# Enhancing Utilization of used Books

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*Abstract*— As a student we face lots of trouble to find right book so we have come up with the idea of C2C Android Application for Used Book. It is a platform that facilitates exchange of books in the student circle. It can be used as platform having multiple function wherein the students will be able to search and buy second hand books and sell their previous yearbooks with each other. Thus, the prime users of the system will be students. Consequently, this application can be run from all device that has the internet facility available. Hence, the objective of this application is to pull out the load of students to search for second hand books in different stores and to give ultimate solution to this problem.
***Key words:*** C2C, Web Scraping, GPS Distance Calculator, Privacy Retrieval, seller, buyer

## I. INTRODUCTION

Usually, for almost all the students, it is a job to get the correct information about the university prescribed study material. Especially for the fresher's, this entire idea of studying from different reference books and that too a form various books for different topic is new. So the elder year students are the best source to gather this information. But again asking them for help acts as a hindrance here. So to overcome this issue, C2C Android Application for used books acts as a one stop solution [1].

Here, student can act as seller as well as buyer. So all student, acting as buyer or seller, have to provide- The android application with his/her details. The students will give their login details like name, respective roles i.e. either buyer or seller, location, college name. The student after logging in can perform a number of function such as search a particular book, browse through app to look at the books available, share books by selling it etc. The student can also get information about genuine price of books and reviews for particular.

The application encompasses a competent search button where the system shows the similar word list as that one types. Moreover, the application provides user with atlas of books stores in database based on location. It provide student with information of other buyer and seller present in nearby areas. It also calculates time and distance between various buyers and seller to reduce the commutation time between users.

Hence, the system provides an ideal solution to the problem of searching the right books that university prescribe and at the same time selling the previous year books. Thus, the communication gap between students can also be diminished successfully with the use of this application. [2]

## II. RELATED WORK

In [3] authors used concept of library system. The task done by users of Quick Books Availability system will be according to 'ADMINISTRATOR' and 'STUDENTS'. The admin who acts as librarian basically acts as the administrator of the system. The admin can access this system using any internet validated device. The admin will login with their predefined login id and password. On successful sign-in he/she can perform tasks like librarian will be able to share the details of any books that are present with him/her with students. She/he can create accounts of all the students by writing down their important details and then provide them access to their accounts by granting their login details. He/she can also deactivate and update the student accounts and even provide them with a new password if needed

Student can perform the following function. Once the students get their login details from the admin, they will be logging into the system using the login details and a predefined password. On successful sign in they can perform task like students may update the password once they log into their account. They can dispense the details of the books available with them. They can look for any particular book using the book name and the author name and publisher name according to their requirement. If the search is achieved successfully, the search engine will list out the complete details of the book and its owner. They can view the various University Reference Papers. They can also check for the details of the book available in the area near their college.

In [4] author refers an application which a medium for connection between low scale (second hand) booksellers and consumer. Instead of keeping our own warehouse of books we would keep a live database of the warehouse held by our second hand sellers. At start we would create a database of all quality-checked genuine books in store with the seller and give him a basic phone which has android in it to support our pre-installed app. The app has two big check boxes to add and delete books. If a consumer purchases a book through our app, we notify the owner of the book i.e. seller and he/she keeps the book aside. On the other hand, if the owner sells a marked book to a walking consumer he can scan the QR code and it automatically get updated in our website database. If a user which is student wants to sell a book she can do so by listing it on our website, but since students are not authorized retailer, we would provide a "Communicate with Owner" option in place of a "Purchase" option if the seller is a student.

## III. PROPOSED WORK

This system is comprised of many components the main components are buyer and seller. Buyer and seller can be any student or customer who wishes to sell and buy books. The most concern aspect of buyer or seller is price and money. To provide best price range for students we have used negotiation technique. The negotiation is nothing but will fetch or scrap data from other e-commerce sites for users, the location problem is solved using distance calculator via Google maps. Once the data is fetched about location and price and various users are done with their respective task i.e. when they are done with selecting appropriate buyer or seller. Then is privacy retrieval coming into picture. Once seller

 

selects his buyer contact information between both is exchanged. [5]

