



## Internet Programming Project Description

In this project:

- Use HTML, CSS, JavaScript and Node.JS framework that studied in lab in order to build an **E-Commerce website**.
- You can use other frameworks in frontend like bootstrap.
- The total mark of the project will be evaluated according to:
  - Project delivery on time.
  - Individual oral discussion.

### Business Requirements

- User Registration and Authentication: Provide users with the ability to create accounts and log in securely.
- Product Catalog Management: Ability to add, update, and remove products with details like name, description, price, and images.
- Shopping Cart: Allow users to add items to their cart, view the cart, and proceed to checkout.
- Checkout Process: Smooth and secure checkout process with various payment options.
- Order Management: Ability to view and manage orders, update order status, send order confirmations, and issue refunds if necessary.
- Inventory Management: Track product availability, manage stock levels, and provide alerts for low stock.



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- Shipping and Tax Calculation: Provide accurate shipping costs and tax calculations based on the user's location and the items in their cart.
- Responsive Design: Ensure the website is optimized for various devices (desktop, mobile, tablet) to provide a seamless user experience.
- Search and Filter Functionality: Allow users to search for products easily and apply filters to narrow down their choices.
- Customer Reviews and Ratings: Enable customers to leave reviews and ratings for products.
- Promotions and Discounts: Ability to run promotional campaigns, apply discounts, offer coupons, and track their effectiveness.

## Technical Requirements

### Common

#### Functionality

- Set up JWT tokens in your API using modern authentication methods.
  - JWTs should be:
    - Part of the HTTP response.
    - Validated on requests requiring JWT (user secure routes).
    - Generated for each user.

### Backend

#### Functionality

- Add and use Express to a node.js project.
  - Start script should run without error.
  - Provided endpoint should open in the browser with status 200.
- Configure middlewares.



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- Database.
  - Create a database and connect to it.
  - Secure important information by adding salt to user passwords.
    - Encrypt the password field on the user table using the **bcrypt** library.
  - Create CRUD endpoints for models in the application.
    - Split the routes into grouped handler files for better code organization.

### Front-end Functionality

- Dashboard:
  - Create a dashboard page where authenticated users can view basic information or perform actions related to the app's purpose.
- Profile Management:
  - Allow users to view and edit their profile information.
  - Include basic fields like name, email, and profile picture.
- Responsive Design:
  - Ensure the app layout is responsive and works well on various screen sizes, including mobile devices.
  - Use CSS frameworks like Bootstrap to facilitate responsiveness.

AIN SHAMS UNIVERSITY  
FACULTY OF ENGINEERING



Computer and Artificial Intelligence Engineering Program  
(Senior 1 Level), Computer and Systems Engineering

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Course Code: CSE 341 & CSE 334

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Project Deliverables:

- Code files.
- PPT presentation for your project. It should include:
  - Project Overview
    - Introduction to the project, its objectives, and scope.
    - Stakeholders involved and their roles.
  - Functional Requirements
    - Detailed description of the system's functionalities from a user perspective. (Two functions)
    - Requirements prioritization and dependencies.
  - Technical Requirements
    - Development tools, frameworks, and libraries used.
    - APIs for integration with external systems.

Deadline:

- The project discussion will be in last section of this semester

Team members and form:

- Each group between (5-6) members.
- This is the registration form and it will be close on Saturday 12/4/2025 at 11:59 PM.
- Form: [Registration Form](#)

**NOTE:** Strictly avoid copying your colleague's project. That would amount to **plagiarism**. Penalty in case plagiarism is detected: **zero marks** will be assigned for all teams whose project would be considered as plagiarized OR copies of each other.