BARTR FINAL

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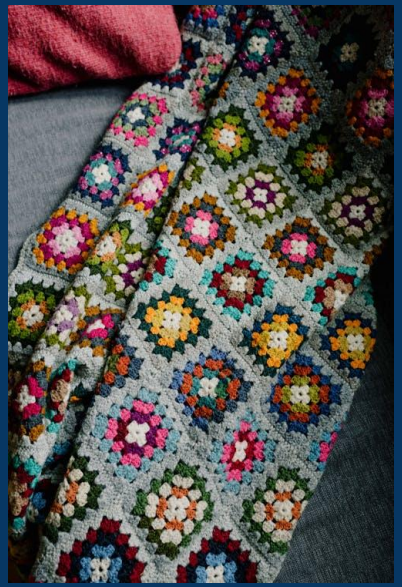
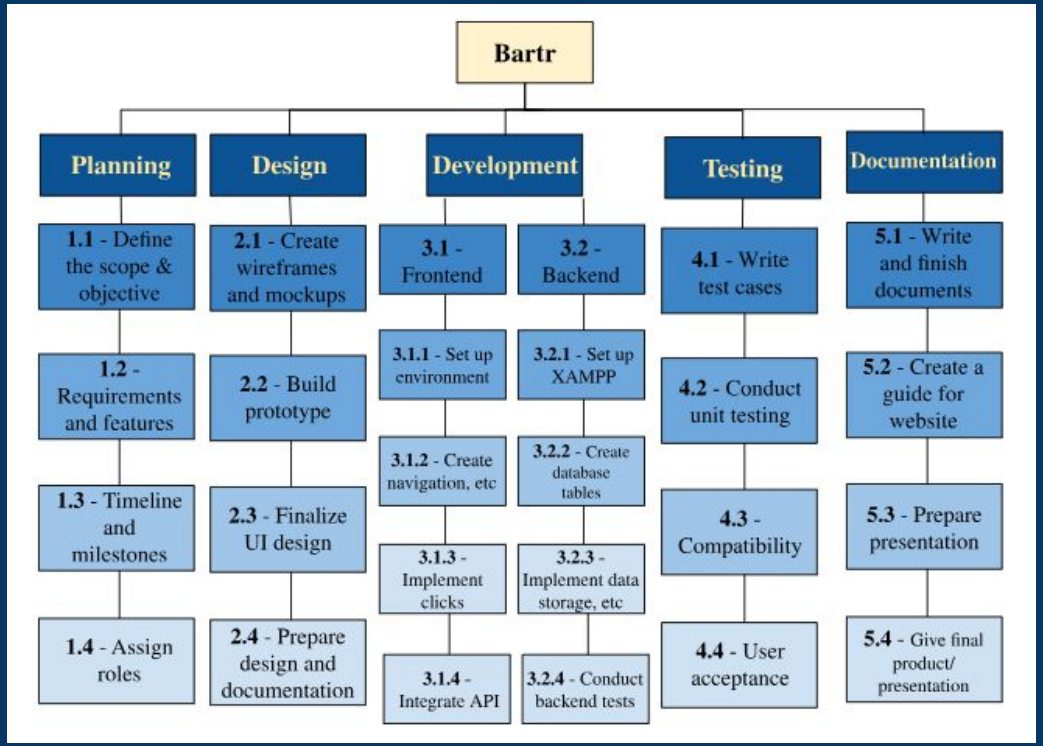
INTRODUCTION

- Bartr is a website for users to barter and trade for goods and services without the usage of money.
- The ultimate goal with Bartr:
  - To provide users an alternative to traditional currency
  - Provide a user-friendly interface and environment
  - Provide a safe haven to barter for goods and services, that you may otherwise won't be able to get
  - To encourage user collaborations
  - To allow for a reduction of waste

