLARE cadd int(1);
DECLARE vcadd int(1);
DECLARE timer int(11);
DECLARE cdate timestamp;
DECLARE vcdate timestamp;

DECLARE cur1 CURSOR FOR SELECT `fic_id`,`added`,
`read_date`  FROM `user_history` WHERE
`username`=usern AND `fic_category`='Currently
reading' ORDER BY `fic_id` DESC, `added` ASC;

DECLARE CONTINUE HANDLER FOR NOT FOUND SET done =
TRUE;

SELECT `fic_id` INTO vcid  FROM `user_history`
ORDER BY `read_date` DESC LIMIT 1;

OPEN cur1;

read_loop: LOOP
    FETCH cur1 INTO cid, cadd, cdate;
    IF done THEN
      LEAVE read_loop;
    END IF;

    if((vcid = cid) AND (vcadd<cadd)) THEN
    SET timer = TIMESTAMPDIFF(MINUTE, cdate,
vcdate);
    LEAVE read_loop;
    END if;

    SET vcadd = cadd;
    SET vcdate = cdate;

  END LOOP;

  CLOSE cur1;
  RETURN timer;
 END$$
DELIMITER ;
```

4. faveFandom: Used to find the particular user’s most frequently visited fandom used in userReport.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`faveFandom`(`usern` VARCHAR(40)) RETURNS
varchar(5000) CHARSET latin1
    NO SQL
BEGIN
DECLARE ret varchar(5000);
SELECT fandoms INTO ret FROM fandom_work INNER
JOIN `user_history` ON fandom_work.id=
user_history.fic_id WHERE user_history.username=
usern ORDER BY COUNT(user_history.fic_id);
RETURN ret;
END$$
DELIMITER ;
```

5. nextRead: used to find what the user should read next. Could be developed. Used in userReport procedure.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`nextRead`(`usern` VARCHAR(40)) RETURNS
varchar(200) CHARSET utf8mb4
    NO SQL
BEGIN
```

```
DECLARE ret1, retf varchar(200);
SELECT `fic_name` INTO ret1 FROM
user_read_history u INNER JOIN fandom_work f ON
u.fic_id=f.id WHERE u.username= usern AND
u.read_status=0 ORDER BY f.kudos DESC LIMIT 1;

IF(ret1 IS null) then
SELECT `title` into retf FROM fandom_work f LEFT
JOIN user_read_history u ON f.id=u.fic_id WHERE
u.read_status!=1 ORDER BY`kudos` DESC LIMIT 1;
RETURN retf;
else
RETURN ret1;
END if;
END$$
DELIMITER ;
```

5. readStatusonAdd: Used in maintaining integrity among the history tables. To determine the read_status. Used in userReadInsert procedure.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`readStatusonAdd`(`category` VARCHAR(100))
RETURNS int(1)
    NO SQL
    DETERMINISTIC
BEGIN
IF(category='Marked for later')
THEN
RETURN 0;
ELSEIF(category='Currently reading')
THEN
RETURN 2;
ELSE
RETURN 1;
END IF;
END$$
```

```
DELIMITER ;
```

6. readStatusonRem: same purpose as former. Used for removal while former is used for addition.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`readStatusonRem`(`category` VARCHAR(100))
RETURNS int(1)
    NO SQL
    DETERMINISTIC
BEGIN
IF(category='Marked for later')
THEN
RETURN 2;
ELSEIF(category='Currently reading')
THEN
RETURN 1;
END IF;
END$$
DELIMITER ;
```

7. whichBookmark: Used to determine if a fic is bookmarked or not, and if so, what category it is.

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`whichBookmark`(`usern` VARCHAR(40), `ficid`
INT(11)) RETURNS varchar(50) CHARSET utf8mb4
    NO SQL
BEGIN
DECLARE cat varchar(50);
DECLARE addvar int(1);
SELECT `fic_category` INTO cat FROM
`user_history` WHERE `username`=usern AND
`fic_id`=ficid ORDER BY `read_date` DESC LIMIT 1;
SELECT  `Added` INTO addvar  FROM `user_history`
WHERE `username`=username AND `fic_id`=ficid
ORDER BY `read_date` DESC LIMIT 1;
    IF (cat IS NOT null AND addvar='1') THEN
          RETURN cat;
       ELSE
         RETURN "null";
    END IF;
END$$
DELIMITER ;
```

Method to call it on JAVA:

```
 public String checkBookmark(String username, String
id) {
        String selectQuery = "SELECT
`whichBookmark`('"+username+"', '"+id+"') AS
`whichBookmark`;";
        System.out.println(selectQuery);
        String category ="Null";
        try {System.out.println(selectQuery);
            ResultSet rs =
stmt.executeQuery(selectQuery);

            while (rs.next()) {
                category =
rs.getString("whichBookmark");
                System.out.println(category);
            }
        } catch (Exception e) {
            e.printStackTrace();
        }
        return category;}
```

Triggers:

1. delChildTable1: To delete child records first without going through foreign key error

```
CREATE TRIGGER `delChildTable1` BEFORE DELETE ON
`fandom_work`
FOR EACH ROW BEGIN
DELETE FROM user_read_history WHERE
user_read_history.fic_id = old.id;
DELETE FROM user_history
WHERE user_history.fic_id = old.id;
END
```

2. updHistory: On every user_history update, the user_read_history table gets updated as well

```
BEGIN
IF(new.fic_category='Marked for later')
THEN
UPDATE `user_read_history`
SET`read_status`='1',`read_date`=new.read_date
WHERE user_read_history.fic_id=new.fic_id;
END IF;
END
```

3. addReadHist: Uses procedure to compute and then insert or update records in user_read_history on every insert in

user_history

```
CREATE TRIGGER `addReadHist` AFTER INSERT ON
`user_history`
 FOR EACH ROW BEGIN
CALL `userReadInsert`(new.username, new.fic_name,
new.fic_id, new.added, new.read_date,
new.fic_category);
END
```

4. ageCheck: For age validation of new users.

```
CREATE TRIGGER `ageCheck` BEFORE INSERT ON
`user_info`
 FOR EACH ROW BEGIN
  IF (new.birth_year>2005) THEN
    SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT =
'You are too young to be here.';
  END IF;
END
```

5. defCat: To create default bookmark categories when any user makes a new account.

```
CREATE TRIGGER `defCat` AFTER INSERT ON
`user_info`
 FOR EACH ROW BEGIN
INSERT INTO `generalcategories` (`Category`,
`Username`) VALUES ('Favourites', new.username),
('Marked for later', new.username ), ('Currently
reading', new.username );
```

```
END
```

6. delChildTable: Same as delChildTable1

```
CREATE TRIGGER `delChildTable` BEFORE DELETE ON
`user_info`
 FOR EACH ROW BEGIN
DELETE FROM generalcategories WHERE
generalcategories.Username = old.username;
DELETE FROM user_history WHERE
user_history.username = old.username;
DELETE FROM user_read_history WHERE
user_read_history.username = old.username;
END
```

7. emailCheck: For email validation of new users.

```
CREATE TRIGGER `emailCheck` BEFORE INSERT ON
`user_info`
 FOR EACH ROW BEGIN
  IF NEW.Email_ID NOT LIKE '_%@_%.__%' THEN
    SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT =
'Email field is not valid';
  END IF;
END
```

8. nullCheck: For null value prohibition.

