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A description of the problem domain

Penn State students are constantly looking for ways to make or save money. The best way to make money in college is to sell things to other students and the best way to save money is to buy things for cheap from other students. It's kind of like a win-win for both parties. Whether you want to make a quick $100 by selling some shoes or if you are looking to buy a TV for the dorm, the easiest transaction will be between two students. When selling or buying personal items, a lot of students look towards Snapchat as a platform to do such activities. Hootsuite shared, "23.2% of Snapchat users are on the platform to follow or research brands and products (McLachlan)." Snapchat is a social media application where users can communicate and post their day-to-day lives. Snapchat is mostly popular amongst younger individuals. The Social Shephard reported, "In the United States, the most popular age group on Snapchat is those ages 15-25, as they make up 48% of users (Shephard)." However, Snapchat is not a secure platform. Anybody can make an account, and anybody can join a school community on Snapchat and pose as a student. There are other platforms like GroupMe and Discord that allow students to communicate and sell their items. However, just like Snapchat anybody can make an account and join a school community and decide to scam students. Within the Penn State community, students want to trust that their information is secure and protected, but this lack of security gives many opportunities for actual students to get scammed. A scammer posing as a student can post a snap with "whiteout tickets for sale" and an actual student would reply wanting to buy those tickets, a transaction would take place, and next thing the student is blocked with no way to contact the seller. Although many would assume that students would be smart enough to not trust

a person online that they have never met, Penn State students come from all different

backgrounds leaving some to be more vulnerable than others.

A description of the specific problem or opportunity you intend to address

Just as the Penn State community has seen in recent years, scams are on the rise. If you

go into any dorm hall bathroom right now, there will be a section of the weekly Penn State's

"Stall Stories" that warns you against football ticket scams. The main problem I intend to address

with this application is information security. Although I would like to create a useful application

that users will be able to profit from, I want them to feel secure in their transactions.

When communicating with people online to sell or buy items, students could be giving up

information or money that may put themselves or their bank accounts at risk. When speaking

about scamming on social media, the FTC stated, "It's a low-cost way to reach billions of people

from anywhere in the world. It's easy to manufacture a fake persona, or scammers can hack into

an existing profile to get "friends" to con (Ritchie)." Then the FTC reported statistics on people

who have been scammed trying to buy something online. FTC reports, "In fact, 45% of reports

of money lost to social media scams in 2021 were about online shopping. In nearly 70% of these

reports, people said they placed an order, usually after seeing an ad, but never got the
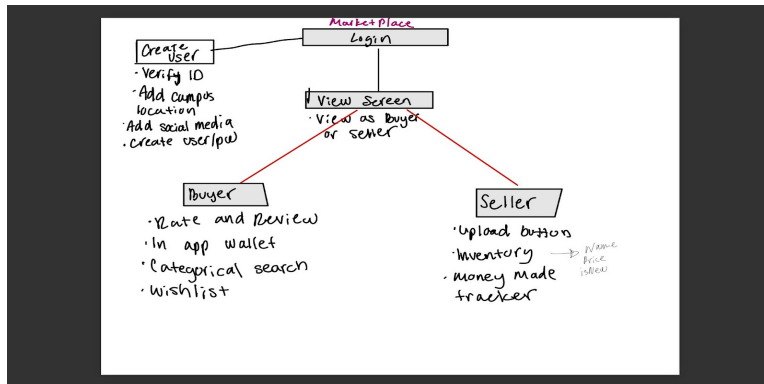
merchandise (Ritchie)."

A brief summary of your proposed solution

The proposed solution is to create a safe and secure marketplace application for students

within Penn State to be able to buy and sell to other students. To gain access to the virtual

marketplace, users would have to first verify that they are a student when creating an account.

Users would also be able to add where they live as a student (e.g., on-campus housing areas, off-

campus apartments, commuters). Once users are verified, they will then be able to choose to

view the application as a buyer or seller. As far as transactions, sellers will be able to choose the

method of payment that they want and how they want the exchange to take place. After the exchange takes place, buyers can rate and leave a review of the seller.

