Joyce Fang, Yuchen Luo, Ilhwan Song
Introduction to ITWS
Term Project Report
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RPI
free & for sale

Problem: Current administrators of the RPI Free & For Sale Facebook Group are not allowing access to RPI students. Although the RPI Facebook group Free and For Sale exists, it is no longer active anymore. This new website will enable RPI students to buy and sell items more easily and efficiently among other RPI students.

What it does: A simple and easy website that helps RPI students exchange items for free and/or buy and sell items. It includes a product listing page of all of the items for sale, an "upload" feature where a seller can fill a form about the item they wish to sell, a login and sign up page, and product descriptions of items being sold.
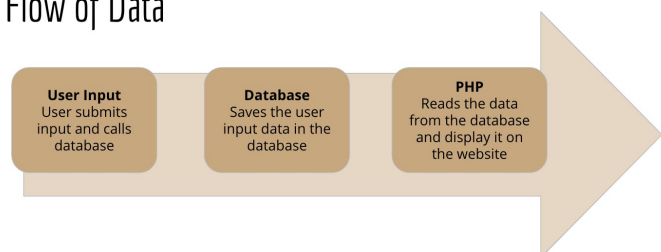
Who it serves: Any RPI student who wishes to buy or sell items. In order for students to post an item on the website, the student must currently be enrolled in RPI.

In Context of Existing Applications: Websites such as Craigslist and Amazon are fairly similar to how our website functions. Craigslist has a "create a posting" button which will be like the upload feature on our website. Amazon has listings of products, which is what we hope to achieve with the layout and design of the items for sale. However, the difference of our website from Craigslist or Amazon is that RPI Free and For Sale is meant to serve only RPI students. We hope that once project becomes fully functional, it will allow all RPI students use the website and feel secure.

Primary Area: Area 4: Pull real data from a database
— Save the data submitted by the user and use database to display items

Flow of Data

User Input	Database	PHP
User submits input and calls database	Saves the user input data in the database	Reads the data from the database and display it on the website

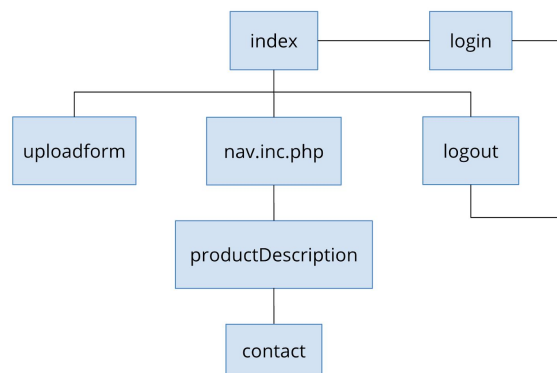**Secondary Area**: Area 1: HTML, CSS, and graphics for page layout and design
— Design a homepage with filter bar, item listing page, upload page
— Clean and simple user interface that is easy to navigate

Project Development

Task	Description	Name	Date
Homepage	Design page layout for the listing of items (Homepage) using HTML and CSS	Joyce	11/10/19
Item Description Page	Item description page layout and design	Joyce	11/12/19
Seller Upload Item Page	Create the page for seller to upload photo and description of item	Ilhwan	11/15/19
Contact the Seller Form	Create the page for buyer to send the message to seller	Yuchen	11/15/19
Login/Sign Up Pages	Create the HTML, CSS, and JS files for login and signup	Yuchen	11/25/19
Saving Data to Database	Work on the uploadform.php to ensure that data is being added to a table in the database. This also includes a file upload system in which pictures can be saved to a folder.	Joyce	11/30/19
Displaying Data	Work on multiple php files to filter the data from the database and display them on the website	Ilhwan	11/30/19
Navigation Bar	Create the bar on the left side of the webpage so that the users can filter through the items more efficiently	Ilhwan	12/01/19

Information Architecture

This website has a logo, which Joyce Fang created, on the top left corner, and a "+sell your stuff" button on the top right corner. Depending on whether it is the user's first time using the website, the user will either create a new account or just sign in to the website. Below the logo, we have a navigation bar, that contains the list of categories in which users can click to sort out what they are looking for. For

example, if the user is looking for a computer mouse, the user can click the "Electronics" category. Users can also use the search bar to search for any keywords related to a product that he or she desires. Additionally, on the index.php page we have pictures of items for sale; if the buyers are interested in purchasing a specific item, all they have to do is to click on the picture of the item where important details about the product such as the category, price, and condition are shown. If the buyers want to message the sellers, the buyers will have to include their RPI email and submit a contact the seller form. If the seller wants to upload an item, he or she will click on the "+sell your stuff" button and fill out a form.

User Interface
Also see *LoFi.pdf* for Low-Fidelity Prototype and *MedFi.pdf* for Medium-Fidelity Prototype

<u>Conclusion</u>

Some of the challenges we faced:
- Uploading user input data to the database using mySQL and PHP (Syntax errors)
- Saving files from users and moving the files to the specific folder location
- How to dynamically display data from the database by reading the data using PHP and mySQL
- Creating search bar and filter items within the database
- How to link the connection between the user input and database

What we Hope to Further Achieve:
- An actual login system that allows all RPI students to have access
  - Possibly by using Central Authentication Service
- A system from the website to notify the seller when contact the seller forms have been submitted
- Using Internet Message Access Protocol to send and receive confirmation codes to improve the security of the website
- Messaging system that allows buyers and sellers to get in contact

What we Learned
- How to use GitHub to effectively collaborate as a group
- Creating prototypes for a website
  - Designing the information architecture of a website
- Create and use a database
  - Save user data into a database
  - Display data onto a page

See the code for RPI Free & For Sale at https://github.com/xiaolef/rpifreeforsale.git