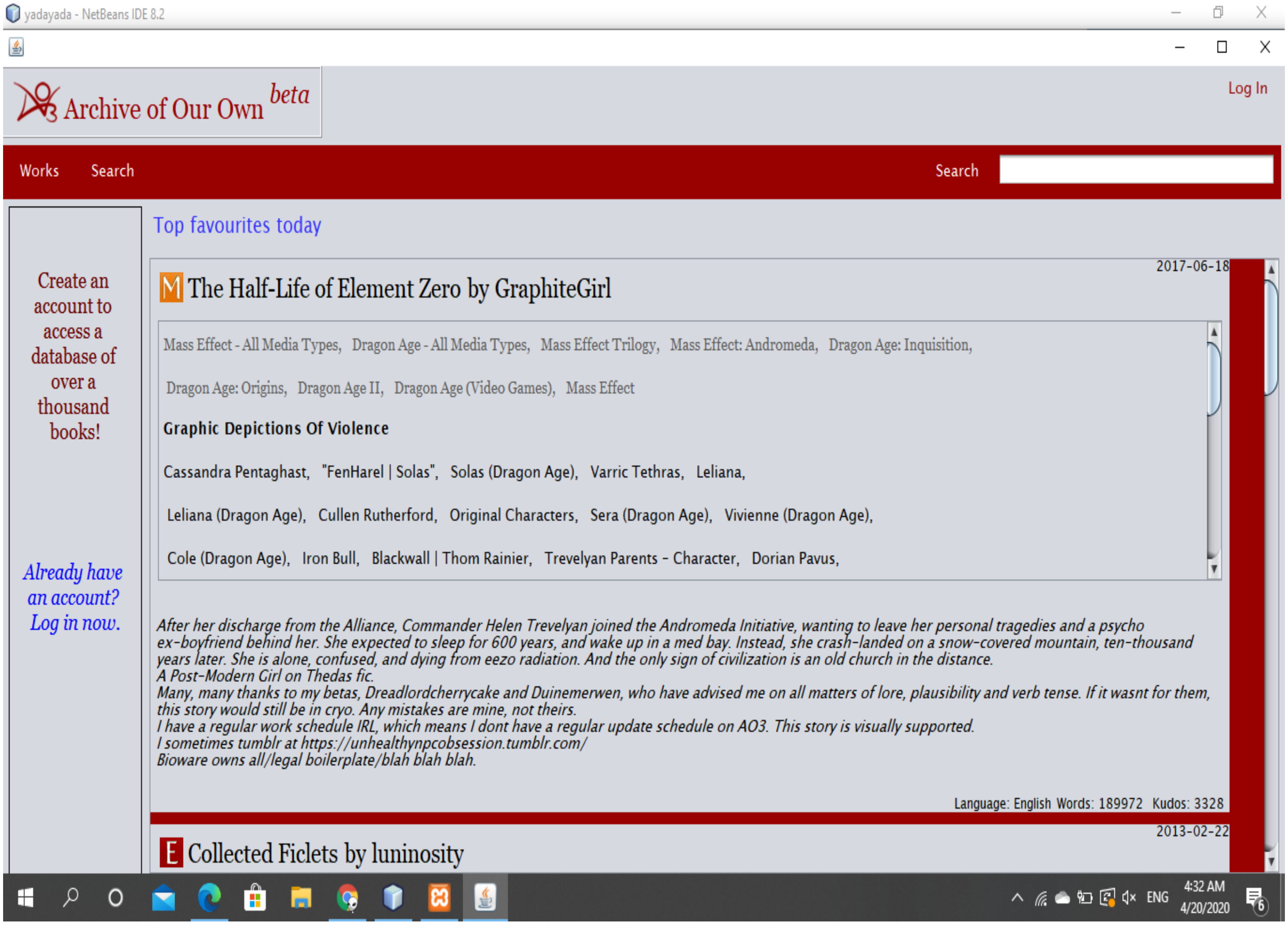
```
CREATE TRIGGER `nullCheck` BEFORE INSERT ON
`user_info`
 FOR EACH ROW BEGIN
  if (new.username and new.email_id and
new.password and new.birth_year) is null THEN
    SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT =
'Please fill all the fields.';
  END IF;
```

```
    END
```

Screenshots:

1. While creating a new account:

    a. Click on create new account



Create an account to access a database of over a thousand books!

Already have an account? Log in now.

Top favourites today

2017-06-18

M The Half-Life of Element Zero by GraphiteGirl

Mass Effect - All Media Types, Dragon Age - All Media Types, Mass Effect Trilogy, Mass Effect: Andromeda, Dragon Age: Inquisition,

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Leliana (Dragon Age), Cullen Rutherford, Original Characters, Sera (Dragon Age), Vivienne (Dragon Age),

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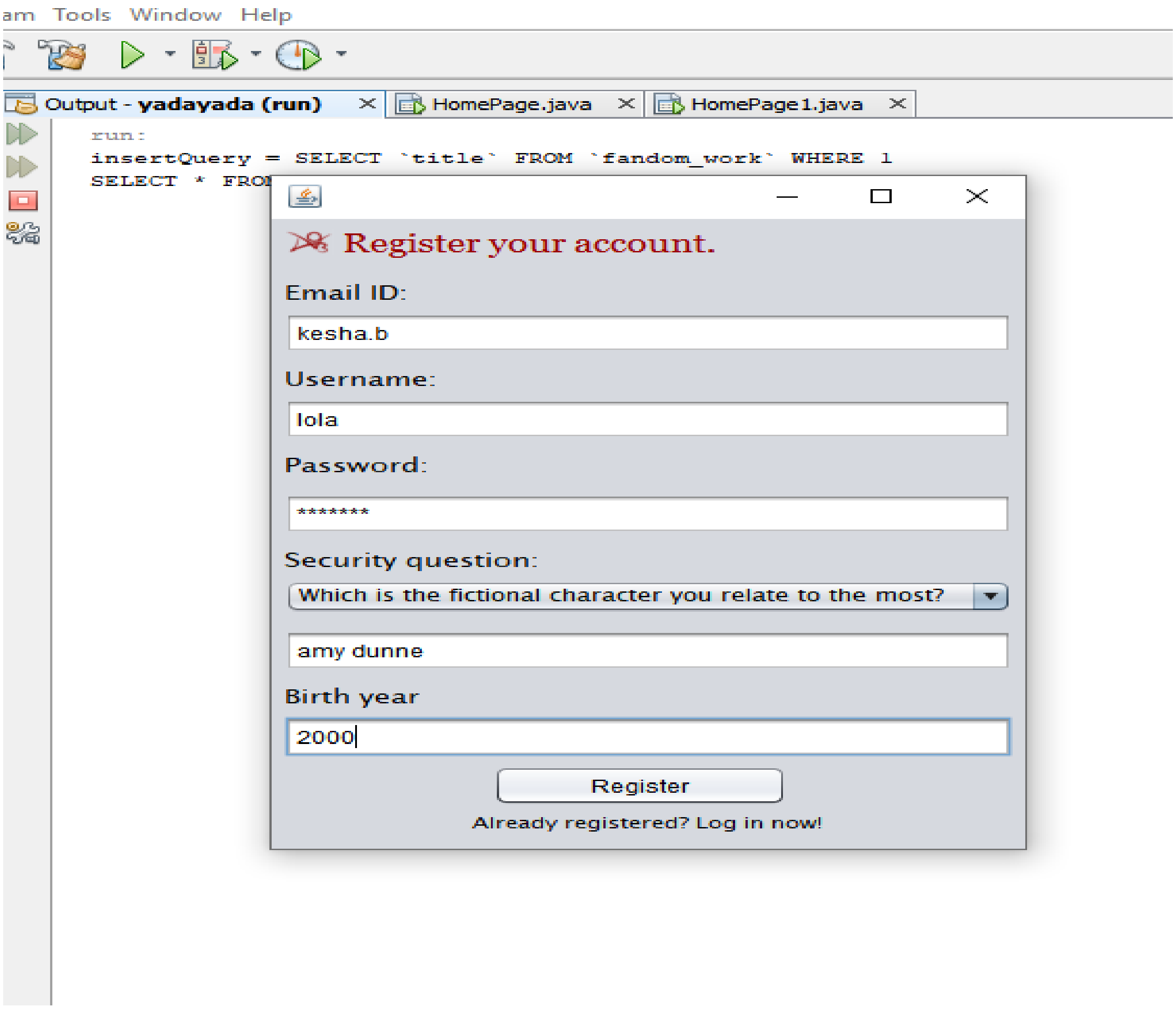
Bioware owns all/legal boilerplate/blah blah blah.

Language: English Words: 189972 Kudos: 3328

2013-02-22

E Collected Ficlets by luninosity

b. Entered email id wrong



```
run:
insertQuery = SELECT `title` FROM `fandom_work` WHERE 1
SELECT * FRO
```

Register your account.