*A. System Architecture:*

Our system architecture is represented in figure 0. The system architecture consists on various components which are discussed in later section. Here, buyer and seller are one of the components, after logging from our app they perform their relative task like searching and uploading book respectively. Then, through negotiation data about enquired book is scraped from various e-commerce web sites like Flipkart, eBay, Google Books and Amazon. After achieving information about book the application looks for convenient buyer or seller present in near location with respect to user. The distance between seller and buyer is calculated to find minimum distance and travelling time between them. Distance calculation is done by google maps. After finding efficient seller and location the list of buyer is displayed to buyer. This is done through suggestion engine, from suggested list. Buyer selects a appropriate seller and contact him. Contact retrieval is done using privacy retrieval concept which is explained later. After contact retrieval they both contact each other.

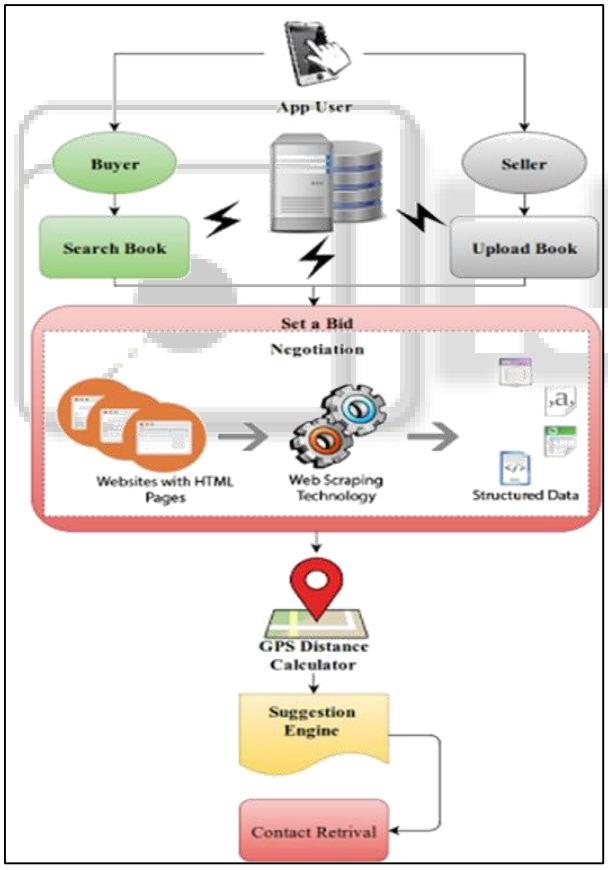


Fig. 1: System Architecture

The various components of system architecture are explained below in details:

*1) Buyer:*

The Components of Buyer Are Log In/Sign Up, Search, Filter, Select Book And Contact Seller Shown In Figure 2.

- Login/Sign up: If buyer is already registered user directly log-in otherwise user fills registration form by providing the following details- Username, email id, password, location, college name. After proving basic details. He will be asked to select relative role as a buyer.
- Search: In this component user enters details of books like author name, publisher and price range. Then clicks on search button
- Filter: When user clicks on it (search) details of various sellers along with their price and location are displayed. Also, market price of the books is fetched from various e-commerce sites to give buyer genuine information.
- The prices of books that are fetched from different sites are done by scrapping. Location is displayed using Google maps. Then both list (location and price) are sorted using some sorting algorithm. Here, user has facility to filter result according to price or location or both. The best filtered result will be displayed.
- Select Book: After searching and sorting is done. User can select the seller depending upon his choice. Buyer can select a seller based on price or location whichever is beneficial for him.
- Contact seller: Contact retrieval is done by using three-way hand-shake. Once buyer selects his book and seller. He sends an "interested request" to the keeper of the book. By doing this he agrees to share his personal contact information with seller. If seller is interested they revert back to buyer.