There are apps that allow marketplace functions to take place that will inspire the foundations of my application. Apps like GOAT, Stockx, Depop, and Grail allow people from all over the world to buy and sell their clothes. As a seller, these applications allow users to list their items and set their prices. Once the seller ships off the item, the app takes over from there and sends it to the buyer after verification. During the verification stage, workers check for counterfeit items and conditions. Buyers then receive the item, hoping that they did not spend their money on a fake item. However, at the stage of verification, many of these platforms fall short of ensuring buyers are not being scammed. An NPR article on the recent Nike and StockX lawsuit reports, "Nike said in a federal court filing with the Southern District of New York on Tuesday that the shoes it had purchased and determined to be fake had affixed to them StockX's 'Verified Authentic' hangtag, and all came with a paper receipt from StockX in the shoe box stating that the condition of the shoes is '100% Authentic' (Davis)".

The most important aspect of the application is security and protection. To minimize the number of scams in the application, students would only be able to buy or sell from other students. This will make it easier to track down users who scam and report them to university police.

Diagram 1 (flowchart):

Market+Place
Login

Create User
- Verify ID
- Add campus location
- Add social media
- Create user/pw

View Screen
- View as buyer or seller

Buyer
- Rate and Review
- In app wallet
- Categorical search
- Wishlist

Seller
- Upload button
- Inventory → Name Price isNew
- Money made tracker

Diagram 2 (Seller screen):

Seller ☑

Inventory

o Item 1
Name: Jordans   Price: 100.00   Condition: New

o Item 2
Name: Textbooks   Price: 50.00   Condition: Used

o Item 3
Name: Football Ticket   Price: 300.00   Condition: New

o Upload

● Listings   o Progress Tracker   o Past Listings

Diagram 3 (Buyer screen):

Buyer ☑

o Item 1
Name: Jordans Price: 120.00   Status: Active   o Add to Cart   o Remove
o Item 2
Name: Macbook Price: 50000 Status: Inactive   ~~o Add to Cart~~   o Remove
o Item 3
Name: IPhone Price: 90.00 Status: Inactive   ~~o Add to Cart~~   o Remove
o Item 4
Name: Airpod Price: 70.00   Status: Active   o Add to Cart   ● Remove

o Search   ● Wishlist   o Cart   o In Progress

An overview of the most important challenges, risks, and constraints likely to impact the project.

The most important challenges will be understanding how a market works and understanding how to protect users. The apps I have used in the past have consisted of seller fees, shipping fees, and other additional fees that have impacted the use of the app. GOAT outlined its fees by stating "The amount of the commission fee is 9.5% + seller fee for a seller in good standing. The commission fee can increase to 15% + seller fee and a maximum of 25% + seller fee depending on the number of seller cancellations and verification issues, as described in more detail below(Fees)." Goat also charges a cash-out fee of 2.9% to deposit the money made into the seller's bank account (Fees). Its competitor StockX stated, "For all StockX sales there is a 3% payment processing fee, as well as a transaction fee that is determined by your Seller Level in accordance with the Stockx…In short, the more you sell, the lower your transaction fee (Stockx)." Understanding why these fees exist will force me to ask myself questions such as "Why do we need fees if it's a user-to-user transaction and will it be beneficial to add this to my application. Understanding why the applications have these fees in place will help make my project better for my target users.

The next challenge that will impact my project will be understanding how to make my application safe and secure for my users. As I stated earlier, platforms such as Snapchat, GroupMe, and Discord allow for school communities to exist, but they are not secure as anyone can join. The main goal of my project is to make it a safe place for students to safely make transactions. To make the project more secure, I will have to ask myself "How do you protect user information?" Since I am not a cybersecurity major, my biggest constraint would be knowing how to protect user information and applying it to my application. Doing research and

getting a general overview of how information security works could help me overcome this

challenge within my scope of knowledge.

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