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 the same interface with regular users, except that will be provided with extra features (buttons/links) for update and deletion of products/services.

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. You will be free to have your design choice but it's 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 will use Node.JS and Express.js and create an API. You can consume the API and build your user interfaces by using AJAX or React. React 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 to show your database schema. In case you use MongoDB, provide information about your data model (example objects).

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

- Team Members: Names and Net-IDs for team members. Include the section number for each member.

- 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

including database design, client-side and server side scripting and work should be equally divided between team members.

Deliverables:

Project presentations will be on December 1 and December 6.

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

- o Project report. File name should be Teamnumber-ProjectTitle.pdf. (Example: Team4-OnlinePizzaOrders.pdf)
- o Source files (zip your project directory)
- 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. Include the video link at the end of project report.

Due date for project submission is **December 6, 2021, 11:59 PM.**