Email ID: kesha.b

Username: lola

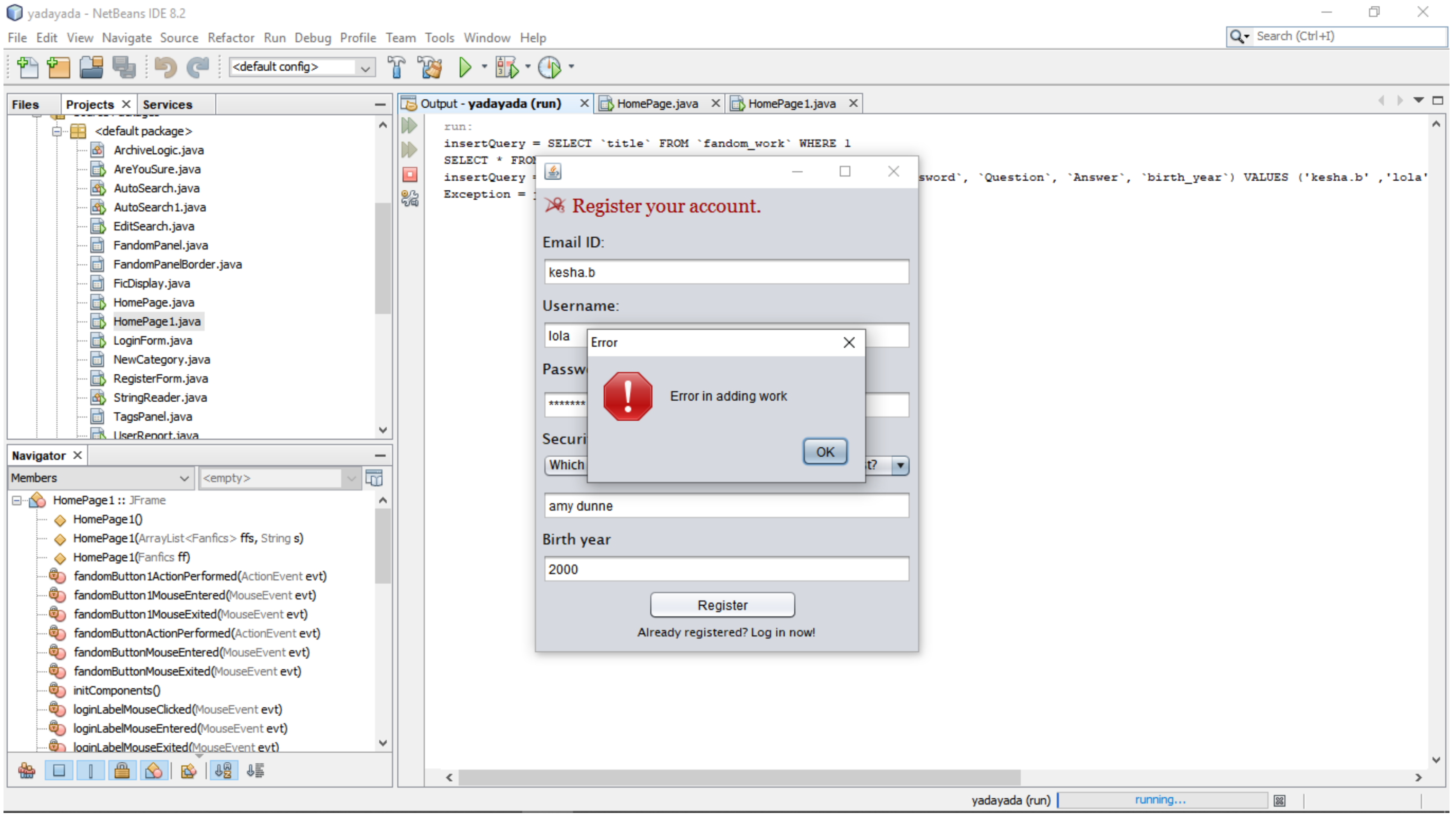
Password: *******

Security question: Which is the fictional character you relate to the most?

amy dunne

Birth year 2000

C. Error message pop-up and exception in the console (emailCheck trigger).


yadayada - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Search (Ctrl+I)
<default config>
Files
Projects
Services
<default package>
ArchiveLogic.java
AreYouSure.java
AutoSearch.java
AutoSearch1.java
EditSearch.java
FandomPanel.java
FandomPanelBorder.java
FicDisplay.java
HomePage.java
HomePage1.java
LoginForm.java
NewCategory.java
RegisterForm.java
StringReader.java
TagsPanel.java
UserReport.java
Navigator
Members
<empty>
HomePage1 :: JFrame
HomePage1()
HomePage1(ArrayList<Fanfics> ffs, String s)
HomePage1(Fanfics ff)
fandomButton1ActionPerformed(ActionEvent evt)
fandomButton1MouseEntered(MouseEvent evt)
fandomButton1MouseExited(MouseEvent evt)
fandomButtonActionPerformed(ActionEvent evt)
fandomButtonMouseEntered(MouseEvent evt)
fandomButtonMouseExited(MouseEvent evt)
initComponents()
loginLabelMouseClicked(MouseEvent evt)
loginLabelMouseEntered(MouseEvent evt)
loginLabelMouseExited(MouseEvent evt)
Output - yadayada (run)
HomePage.java
HomePage1.java
yadayada (run)
running...

```
run:
insertQuery = SELECT `title` FROM `fandom_work` WHERE 1
SELECT * FRO
insertQuery =                                              sword`, `Question`, `Answer`, `birth_year`) VALUES ('kesha.b' ,'lola'
Exception = 
```

Register your account.

Email ID: kesha.b

Username: lola

Passw ********

Securi Which   t?

amy dunne

Birth year: 2000

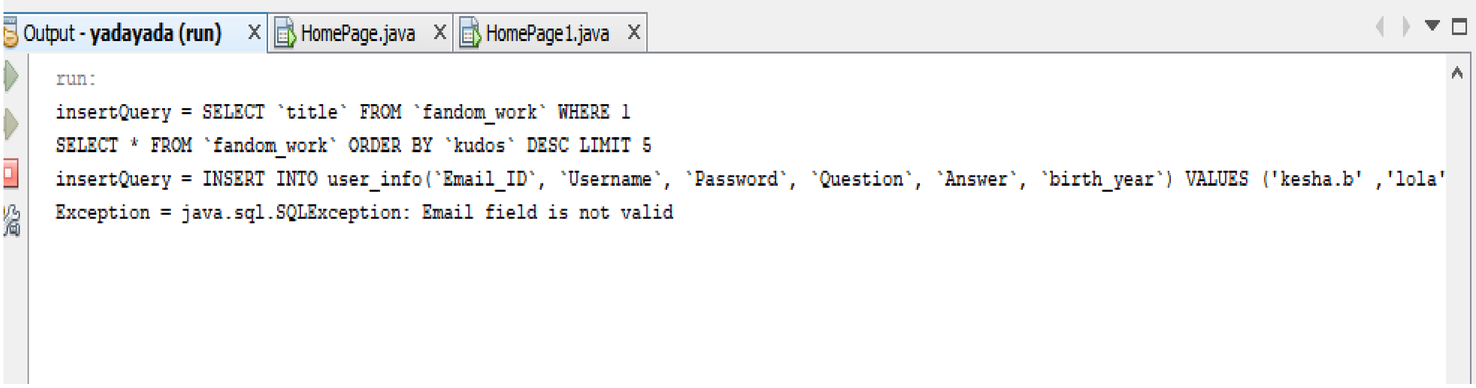
Register

Already registered? Log in now!

Error

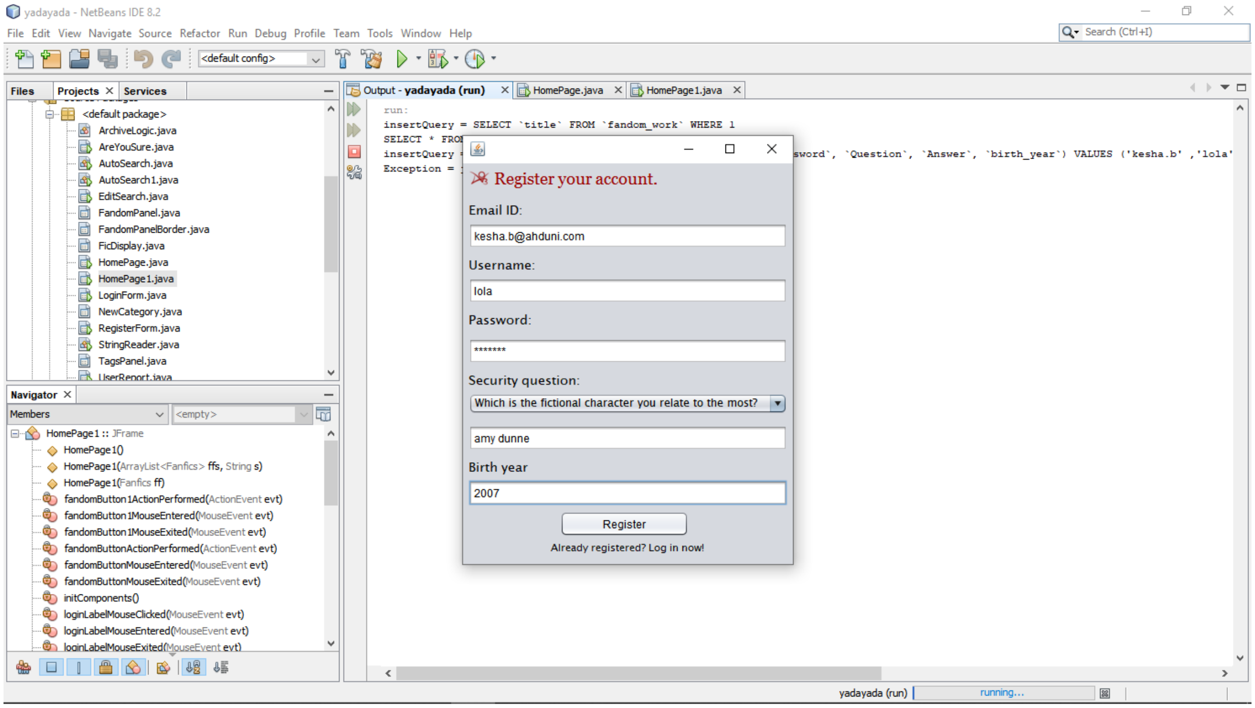
Error in adding work

OK



```
run:
insertQuery = SELECT `title` FROM `fandom_work` WHERE 1
SELECT * FROM `fandom_work` ORDER BY `kudos` DESC LIMIT 5
insertQuery = INSERT INTO user_info(`Email_ID`, `Username`, `Password`, `Question`, `Answer`, `birth_year`) VALUES ('kesha.b' ,'lola'
Exception = java.sql.SQLException: Email field is not valid
```

2. Birth year wrong, ageCheck trigger error.


yadayada - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Search (Ctrl+I)
<default config>
Files
Projects
Services
<default package>
ArchiveLogic.java
AreYouSure.java
AutoSearch.java
AutoSearch1.java
EditSearch.java
FandomPanel.java
FandomPanelBorder.java
FicDisplay.java
HomePage.java
HomePage1.java
LoginForm.java
NewCategory.java
RegisterForm.java
StringReader.java
TagsPanel.java
UserReport.java
Navigator
Members
<empty>
HomePage1 :: JFrame
HomePage1()
HomePage1(ArrayList<Fanfics> ffs, String s)
HomePage1(Fanfics ff)
fandomButton1ActionPerformed(ActionEvent evt)
fandomButton1MouseEntered(MouseEvent evt)
fandomButton1MouseExited(MouseEvent evt)
fandomButtonActionPerformed(ActionEvent evt)
fandomButtonMouseEntered(MouseEvent evt)
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running...

```
run:
insertQuery = SELECT `title` FROM `fandom_work` WHERE 1
SELECT * FRO
insertQuery =                                                    sword`, `Question`, `Answer`, `birth_year`) VALUES ('kesha.b' ,'lola'
Exception =
```

Register your account.

