

B.Sc. (HONOURS) SEMESTER-VI EXAMINATION, 2022 (UNDER CBCS)

PROJECT WORK

E-SERVICES AND E-COMMERCE

SUBJECT CODE: CMSA
PAPER CODE: CC-6-13-Pr & CC-6-14-Pr

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E- SERVICES AND E- COMMERCE REPORT

CERTIFICATE

This is to certify that the project report entitled "E-services and E-commerce" submitted successfully to Bethune College, Kolkata, is a bonafide record of work done by the undersigned students, under Prof. Krishanu Naskar, in the partial fulfilment of requirements for the 3-year undergraduate degree of Bachelor of Science (B.Sc.) Computer Science (Hons.) from the University of Calcutta, 2022. Presented for the 6th semester examination of the courses CMSA-CC-6-13-Pr and CMSA-CC6-14-Pr, held on 1st August 2022. Furthermore, this is an original piece of work, and meets all the necessary criteria to be accepted as a project work submitted for a Bachelor's degree programme in Computer Science.

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ACKNOWLEDGEMENT

"It is not possible to prepare a project report without the assistance & encouragement of other people. This one is certainly no exception."

It is our proud privilege to release the feelings of our gratitude to several persons who helped us directly or indirectly to conduct this project work.

Working on this project entitled "E-Services and E-Commerce",

was a source of immense knowledge to us. We would like to express our sincere gratitude to our project Supervisor Sri. Krishanu Naskar, for his guidance & valuable support further inspiring discussions and constant supervision throughout the course of this work.

We are also thankful to our Honorable Principal Dr. Krishna Roy for her inspiration. We acknowledge with a deep sense of gratitude, the encouragement and interpretations received from our faculty members.

We would also like to thank our parents for their love and support and constant guidance. We will be always indebted to them.

We would also thank our friends who have more or less contributed to the preparation of this project report.

The study has indeed helped us to explore more knowledgeable avenues related to our topic and we are sure it will help us in our future.

Thanking You.

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ABSTRACT

ABSTRACT

The concept of E-service (electronic service) represents one prominent application of utilizing the use of information and communication technologies(ICTs) in different areas. E-Services, a business concept developed by Hewlett Packard(HP), is the idea that the World Wide Web is moving beyond e-business and e-commerce into a new phase where many business services can be provided for a consumer using the web. Our project is a medium between various companies and the customer.

E-commerce (electronic commerce) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. These business transactions occur either as business-to-business (B2B), business-to-consumer (B2C), consumer-to-consumer or consumer-to-business. The term was coined and first employed by Dr. Robert Jacobson, Principal consultant to the California State Assembly's Utilities & Commerce Committee, in the title and text of California's Electronic Commerce Act, carried by the late Committee Chairwoman Gwen Moore and enacted in 1984.

With the online library system, consumers do not need to blindly go to various places to find their own books, but only in a computer connected to the Internet log on online library system, in the search box, type you want to find Of the book information retrieval, you can efficiently know whether the site has its own books, if you can online direct purchase, if not, you can change the home bookstore to continue to search or provide advice to the seller in order to supply, This greatly facilitates every consumer, saving time and labour. The online library system can not only reduce costs, save time, space, to bring convenience to everyone, but also to promote the development of the logistics industry, serve three purposes, mutual benefit. More importantly, in today's world, the increasingly close ties between countries, more frequent exchanges, the economy tends to globalization, which promote the future development of online library system has some practical significance.

INTRODUCTION

As in the electronic world the customer and the merchant do not meet face to face and the clients are more sensitive with increased options and solutions available to them online. Many companies are adopting Internet-based e- services for conducting business transactions and sharing business information with their customers and business partners.

E-services has been defined as web-based services or interactive services that is delivered on the internet. E-service is deeds, efforts or performances whose delivery is mediated by information technology that include the Web, information kiosks and mobile devices. Such e-service includes the service element of e-tailing, customer support and service and service delivery. Further, E-service is defined as the provision of service over electronic networks. This concept includes services provided by a typical service organization as well as the services provided by the goods manufacturers where the quality of customer care plays an important role.

Traditional path services laid emphasis on automated service or self service operation, firms used to focus on increased efficiency and productivity of business and reduce the cost of the product or service in order to increase profit.

On the other hand, on e-service path, firms are focus on enhanced service operations, provides greater conveniences and support services to customers. Further improved customer satisfaction and retention by providing best quality service for example library chains are looking to use loyalty cards and focus on one-to-one promotion and marketing efforts based on the information gathered using these cards allow the library chains to develop relationships with their customers. Moreover, they provide value to customers through focused information provision, reduced search time and increased convenience for the customers.

DOMAIN DESCRIPTION

Nowadays, the network plays an import role in people's life. In the process of the improvement of the people's living standard, people's demands of the life's quality and efficiency is higher, the traditional library's inconvenience gradually emerge, and the online library has gradually been used in public. The online library is a revolution of book industry. The traditional libraries' operation time, address and space is limited, so the types of books and books to find received a degree of restriction. But the online bookstore broke the management mode of traditional bookstore, as long as you have a computer, you can buy the book anywhere, saving time and effort, shortening the time of book selection link effectively. The online library system based on the principle of provides convenience and service to people.

