**CS 307 Project Charter - Group 11**

**Team Members:** Aditi Patel, Elena Monroe, Harshini Manian, Pooja Mathi, Sam Delucia-Green

**Project Title:** Book Xchange

**Problem Statement:** A common issue we found as college students is the price of new books, for both class and personal enjoyment. We are looking to provide students and other users the ability to exchange the books they need for free with others in their area. The app will provide a catered experience based upon each user's tendencies to suggest the best personalized results, as well as physical location zone-based recommendations. Unlike similar services, our app will allow for users to message one-another and not share individual’s locations for their safety. Additionally, the app uses a recommendation algorithm to generate a series of books to show the user which we did not find in any other apps.

**Project Objectives:**

* Create an iOS app to connect people who want to temporarily exchange books they own and enjoy
* Implement user profiles for posting and finding books from other local users
* Develop an algorithm-based suggestion system to recommend books based on user preferences and location
* Allow users to message each other when their input books ‘match’ in order to coordinate swap details
* Construct user ‘library’ for filling out books they want to read
* Build a review system for users to rate both other users (based on user-user interactions) and their books (based on personal enjoyment of said books)

**Stakeholders:**

Users: People who enjoy reading books and want to temporarily exchange books with other readers

Developers: Aditi Patel, Elena Monroe, Harshini Manian, Pooja Mathi, Sam Delucia-Green

Project Coordinator: Doguhan Yeke

Project Owners: Aditi Patel, Elena Monroe, Harshini Manian, Pooja Mathi, Sam Delucia-Green

**Project Deliverables:**

* A Swift-based front-end iOS app that allows users to create profiles, input preferences, build a library, upload books, view other users’ books, and message other users.
* A Swift-based back end that allows communication between the database and the front-end.
* A MongoDB-based database to store and manage user data, library, preferences, and likes.
* A collaborative filtering based matrix-factorization book suggestion algorithm based on genre, favorite authors, location, etc.
* Platforms/Frameworks: Swift, MongoDB