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CMSC 461

Project Phase 1: Requirements

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**Introduction:**

Book Fetch Inc. wishes to create a site aimed at selling books to college students. The service they wish to provide is to sell and rent books and electronic books to college students based on the courses they are taking at their university and the instructors who teach the courses. The service is aimed to be a platform that also provides students the ability to review books, and receive recommended books based on the books they have purchased in the last month.

**Overview:**

The Service will be built on top of a database that will hold all of the information pertaining to the users, the books, the universities, etc. The database will have to have at least the following relations: Student, Customer Support User, Administrator, Trouble Tickets, Book, Cart, Order, Recommendations, University, Department, Instructor, and Course. More will be added to address account logins, book inventory, and for book shipments.

Along with the Database, three modules will be provided for the 3 different types of users: a student module, a customer support module, and an administrator module. These modules will provide students access to the store, and employees the access for their related functions. All interaction with the database will be done through these modules. The modules will be command line applications.

**Specific Requirements**

Students will be able to buy/rent books regardless of course affiliation, enter Trouble Tickets, review books on a scale of 1-5, and cancel orders.

Customer Support Users will be able to enter Trouble Tickets related to technical problems with the site or general complaints and perform order cancellations. Customer support users can NOT perform Administrator actions.

Administrators will be able to handle Trouble Tickets in states of “assigned”, “in-process”, and “closed”, adjust inventory or books, and add course book requirements. Administrators can NOT enter Trouble Tickets or edit Trouble Tickets in a state of “new”. Among the Administrators, there is one Super-Administrator who has the ability to add and remove Customer Support Users and Administrators

Trouble Tickets can be created by Students and Customer Support Users. These tickets are set to “new” status and only other Customer Support Users can access them. Once a customer support users views the ticket, they then can assign the ticket to the Administrators and the ticket status is updated to “assigned”. Customer support users may view any ticket, but can only edit tickets that have a “new” status.

Books are offered rented or new, and either hard copy or electronic. Books belong to one category and one or more subcategories. Books have a set of Keywords associated with it. Books also have a rating on a scale of 1-5. Books may also have a list of Courses associated with the book for different Universities.

Carts are created by Students. Students can only have one Cart at a time. The Cart consists of books that the Student wishes to purchase or rent. When a student makes their purchase, their cart is turned into an Order. Orders are created from Carts that have been purchased by a Student. Orders may be canceled. Orders cannot be returned.

Recommendations will be given to Students when they log onto the site. Recommendations are based on their purchase history in the last month, therefore a history of past purchases must be kept. Any book that is in the same category of books previously purchased, matches any keywords, and has not been purchased will be recommended.

Universities have a set of Departments and a set of Courses. Universities have one representative that can be used to contact the University. Departments have a set of Instructors and a set of Courses. Courses have a set of Instructors and a set of Books. Courses may be associated with multiple instructors. Instructors are associated with Universities and Departments.

**Additional Requirements**

All users will be required to set up a username and password log in. They will need to enter their credentials into the module in order to access the service. Different history will be tracked on each user’s account. Student’s purchase history will be kept for generating recommendations. Credit card information will only be stored for orders and orders will be deleted after the order is shipped and completed.

Customer Service Users and Administrators will have Trouble Tickets tracked. Trouble Tickets will record the user who created it (Student or Customer Support User), the Customer Support User who assigned it, the Administrator who it was assigned to, and the Administrator who solved the trouble ticket.

**Other Things to Think About (Stuff I’m not sure about yet)**

For accounts with password logins, a system will have to be made to securely verify passwords while keeping the exchange private. This means passwords can’t be simply stored on the database and must be verified by some other method.

For multiple users using the service (especially the employees) something must be done about two users attempting to modify the same data. This will entail some system to resolve scheduling and synchronization between users.

Books will have to be tracked with a more complex system. The store will need to account for how many copies of a book are in stock, how many books will be in the next shipment, and a priority queue of books that are out of stock but have the most demand. This also means the book tracking system will need to account for new and used books separately.