**RPI Marketplace**

**Team RPIMart:**

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**Summary:**

RPI Market is a student-run web application that promotes safe transactions within the RPI community. The platform offers a range of features, including buying, selling, renting, borrowing, and donating items. To streamline the user experience, the application uses different tabs for each type of transaction: buy/sell, rent/loan, and donate. Users can easily navigate the site and find what they need through the tag system, where listings are organized based on user-generated tags.

This user-friendly website meets the diverse needs of students at RPI. Whether buying affordable furniture, selling unwanted items, or renting equipment for short-term use, the platform supports and enhances the student experience. Maintaining a focus on community, the website also provides a platform for students to donate items that can benefit others.

To prioritize safety and create a trusted environment, access to the application is restricted to RPI students and faculty. Users are required to register with their RPI emails, creating a secure and reliable marketplace exclusive to the Rensselaer community. This emphasis on security and community sets RPI Marketplace apart, as it is committed to serving the needs of students and promoting a sense of community over profit.

**Users:**

As this application serves the RPI Community, we’ve come up with a few personas of possible users of our application:

1. Jess is a student at RPI looking for textbooks for her upcoming classes. She thinks the ones sold at the bookstore are way too expensive and is looking to buy one aftermarket. She has heard of some bad experiences from people who have shopped on eBay, Craigslist, and Facebook marketplace, and was looking for a safe means of purchasing a book from someone on campus.
2. Enrico is a senior at RPI graduating in a few weeks looking to sell a bunch of his belongings. He is moving back home to another state and realized how much stuff he has accumulated in his apartment over time. He is looking forward to selling all or most of it before he graduates and moves but wants to do it in a quick and safe way.

**Stakeholders**:

It's important to acknowledge the various stakeholders who would find this app valuable. The primary stakeholders are RPI students who would utilize RPI Marketplace. This platform enables them to search for items they need for their dorms, academics, or personal life in a convenient manner. The website ensures a secure way for students to exchange goods with trustworthy peers, emphasizing personal transactions and students assisting one another. Another crucial stakeholder group is parents, who would feel at ease knowing that their children are buying and selling from safe locations on campus. Similarly, Public Safety is a stakeholder as they are responsible for ensuring all transactions and exchanges through the app occur securely on campus. Lastly, the faculty is a stakeholder as they also can use the website to list items for sale or donate unwanted but useful items.

**Value:**

Our community's primary buying and selling methods are limited to the RPI-free and for-sale Discord server and the Fizz Marketplace. However, these platforms are not as efficient as they could be. Currently, most items are listed in a single channel on the server with little organization by category. Moreover, many students are unaware of the existence of this server, limiting its effectiveness.

We aim to address these problems by creating a user-friendly, dedicated marketplace. Our platform will be more effective as it will serve as a central hub for all student buying and selling needs. By providing direct access to the target audience, our website will be an invaluable resource for the students of RPI. Our platform will be designed with students in mind, ensuring it provides maximum user value. The website will be easy to use and accessible for all students, not limiting any users to take advantage of this website as a resource.

**Functional and non-functional requirements:**

The functional requirements are necessary for an easily accessible website. The main requirement of our website is user authentication. This is important to our project because of our emphasis on safety for students; therefore, the user authentication must be secure. Additionally, the searching abilities must be highly efficient, as students must be able to look up an item they are searching for and find it on the webpage without going through an inefficient process. Storing user data is also crucial since users will want to see their sales, keep up to date with their listings, and be easy to contact through email. Some of the non-functional requirements include being easy to use. This means designing a user interface that all users can easily understand and use. Additionally, the website should be able to load quickly and efficiently and keep up as more users try to use it.

**Technologies:**

Our team needs to develop several vital components to make our project a reality. These include creating a system to store user data such as names, ratings, listings, purchases, and email information, designing a user-friendly home page to showcase listings, and implementing a feature that allows users to connect. To achieve this, we will utilize HTML, CSS, JavaScript, and jQuery for the front-end design, while employing PHP, MySQL, and JSON for the back-end functionality. In addition, we will integrate meta tags for easy sorting and utilize APIs to facilitate searching through meta tags. We aim to use the knowledge we gained from our Introduction to Information Technology and Web Science course while staying updated on the latest technologies and skills acquired throughout the semester from Web Sys.

**Schedule**:

As of now we have set a few milestones as to when we want to have these aspects completed by:

1. We want to have a working version of our front end and file structure by the end of September. (September 30th hard deadline).
2. In October we’ll swap to an Agile approach, splitting up to work on backend utilities including login, account info storage, and loading information about listings. Our goal is to have a working version done by October 25th, when we need to present.
3. After the midterm presentation, we will spend most of our time generally improving the look of the application, possibly adding some features that we are still unsure of and improving our backend.

Here is the site map we came up with:

A diagram of a marketplace

Description automatically generated

As well as some wireframes we made:

A screenshot of a website

Description automatically generated  
A screenshot of a computer

Description automatically generated