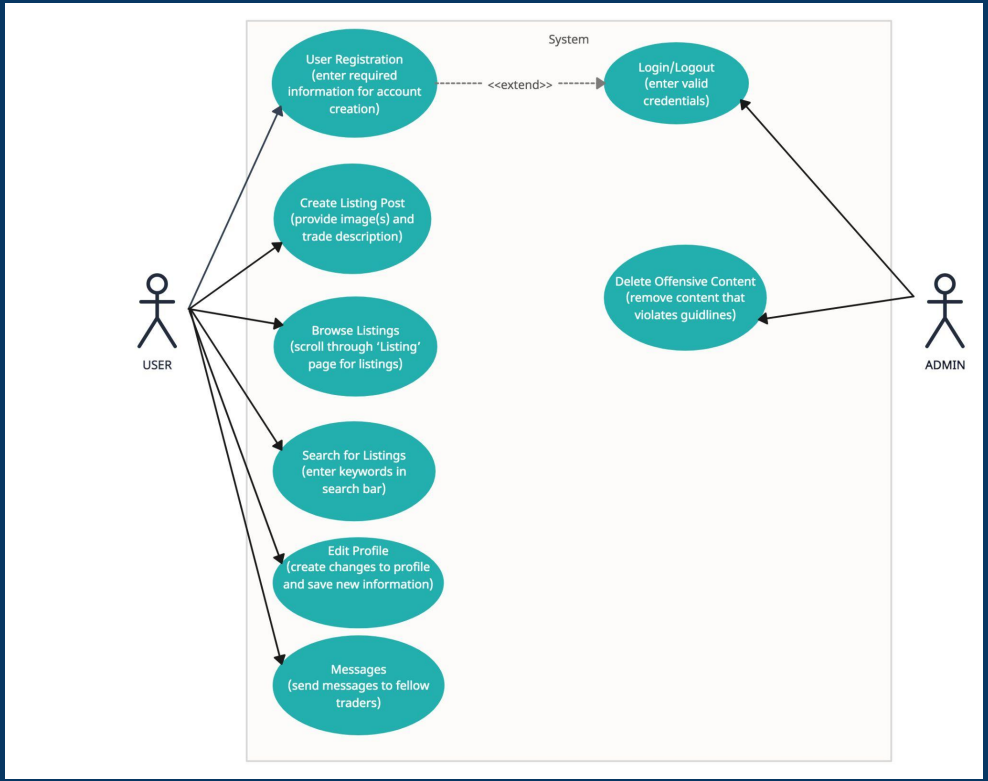


APPROACH

- As we developed Bartr we combined 2 methodologies:
  - Scrum
    - Management framework that works toward a common goal
  - Kanban
    - Continuous improvements by managing flow of work



MAJOR REQUIREMENTS



MAJOR ACCEPTANCE TEST CASES

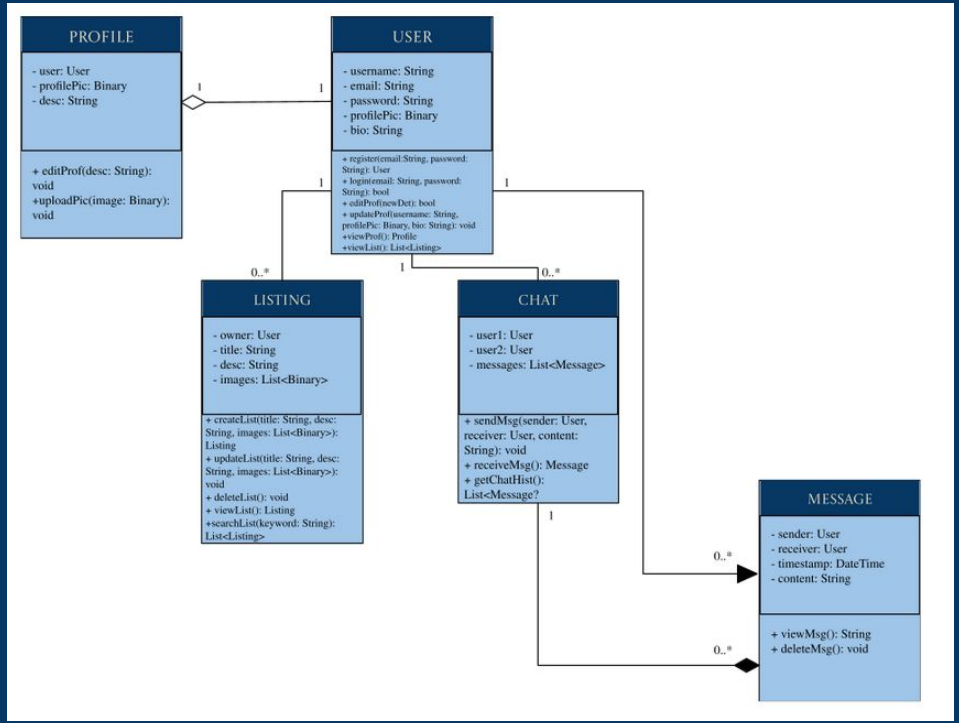
TEST CASE ID	SCENARIO	PATH	EXPECTED RESULT	PASS/FAIL CRITERIA
BTC-001	User Registration	1. Navigate to sign-up from the welcome page 2. Enter required information following requirements 3. Click 'Register'	An account is created for the user. A confirmation message will be sent to the registered email address.	Passes if new user can login successfully and can see confirmation message
BTC-004	Create New Listing Post	1. Login 2. Navigate to 'Add Listing' 3. Upload image 4. Add trade description 5. Click 'Post'	Item appears on the marketplace	Passes if the listing was successfully created and posted
BTC-005	Delete Listing	1. Login 2. Navigate to profile settings 3. Select the listing you choose 4. Click 'Delete'	Listing is deleted and no longer appears	Passes if the listing no longer appear to any users
BTC-006	Browse Listings	1. Login 2. Navigate to listings 3. Scroll through the available trade listings	User can view listings made by other users	Passes if listings load and can be viewed correctly

