LIBRARY MANAGEMENT SYSTEM (E-BOOKS)

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Web Programming Languages (CS6314.002)

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Description

Online Library Management web application built to serve as a centralized repository for E- Books and their reviews. The application's user interface was built using bootstrap along with jQuery for a seamless user experience. The web application was built with smallest components which serve a single functionality to maintain modularity of code. The client made requests to a PHP server using Ajax to retrieve data from a MySql server. We have implemented the required core functionality as mentioned below :

I. Login & Registration

Instead of md5 and legacy hashing techniques, we have used Password_BCRYPT hashing technique for encrypting password. We have included PASSWORD_HASH method for implementing the above algorithm. Also, we made sure that the password is strong enough for registering the user.

II. Navigation Header

A fixed header available in every page of the application with links to home page, categories page, clickable subcategory list in a dropdown, search field and login option.

III. Home Page

A carousel which displayed the top Books voted by different users based on the Book's average rating. Popular categories window which showcased the categories with the most reviews provided by users.

IV. Search Functionality

A helpful search functionality to find Books based on their title and provide relevant filters which can be applied to the queried Books.

V. Category and Subcategory Page

List of categories and subcategories displayed in a user friendly manner with relevant images as part of their div. If an admin is logged in, edit, delete and add functionalities are presented for managing categories and subcategories.

VI. Book List Page

List of Books displayed for a particular category and subcategory along with pagination functionality. To the left side of the page, filters on publisher and features are available to find relative Books. When admin is logged in, edit, deleted and add functionalities are presented to manage Books.

VII. Wish List

A personal wish list for users to store Books of their liking in a centralized place for future references.

VIII. Book Page

Hosts the details of Books such as total reviews, average rating, Book description, Book title and E-copy. Below the Book, a list of reviews are available for reference to users. If a user is logged in, he can add the Book to his wishlist and write a review for the same. User’s review for that Book is listed at the top with update and delete options available for that owner alone.

IX. Admin

Admin and users share the same interface but admin get’s access to functionalities such as edit, add and delete options for categories, subcategories and Books.

Database Design

Tables

PUBLISHER

```
CREATE TABLE `PUBLISHER` (
`id` int(11) NOT NULL,
`name` varchar(60) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

CATEGORY

```
CREATE TABLE `CATEGORY` (
`id` int(11) NOT NULL,
`name` varchar(60) NOT NULL,
`deletedyn` varchar(1) NOT NULL,
`image` varchar(64) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

FEATURES

```
CREATE TABLE `FEATURES` (
`id` int(11) NOT NULL,
`name` varchar(60) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

BOOK

```
CREATE TABLE `BOOK` (
`id` int(11) NOT NULL,
`name` varchar(1000) NOT NULL,
`categoryid` int(11) NOT NULL,
`subcategoryid` int(11) NOT NULL,
`publisherid` int(11) NOT NULL,
`no_of_copies` decimal(10,0) NOT NULL,
`date` date NOT NULL,
`content` longtext NOT NULL,
`deletedyn` varchar(1) NOT NULL,
`images` varchar(400) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

BOOK_FEATURES

```
CREATE TABLE `BOOK_FEATURES` (
`id` int(11) NOT NULL,
`Bookid` int(11) NOT NULL,
`featureid` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

REVIEW

```
CREATE TABLE ` REVIEW` (
`id` int(11) NOT NULL,
`Bookid` int(11) NOT NULL,
`userid` int(11) NOT NULL,
`rating` decimal(10,0) NOT NULL,
`feedback` longtext NOT NULL,
`datereviewed` datetime NOT NULL,
`deletedyn` varchar(1) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

ROLES

```
CREATE TABLE `ROLES` (
`id` int(11) NOT NULL,
`rolename` varchar(400) NOT NULL,
`adminrights` varchar(2) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

SUBCATEGORY

```
CREATE TABLE `SUBCATEGORY` (
`id` int(11) NOT NULL,
`categoryid` int(11) NOT NULL,
`name` varchar(60) NOT NULL,
`deletedyn` varchar(1) NOT NULL,
`image` varchar(64) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

USERS

```
CREATE TABLE `USERS` (
`id` int(11) NOT NULL,
`username` varchar(60) NOT NULL,
`fname` varchar(400) NOT NULL,
`lname` varchar(400) NOT NULL,
`password` varchar(400) NOT NULL,
`email` varchar(400) NOT NULL,
`roleid` int(11) NOT NULL,
`review_count` int(11) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

WISHLIST

```
CREATE TABLE `WISHLIST` (
`id` int(11) NOT NULL,
`userid` int(11) NOT NULL,
`Bookid` int(11) NOT NULL,
`deletedyn` varchar(1) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=latin1;
```

INDEXES/REFERENTIAL INTEGRITY

PUBLISHER

