CS 6314 - Web Programming Languages - Final Project

Each project should include following major functionalities:

- User signup: Register a new user to the system.
    - Check the new username or email address if it's already registered to the system using AJAX.
    - Form validation: Check if all mandatory fields are filled out.
    - Check if password is strong enough. Define the rules of having a strong password. User passwords should be hashed and hashed version of passwords should be stored in the database.
- User login
- List available products/services in the system. User should be able to filter the results based on at least one criterion (i.e. category). Also, should be able to "Search" for a specific item. Search and filtering should be integrated together.
- You will have paging functionality for listing products/services. Paging should be incorporated with filtering and search functions.
- Add item(s) to the cart and checkout. For the online shopping sites, pricing will be included but payment functionality doesn't need to be implemented. However, you will keep track of inventory. For websites where a shopping cart does not exist, you can implement Wish list or Favorites and save those listings.
- User should be able to update items in the cart (remove items from the cart, update their quantity) or favorites list.
- Show the history of purchases or saved lists for the user.
- For Admin user(s):
    - List all items
    - Add new item
    - Delete item
    - Update item

Admin user will have a dashboard for above mentioned functionalities. Listing page should use list view with thumbnail images for each item and should allow the admin search and filter items. Right next to each item title, there will be an edit and delete button.

While adding items to the system, admin user should be able to upload pictures for the items and while updating items, should be able to change pictures.

For delete, soft-delete should be implemented. Item will be marked as deleted but will not be hard-deleted from the system.

Each functionality listed above (add to cart, update cart, search, filtering, pagination, soft delete etc.) is **5 points**. If you miss any of those functionaties you will lose 5 points for each.

Front-end design

You can use Bootstrap and Bootstrap templates for user interface design. You can also use design tools (i.e. FrontPage, Dream Weaver). You are flexible for page designs but it is important to have a professional look for all pages (i.e. the same menu or navigation bar appears on top of every page etc.).

Back-end design

You can use relational databases or MongoDB for database component. In case a relational database system is used, tables should be normalized to Third Normal Form.

For server side scripting, you can use Python or Node.JS/Express.js or Python frameworks such as Django or Flask.

You can also create an API using Python or Express.js and consume it using React and build your user interfaces by using React. This is recommended for students who have a prior knowledge or experience in web technologies.

Project Report

Project Report should include following items:

- Project Title

- Name for the Website

- Project Description: a brief description of the website. If you make any assumptions, make sure to include those assumptions.

- Database Design: Database structure including the tables and primary and foreign key definitions on tables. Alternatively, you can include your "Create Table" statements for this. In case you use MongoDB, provide information about your data model.

- Languages/frameworks used for implementation

- Screenshots for main functionalities (5-6 screenshots will be sufficient)

- Team Members: Names and Net-IDs for team members

- Work division among team members: who has completed which part (be specific and try to give page names). Please note that every team member should be actively involved in every step of the project development (database design, client-side and server side scripting) and work should be equally divided between team members.

Deliverables:

There will not be a project presentation.

Each team is responsible for sending following items for final project:

- o Project report (File name should be Coursenumber-Teamnumber-ProjectTitle.pdf. Example: CS6314.001-Team4-OnlinePizzaOrders.pdf)
- o Source files (zip your home directory for your project)
- o Video recording of your website's demo. In the video, you will walk viewers through all main functions of the website. The video should be between 3-5 minutes long.

Due date for project submission is **May 9, 2021, 11:59 PM.**