ARCHITECTURE DESIGN

- Frontend
  - Uses HTML and CSS integrated within the PHP files
  - Handles UI and UX
- Backend
  - Hosted on Apache server
  - PHP files handle different API functionalities
    - functions.php, register.php, login.php, profile.php, etc
- Database
  - MySQL database tables in XAMPP
  - Stores user, listing, and chat/message information

```php
<?php
        require "config.php";
        // connects php with the MySQL server
        function dbConnect(){
        $mysqli = new mysqli(SERVER, USERNAME, PASSWORD, DATABASE);
        if($mysqli->connect_errno != 0){
           return FALSE;
        }else{
           return $mysqli;
        }
    }
    // checks if user is logged in, then returns the data associated with their profile
    function checkLogin(){
        $mysqli = dbConnect();
        if(isset($_SESSION['user_id'])){
            $id = $_SESSION['user_id'];
            $result = $mysqli->query("SELECT * FROM users WHERE id = '$id' LIMIT 1");
            if($result && mysqli_num_rows($result) > 0){
                $user_data = mysqli_fetch_assoc($result);
                return $user_data;
            } else {
                echo "User not found.";
                return null; // Ensure this returns null if no user is found
            }
        } else {
            echo "Session not set.";
            return null; // Return null if session is not set
        }
    }
```

CLASS DIAGRAM



MAJOR OPERATIONS

- User Registration and Login
  - A user can create a new account or login and will be directed to home page if done successfully.
- Create New Listing Post
  - Users can create listings of the service or good they wish to trade and can provide images to further entice other users to trade.
- View Profile/Profile Management
  - Users can view their profile and make changes to their bio, username, profile picture, etc.
- Messaging
  - Users can message each other by clicking ‘message barter’ on the preferred listing and initiate a chat to start a conversation.

UNIT TEST CASES & RESULTS

- Tested:
  - User Registration
    - Register a new user with valid information
  - User Login
    - Login with correct credentials
  - Create Listing
    - Add a new listing to post
  - Send messages
    - Send message to another user
  - View messages
    - View messages received from other users
- Results:
  - User Registration
    - Added new user into *users* database table
  - User Login
    - User able to log into their account
  - Create Listing
    - Added a new listing to post
  - Send messages
    - Messages can be sent to other users
  - View messages
    - User can view messages that have been sent to them