MOTIVATION

E-Services means any banking and other services or facilities which we make available to you from time to time and offered via electronic means, including any card, electronic computerised or telecommunication devices or modes of operating accounts in or outside the country, and where the context requires, also means any PIN and/or Card used to access Electronic Services. E-Commerce is the activity of electronically buying or selling of products on online services or over the Internet. It is conducted over computers, tablets, smartphones, and other smart devices.

The main aim of the project is to create an online book store that allows users to search and purchase a book online based on title, author and subject. The selected books are displayed in a tabular format and the user can order their books online through credit card payment. Using this Website, the user can purchase a book online instead of going out to a book store and wasting time.

SCOPE OF THE WORK

An online library is a virtual store on the Internet where customers can browse the catalogue and select products of interest. The selected items may be collected in a shopping cart, at checkout time; the items in the shopping cart will be presented as an order, at that time; more information will be needed to complete the transaction.

To embark with the advantage the foremost one is that it is easy to carry and more convenient. the new form of reading a book by using technology like smart phone or tablet. Reader can easily carry in their pocket which can take it to office, parks and even in the bus while travelling. Furthermore, information is easily available at lower cost and saves time. For instance, individual who need to read a book have to go to nearby library to issue books and then get a chance to read but not in case of online mode where books are available on internet and person can easily order it at marginal cost or some time it is available free; therefore, it saves lots of time and money.

Our main goal is to open a trade across the Internet to facilitate the delivery of books, and to succeed with that we need to increase profits by attracting greater number of customers through social media and online communities to engage with customers "like what we do in twitter.com and facebook.com"

Online Library is an online web application where the customer can access books through online book rental system. Through a web browser the customers can search for a book by its title or author, later can add to the shopping cart and finally rent the book using credit card transaction. The user can login using his account details or new customers can set up an account very quickly. They should give the details of their name, contact number and shipping address. The user can also give feedback to a book by giving ratings on a score of five. The books are divided into many categories based on genres like Fiction, Fantasy, Science Fiction, Action, Mystery etc.

The aim is to automate the existing manual system by the help of computer equipment and full-fledged computer software, fulfilling the requirements of the customer so that their information can be stored for a longer period of time with easy accessing and manipulation of the same. Basically, the project describes how to manage for good performance and better services for the client.

It is better than manual system in various ways:

- 1. In computer system the person has to fill the various forms and number of copies of the forms can be easily generated at a time.
- 2. To assist the staff in capturing the effort spent on their respective working areas.
- 3. To utilize resources in an efficient manner by increasing their productivity through automation.
- 4. The system generates types of information that can be used for various purposes.
- 5. It satisfies the user requirements.
- 6. Be expandable
- 7. Delivered on schedule within the budget.

FUNCTIONALITIES

This project has the following functionalities:

1) A Home page with product catalogue

This is the page where the user will be navigated after a successful login. It will display all the book categories and will have a search keyword option to search for the required book. It also includes some special sections like recommended titles, weekly special books.

2) Search

A search by keyword option is provided to the user using a textbox. The keyword to be entered should be the book title.

3) Advanced Search

Advanced search helps the user to search for a book based on Title, Author, Category and price range. All the books which match the particular search criteria and their total count will be displayed. From here the user can select a book and add to the shopping cart.

4) **Book Description**

If the user would like to know details about a book he can click on the title from where he will be directed to a Book description page. It includes the notes on the book content and also, a link to Amazon.com to get the book review.

5) User Voting

The user can give rating to a book based on his interest. He can rate it by giving a score of five as Excellent, four for very good, three for good, two for regular and one for deficient. The final rating of a book will depend on all the individual user rating.

6) Shopping Cart

The user can manage a shopping cart which will include all the books he selected. The user can edit, delete and update his shopping cart. A final shopping cart summary is displayed which includes all the items the user selected and the final total cost of rent.

7) Managing user accounts

Each user should have an account to access all the functionalities of website. User can login using login page and logout using the logout page. All the user sessions will be saved in the database.

8) Administration

The Administrator will be provided with special functionalities like

- Add or delete a book category
 - Add or delete a member
 - Manage member orders.
- Add or delete a Credit Card type.

BACKGROUND/REVIEW OF RELATED WORK

BASIC NEEDS AND COMMON REQUIREMENTS FOR ANY E-BUSINESS

For any created e-module, if it accepts payment then there must be a payment gateway. Only those can become a gateway that has been licensed by Reserve Bank of India (RBI), e.g. Paytm, Billdesk etc. Also for sending mails and mobile messages, Email Service Provider Gateway and Mobile Service Provider Gateway are required.

If we launch our project, then we will have to sign an agreement with these gateways. The payment gateway will then provide us a unique IP address for us. We then will use this IP address a hyperlink in our system to redirect a customer from our site to the payment gateway site. Immediately after the payment, the gateway company will send the customer and us a message, whether the payment was successful or not. In case of successful payment, a unique transaction ID generates for identification. The payment gateway service-provider further within a declared period as per the agreement will send the money back to our account. For this, it may or may not charge, either directly from the customer, or from us.

A fact for discussion is that mobile service provider gateway is used for generating OTP (One Time Password). Validating the credentials of the customer according to the logic provided by our system. OTP thus generated is an encrypted one. No party can directly read that except the customer. Now one may crack it within a stipulated time, thus to avoid these situations, OTP is valid only for a particular period. Interesting fact, all the service providers who do not exist now are still in service with their servers for the mobile gateway service, say, MTS, Reliance Communication, etc.

