Dukiture

(Duke Furniture Market)

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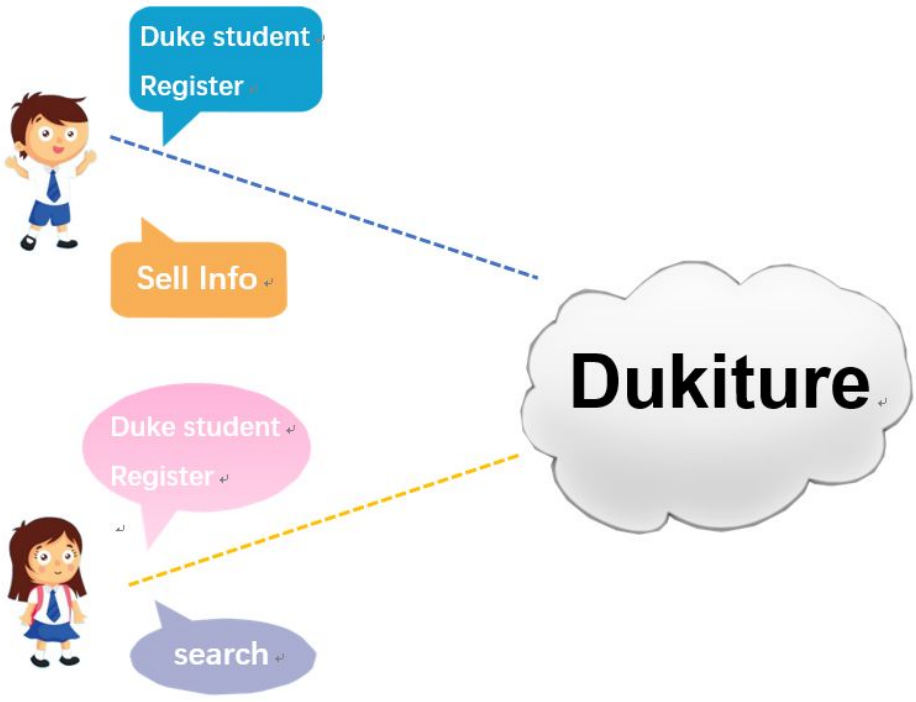
Introduction

Every semester, there are hundreds of new students coming to Duke. This is also the first time they come to Durham. They need to find a house and begin their life in Durham. However, they might find it difficult to buy furniture at the beginning, because getting furniture from online store may take a long time, driving to local store needs cars and also the price of new furniture is expensive.

There are also hundreds of students who want to sell furniture just graduating from Duke. However, currently there aren't many services that help students gather information. A web app that helps students obtain the information about second-hand furniture sold by Duke students would fill this gap. Duke students could post the photo, price of the furniture they want to sell and the time they want to make transactions. Students buyers can search the item they want by checking the category or by searching the keywords. When buying furniture, they can use this website easily to find the location using an online map and contact the seller via the provided email link. In addition, They can also use this application to share information about furniture with their friends to help each other find cool furniture.

This application is safe and trustful, because only Duke students, faculty and staff can register using their NetId.



Glossary

1. User: an individual who registers with username and password. User can be both seller and buyer.
2. Seller: A role that posts selling information on the app.
3. Buyer:A role that contacts seller to quiry or make an offer for certain items.

Functional Requirements

We define a few functional requirements as below for users to be able to use our app.

Login/Registration

1. Users shall be able to sign up, log in and log out.

Post

1. Users shall be able to post the photo of the furniture, the price of the furniture, time they want to transact, the description of the furniture.
2. Users shall be able to edit, update and delete their posts.
3. The post shall contain information about the furniture including name, description, owner and price.

Search/Filter

1. Users shall be able to search and check the updated furniture
2. Users shall be able to check furniture classified by category which is easy for searching

Nice-to-have

4. Users shall be able to use the online map allows the seller to share the transaction location
5. Users shall be able to share information of furniture to friends using twitter or facebook
6. Users shall be able to use email links to contact with sellers