GUI DESIGN: CONCEPTS

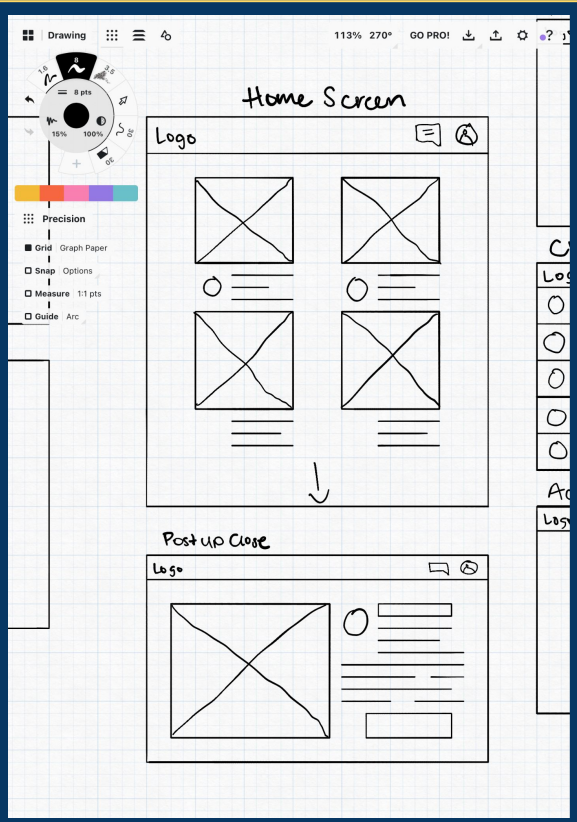
073763

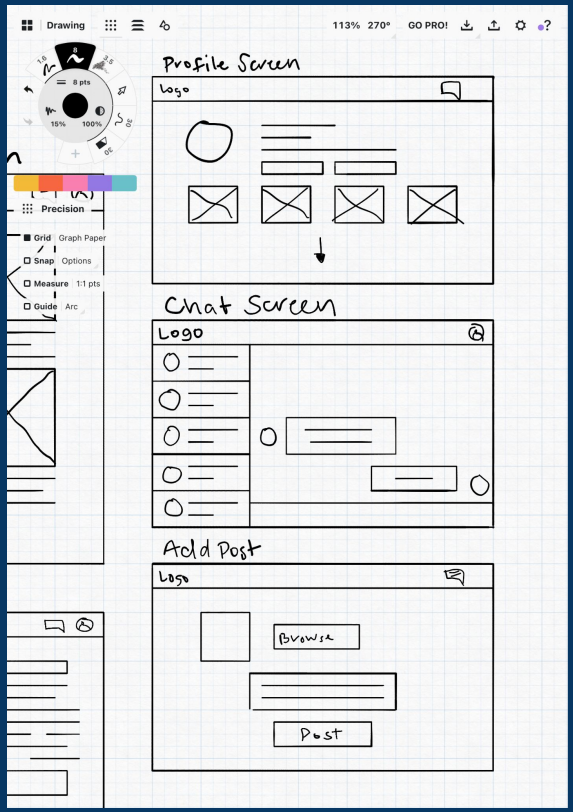
3D85C6

FFE599

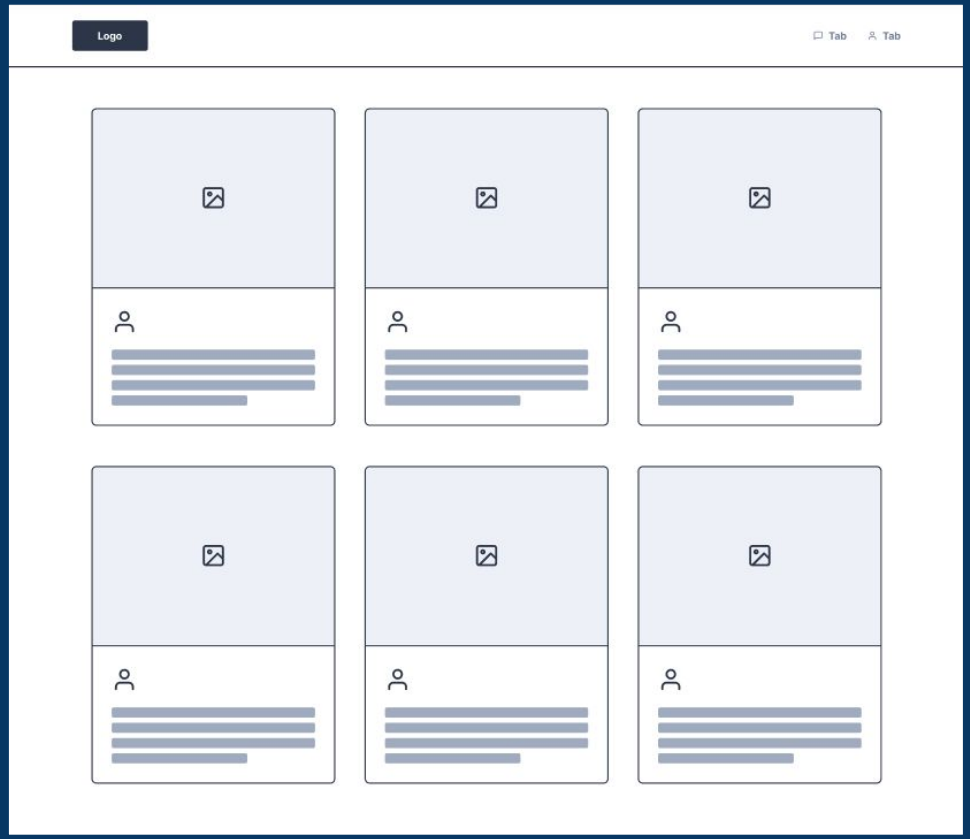
F8F8F8

2B2B2B





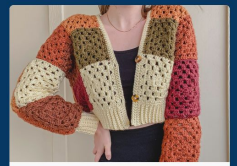
GUI DESIGN: WIREFRAMING



Bartr Home Messages Add Post

example_3

I do all types of photography, crafting, and tutoring! I am a certified teacher in the state of NC and specialize in elementary school subjects.



Crochet S…

Tutoring

Photogra…

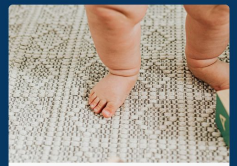
Bartr Home Messages Add Post

retiredgrandma

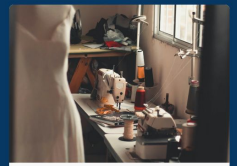