The biggest challenge upon launching a server is TAT (Turn Around Time) or commonly says "Response Time". If many customers are browsing our system at the same time from different geographical locations, the server may not afford that much and will finally collapse or say it make take a very much long time to load a page. This will not idle situation for any portal particularly those are engaging service industry.

Also, let us talk about another situation. If we mailed some document to someone from Kolkata, and same document may be accessed to anywhere i.e Sydney/USA. We can easily browse the previous sent mail and forward it. We never required any work station dependency for obtaining the same document. Ever thought, where in Google was this file saved? All these discussions have same reply, a server having data centers. For any small company it is not at all possible to have their own server. Here, the big companies play their vital role. They lend us their server. Small industries use these servers. Any big industry, say, Reserve Bank of India (RBI), Amazon, or State Bank of India (SBI), who have huge amount of clients of their own, they have their own servers. Reasons can be reliability, security and many more.

If we start discussing about servers, then we should also mention about the space where data is stored. They are, DC (Data Center), the primary one, from where system collects information and work. Nevertheless, backup is always a need. For that, DR (Disaster Recovery Site) is available. Previously, parallel storing of data happened. However, it can create problem, as network issues may store data in DC and fails to store in DR, hence no backup for that data. Therefore, the rule for storing the data changed. It is now first stored in DR and then in DC. Therefore, even if a payment gets failed, backup information for that will be stored in DR from where DC can recover.

Again, it may happen, connecting DC and DR may take time. Therefore, a localized DR is also created. Taking RBI as an example, it's DC is in same place as it's headquarter, i.e. Mumbai, DR1 is in Belapur, 30kms away from Mumbai, and DR2 is in Nagpur. Though there are officially two DRs, they are thinking about making DR3, which will be outside of Maharashtra, so if anything happens to the whole state, the data will be still safe and service will be continued by accessing DR from outside of the state.

PROBLEM FORMULATION

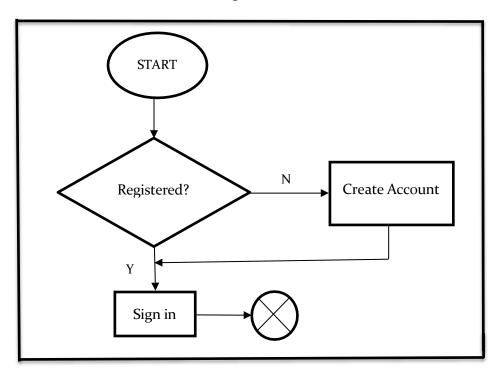
Arunima is an avid reader, she loves to explore new genres and books. However, she is working so hard to build a career and earn a living that she hardly has time for visiting her favourite library that is far away, how sad is that? Doesn't it feel frustrating when you can't do something that you love doing? How nice it would be if someone appeared on her doorstep to fulfil her wish?

ALGORITHM DESCRIPTION

Welcome to our portal, E-service and E-Commerce. You can check out a massive collection of books available on our website. Sign up if you like the collection. While signing up, choose a package and pay the amount along with the respective security deposit to avail our services. Remember you can only issue books whose price is below your chosen package. And if you are already a member, then continue with your book issue. After you have placed your order, wait for the admin to approve your request. Your valuable time is our utmost priority. We will deliver the book to your doorstep the very next day. Return the book in good condition on or before your return date to avoid paying late fee. In case any mishap has occurred with the book, we will deduct the price from your security deposit which you will have to pay before issuing your next book. Our membership expires after 30 days. Renew it and enjoy our services uninterruptedly

