Online Shoe Store

SOFE 3700U Data Management Systems

Project Proposal

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Problem this project will address:

   As internet and data storage technologies advance, and the recent global pandemic events have further proven that online storefronts have, and are becoming increasingly more important to reach the target demographic. Due to these factors, more businesses are implementing online stores, and these tend to be more quantity over quality implementations just to get a store up quick to appease consumers. Some of the problems that come with this methodology that will be addressed by this project are: lack of security, poor user experience, slow result fetching, lack of autocomplete search, complex checkout, and more.

Goals and motivations:

   The goal of this project is to create an online Shoe store that has an easy to use and understandable user interface, that translates to a straightforward checkout process. The website should allow users to buy shows and also sell shoes. Another goal is to ensure that the personal user information of individuals is secure from other users and malicious attacks/access. One motivation driving this project is that a lot of online stores lack a user friendly interface, and slow searching and/or inaccurate search function makes it frustrating to utilize these sites, and seeing a store that checks the goal boxes defined is refreshing.

Related work:

   Some related work that can help us is that our group has experience in programming from a web programming course we had taken. Our knowledge and experience from this course will allow us to create a functional website and implement a database using servers like WAMP and MySQL. We are also learning database management in our course that has taught us concepts such as ER diagrams and relational schema. The course also teaches us SQL syntax and developing a database that implements commands using DBMS (database management system) that helps with the backend. Courses such as Software principles have taught us how to work as a team and how diagrams such as use cases and

behavior diagrams can help outline the requirements for the project. Adding on, techniques we learnt in Software architecture such as Publish-Subscribe and UML diagrams which can help with designing the front end.

<u>Methodology and plan:</u>

Use a database system that has concurrency control to ensure that multiple users can update the same information simultaneously (shoes quantity left). The database will be modified based on if the user has purchased a shoe or if a user has posted a new sale for a shoe. This will also keep the item's quantity up-to-date in real time. Each user will be able to input their own information for purchase and shipping services, where it can be securely saved to the database for future purchases. Ensure that sql injection will not take place.

1. Research different patterns and plan any requirements for the system(online website)
2. Determine what programming languages are the best to develop the UI of the website
3. Create a timetable that group members can follow and help them stay on task
4. Create relational schema, ER diagrams, multiple views for the database system
5. Start developing the website by writing the code for the UI diagram
    a. Create a main page, login page, payment information, shoe pages
    b. Make a navigation bar to help years navigate through the website
6. Develop a database that keeps track of the shoes in stock (shoe brand, size, quantity, price)
    a. Modify database every time a user buys a shoe by decrementing the stock and updating the database
    b. Modify the database when a user wants to sell their own shoes by adding the shoe into the database