I'm already retired but it gets boring sitting at the house. Here to help wherever I can, just reach out!

Edit Profile

Laundry



Babysitting



Alteratio…

Bartr Home Profile Messages Add Post

Gardening

I will come help with various gardening tasks such as harvesting, sewing seeds, weeding, and other general maintenance.

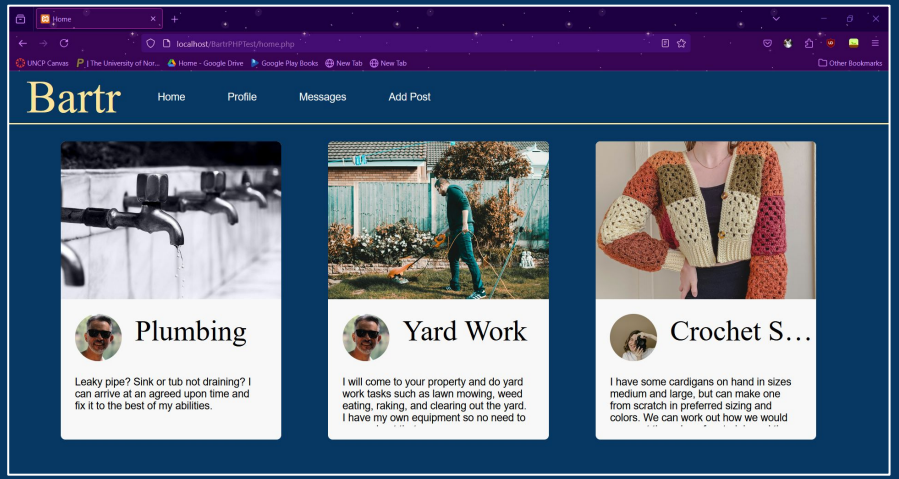
Message

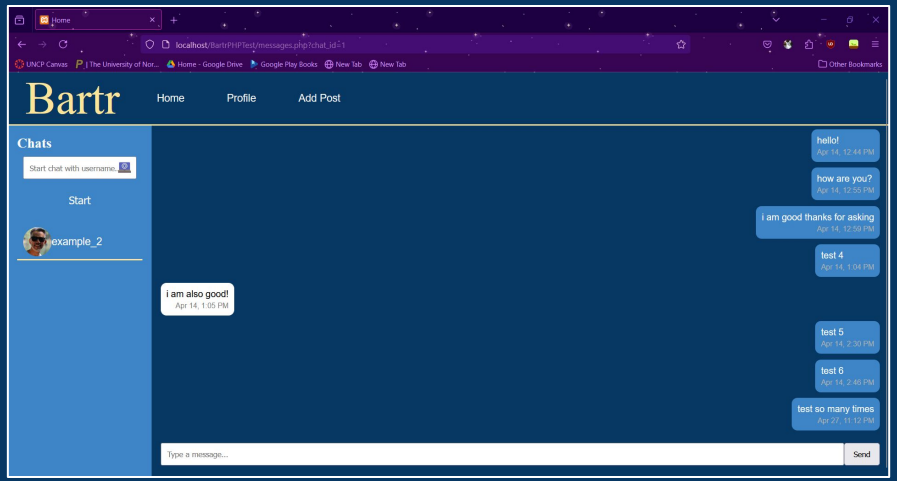
Bartr Home Profile Messages Add Post

Laundry

I would pick up clothes, bring them to a laundromat, fold them, and return them. Would need the funds for the machines in cash.