Email ID: kesha.b@ahduni.com

Username: lola

Password: *******

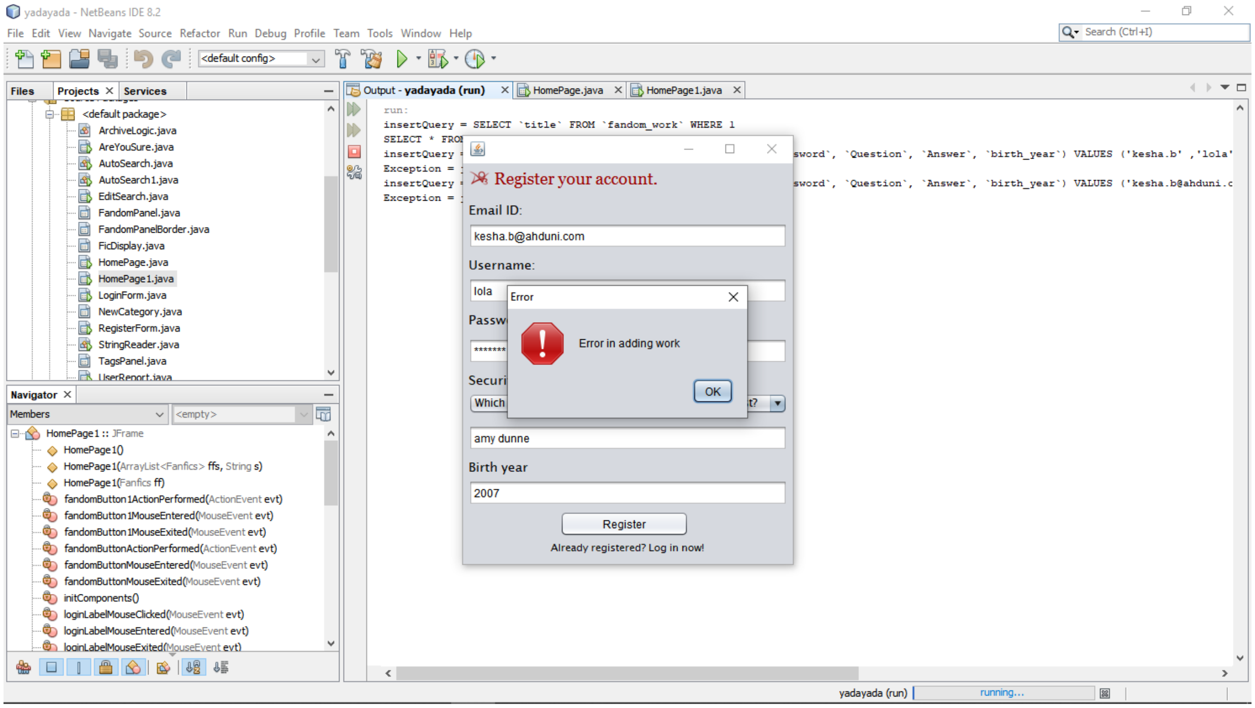
Security question: Which is the fictional character you relate to the most?

amy dunne

Birth year: 2007

Register

Already registered? Log in now!


yadayada - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Search (Ctrl+I)
<default config>
Files
Projects
Services
<default package>
ArchiveLogic.java
AreYouSure.java
AutoSearch.java
AutoSearch1.java
EditSearch.java
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fandomButton1ActionPerformed(ActionEvent evt)
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SELECT * FRO
insertQuery =                                                    sword`, `Question`, `Answer`, `birth_year`) VALUES ('kesha.b' ,'lola'
Exception =
insertQuery =                                                    sword`, `Question`, `Answer`, `birth_year`) VALUES ('kesha.b@ahduni.c
Exception =
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Username: lola

Passw

****

Securi

Which   t?

amy dunne

Birth year: 2007

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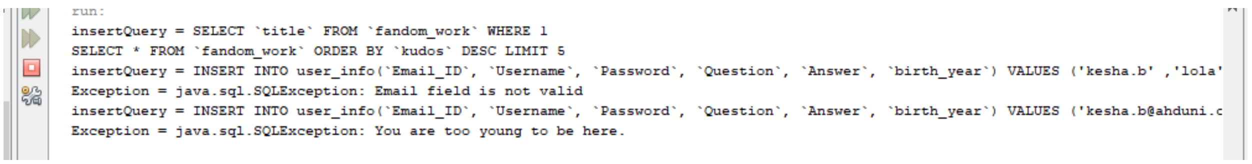
Error in adding work

OK



```
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SELECT * FROM `fandom_work` ORDER BY `kudos` DESC LIMIT 5
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Exception = java.sql.SQLException: Email field is not valid
insertQuery = INSERT INTO user_info(`Email_ID`, `Username`, `Password`, `Question`, `Answer`, `birth_year`) VALUES ('kesha.b@ahduni.c
Exception = java.sql.SQLException: You are too young to be here.
```
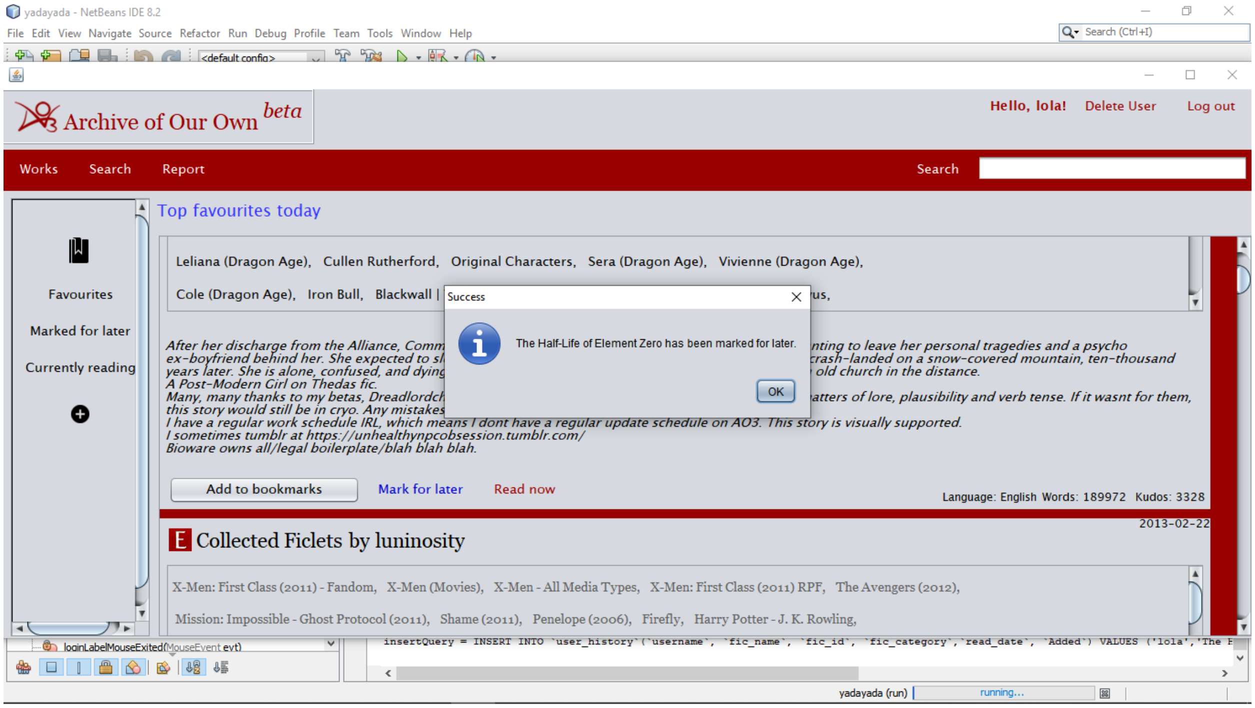

3. Adding bookmarks

Adding a fic to marked for later, that is to be read.



Leliana (Dragon Age), Cullen Rutherford, Original Characters, Sera (Dragon Age), Vivienne (Dragon Age),

Cole (Dragon Age), Iron Bull, Blackwall | … us,

Success

The Half-Life of Element Zero has been marked for later.

