

DevX Project Proposal (Loops*)

* name subject to change

Project Overview:

Textbooks for classes are expensive, but often times you only need them for one quarter before it becomes useless. Students would often have to then attempt to sell their old books and look to purchase another set of textbooks for their next quarter classes. Selling and buying textbooks on Facebook groups can be very annoying as the groups are not very organized. Trading textbooks also seemed infeasible - you had to spend time and effort finding people who had the book you wanted and hope that they wanted the book you were done using.

Loops tries to solve all of these issues with one simple-to-use web application. By comparing the books you list for trade and the books you need with all of our users, Loops will automatically generate the smartest trade circles* using graph theory algorithms that maximize the number of students who get what they want, with almost no effort on the part of the user. Don't want to trade, but just want to buy or sell your textbooks with or for cash instead? You can do that with Loops as well by adding your desired cash amount for each textbook in question into our trading database, and those can be integrated with the trade circles as well.

* A simple example of a trade circle is the following: Person A gives a book to Person B, who gives a book to Person C, who gives a book to Person A. Although no direct trades are possible in this case, a trade loop can be formed so that everyone gets what they want.

Tech:

Back end in node.js/Express (JavaScript) or Flask (Python), depending on team preference

Front end in Bootstrap, JQuery, Pug (templating engine), JavaScript, HTML, CSS

SQLite database

Version control with Github

Deployment with Google App Engine

Application Components:

- Home Page
- Login - user authorization with OAuth 2.0
- Dashboard
- Textbook Have/Want Lists
- Notification/Messages
- Profile

Desired Team Composition:

- 1 Project manager (me)
- 2 Back end developers
- 2 Front end developers
- 1 Designer