



UniCart

CSE686: Internet Programming (Spring 2018)

Prof. Edmund Yu

23.03.2018

Team Members

Pratheek Basavana Gowda - Team Lead

Akshay Manoharan

Avi Singhal

Bharath Mayanna

Joy Shalom Soosai Michael

Sachin Basavani Shivashankara

Sharath Nagendra

Shreyas Istarth Shivanna

Vishnu Prasad Vishwanathan

Overview

‘UniCart’ is a web based application which provides a common marketplace for trading commodities between students. Our motive is to provide a platform for the student community where they can buy, sell, rate, rent and bid an item. It provides a one stop solution for:

- Enabling communication between traders via chat box.
- Increasing the accessibility between traders via location services.
- Validating the trader authenticity via email.
- Constructing reliability on a trader based on their average rating.

Description

The home page of the application will hold 4 sections - ‘To Rent’, ‘To Bid’, ‘To Buy’, ‘To Sell’.

To Buy:

- Once the trader selects an item to buy, it would direct them to a detailed view page which elaborates the item details such as ‘Product description’, ‘Product image’ and the cost
- If the trader decides to proceed with the transaction, the user should either sign up or login using valid credentials
- Each user has their own dashboard which holds information on profile details, user rating and traded items
- Every buyer will be able to click on the seller’s name which will direct to the seller profile. Seller’s profile will hold their name, rating, items on sale and an option to chat
- Once the deal is finalized, the seller has to change status of the item to ‘Sold’. It should anyway display the item in ‘Sold’ section of the seller dashboard
- Once an item status is changed to ‘Sold’, that specific item will be added to the buyer’s ordered item section under dashboard. After a deal is done, both buyer and seller will have an option to give rating to the other one. Average to these ratings will appear in each user’s own profile

To Sell:

- As discussed in buyer section, the user has to log in and then update the product information like: item name, picture and radio button (‘Rent , Buy , Auction’)
- Based on the selection,
 - If ‘Auction’ - bid start amount should be updated
 - If ‘Rent’ - rental price and period should be updated
 - If ‘Sell’ - selling price should be updated
- Once the seller updates the item info, the items should be added to selling, renting or the bidding sections under the dashboard.
- The item will be added to the selling, renting or bidding parts of the common pool in the home page

To Rent:

- Once the trader selects an item to rent, it would direct them to a detailed view page which elaborates the item details such as 'Product description', 'Product image', 'Rental amount', 'Rental period'
- If the trader decides to proceed with the transaction, the user should log in as described in buyer section
- Every buyer will be able to click on the seller's name which will direct to the seller profile. Seller's profile will hold their name, rating, items on sale and an option to chat
- Once the deal is finalized, the seller has to change status of the item to 'Rented' along with 'Availability date'. It should anyway display the item in 'Rented' section of the seller dashboard
- Once an item status is changed to 'Rented', that specific item will be added to the buyer's ordered item section under dashboard. After a deal is done, both buyer and seller will have an option to give rating to the other one. Average to these ratings will appear in each user's own profile. Once the seller gets the item back, they can change the status back to available

To Bid:

- Once the trader selects an item to bid, it would direct them to a detailed view page which elaborates the item details such as 'Product description', 'Product image', 'Bid Start Amount'
- If the trader decides to proceed with the transaction, the user should log in as described in buyer section
- Multiple users are given the privilege to bid for the item, until the bidding time ends. Once the deal is finalized, the seller has to change status of the item to 'Sold'
- Once an item status is changed to 'sold', that specific item will be added to the buyer's ordered item section under dashboard. After a deal is done, both buyer and seller will have an option to give rating to the other one. Average to these ratings will appear in each user's own profile. Once the seller gets the item back, they can change the status back to available

Prioritized Features

1. Validation and Authentication
2. Chat window
3. Bidding Feature
4. Rating for each user
5. Location services
6. Payment gateway
7. Discussion threads for product
8. Product Request
9. Product recommendation
10. Reward system

Technologies Used

- HTML5
- CSS
- JavaScript
- Node JS
- Firebase Database
- APIs

Implementation Overview

- Designing UI:

Technologies: HTML5, CSS, JavaScript

Creating the required pages and continuous integration of other Front-end elements. Enhancing the UI with animations and visually creative design model. Displaying the data in a formative and an inventive way by using latest CSS3 and JavaScript events.

- Developing the database structure:

Technologies: Firebase

Designing the tables as per different modules of the application. Detailing on the type of data that is handled for each specific table along with insight to dependencies of tables. The columns, data types and foreign key constraints would be clearly specified.

- Validation and Authentication:

Technologies: NodeJS

Find the best way to validate and authenticate the users, implement it and integrate it with the pages (Adding the User profile to the pages and the account Info on the home page and make sure that the user navigation to the Signup and Sign In pages are smooth.

- Detailing the queries:

Technologies: Firebase and NodeJS

To query the database efficiently for selecting, deleting, inserting and updating the Database. To develop time efficient queries to access the database. Care should be taken to make sure that the database shouldn't get tampered by some malicious injections.

- API's:

Required APIs: Google maps, PayPal, social networking sites, Chat Box.

Google Maps - for providing the users with location data, distance calculation and interactive navigation.

PayPal - for providing online payment facility involving secure transactions.

Social Networking Sites - to include the sharing of listings on social sites like Facebook, Instagram and twitter.

Chat box - To integrate a User-friendly Chat-box API (Not decided).

- Bidding feature:

Technologies: HTML5, CSS, JavaScript, NodeJS, Firebase

To develop a robust item bidding feature by giving the user-friendly UI that works along with the backend processing. The backend should be reliable to handle the user traffic and locking the user bid amount without any delays thereby avoiding deadlocks. One of the quality measures: The time extension feature - The bidding time is extended when the bid time is less than a specific time and more than one user is bidding for the same item.

- Discussion forum:

Technologies: HTML5, CSS, JavaScript, NodeJS, Firebase

To enable the users to start new threads of discussion and the idea is to make it only for the registered users. It should be open to all the registered users like the general discussion forums.

- Integration & Testing:

The Continuous integration process should be carried out as the UI should be integrated with the backend. The final testing plan should be able to cover all the parts of the application.

Significance of the Project

- We are trying to connect people belonging to the same neighborhood

For example, if we have this Web app connecting the students in the college, it makes it easy for the students to share the books and household items in excess or which is not required at a later stage.

- Intensified user interaction, rich user experience and diversified features makes this app unique

For example, direct user connectivity via chat, multiple user accessing the same item simultaneously, user friendly UI and effortless location services

Tasks and assignment

Tasks	Start Date	End Date	Assignee
Designing UI	3/24/2018	4/20/2018	Vishnu, Avi
Developing the database structure	3/24/2018	4/15/2018	Joy, Sachin, Akshay
Validation and authentication	3/24/2018	4/01/2018	Pratheek, Shreyas
Detailing the queries	3/24/2018	4/10/2018	Joy, Sachin, Akshay
APIs	3/30/2018	4/18/2018	Sharath, Bharath
Bidding feature	3/30/2018	4/15/2018	Pratheek, Shreyas
Discussion forum	3/24/2018	4/20/2018	Sharath, Bharath
Integration & Testing	4/05/2018	4/20/2018	All