OK

After her discharge from the Alliance, Comm… nting to leave her personal tragedies and a psycho ex-boyfriend behind her. She expected to sl… crash-landed on a snow-covered mountain, ten-thousand years later. She is alone, confused, and dying… old church in the distance.
A Post-Modern Girl on Thedas fic.
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Bioware owns all/legal boilerplate/blah blah blah.

Language: English Words: 189972 Kudos: 3328

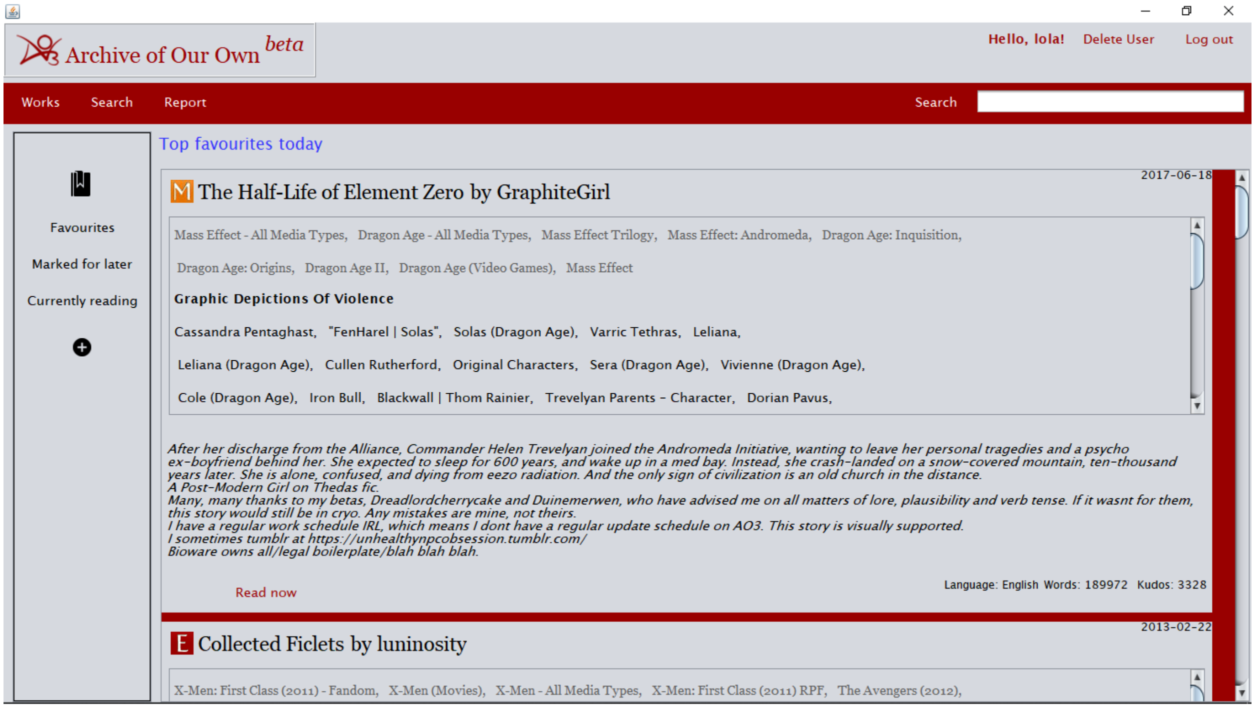
2013-02-22

E Collected Ficlets by luninosity

X-Men: First Class (2011) - Fandom, X-Men (Movies), X-Men - All Media Types, X-Men: First Class (2011) RPF, The Avengers (2012),

Mission: Impossible - Ghost Protocol (2011), Shame (2011), Penelope (2006), Firefly, Harry Potter - J. K. Rowling,

```
loginLabelMouseExited(MouseEvent evt)
insertQuery = INSERT INTO `user_history`(`username`, `fic_name`, `fic_id`, `fic_category`,`read_date`, `Added`) VALUES ('lola','The F
```



2017-06-18

M The Half-Life of Element Zero by GraphiteGirl

Mass Effect - All Media Types, Dragon Age - All Media Types, Mass Effect Trilogy, Mass Effect: Andromeda, Dragon Age: Inquisition,

Dragon Age: Origins, Dragon Age II, Dragon Age (Video Games), Mass Effect

Graphic Depictions Of Violence

Cassandra Pentaghast, "FenHarel | Solas", Solas (Dragon Age), Varric Tethras, Leliana,

Leliana (Dragon Age), Cullen Rutherford, Original Characters, Sera (Dragon Age), Vivienne (Dragon Age),

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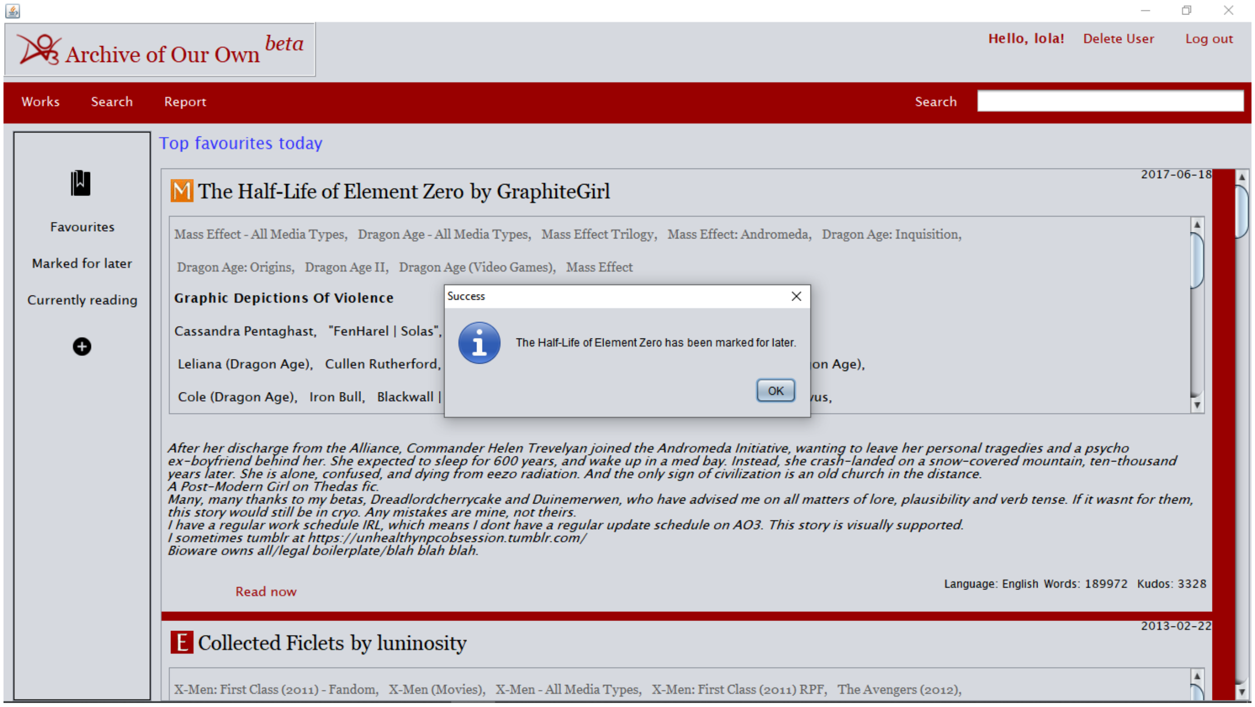
2013-02-22

E Collected Ficlets by luninosity

X-Men: First Class (2011) - Fandom, X-Men (Movies), X-Men - All Media Types, X-Men: First Class (2011) RPF, The Avengers (2012),

4. Now reading the book, i.e., adding it to currently reading. First, it will be removed from previous folder and then added. This is done by checkBookmarks procedure.



Top favourites today

2017-06-18

M The Half-Life of Element Zero by GraphiteGirl

Mass Effect - All Media Types, Dragon Age - All Media Types, Mass Effect Trilogy, Mass Effect: Andromeda, Dragon Age: Inquisition,

Dragon Age: Origins, Dragon Age II, Dragon Age (Video Games), Mass Effect

Graphic Depictions Of Violence

Cassandra Pentaghast, "FenHarel | Solas",

Leliana (Dragon Age), Cullen Rutherford, on Age),

Cole (Dragon Age), Iron Bull, Blackwall | us,

Success

The Half-Life of Element Zero has been marked for later.