```
ALTER TABLE `publisher`
ADD PRIMARY KEY (`id`),
ADD UNIQUE KEY `name` (`name`);
```

CATEGORY

```
ALTER TABLE `category`
ADD PRIMARY KEY (`id`),
ADD UNIQUE KEY `name` (`name`);
```

FEATURES

```
ALTER TABLE `features`
ADD PRIMARY KEY (`id`),
ADD UNIQUE KEY `name` (`name`);
```

BOOK

```
ALTER TABLE `Book`
ADD PRIMARY KEY (`id`),
ADD KEY `publisherid` (`publisherid`),
ADD KEY `categoryid` (`categoryid`),
ADD KEY `subcategoryid` (`subcategoryid`);
```

BOOK_FEATURES

```
ALTER TABLE `Book_features`
ADD PRIMARY KEY (`id`),
ADD KEY `featureid` (`featureid`),
ADD KEY `Bookid` (`Bookid`);
```

REVIEW

```
ALTER TABLE `review`
ADD PRIMARY KEY (`id`),
ADD KEY `userid` (`userid`),
ADD KEY `Bookid_2` (`Bookid`),
ADD KEY `userid_2` (`userid`);
```

ROLES

```
ALTER TABLE `roles`
ADD PRIMARY KEY (`id`);
```

SUBCATEGORY

```
ALTER TABLE `subcategory`
ADD PRIMARY KEY (`id`),
ADD KEY `categoryid` (`categoryid`);
```

USERS

```
ALTER TABLE `users`
ADD PRIMARY KEY (`id`),
ADD KEY `roleid` (`roleid`);
```

WISHLIST

```
ALTER TABLE `wishlist`
ADD PRIMARY KEY (`id`),
ADD KEY `Bookid` (`Bookid`),
ADD KEY `userid` (`userid`);
```

AUTO_INCREMENT for dumped tables

PUBLISHER

```
ALTER TABLE `publisher`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=43;
```

CATEGORY

```
ALTER TABLE `category`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=11;
```

FEATURES

```
ALTER TABLE `features`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=43;
```

BOOK

```
ALTER TABLE `Book`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=45;
```

BOOK_FEATURES

```
ALTER TABLE `Book_features`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=59;
```

REVIEW

```
ALTER TABLE `review`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=30;
```

ROLES

```
ALTER TABLE `roles`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;
```

SUBCATEGORY

```
ALTER TABLE `subcategory`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=48;
```

USERS

```
ALTER TABLE `users`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=17;
```

WISHLIST

```
ALTER TABLE `wishlist`
MODIFY `id` int(11) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=18;
```

Constraints for dumped tables

BOOK

```
ALTER TABLE `Book`
ADD CONSTRAINT `Book_ibfk_1` FOREIGN KEY (`publisherid`) REFERENCES
`publisher` (`id`) ON DELETE CASCADE ON UPDATE CASCADE,
ADD CONSTRAINT `Book_ibfk_2` FOREIGN KEY (`categoryid`) REFERENCES
`category` (`id`) ON DELETE CASCADE ON UPDATE CASCADE,
ADD CONSTRAINT `Book_ibfk_3` FOREIGN KEY (`subcategoryid`) REFERENCES
`subcategory` (`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

BOOK_FEATURES

```
ALTER TABLE `Book_features`
ADD CONSTRAINT `Book_features_ibfk_1` FOREIGN KEY (`featureid`)
REFERENCES `features` (`id`) ON DELETE CASCADE ON UPDATE CASCADE,
ADD CONSTRAINT `Book_features_ibfk_2` FOREIGN KEY (`Bookid`)
REFERENCES `Book` (`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

REVIEW

```
ALTER TABLE `review`
ADD CONSTRAINT `review_ibfk_1` FOREIGN KEY (`Bookid`) REFERENCES
`Book` (`id`) ON DELETE CASCADE ON UPDATE CASCADE,
ADD CONSTRAINT `review_ibfk_2` FOREIGN KEY (`userid`) REFERENCES `users`
(`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

SUBCATEGORY

```
ALTER TABLE `subcategory`
ADD CONSTRAINT `subcategory_ibfk_1` FOREIGN KEY (`categoryid`)
REFERENCES `category` (`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

USERS

```
ALTER TABLE `users`
ADD CONSTRAINT `users_ibfk_1` FOREIGN KEY (`roleid`) REFERENCES `roles`
(`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