Message Delete Post


Home
localhost/BartrPHPTest/home.php
Bartr
Home
Profile
Messages
Add Post
Plumbing
Leaky pipe? Sink or tub not draining? I can arrive at an agreed upon time and fix it to the best of my abilities.
Yard Work
I will come to your property and do yard work tasks such as lawn mowing, weed eating, raking, and clearing out the yard. I have my own equipment so no need to
Crochet S…
I have some cardigans on hand in sizes medium and large, but can make one from scratch in preferred sizing and colors. We can work out how we would


Home
localhost/BartrPHPTest/messages.php?chat_id=1
Bartr
Home
Profile
Add Post
Chats
Start chat with username
Start
example_2
hello!
Apr 14, 12:44 PM
how are you?
Apr 14, 12:55 PM
i am good thanks for asking
Apr 14, 12:59 PM
test 4
Apr 14, 1:04 PM
i am also good!
Apr 14, 1:05 PM
test 5
Apr 14, 2:30 PM
test 6
Apr 14, 2:46 PM
test so many times
Apr 27, 11:12 PM
Type a message...
Send

DATABASE DESIGN

Table One: user(**username**, email, password, name)

username	email	password	name
rdlopez	rdlopez@email.com	abcd	Renee Lopez

Table Two: profile(**username**, pf_picture, desc, listings)

username	pf_picture	desc	listings
rdlopez		Crochet Sweaters	listing_id, listing_id, listing_id

Table Three: listing(**post_id**, username, title, desc, image, created_at)

listing_id	username	title	desc	image	created_at
1202	rdlopez	Red Sweater	Red Crochet Sweater		2/5/2025 11:01:23 AM

Table Four: messages(**message_id**, sender_id, receiver_id, content, timestamp)

message_id	sender_id	receiver_id	content	timestamp
1221	rdlopez	jodom	Abcd	2/5/2025 12:42:01 PM

IMPLEMENTATION

- Built with PHP for backend and MySQL for database
- Organized the backend scripts by features while also calling from a specific functions script (e.g. functions.php, register.php)
- Key features:
  - User registration & login
  - Listings management
  - Profile management
  - Chatting
- Used XAMPP for local hosting and testing
- Designed database with users, listings, chat, and messages tables

ACCEPTANCE TEST RESULTS

USE CASE	Welcome and Registration/Login
DESCRIPTION	When entering Bartr, the user will be prompted to a welcome page, with a brief description of barter, its purpose, and its goal. The user will also be asked to login or to create an account below the site description. If the user does not have an account, they will be asked to provide an email, their first and last name, to create a password, and username. Users will be sent a welcome email from Bartr and a way to verify their account.
PATH	1. Users will enter the Bartr website. 2. The user will be prompted with a brief description of Bartr (ideally 5 sentences or less). 3. There will be a choice to login or register for an account 4. A new page to create an account if chosen will pop up 5. Once logged in or an account has been created they will see the main page
EXPECTED RESULT	User will be registered for Bartr and will be directed to home page/main menu

USE CASE	Post Management
DESCRIPTION	When logged in to Bartr, users will have the ability to add new posts onto their profile, make posts only visible to them, and delete posts from their profile.
PATH	1. Bartr will show the home page. 2. There will be an icon to show the user profile. 3. The user can add or delete posts on their profile. 4. Users can then add their description of their goods or service and their willing trades
EXPECTED RESULT	Users will be able to add posts for trades, and may delete their posts as well.

FUTURE ENHANCEMENT

- Implement the concept of user admins
  - To oversee Bartr
  - Allow them access to user information
  - Delete any offensive content or violation of guidelines
- Addition of notifications through email
- Allow for multiple pictures within a single post
- Rating system
  - Users can rate and create reviews for other users
- Recommendation algorithm
  - Recommend certain goods or services depending on the user’s past trades
- Locations
  - So users may find local trades easily