

Design and Implementation of Book Sharing System

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Abstract

Sharing books is the most basic form of sharing knowledge. But, sharing books manually may be tedious and not always convenient. The project aims at providing an electronic medium to share books and provide readers with a platform for discussing books .It uses the basics of day to day social transactions and incorporates them into a business model. It majorly delves into the system of customer to customer business model to create a conducive and beneficial environment for both the user and providers. The system provides a platform for any user, who has a book that is not needed anymore and would like to share it with another user that may have the need for it. This shall be accomplished by developing a cross platform app that incorporates the leading web technologies of today.

Key Words: Books, Angular JS, Phone Gap, Cordova, cross platform app.

1. INTRODUCTION

Every year there are many students who are busy with finding textbooks that they want to use in the beginning of new semesters/quarters. Since the prices for textbooks are pretty expensive, quite a lot of them choose to borrow or buy used books from libraries, classmates, friends or anyone in their network. Because of the low capacity of libraries, most of the time you are put in a long queue, which might take you a long time to wait for the item you want. And also, it's not easy to buy a used book just by your connections. So our idea here, is to provide a Book Sharing System which will help students to get used books easily and cheaply. By using this online mutual-help system, people can get books they're looking for and share own resources to others as well.

The reason for choosing the genre of textbook over novel and fictional books was because of the factor of necessity a textbook brings with it compared to that of other genre. A student who enrolls for a course knows the necessity of buying the textbook. Each course has recommended textbook which a student is required to buy.

The aim of this work is to construct a common online platform for sharing of books which are not needed by them anymore. It also provides a platform to share and discuss about pros and cons of books they use

This web store can be implemented using various technologies such as HTML5, Javascript, CSS3, AngularJS and PhoneGap. HTML5 is a markup language used for structuring and presenting content on the World Wide Web. Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language. JavaScript is a high level, dynamic, un typed, and interpreted programming language. It has been standardized in the ECMA Script language specification. Alongside HTML and CSS, it is one of the three essential

technologies of World Wide Web content production. AngularJS (commonly referred to as "Angular") is an open-source web application framework for developing single-page applications. Phone Gap is a mobile application development framework created by Nitobi (owned by Adobe Systems). It enables software programmers to build applications for mobile devices using JavaScript, HTML5, and CSS3, instead of relying on platform-specific APIs like those in iOS, Windows Phone, or Android. Fire-base is used for data-basing.

2. REQUIREMENT ANALYSIS

The existing system is completely offline or depends upon other social platforms that aren't designed specifically for this task. The process, being offline, is slow and not streamlined. Reference books are very important for any student in higher education, but these books are often expensive or hard to find. The existing system does not have any facility to make a one stop exhaustive search for such books. Thus a student must rely on his social network of friends to find the books he or she needs. This may not be possible for all and is tedious and time consuming.

Internet has converted a world into a global village. With the popularization of internet, online shopping has become a new and unique trend. From clothing to electronics, all the things are available on the internet. Keeping up this trend, a need for online book sharing system is felt because it can enhance the existing system even more.

The proposed system being a cross platform app will provide the user with an exhaustive database of available books. It will be the first stop for any student to find any book. Once the user finds a suitable book owner the system provides a native chatting system for interaction. The major goals of this system are:

- It is user- friendly and easy to use for both readers and sellers.
- The consumers are allowed to give feedbacks about any book.
- The consumers are also allowed to modify their own library page individually. They can add/remove books.
- The sellers are allowed to add new books in respective categories.
- The consumers can view their book history and details.

3. SYSTEM ANALYSIS

The main components of this system are registration, login, browsing of books, ordering and looking at book details. The proposed system being a cross platform app will provide the user with an exhaustive database of available books. It will be the first stop for any student to find any book. Once the user finds a suitable book owner the system provides a native chatting system for interaction, this is not only convenient for the users but also helps secure their identities from individuals with malicious intent. The proposed system also provides a platform for all book lovers to interact and discuss about books, for this the system provide a rating and reviewing system for a particular books so that readers may share their thoughts about books use by them.

The users have to register themselves only then can they be able to browse books. The registered members have to login first in order to share books. After that, the users need to select the required books, and then contact the book seller through chatting feature. They can then mutually decide on the price and nature of transaction.