WISHLIST

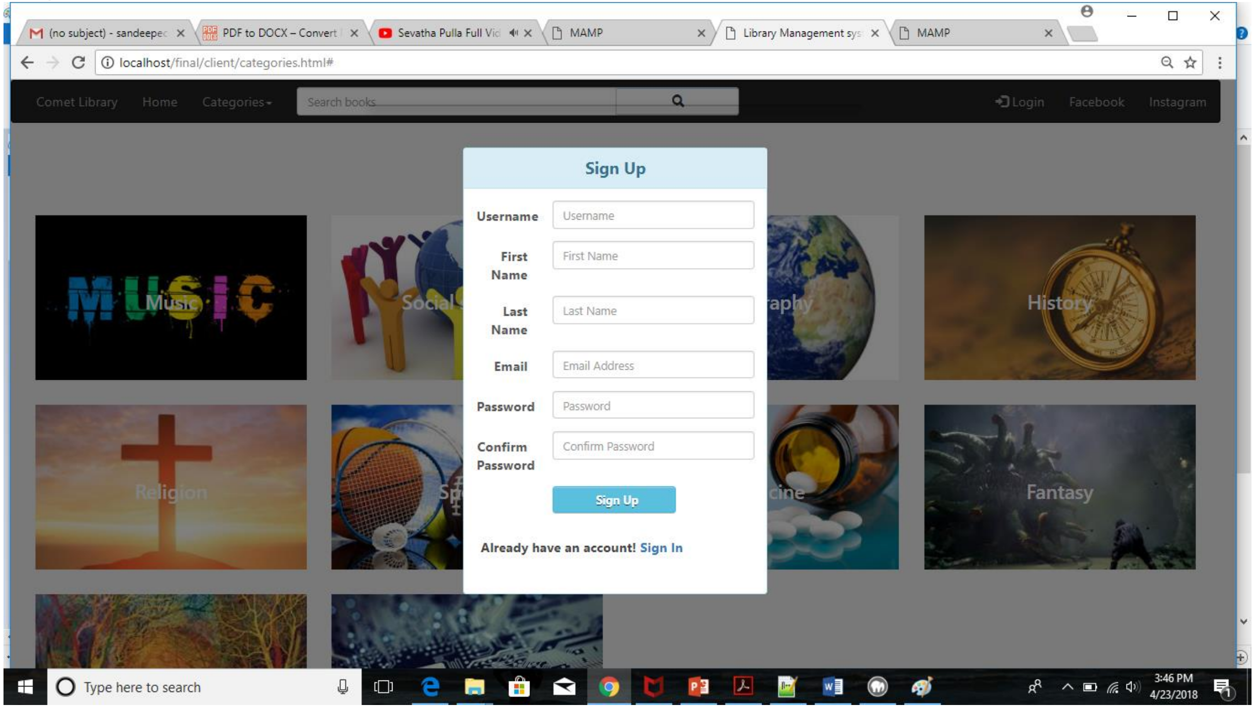
```
ALTER TABLE `wishlist`
ADD CONSTRAINT `wishlist_ibfk_1` FOREIGN KEY (`Bookid`) REFERENCES
`Book` (`id`) ON DELETE CASCADE ON UPDATE CASCADE,
ADD CONSTRAINT `wishlist_ibfk_2` FOREIGN KEY (`userid`) REFERENCES `users`
(`id`) ON DELETE CASCADE ON UPDATE CASCADE;
```

Languages / Frameworks used

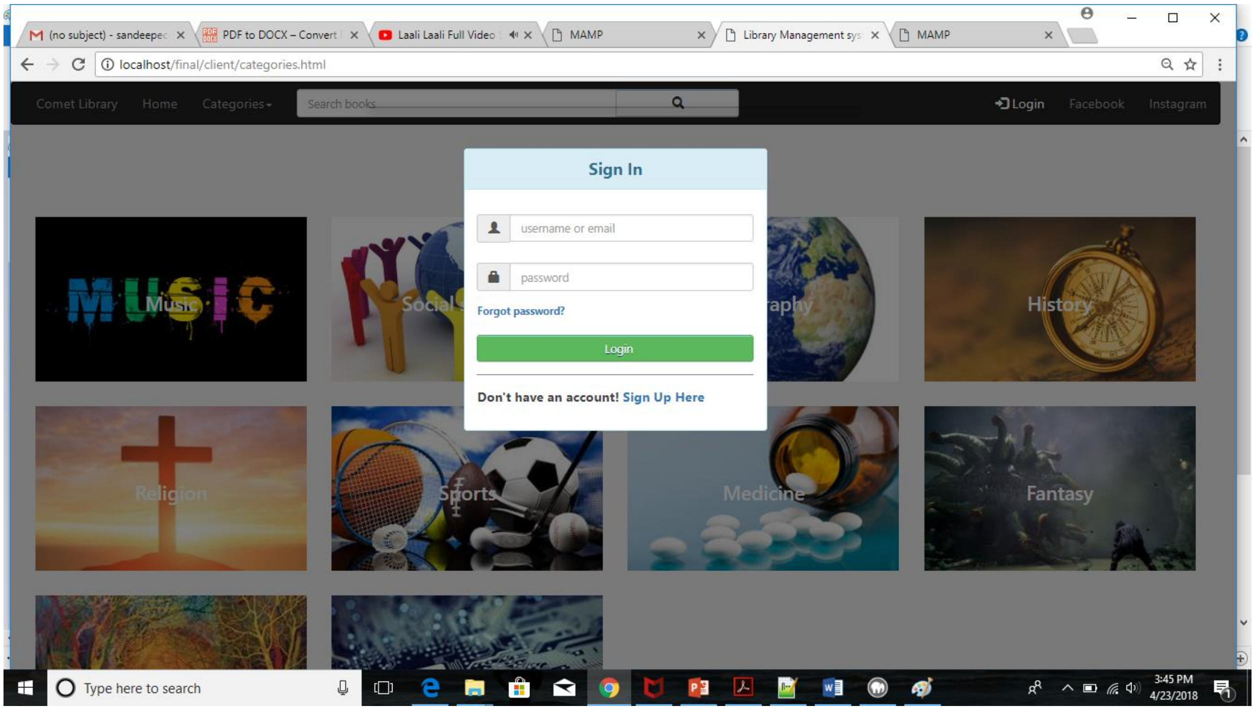
Client Side : HTML, CSS, AJAX, JQuery
Server Side : PHP, MySQL