♦ WORKFLOW--

Registration

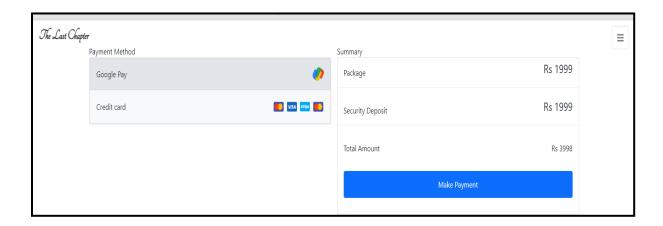


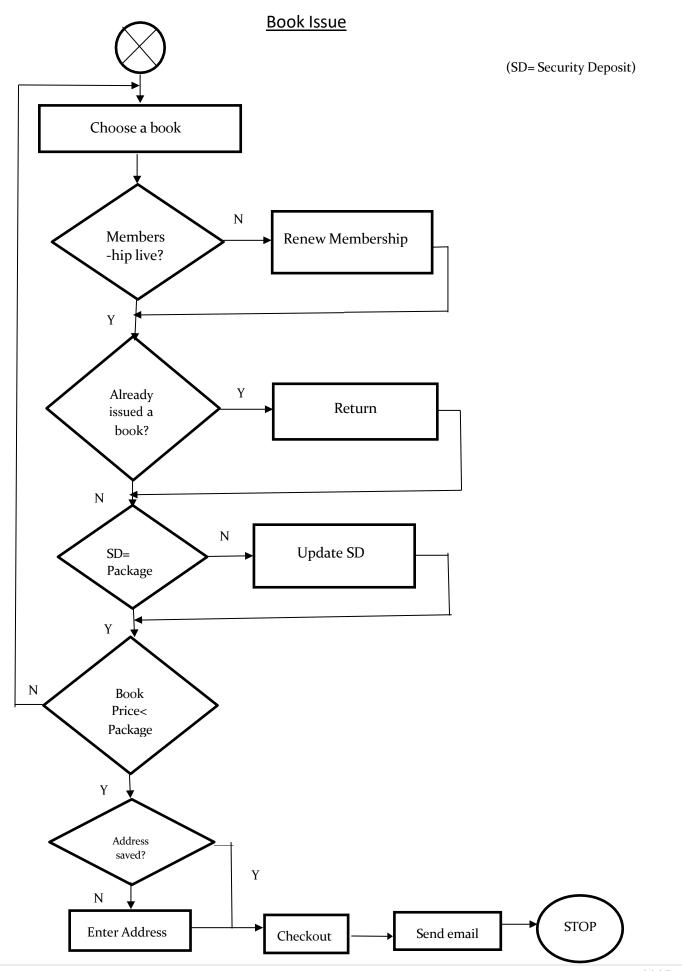
OUTPUT SAMPLE

Filling up registration form and verifying email-id:



Paying the security deposit and package:





OUTPUT SAMPLE

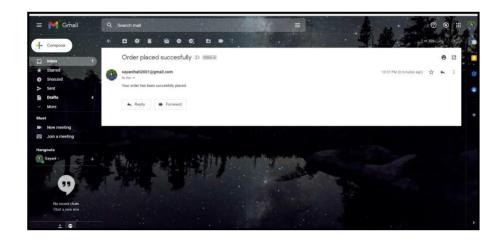
Cart:



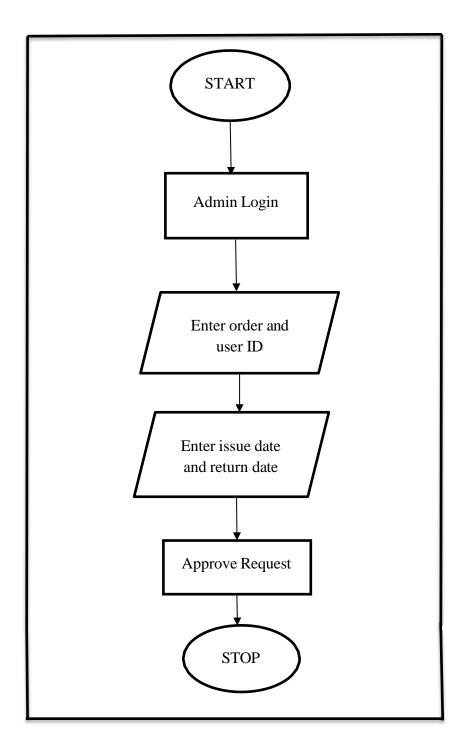
Checkout page:



Order confirmation email:



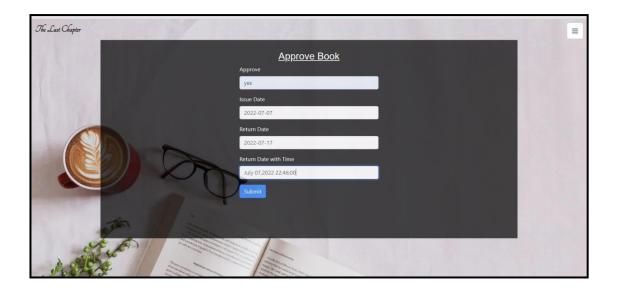
Approve Request

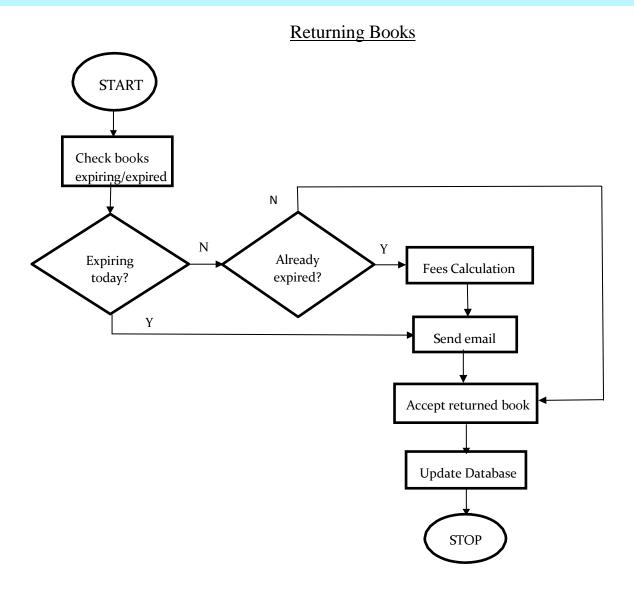


OUTPUT SAMPLE

Approving requested books:





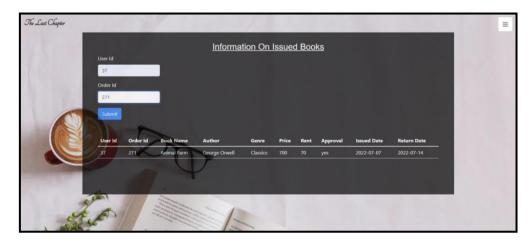


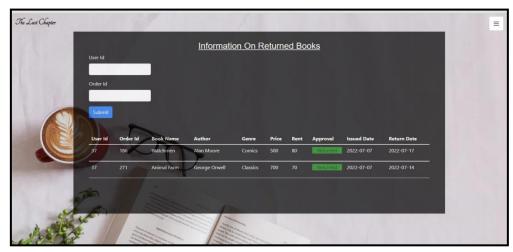
OUTPUT SAMPLE

User's UI:

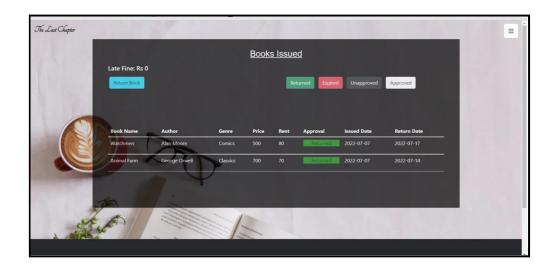


Admin's UI:



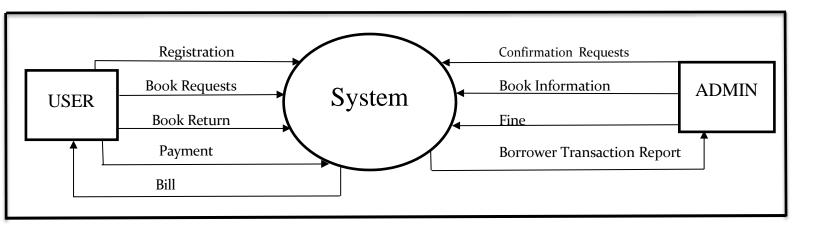


User's UI:

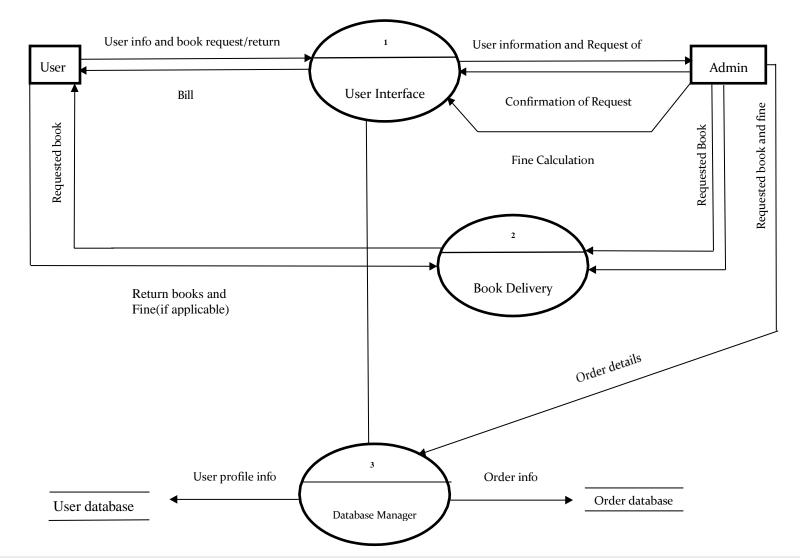


❖ DATA FLOW DIAGRAM(DFD)-

Context Level DFD

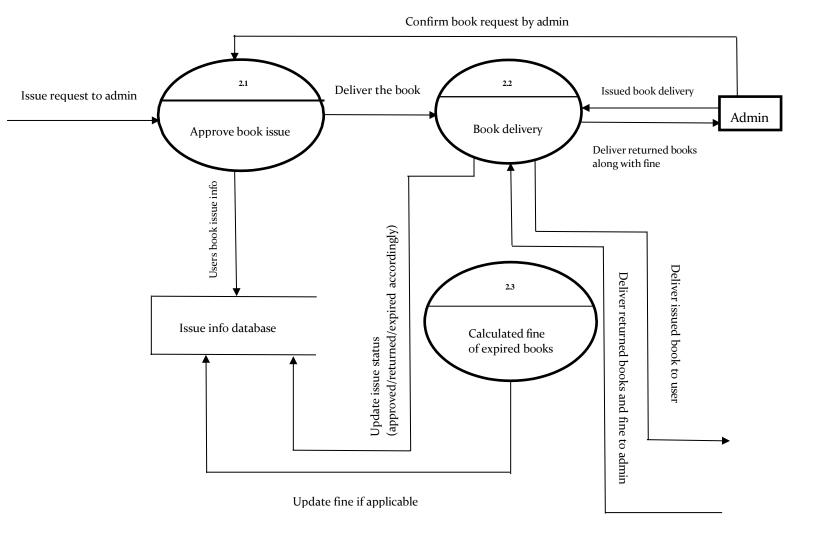


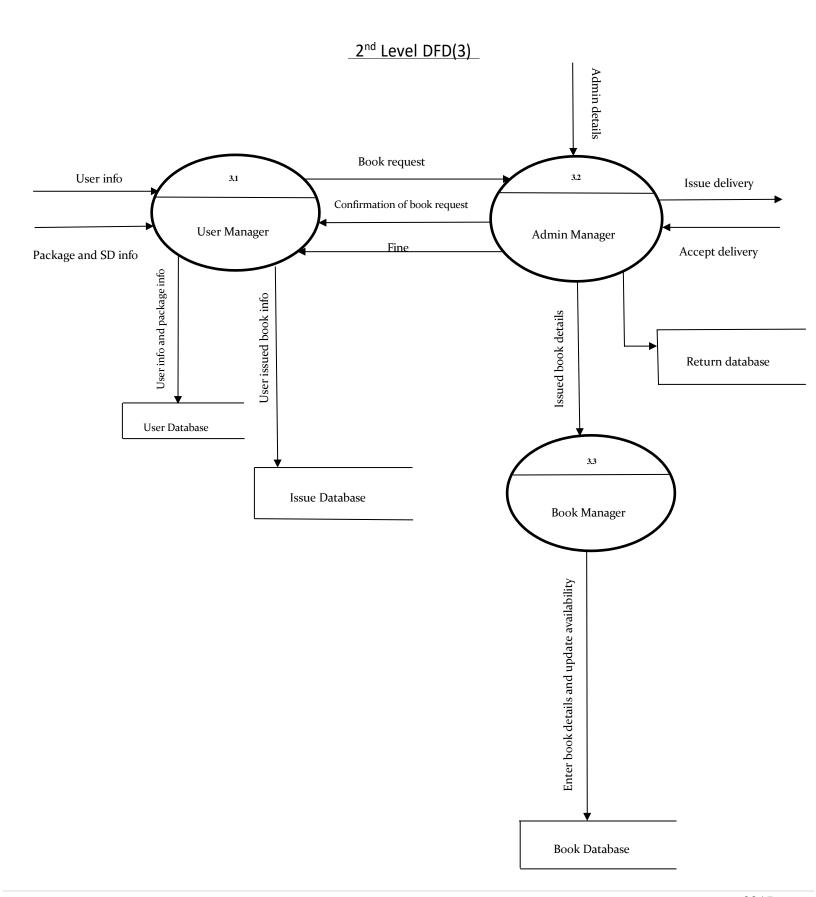




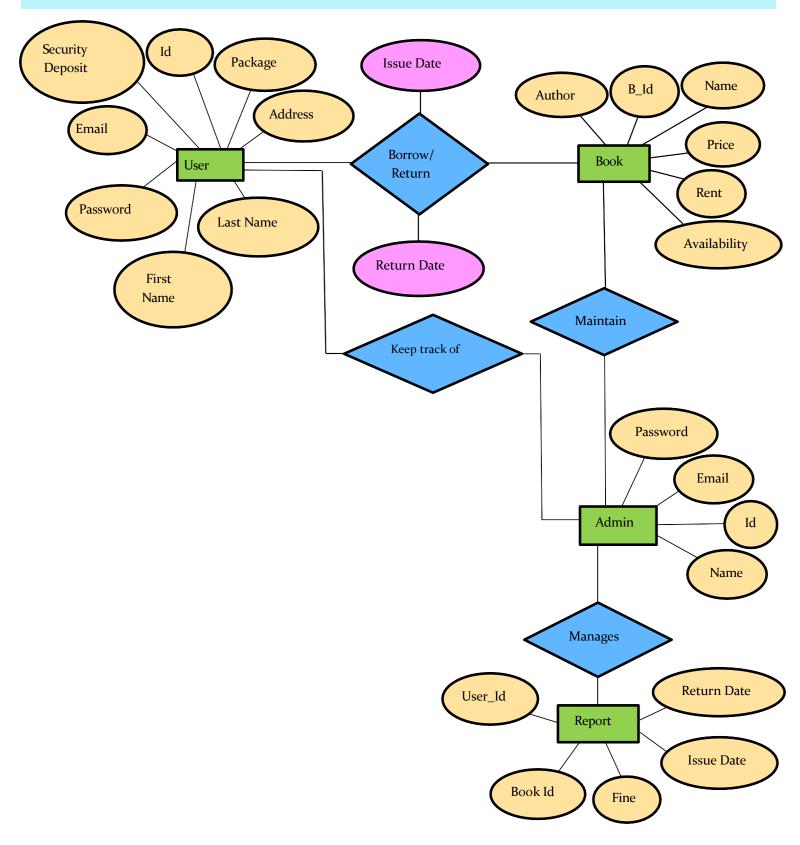
2nd Level DFD(1) 1.3 Choosing a package Accept delivered book 1.1 User info Purchasing a package User along with SD Registration/Login Return expired book User Profile Choosing a Book 1.2 User Accounting Book price is within chosen User Database package Pay info 1.4 Issue request to admin Issuing a Book User order info User s issued book Issue into Database

2nd Level DFD(2)





❖ ENTITY-RELATIONSHIP(ER) DIAGRAM-



E-R Diagram Representation

DESIGN DESCRIPTION

• <u>SAMPLE OF SOFTWARE</u>

FOR MEMBERSHIP:

CODE SAMPLE

```
$sql = "SELECT * FROM customer_details ";
$result= $conn->query($sql);
if(mysqli_num_rows($result)){
while($row = mysqli fetch assoc($result)){
$time=$row['Time_stamp'];
echo "Membership purchased".$time;
$membership_ends=date("Y-m-d", strtotime(date("Y-m-d", strtotime($time)). "+1 day"));
echo "Membership expires".$membership ends;
$date=date("Y-m-d");
echo "Today is".$date;
if(date("Y-m-d")< $membership ends){
echo "Membership is live";
}else if(date("Y-m-d")>=$membership ends){
echo "Membership expired!";
$sql_u=mysqli_query($conn,"UPDATE customer_details set Package=0 where CURRENT_DATE-Time_stamp>=1;");
if(sql_u)
$sql_p=mysqli_query($conn,"SELECT * from customer_details where Package=0;");
if(mysqli num rows($sql p)>0){
$mail= new PHPMailer(true);
$mail->isSMTP();
$mail->Host="smtp.gmail.com";
$mail->Port=587;
$mail->SMTPSecure='tls';
$mail->SMTPAuth=true;
$mail->isHTML(true);
$mail->Username="sayanihati2001@gmail.com";
$mail->Password="jqwujzzfgszlepbt";
$mail->setFrom("sayanihati2001@gmail.com");
$mail->SMTPOptions=array('ssl'=>array(
'verify peer'=>false,
'verify peer name'=>false,
'allow self signed'=>false
while($row_p=mysqli_fetch_assoc($sql_p)){
$email=$row_p['email'];
$mail->addAddress($email);
$mail->Subject="Package expired!";
$mail->Body=" <div class='container' style='background-image:
url(https://i.pinimg.com/originals/6b/dc/da/6bdcda32d4cce8f1ff690fe948dee0b8.jpg);
background-size:cover; height: 400px; width: auto; opacity: 0.7;'>
```

padding-top: 100px;'> The Last Chapter says,
 Your Membership has expired!

 tr>

Please renew it to avail our services.

Click here to renew your membership</div>";}
if(\$mail->send()){
echo "Mail send";
}else{
echo "no";}}}}}}

Cron job for sending email and updating database

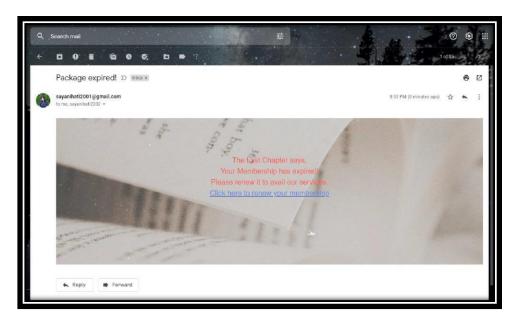
.vbs file

Set WinScriptHost =createObject("WScript.Shell")
WinScriptHost.Run Chr(34) & "C:\autorunner\script.bat" &
Chr(34), 0 Set WinScriptHost =Nothing

.bat file

"C:\xampp\php\php.exe" -f "C:\xampp\htdocs\Sem-6 Project\membership.php"

OUTPUT SAMPLE



FOR PAYMENT:

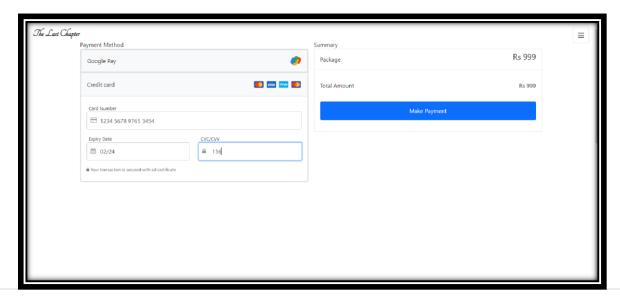
CODE SAMPLE

```
<body>
<div class="container d-flex justify-content-center mt-5 mb-5">
       <div class="row g-3">
               <div class="col-md-6">
               <span>Payment Method</span>
               <div class="card">
               <div class="accordion" id="accordionExample">
               <div class="accordion-item">
               <div class="card">
               <div class="card-header p-0" id="headingTwo">
               <h2 class="mb-0">
                       <button class="btn btn-light btn-block text-left collapsed p-3 rounded-0 border-bottom-custom"
               type="button" data-toggle="collapse" data-target="#collapseTwo" aria-expanded="false" aria-
               controls="collapseTwo">
               <div class="d-flex align-items-center justify-content-between">
               <span >Google Pay</span>
               <img src="https://uxwing.com/wp-content/themes/uxwing/download/10-brands-and-social-media/google-</pre>
               pay.png" width="30"></div></button></h2></div>
               <div id="collapseTwo" class="collapse" aria-labelledby="headingTwo" data-parent="#accordionExample">
               <div class="card-body">
               <input type="text" class="form-control" placeholder="Enter UPI"></div></div></div></div>
               <div class="card" id="Vbtn">
               <div class="card-header p-0">
               <h2 class="mb-0">
               <button class="btn btn-light btn-block text-left p-3 rounded-0" data-toggle="collapse" data-
               target="#collapseOne" aria- expanded="true" aria-controls="collapseOne">
                               <div class="d-flex align-items-center justify-content-between">
                                       <span>Credit card</span>
                                       <div class="icons">
                                       <img src="https://i.imgur.com/2ISgYja.png" width="30">
                                       <img src="https://i.imgur.com/W1vtnOV.png" width="30">
                                       <img src="https://i.imgur.com/35tC99g.png" width="30">
                                       <img src="https://i.imgur.com/2ISgYja.png" width="30">
                                       </div></div></button></h2></div>
               <div id="collapseOne" class="collapse show" aria-labelledby="headingOne" data-parent="#accordionExample">
               <div class="card-body payment-card-body">
               <span class="font-weight-normal card-text">Card Number</span>
               <div class="input">
               <i class="fa fa-credit-card"></i>
               <input type="text" class="form-control" placeholder="0000 0000 0000 0000"></div><div class="row mt-3 mb-</pre>
               3"><div class="col-md-6">
               <span class="font-weight-normal card-text">Expiry Date</span>
               <div class="input">
```

```
<i class="fa fa-calendar"></i>
```

```
<input type="text" class="form-control" placeholder="MM/YY"></div></div>
       <div class="col-md-6">
       <span class="font-weight-normal card-text">CVC/CVV</span>
               <div class="input">
               <i class="fa fa-lock"></i>
               <input type="text" class="form-control" placeholder="000"></div></div></div>
<span class="text-muted certificate-text"><i class="fa fa-lock"></i> Your transaction is secured with ssl certificate</span>
</div></div></div></div></div>
<div class="col-md-6">
       <span>Summary</span>
       <div class="card">
       <div class="d-flex justify-content-between p-3">
       <div class="d-flex flex-column">
       <span>Package </span></div>
       <div class="mt-1">
       <?php $package= $_SESSION['temp_package']; ?>
       <sup class="super-price">Rs <?php echo $package?></sup>
</div></div>
<hr class="mt-0 line">
<div class="p-3 d-flex justify-content-between">
       <div class="d-flex flex-column">
               <span>Total Amount/span>
       </div>
       <?php $total=$package; ?>
       <span>Rs <?php echo $total;?></span>
</div
>
<form action="" method="POST">
<div class="p-3">
<button class="btn btn-primary btn-block free-button" type="submit" name="payment">Make Payment</button>
</div></div></div></div>
```

