



# **Advanced Web Programming**

**COMP1230**

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Project Title: Learning Path Creator

V 1.1

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## Project Overview:

The **Learning Path Creator** is a web-based platform facilitating a community-driven learning approach. Users can create, share, and explore curated lists of educational resources, termed "learning paths," on various topics. Each learning path is a resource sequence that guides learners through the material necessary to grasp a particular subject.

## Purpose and Goal:

The main goal of this application is to create a space where learners can benefit from the collective knowledge of the community, finding and contributing learning paths that suit their educational needs by allowing users to vote on and clone learning paths. The application aims to harness the wisdom of the community to highlight quality content and enable collaborative learning.

## Target Audience:

- **Learners:** Individuals looking to acquire knowledge on specific topics and willing to follow structured paths created by others.
- **Educators and Experts:** People who want to share their expertise by creating comprehensive learning paths for others.

## Core Functionalities:

- **Resource Compilation:** Users can compile a list of resources they used to learn a particular topic and create a Learning Path to help others interested in learning the same subject.
- **Community-Driven Curation:** The quality of the content is community-driven as users can vote on learning paths, helping to highlight the most beneficial and accurate resources.
- **Collaborative Learning:** Registered users can clone existing learning paths, making adjustments to suit their learning style or update better and improve the content.

## Real-World Application:

The Learning Path Creator is a practical tool for self-directed learning and community-based education. It provides a platform for sharing knowledge and resources, potentially aiming to make learning more accessible and tailored to individual needs.

## Features and Functionalities:

### 1. User Registration and Authentication:

- Account creation, login, and profile management.
- Profile picture upload functionality.

### 2. Learning Path Management:

- **Create:** Add title, description, and resources (URLs).
- **View:** Browse existing learning paths with details.
- **Edit:** Modify owned learning paths.
- **Delete:** Remove owned learning paths.

### 3. Voting System:

- Upvote or downvote learning paths. (Registered user – one vote per Learning Path)

### 4. Sharing and Cloning:

- Share learning paths via unique links.
- Clone and personalize learning paths (for registered users).

### 5. Search Functionality:

- Basic search by title and description.

### 6. Profile Management:

- View and edit user profile, including profile picture.

### 7. Innovative Feature:

- Teams are encouraged to brainstorm and implement an additional feature to enhance the user experience and the application's functionality. This feature should be well-integrated into the existing platform and demonstrate creativity and problem-solving skills. No specific examples will be provided, as we want to see your unique ideas come to life! **Ensure the chosen feature is feasible within the project's scope and can be completed within the given timeframe.**

## Documentation:

The documentation of your project is vital in providing a clear understanding and facilitating a thorough evaluation of your work. As an integral component of your project submission:

- **README File:** You must create a detailed README file, adhering strictly to the specific template provided separately. Ensure that every section of the template is comprehensively filled out, accurately reflecting all aspects of your project.
- **File Format and Naming:** The README file must be uploaded to your project's designated folder in PDF format and named exactly **readme.pdf**.
- **Content and Clarity:** Your README file should cover various facets of your application, ranging from setup, installation, and functionality to any unique features or notes pertinent to the project. It should be well-structured, clear, and free from grammatical errors, ensuring that evaluators and future users can understand and appreciate the intricacies of your work.
- **Accessibility:** Ensure a direct link is provided within your application to access and download **readme.pdf**, offering convenience and visibility to evaluators and users.

## Technical Requirements:

- Backend: PHP.
- Database: MySQL.
- Front-end: HTML, CSS, and JavaScript.
- Optional use of CSS frameworks like Bootstrap.

## **Submission Guidelines:**

### **1. Upload the Working Application:**

- a. Place the entire working application in the `public_html/comp1230/assignments/project/` directory on your GBLearn account.

### **2. Video Presentation Guidelines:**

Each member of the group is required to submit a personal video presentation. Failure to submit a video presentation will result in a score of zero for that individual.

#### **Presentation Requirements:**

3. **Duration:** Each video presentation should be no longer than 3 minutes.
4. **Content:** The presentation should cover each member's contributions to the project, detailing the functions they worked on and the code they wrote.
5. **Platform:** The video should be uploaded to a platform such as YouTube, Vimeo, or any other service accessible to the lab professor without access restrictions.
6. **Clarity:** The video should be clear and concise, with the presenter explaining their role and contributions to the project effectively. Audio and video quality should be adequate for easy understanding.

### **7. In the README.pdf:**

- a. Under "Team Member Information and Contributions " in the readme.pdf document, include the following information:
  - i. List the student IDs, names of the team members,
  - ii. Tasks completed by each member
  - iii. Direct link to the individual GBLearn / project 1 folder
  - iv. URL to the individual's video presentation.