OK

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Read now

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2013-02-22

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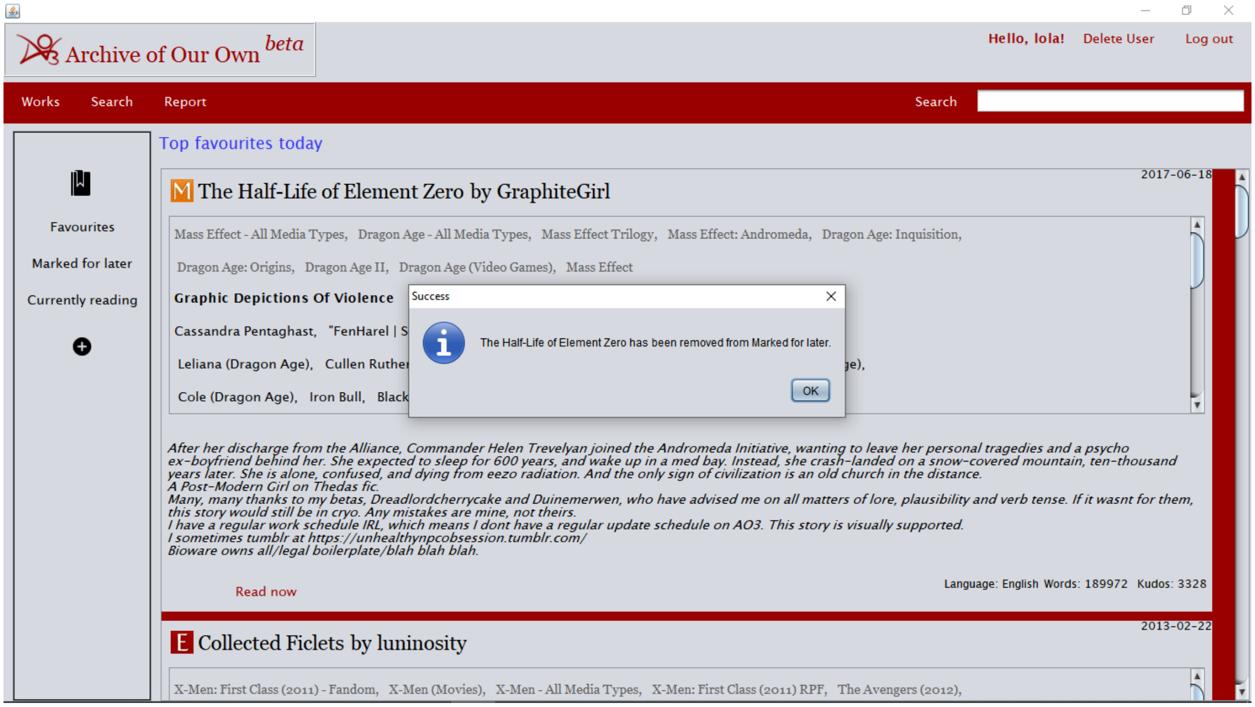

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2017-06-18

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Graphic Depictions Of Violence

Cassandra Pentaghast, "FenHarel | S

Leliana (Dragon Age), Cullen Ruther ge),

Cole (Dragon Age), Iron Bull, Black

Success

The Half-Life of Element Zero has been removed from Marked for later.

OK

After her discharge from the Alliance, Commander Helen Trevelyan joined the Andromeda Initiative, wanting to leave her personal tragedies and a psycho ex-boyfriend behind her. She expected to sleep for 600 years, and wake up in a med bay. Instead, she crash-landed on a snow-covered mountain, ten-thousand years later. She is alone, confused, and dying from eezo radiation. And the only sign of civilization is an old church in the distance.
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2013-02-22

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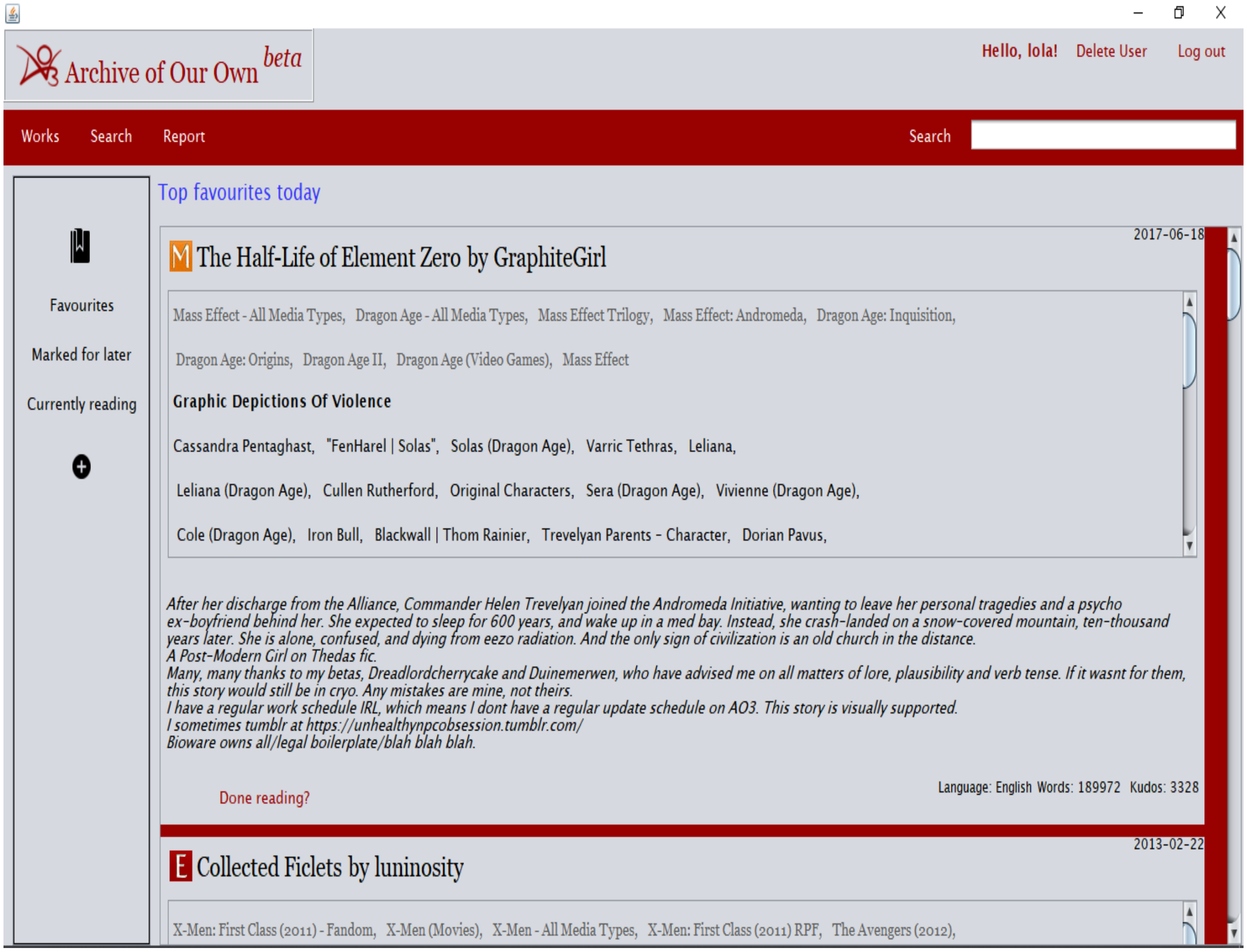
X-Men: First Class (2011) - Fandom, X-Men (Movies), X-Men - All Media Types, X-Men: First Class (2011) RPF, The Avengers (2012),

5. Different bookmark change features for different fics according to which folder they are in. This is done by function whichBookmark.



2017-06-18

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Done reading?

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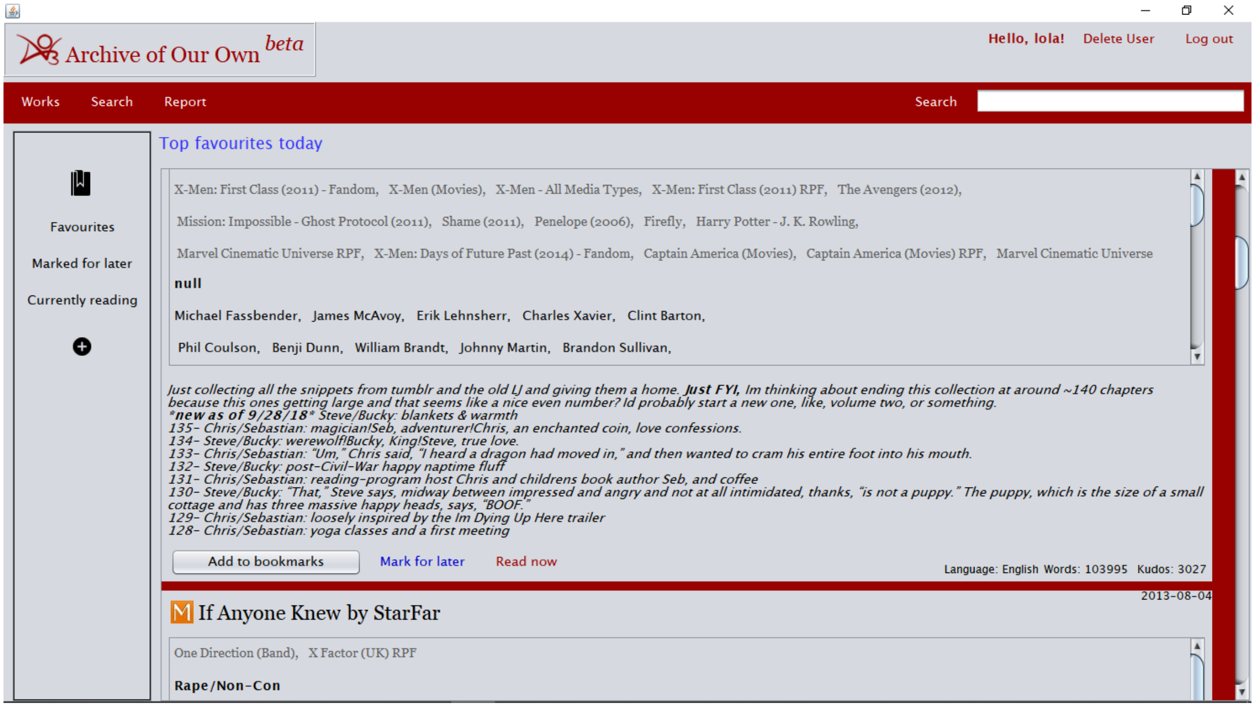
X-Men: First Class (2011) - Fandom, X-Men (Movies), X-Men - All Media Types, X-Men: First Class (2011) RPF, The Avengers (2012),