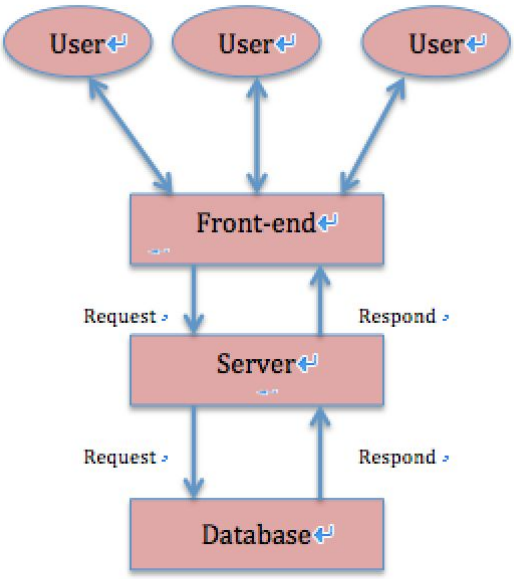


Figure one - website architecture

Non-functional Requirements

Besides the functionalities specified above, we want our users to have a secure and smooth user experience. Specifically, we want their credentials securely encrypted and their visit to the app would be easy and fast.

Performance (Speed, Size)

1. Application should be able to support arbitrary number of users concurrently.
2. Application should be able to display arbitrary number of items without significant delay.
3. Application should have pagination mechanism that would display limited number of items on one page.

Security

1. Users should be able to register the website with duke email.
2. Only authenticated users should be able post and edit information.
3. Passwords should be able to

Ease of Use

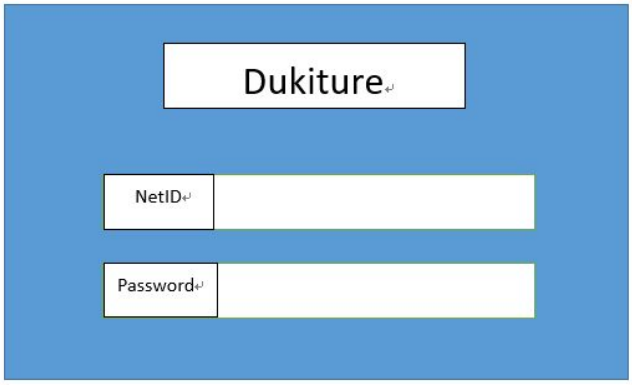
1. UI should be intuitive and easy for user to get started.
2. User guide (e.g. FAQ) should be available to help users.

Reliability

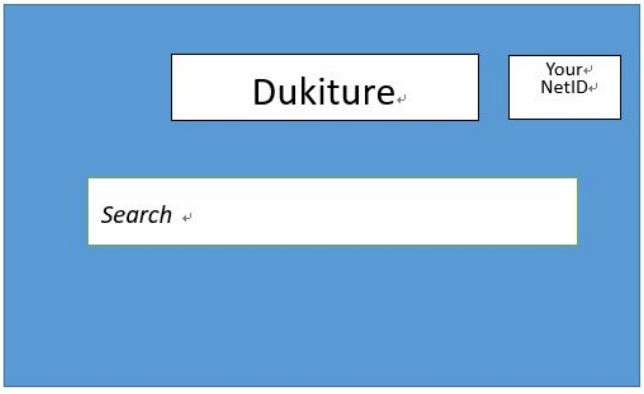
1. Database backups should be made regularly to prevent crash from unforeseen events.
2. Backups should be stored in a different machine than production server.

Portability

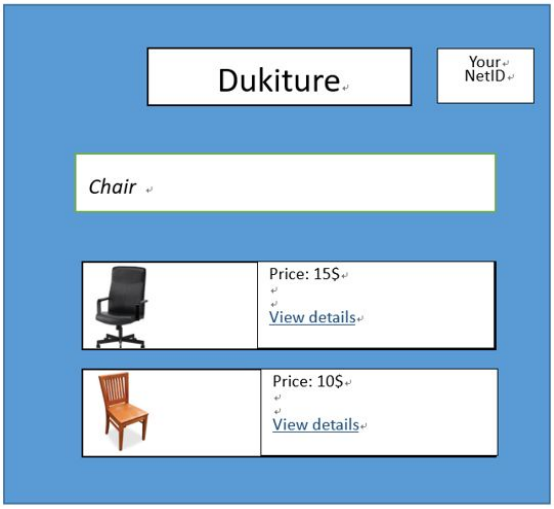
1. The project should be designed in a way that shall allow it to support mainstream browsers like (Chrome, Firefox, etc).
2. Application should be applied to cloud based platform(e.g. Heroku, Google Cloud Platform).



Login interface example



Search interface (after login) example



Search results interface example