Screenshots

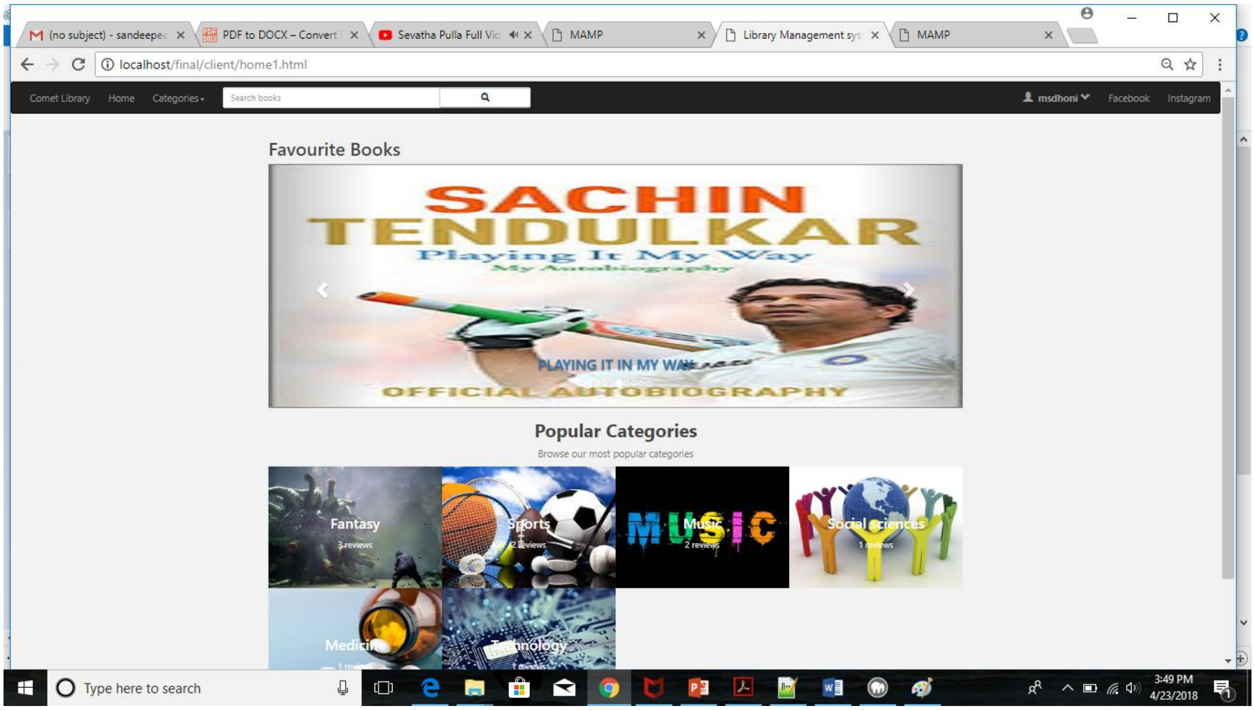
Register:



