University Book Store
THE BIG BOOK BARN

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Abstract

The domain chosen for this project is Education.

We have created a University book store web application, The Big Book Barn where students can sign up/log in and browse through the vast selection of books available for sale in their University.

Students can either search for a book they are looking for in the Book Finder or look at the recommendations suggested to them based on the books in their cart/ based on the book they are currently viewing.

The student can add the books he/she wishes to buy into the book cart and then proceed to checkout. They will be given a slot during which they can pick the books up from the library.

AJAX Pattern Used

The AJAX Pattern we have used is Multi-Stage Download.

We've implemented multi-stage downloading in the following manner-
The most basic information is loaded into the page initially, and then the images and links are loaded shortly after.

If in case the user leaves the page, before the images and links are downloaded, there will be no consequence, but if he or she stays on the page for an extended period of time, extra functionality is loaded in the background.

Intelligent Algorithm

We used the KNN (K-Nearest Neighbours) algorithm to implement collaborative filtering, i.e., we used a dataset of books (GoodBooks 10K) with 10,000 books and 53,000 ratings to find a user-rating matrix (containing the top 1000 books with highest number of ratings).

Using this User-Rating matrix we ran the KNN algorithm which plots all the points in the matrix in an n-dimensional space and finds the K nearest neighbours for a given point.

Effectively, given a book we were able to find the top K similar books.