Top favourites today

X-Men: First Class (2011) - Fandom, X-Men (Movies), X-Men - All Media Types, X-Men: First Class (2011) RPF, The Avengers (2012),

Mission: Impossible - Ghost Protocol (2011), Shame (2011), Penelope (2006), Firefly, Harry Potter - J. K. Rowling,

Marvel Cinematic Universe RPF, X-Men: Days of Future Past (2014) - Fandom, Captain America (Movies), Captain America (Movies) RPF, Marvel Cinematic Universe

null

Michael Fassbender, James McAvoy, Erik Lehnsherr, Charles Xavier, Clint Barton,

Phil Coulson, Benji Dunn, William Brandt, Johnny Martin, Brandon Sullivan,

Just collecting all the snippets from tumblr and the old LJ and giving them a home. ***Just FYI,*** *Im thinking about ending this collection at around ~140 chapters because this ones getting large and that seems like a nice even number? Id probably start a new one, like, volume two, or something.*
*****new as of 9/28/18**** *Steve/Bucky: blankets & warmth*
135- Chris/Sebastian: magician!Seb, adventurer!Chris, an enchanted coin, love confessions.
134- Steve/Bucky: werewolf!Bucky, King!Steve, true love.
133- Chris/Sebastian: "Um," Chris said, "I heard a dragon had moved in," and then wanted to cram his entire foot into his mouth.
132- Steve/Bucky: post-Civil-War happy naptime fluff
131- Chris/Sebastian: reading-program host Chris and childrens book author Seb, and coffee
130- Steve/Bucky: "That," Steve says, midway between impressed and angry and not at all intimidated, thanks, "is not a puppy." The puppy, which is the size of a small cottage and has three massive happy heads, says, "BOOF."
129- Chris/Sebastian: loosely inspired by the Im Dying Up Here trailer
128- Chris/Sebastian: yoga classes and a first meeting

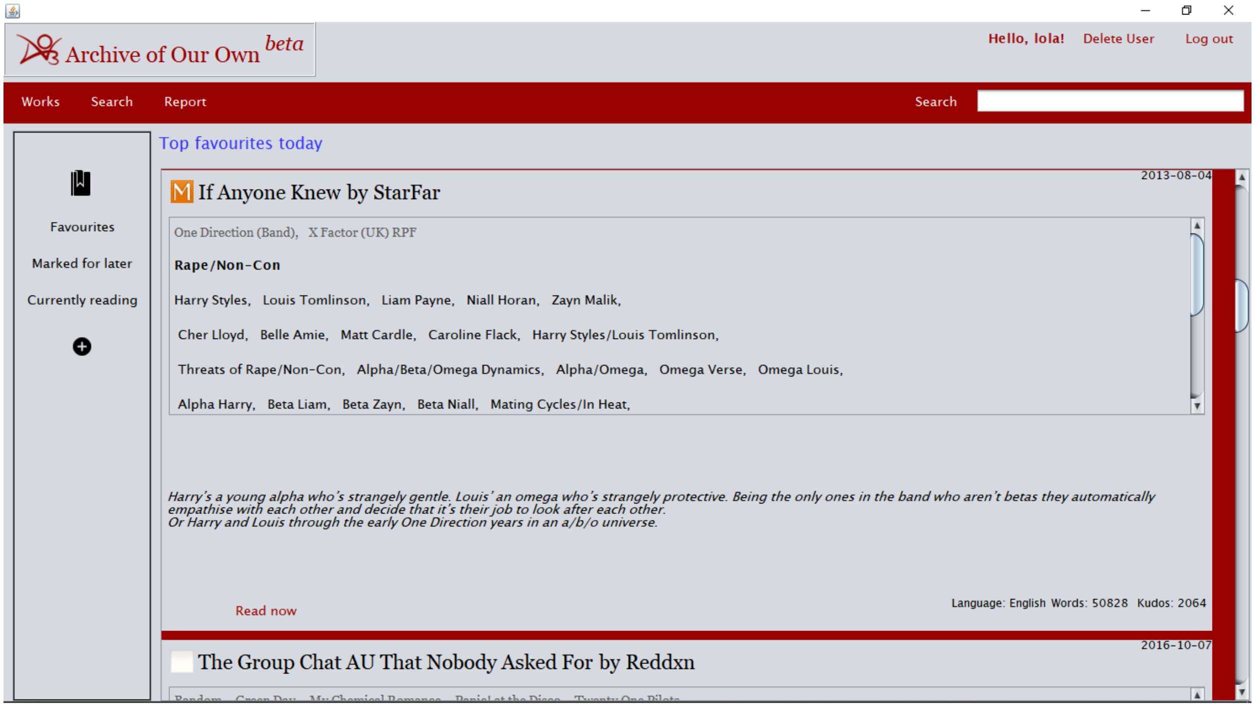
Language: English Words: 103995 Kudos: 3027

2013-08-04

M If Anyone Knew by StarFar

One Direction (Band), X Factor (UK) RPF

Rape/Non-Con



Top favourites today

2013-08-04

M If Anyone Knew by StarFar

One Direction (Band), X Factor (UK) RPF

Rape/Non-Con

Harry Styles, Louis Tomlinson, Liam Payne, Niall Horan, Zayn Malik,

Cher Lloyd, Belle Amie, Matt Cardle, Caroline Flack, Harry Styles/Louis Tomlinson,

Threats of Rape/Non-Con, Alpha/Beta/Omega Dynamics, Alpha/Omega, Omega Verse, Omega Louis,

Alpha Harry, Beta Liam, Beta Zayn, Beta Niall, Mating Cycles/In Heat,

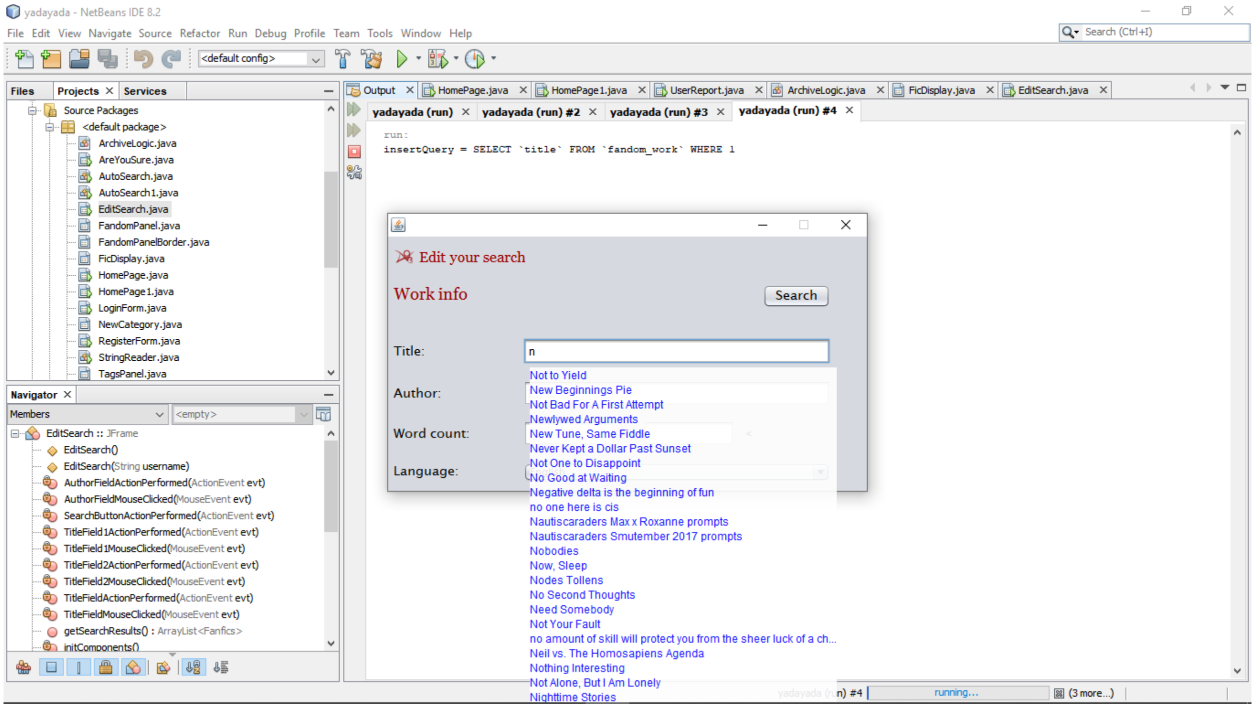
Harry's a young alpha who's strangely gentle. Louis' an omega who's strangely protective. Being the only ones in the band who aren't betas they automatically empathise with each other and decide that it's their job to look after each other.
Or Harry and Louis through the early One Direction years in an a/b/o universe.