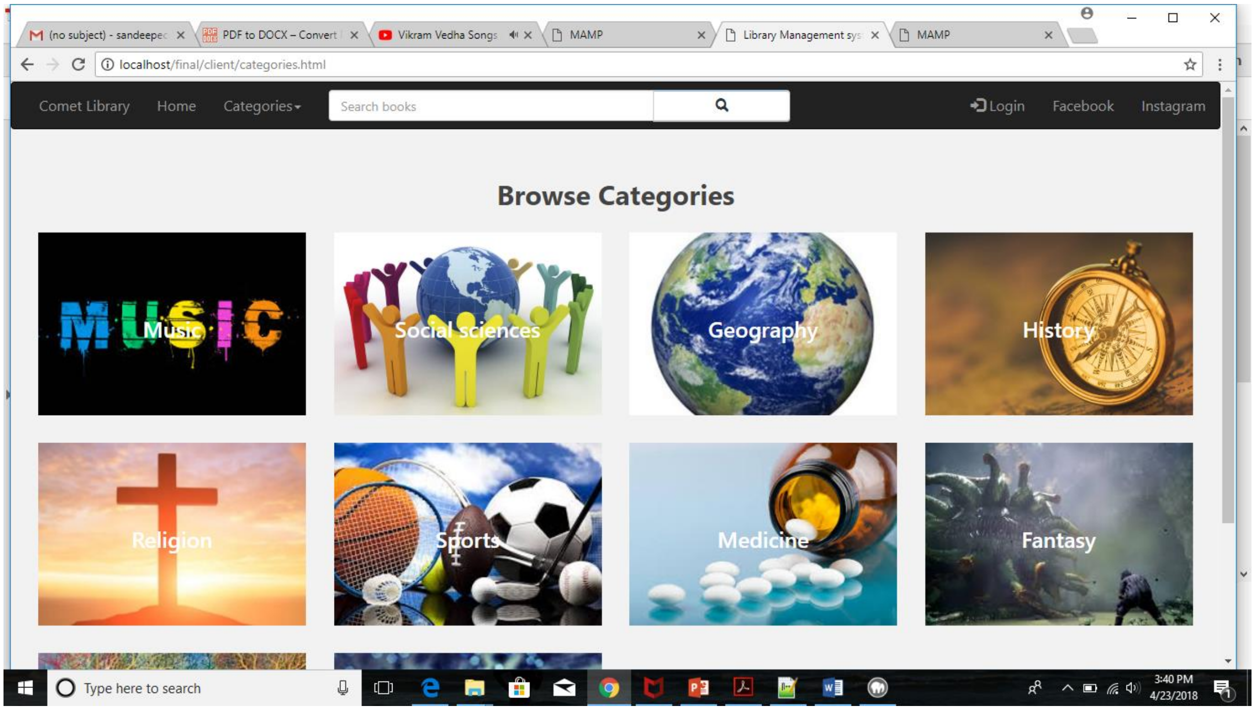
Login:



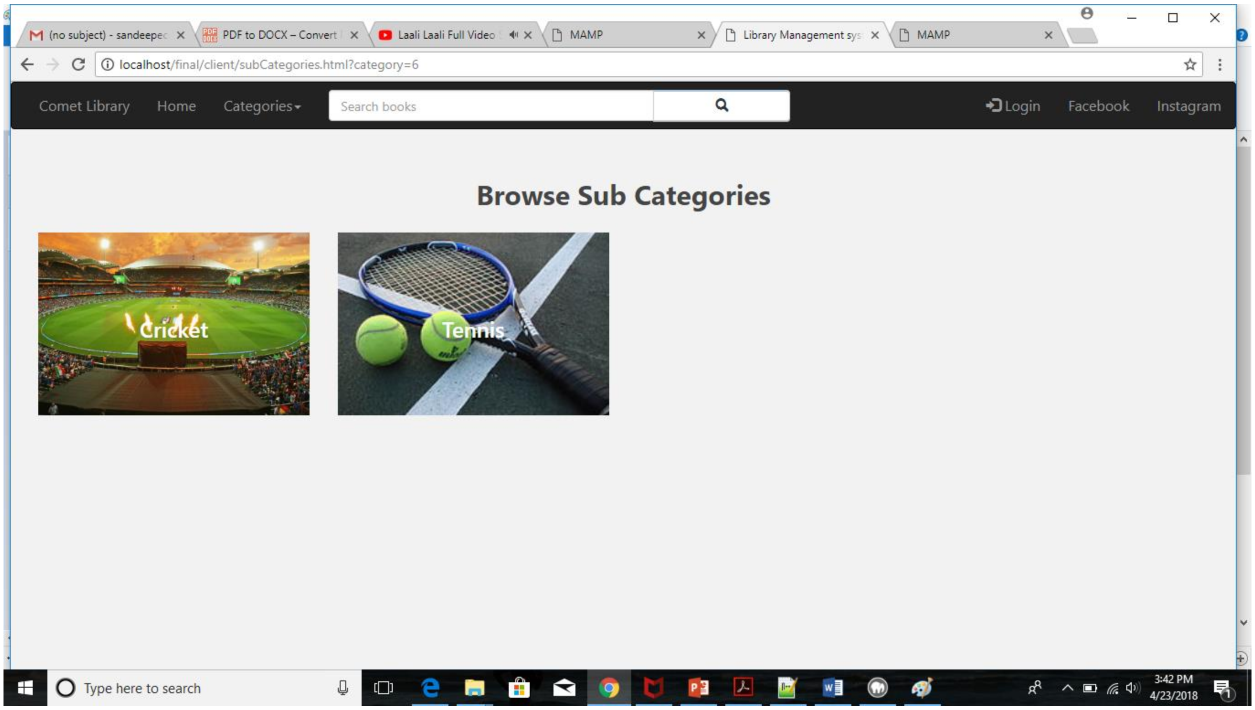
Home:



Categories:



Sub Categories:

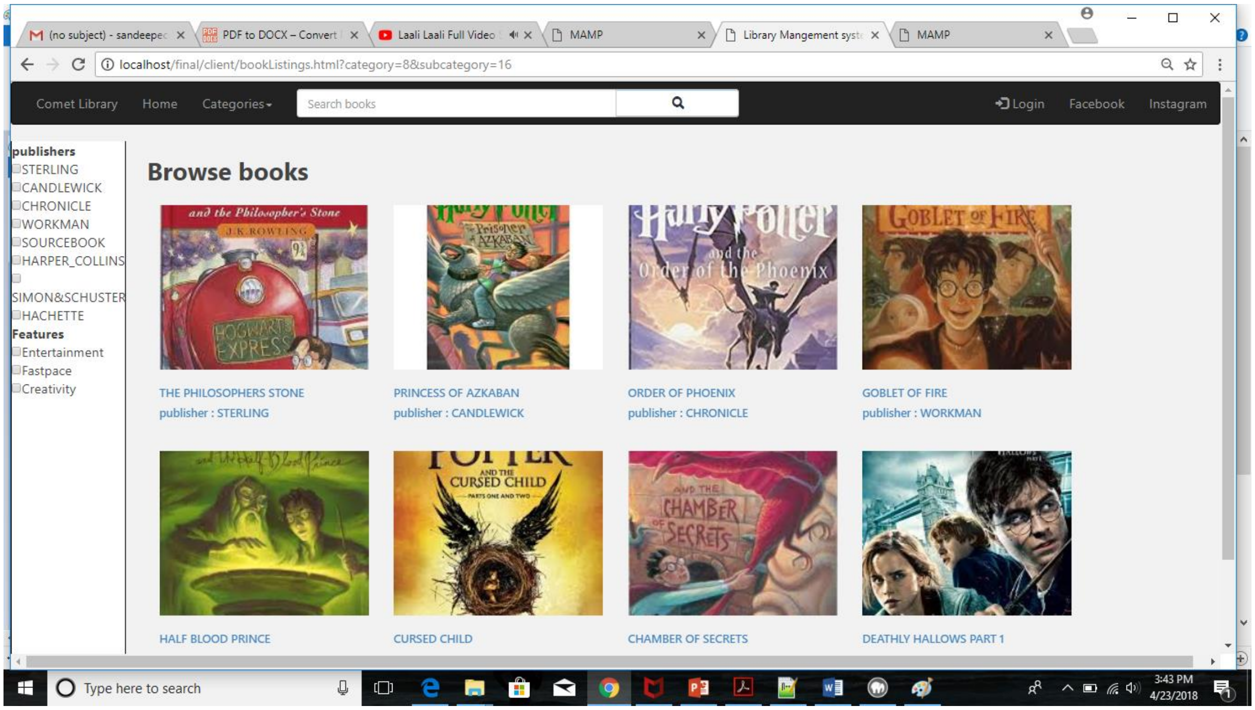


Browse Sub Categories

Cricket

Tennis

BookList:



publishers
☐STERLING
☐CANDLEWICK
☐CHRONICLE
☐WORKMAN
☐SOURCEBOOK
☐HARPER_COLLINS
☐SIMON&SCHUSTER
☐HACHETTE
Features
☐Entertainment
☐Fastpace
☐Creativity