### **8. README File Submission:**

- **Instructions for Using the README Template:**
  - Download the provided readme.docx template.
  - Fill in each template section with the relevant information about your project. Be thorough and clear in your descriptions, ensuring you cover all aspects of your application.

- Review your documentation once you have completed the template to ensure accuracy and completeness.
- Save the completed document as a PDF file, naming it readme.pdf.
- Upload the readme.pdf file to your project folder on the server.
- **Important Notes:**
  - The README file should provide a clear and comprehensive overview of your application, helping evaluators to understand and assess your work effectively.
  - Failing to include this document or not following the specified format and naming conventions may result in a deduction of marks.
  - Create a link to the readme.pdf file from the application's footer. This link should open in a new window.
  - Missing any of these requirements will result in a zero mark for the assignment.

## 9. Group Submission on my.gblearn.com:

- **Only one member** of the group must complete the following steps:
- Go to <https://my.gblearn.com>
- Select COMP1230 from the course dropdown and select project. Ensure the project URL on the submission page lands in your project folder.
- **No D2L submission is required.**

## 10. Additional Guidelines:

- **Correct Submission:** Assignments not submitted on my.gblearn.com or uploaded to the wrong directory on GBLearn will **receive a zero grade**.
- **Functionality:** The application must work for every member of your team on their GBLearn account. Any error will result in an automatic zero grade for the affected member, with no exceptions. (Your application must work on your GBLearn account)
- **Max Group Size:** The maximum group size for this assignment is 3 members.

- **Technology Restrictions:** PHP must be the primary language—**no Front-end Frameworks.**
- **Individual Accountability:** This video presentation ensures individual accountability and clearly understands each team member's involvement in the project.
- **Evaluation:** The video presentations will be the central part of the project evaluation process.
- **Accessibility:** Ensure the video is set to either 'Public' or 'Unlisted' so that it can be viewed by the lab professor without the need for special permissions or requests.
- **Mandatory Submission:** The submission of a video presentation is mandatory for every team member. Failure to submit the video will result in a grade of zero for that student.

## **11. Late Submissions:**

- Late submissions will be penalized at 20% daily, up to a maximum of five days, including weekends. Beyond five days, the assignment will not be accepted.
- Exceptions may be made for extenuating circumstances, but you must contact the instructor before the deadline to discuss any issues.

## **12. Academic Integrity:**

- Ensure that all work submitted is your own.
- According to the GBC's academic integrity policy, plagiarism or academic dishonesty will be taken seriously and dealt with.

## **Rubric**

### **1. Project Functionality (35 Points)**

- **User Authentication and Authorization (10 Points):**
  - Proper implementation of user login, registration, and access control.
- **Learning Path Creation (10 Points):**
  - Ability to create, edit, and delete learning paths with diverse resource types.
- **Learning Path Cloning and Modification (5 Points):**

- Implementation of learning path cloning and the ability to modify cloned paths.
- **Voting System (5 Points):**
  - Proper implementation of voting on learning paths and individual resources.
- **User Profile and Image Upload (2.5 Points):**
  - Functionality for users to create and update their profiles, including image upload.
- **Resource URL Validation (2.5 Points):**
  - Ensuring all resource links are valid URLs and handling invalid inputs gracefully.

## 2. Database Design and Interaction (15 Points)

- **Schema Design (10 Points):**
  - Clear, normalized, and efficient database schema design, properly documented in readme.pdf. You must include a database schema showing all tables, fields, relationships, and constraints. Ensure that the schema is appropriately labelled and easy to understand.
- **Query Efficiency and Accuracy (5 Points):**
  - Efficient and accurate SQL queries for all database interactions. Include a separate section in your readme.pdf document listing all SQL queries used in the application, along with a brief description of their purpose.

## 3. Server-Side Scripting (PHP) (20 Points)

- **Code Quality and Organization (10 Points):**
  - Well-written, organized, and commented on PHP code.
- **Use of PHP Functions and Control Structures (10 Points):**
  - Effective use of various PHP functions and control structures.

## 4. User Interface and Responsiveness (5 Points)

- **Design and Aesthetics (2.5 Points):**
  - Visually appealing and user-friendly design.
- **Responsiveness (2.5 Points):**
  - Proper functionality and appearance on various devices and screen sizes.

## 5. Error Handling and Validation (5 Points)

- Comprehensive error handling and user input validation throughout the application.

## 6. Innovative Feature (Encouraged) (20 Points)

- **Innovation and Implementation:**
  - Implementation of an innovative feature that significantly enhances the application's functionality and user experience.