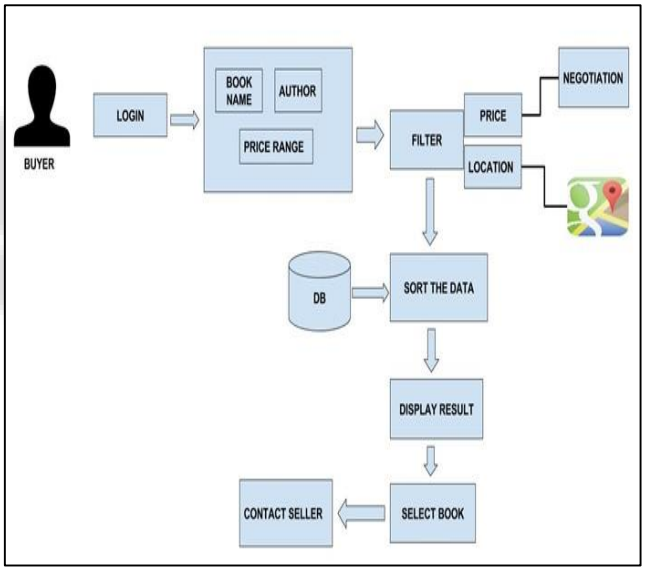


Fig. 2: Flow Chart For Seller

*2) Seller:*

Is a user who will use the application for selling his/her book. The components under seller are Log in/ Sign up, Upload, Negotiate, Set price, Submit shown in figure 3.

- Login/Sign up: If seller is already registered he/she directly log-in otherwise he/she fills registration form by providing the following details- Username, email id, password, location, college name. After proving basic details. He will be asked to select relative role as a seller.
- Upload: After login process seller will upload the pictures of books. Once the pictures are uploaded they provide details about conditions of books. After that they will give details of books like name, publisher, and author.
- Negotiate: Once seller is done with upload process. The application will provide him details about market price and the rate at which the books are available at other sites. Here app will gather data from other sites through

 

scrapping. The scrapped list will select minimum value of book available at other sites. From which it will calculate the price at which seller can sale its book.

- Set price: Once seller is providing with market price. User can enter the maximum selling price of book depending on information provided from other sites
- Submit: When seller is satisfied with the price. Seller submits his details to server. Where it will be saved in seller database.

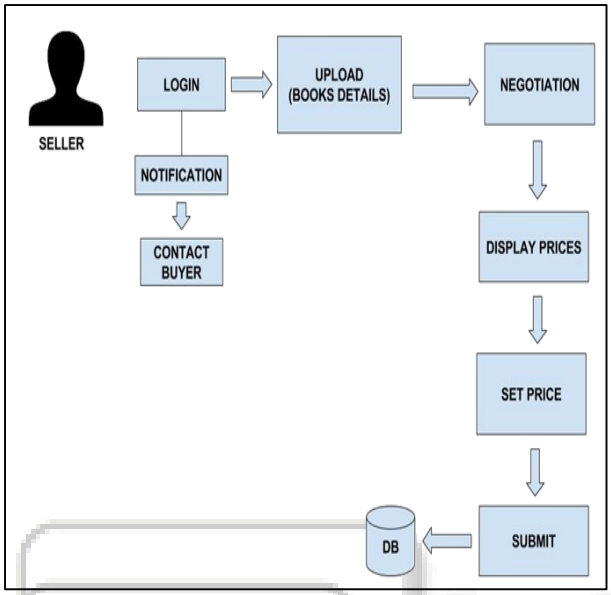


Fig. 3: Flow Chart for Buyer

*3) Negotiate:*

Negotiation in our project is a term given to a technique which uses data scraping concept to fetch genuine price or books and provide authentic information about books. It works on behalf of either side (buyer and seller). Here, data will be scrapped from other sites but not from other apps. There would be basically four sites from which data would be fetched namely Flipkart, Amazon, Google Books and eBay.

a) Working From Buyer Side:

Once buyer is done with providing basic details of book like name, publisher, edition and author, the app via negotiation will list out all information about that specific book from other websites and it will be displayed along with its market price and other offers available for books on other sites. This way buyer is assured that no fake information is provided by seller. Through negotiation buyer will be able to find sincere sellers.

b) Working From Seller Side:

Once seller is through with uploading pictures of books, then he give details about book condition i.e. if book is newly brought or its way to old, whether its second hand, third hand and so forth. For condition of book we provide a text box where seller will write a review about book. Then there would be a check box where seller will answer q question "At what hand book is obtained and earned?"(Purchase Hand, PH) Depending upon the answer negotiation will display the price range for seller i.e. negotiation will calculate maximum selling price and suggest that price to the seller [6].

c) Pseudo Code For Negotiation (Seller):

Step 1: Fetch market price from all the mentioned websites.
Step 2: Sort them in order.
Step 3: Select lowest market price (MP).
Step 4: Calculate the maximum selling price (MSP) depending upon book condition, PH.