Browse books

THE PHILOSOPHERS STONE
publisher : STERLING

PRINCESS OF AZKABAN
publisher : CANDLEWICK

ORDER OF PHOENIX
publisher : CHRONICLE

GOBLET OF FIRE
publisher : WORKMAN

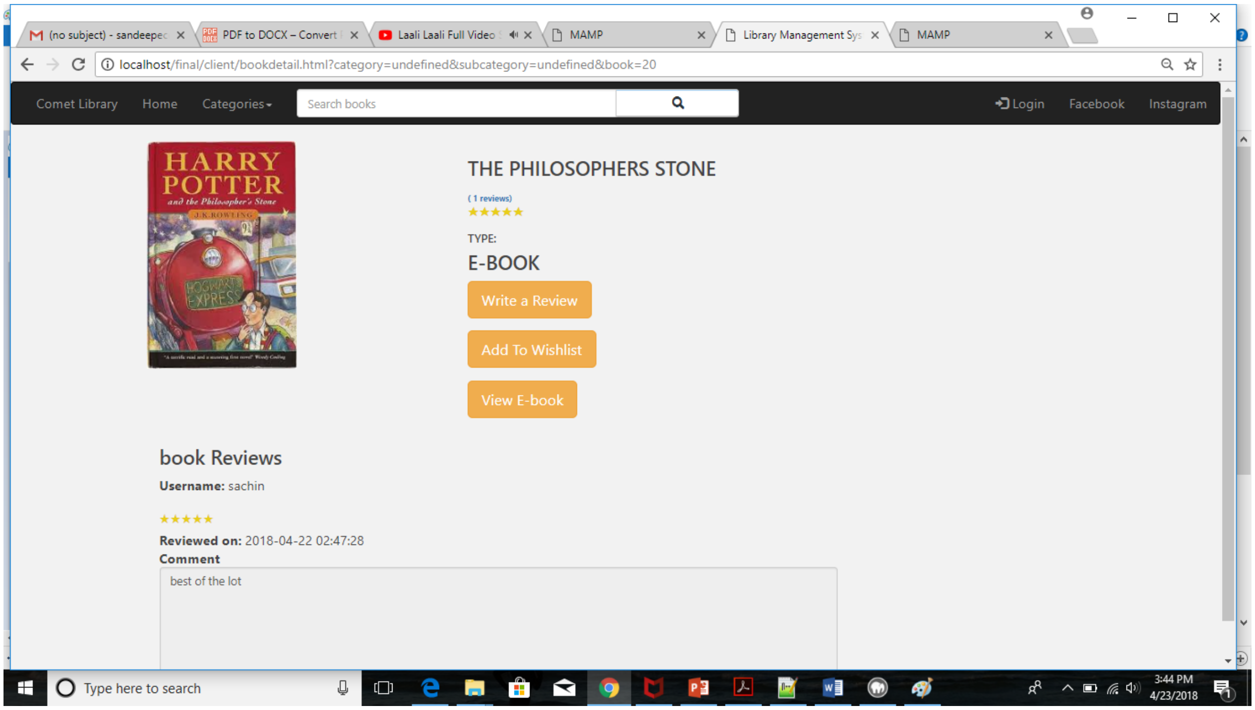
HALF BLOOD PRINCE

CURSED CHILD

CHAMBER OF SECRETS

DEATHLY HALLOWS PART 1

Bookdetail:



THE PHILOSOPHERS STONE

(1 reviews)

★★★★★

TYPE:

E-BOOK

book Reviews

Username: sachin

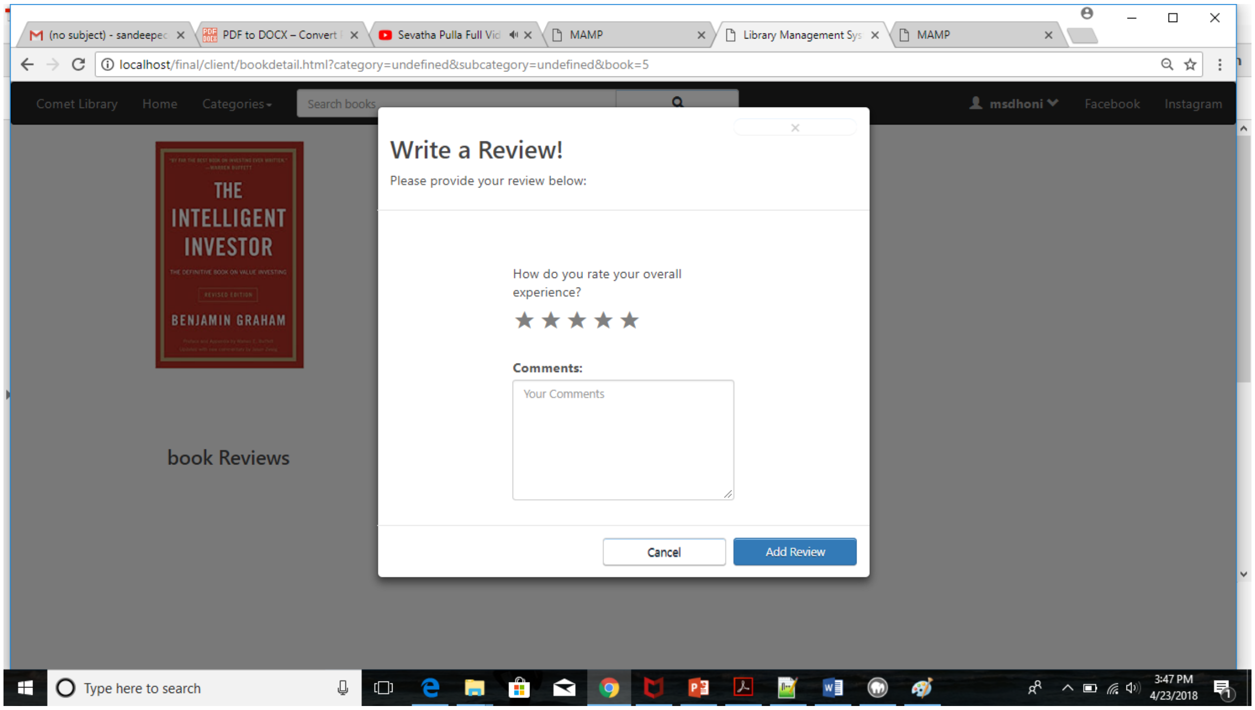
★★★★★

Reviewed on: 2018-04-22 02:47:28

Comment

best of the lot

Review:



Write a Review!

Please provide your review below:

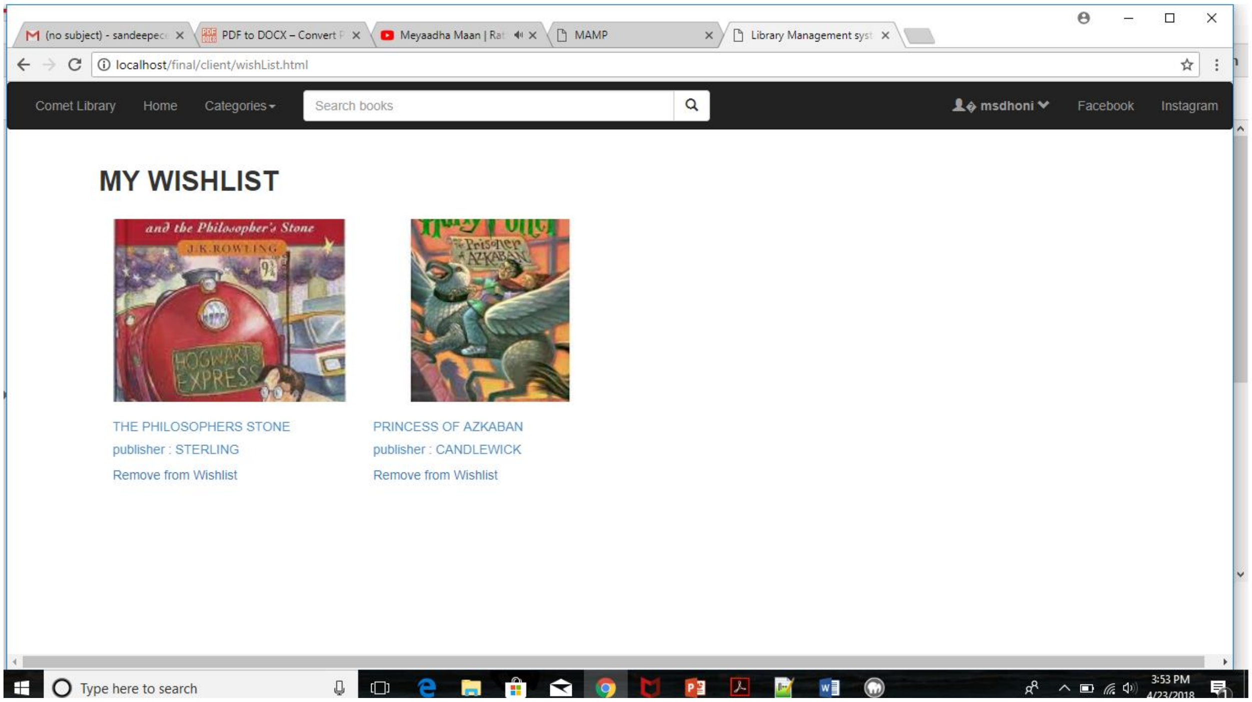
How do you rate your overall experience?

★ ★ ★ ★ ★

Comments:

Your Comments

Wishlist:



MY WISHLIST

THE PHILOSOPHERS STONE
publisher : STERLING
Remove from Wishlist

PRINCESS OF AZKABAN
publisher : CANDLEWICK
Remove from Wishlist

Work Division: Development work was equally shared by three of us for client and server side scripting.