Language: English Words: 50828 Kudos: 2064

2016-10-07

The Group Chat AU That Nobody Asked For by Reddxn

6. Click on edit search. This is done by using search procedure.



```
run:
insertQuery = SELECT `title` FROM `fandom_work` WHERE 1
```

Edit your search

Work info

Search

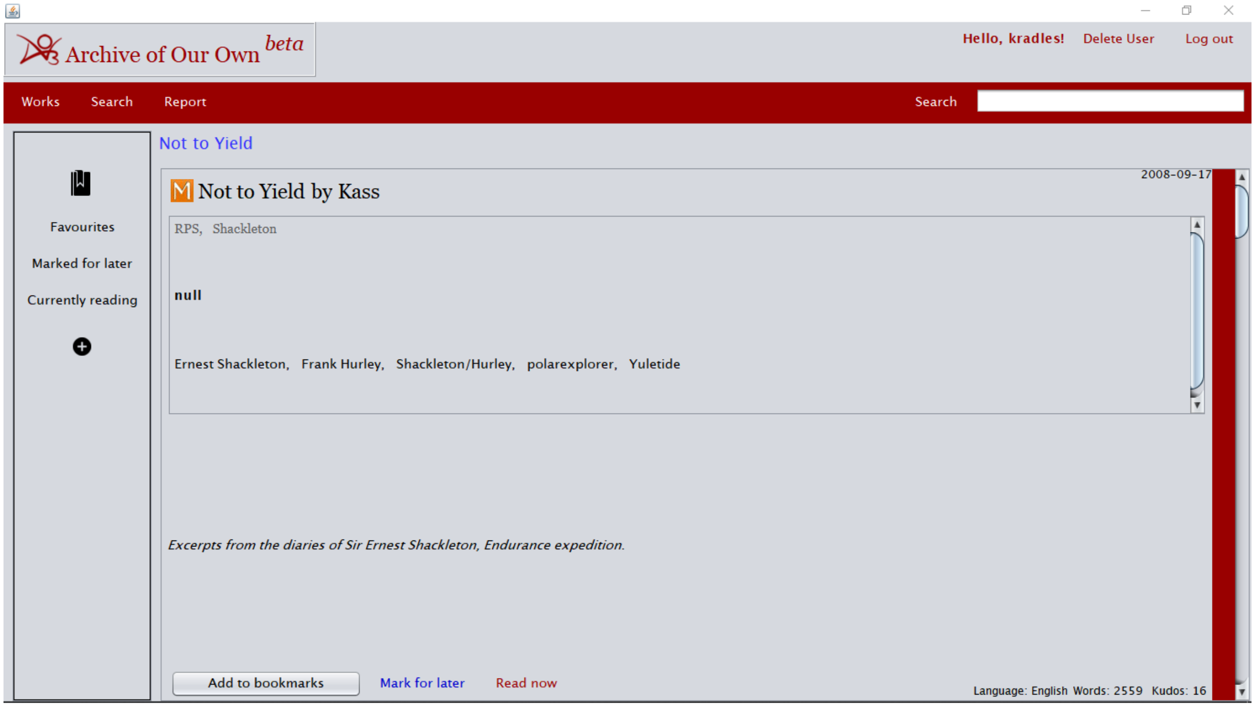
Title: n

Author:

Word count:

Language:

Not to Yield
New Beginnings Pie
Not Bad For A First Attempt
Newlywed Arguments
New Tune, Same Fiddle
Never Kept a Dollar Past Sunset
Not One to Disappoint
No Good at Waiting
Negative delta is the beginning of fun
no one here is cis
Nautiscaraders Max x Roxanne prompts
Nautiscaraders Smutember 2017 prompts
Nobodies
Now, Sleep
Nodes Tollens
No Second Thoughts
Need Somebody
Not Your Fault
no amount of skill will protect you from the sheer luck of a ch...
Neil vs. The Homosapiens Agenda
Nothing Interesting
Not Alone, But I Am Lonely
Nighttime Stories



Not to Yield

2008-09-17

Not to Yield by Kass

RPS, Shackleton

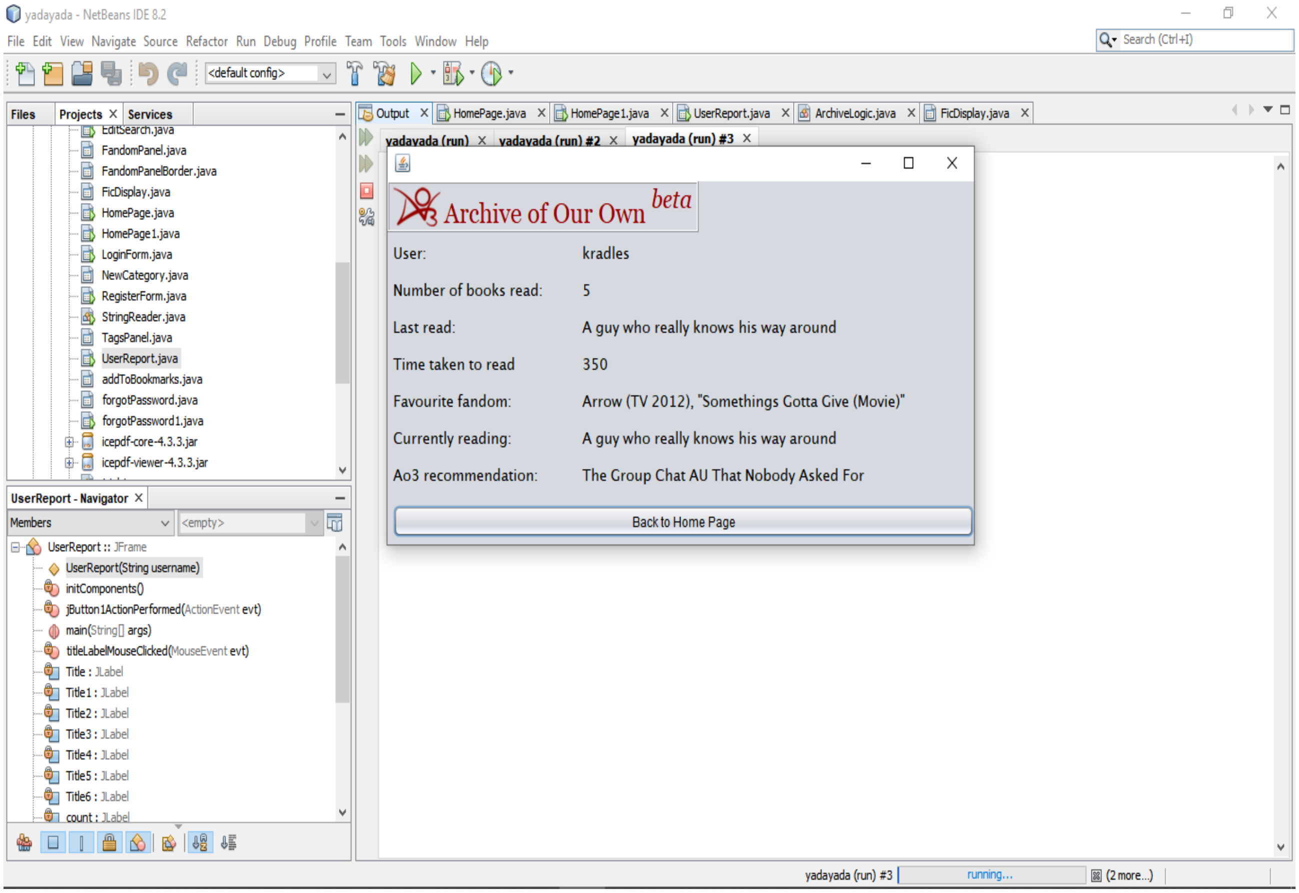
null

Ernest Shackleton, Frank Hurley, Shackleton/Hurley, polarexplorer, Yuletide

Excerpts from the diaries of Sir Ernest Shackleton, Endurance expedition.

Language: English Words: 2559 Kudos: 16

7. A mini user report is generated using the computations in userReport procedure. Multiple functions are also used.



User: kradles

Number of books read: 5

Last read: A guy who really knows his way around

Time taken to read 350

Favourite fandom: Arrow (TV 2012), "Somethings Gotta Give (Movie)"

Currently reading: A guy who really knows his way around

Ao3 recommendation: The Group Chat AU That Nobody Asked For