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If (BBH=1)
        MSP=20% of MP
Else if (BBH>2)
        MSP=20% of MP to 60% of MP.
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Step 5: Select the efficient MSP
Step 6: Suggest the MSP to seller
Step 7: If seller agrees with calculated MSP go to step 8, else go to step 4
Step 8: End

*4) Gps Distance Calculator (Google Map):*

This application provides privileges to student by giving them opportunity to search their books based on location. Student will provide their location preference at the time of sign up. Distance of nearby buyer and seller would be calculated based of time and distance through Google map[7].
The flow graph of distance calculator is show is figure 4.

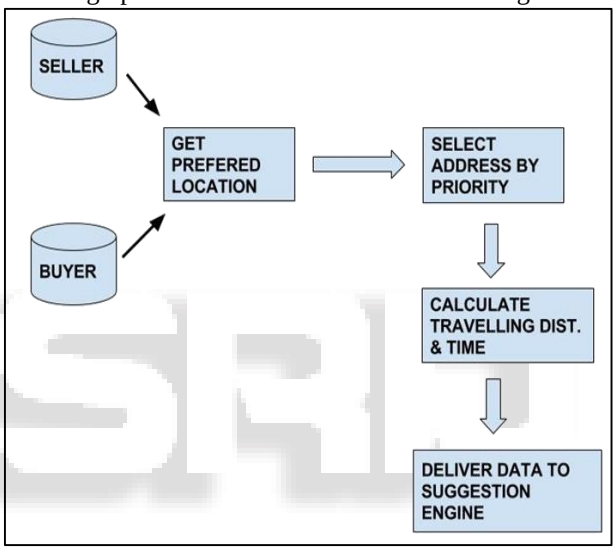


Fig. 4: Working of Distance Calculator

*5) Privacy Retrieval:*

The major concern between customers is there privacy. C2C android application for used books comes with great method to overcome this problem. Our contact retrieval works on the principle of three way hand shaking. Here, once buyer selects the seller [8].
Step 1: Buyer to Seller: A pop message will be generated in the sellers' account notifying him that particular person is interested in his book.
Step2: Seller to Buyer: Once buyer receives notification from buyer. User acknowledgment to that buyer by revealing his/her contacts details. Otherwise seller will simply decline the offer.
Step3: Buyer to Seller: After receiving personal details of seller the buyer automatically sends his/her personal details to seller.

## IV. MARKET POTENTIAL

A perfect solution at a click of a button to overcome the crisis of exchanging books amongst the student clan. The application avoids commission which is to be paid to third party. Since, here customer interacts directly with another customer without middle man. Whenever, we visit shops to return books. There every retailer has their own policy for

 

returning books. This cancels out the overheads of dealing with inadequate policies of retailers. Application provide integrated platform for selling previous books and buying used books at low price. Application has accessibility through all internet enabled devices so users don't have to travel from store to store. It's just screen away.

## V. CONCLUSION AND FUTURE SCOPE

C2C android application will help all the college students overcome the communication barrier that is present currently amongst them. It makes the search of the suitable books trouble-free and one can even effortlessly hawk away with their old books at the same stage. So if anyone wants to purchase a specific book, then he just has to type the book name or publisher's name or the seller's name in the search box and the work is over. The efficient search box will provide with the most apt results for the search.

This system seek to bring together all the college going people so that they can help each other and get helped themselves. It will be profitable for all the people who are expensively charged for buying books or else at the same time who get a very fewer amount in return to their old used books. Thus, the proposed system for books buying and selling system will surely prove to be a blessing for all the students and college going people.

In near future the application will be furnished with chat server facility. Where buyer and seller will exchange text messages through our application. There are most likely chances to expand the application from C2C to B2C making it more robust.

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