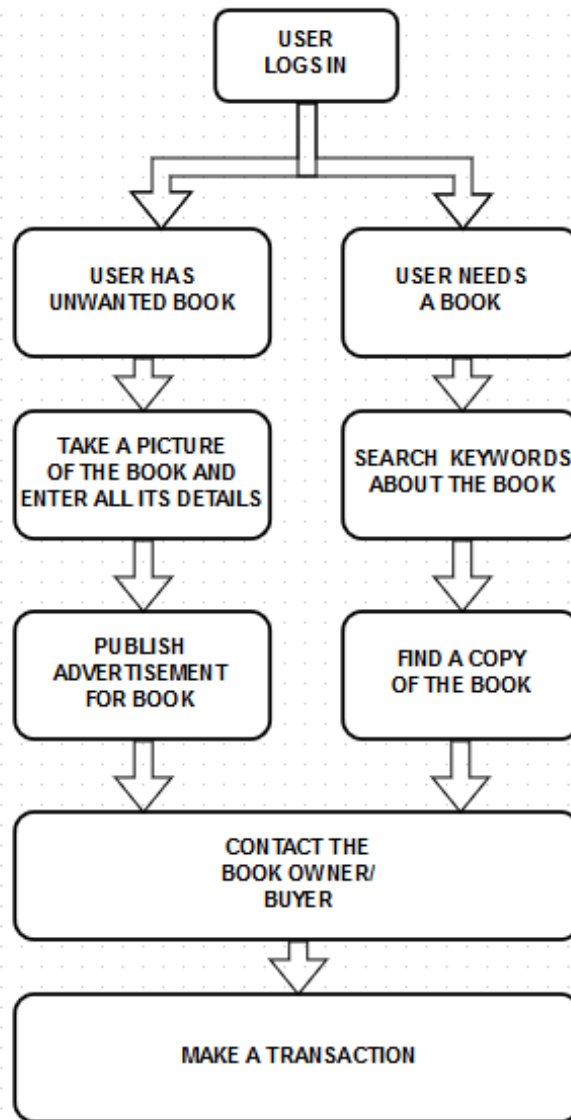


Figure 3.1 System Flow Chart

4. SYSTEM ARCHITECTURE

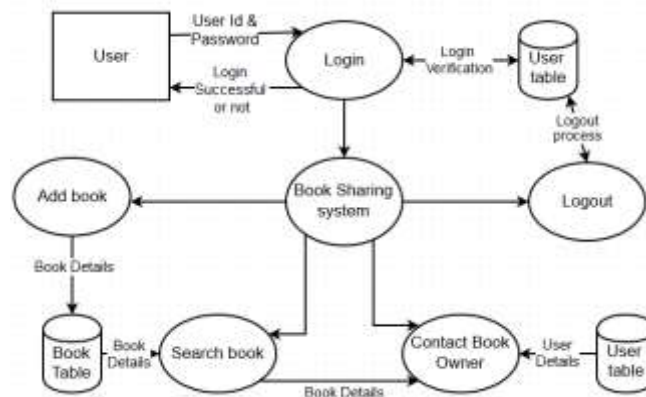


Figure 4.1 Data Flow Diagram

The system architecture consists of three major parts namely Graphical User Interface (GUI), front end and back end. The technologies majorly used in development are AngularJS and ionic framework. AngularJS (commonly referred to as "Angular") is an open-source web application framework maintained by Google and by a community of individual developers and corporations to address many of the challenges encountered in developing single-page applications. It aims to simplify both the development and the testing of such applications by providing a framework for client-side model-view-controller (MVC) and model-view-view model (MVVM) architectures, along with components commonly used in rich Internet applications.

The AngularJS library works by first reading the HTML page, which has embedded into it additional custom tag attributes. Angular interprets those attributes as directives to bind input or output parts of the page to a model that is represented by standard JavaScript variables. The values of those JavaScript variables can be manually set within the code, or retrieved from static or dynamic JSON resources.

Ionic is a complete open-source SDK for hybrid mobile app development. Built on top of AngularJS and Apache Cordova, Ionic provides tools and services for developing hybrid mobile apps using Web technologies like CSS, HTML5, and Sass. Apps can be built with these Web technologies and then distributed through native app stores to be installed on devices by leveraging Cordova. Ionic was created by Max Lynch, Ben Sperry, and Adam Bradley of Drifty Co. in 2013, and is used by software developers around the World.

The software underlying PhoneGap is Apache Cordova. The software was previously called just "PhoneGap", then "Apache Callback". As open-source software, Apache Cordova allows non-Adobe wrappers around it, such as Intel XDK or Appery.io, Apache Cordova is the community powered version of PhoneGap, which is Adobe's productized version and ecosystem on top of Cordova. The Ionic open source SDK uses Cordova not PhoneGap for its core tools. The Intel XDK also uses Cordova APIs

5. ADVANTAGES

- Much of the time can be saved over the internet.
- Unlike the manual system, this system is more flexible.
- The proposed system is easy to use and secure.
- It is convenient for people to find and search relevant books.
- They are able to negotiate before buying.
- Rent option is available for the students.

The developed online book sharing app will enable user to search books among wide variety. It will enhance the user experience & promote hassle-free book sharing environment.

6. CONCLUSION

Thus, the proposed system for book sharing will provide a platform for all students to give and take books through a more efficient and streamlined manner. The system incorporates a number of techniques to further increase the process of sharing books. By automating the book searching process with the help of computer assistance a lot of precious time and effort of the students will be saved. The proposed system will thus be much more efficient than the current offline process and will be a huge help to all students.

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