

Computer Science Senior Project Proposal

TC Used Goods Portal

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1 Introduction

TC Used Goods Portal is an android application portal in which members of an academic community like Trinity College can list their used goods for giveaway, trade or sale. Users will also be able to make posts as requests for some goods which they might be in need of. The users will be able to message each other on the app for inquiries and negotiations regarding the sale of devices. This app differs from other used goods selling portal available now like Craigslist, Letgo, ebay, etc. because the users and interactions in this app will be local and limited to a certain particular institution the users are part of, rather than being world-wide or location wide.

2 Background

Every year millions of new students come into colleges and buy goods for their dorm. These goods are thrown away at certain part of their college stay or at the end of it. This is not a sustainable model. This app aims to make it easier to connect the people who need those goods and the people those who need to get rid of it. Since people in an academic settings are likely to buy and use similar goods, this app aims at promoting reuse of goods by facilitating such transactions.

In similar vein, this app aims to combat the endemic of ever-rising book costs by facilitating the transaction of used books among students. The fact that at a certain school, people take the same courses and thus require the same text books but in different semesters is the motivation towards making the app. By making it localized, the app will make transactions easy and fast while delivering high value and saving a lot of money.

3 Significance

The locality of the app is very significant to the success of it where we have multitude of other similar apps. Since students are often with limited means of transport and/or time, this app will make it easier to obtain things they need without buying a new one. As mentioned above, the fact that these people used almost the same kind of goods helps as the good might be easily available very nearby for cheap. Additionally, by limiting the users by the campus and use of '.edu' email addresses to verify the users, this app can provide a very secure environment for transactions. The added authenticity makes the app, users and the listed goods trustworthy as well.

Lastly, this app promotes reuse of goods by helping reduce the amount of goods thrown away once people leave campus after graduation or for breaks.

4 Development Tools, Features and Requirements

This will be an android OS application, hence will be developed using Android Studio IDE and Java. It will feature an online database for the storage of the user information, posts, messages and transactions. As mentioned above, it will use '.edu' address and emails for verification - thus this app will also require a Transactional Email API Service. Additionally, it will also have a secure payment API like PayPal, so users can pay with ease without cash.

Git and Trello will be used for version control and task management respectively.

This app will require camera and storage privilege on the mobile device.

5 Expected Outcomes

At the end of this project, I hope to have a fully functional and industry-grade android app. The app will be ready to use by people in Trinity College including faculty and staff. Hopefully, with this app and necessary infrastructure in place, people will use the app to trade books and goods within the coming academic year and benefit from it.

Personally, I wish to gain some android development experience. I also wish to make security of stored information and that of transactions and communications between parties a very high priority for this project, thus gaining considerable insight and experience at handling and storing huge user data securely.

6 Timeline

The project will be divided into two halves for two semesters and will tentatively follow the timeline, tasks and goals mentioned below.

FALL 2017 SEMESTER	
Sep 24 - Oct 08	Android Development Crash Course
Oct 09 - Nov 12	Creating User and Post Infrastructure back-end functionalities with minimalistic front end <ul style="list-style-type: none"> - Create Posts for listings or requests functionality (10/9- 10/22) - User Registration and Sign-in (10/23-10/29) - User Profiles and Dashboard with management of listings (10/30-11/12)
Nov 13 - Dec 03	Front End Design and Implementation <ul style="list-style-type: none"> - Layout and App Flow Concept Design (11/13-11/19) - Design Implementation (11/19 - 12/03)
SPRING 2018 SEMESTER	
Jan 22 - Feb 25	Communication Infrastructure Implementation <ul style="list-style-type: none"> - Email Verification (01/22-01/29) - On app-messaging infrastructure (01/30-02/18) - Connecting messaging to the user dashboard and listings (02/18-02/25)
Feb 26 - Mar 11	Tags, Search, Filter and Favourite Functionality Implementation
Mar 12 - Mar 25	Payment API Integration
Mar 26 - Apr 15	Re-factor, Testing and Debugging
Apr 16 - Apr 29	Deployment and Further Testing

This schedule and milestones might be subject to change slightly depending on the progress and hurdles in the development of this app.

7 Special Considerations

This app will require hosting space for the database which will need some capital. Additionally, the use of email APIs and payments APIs might incur some costs.

8 Areas of Expansion

Should the android app project be completed in advance of the scheduled completion time, I wish to start development of iOS application for the app. Additionally, the app will be made to support other different large institutions and organizations.

9 References

Craigslist App - <https://craigslist.com>
YikYak Mobile App - *Unavailable Now*
LetGo App - <https://us.letgo.com/en>