OUTPUT SAMPLE



• <u>TABLES</u>

FOR REGISTRATION:

STRUCTURE



WITH RECORDS

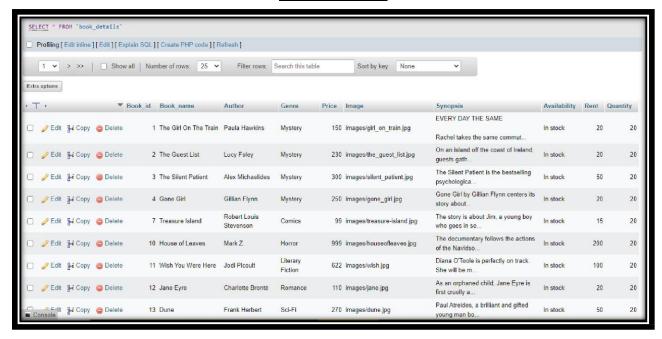


FOR BOOK DETAILS:

STRUCTURE



WITH RECORDS



FOR CUSTOMER ADDRESS:

STRUCTURE



WITH RECORDS



STRUCTURE



WITH RECORDS



FOR STORING ADMIN LOG IN DETAILS:

STRUCTURE



WITH RECORDS



FOR FINE:

STRUCTURE



WITH RECORDS



FOR CALCULATING TIMER:

STRUCTURE



WITH RECORDS



RESULTS

RESULT AND DISCUSSION

Here our main goal is that we are just solving the problem of renting book in the particular very big book shop which have large number of books within it. Since there are many people would be in the shop to provide the good service to the customers of the book shop. But it is not possible to provide the good service to the customers because it is not manually possible. There are some problems which may be solved by our application. There are some problems which may be solving by our application. Which are as follows: -

Fast service: - In the sense of fast service by this we can give the fast service (entertain, selling, purchasing, money deposits etc.) to the customers of the shop.

Reduces the workload: -In the sense of workload reduction that means all the tasks are done by the automated system/machine which give the rest to the shop owner.

Good management: - In the sense of good management our system provides the good management in the book keeping and provide the good scheduling in the all the operations of the book shop.

Provide the satisfaction to the customers: - In the sense of satisfaction of the customer, because customer is doing its all operations with the system on his requirements and he is completely satisfied because our system is fulfilling its all requirements.

Able to do all type of money transactions: - We are developing the type system which is able to do all type of money transactions (debit & credit cards and internet banking etc.)

Remove the complexity in the operations: - Our system is providing the real life features to providing the service since the user of the system in not feel the complexity in its operations.

Provide the long-term relationship with the customers: - Our system is providing the long term relationship with the customers which are more important for the good future benefits of the shop.

Provide the flexibility in the purchasing in the books: - It provides the very easy way to purchase the book from the book shop.

Networking: -It covers the maximum space through its network for its service at any time and anywhere.

CONCLUSION

Our project is only a humble venture to satisfy the needs to manage their project work. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the SRS(Software Requirement Specification). The objective of software planning is to provide a frame work that enables the manager to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

At the end it is concluded that we have made effort on following points:

- A description of the background and context of the project and its relation to work already done in the area.
- Made statement of the aims and objectives of the project.
- The description of Purpose and Scope.
- We define the problem on which we are working in the project.
- We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.
- We included features and operations in detail, including screen layouts.
- Finally we discussed the results of implementing the project.

SCOPE OF IMPROVEMENT

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In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

- We can give more advance software for Online Library including more facilities.
- We will host the platform on online servers to make it accessible worldwide.
- Integrate multiple load balancers to distribute the loads of the system.
- Create the master and slave database structure to reduce the overload of the database queries.
- Implement the backup mechanism for taking backup of codebase an database on regular basis on different servers.

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Books and Stock. Also, it can be seen that now-a-days the players are versatile, i.e. so there is a scope for introducing a method to maintain the Online Library. Enhancements can be done to maintain all the Books, Stock, Customer, Order, Payment.

We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them. In the last we would like to thank all the persons involved in the development of the system directly or indirectly. We hope that the project will serve its purpose for which it is developed thereby underlining success of process.

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REFERENCES

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