# Application Requirements

## Main Window

### Overview

Upon launching the application, the Main Window is displayed. This window provides users with the following interactive components:

- A list of all available courses.
- If the user is enrolled in a course, the "Enrolled" keyword appears next to the title of that course, no keyword appears otherwise.
- A search bar to quickly find specific courses.
- A set of filters to narrow down the list.
- A button to clear all applied filters.

### Course List

The Course List displays the available courses, including course titles, with the "Enrolled" keyword next to the title if the user is enrolled, or nothing otherwise, and the topics of the course. Users can apply filters to refine the course selection. When a course is selected, it opens the Course-Specific Window.

**Key Points:**

- Displays all available courses
- Each course list entry displays:
  - Course title

- ○ "Enrolled" keyword, if the user is enrolled.
        - ○ Topics
    - Supports additional filtering for refined browsing.
    - Opens the Course-Specific Window upon left-clicking a course.

# Search Bar

The search bar enables users to quickly locate courses by typing a query. It uses substring matching to compare the user input against course titles. Only courses with titles containing the input string are shown. If no matches are found, the course list appears empty. Users can reset the search by clearing the input. The search bar limits input to 100 characters.

**Key Points:**

- Uses substring matching on course titles (course_name in the database).
- Dynamically filters courses as the user types.
- Limits input to 100 characters.
- Clearing the input will display all courses that match the currently selected filters.

# Filters

Users can refine the course list using checkbox-style filters. Multiple filter categories are available based on topics or enrollment, each with its own set of labeled checkboxes. There is no limit to the number of checkboxes that can be selected simultaneously, other than how many of them there are. Each checkbox corresponds to a keyword tag; when checked, only courses tagged with that keyword are displayed. Filters are tied to the Topics table, which stores each keyword topic. Courses are associated with topics via the TopicCourse table, allowing multiple topics per course. If no checkboxes are selected, no filtering is applied. The user can see that a

filter is selected when the box next to its label is checked. If the box is not checked, the filter is not active.

**Key Points:**

- Provides multiple filter categories with labeled checkboxes.
- Allows unlimited simultaneous selections.
- Each checkbox is tied to a specific keyword tag.
- Courses must include the selected keyword tags to be displayed.
- No filters selected means all courses are visible.

# Search Bar and Filters Integration

The search bar and filters work in tandem. When users type a query and select filters simultaneously, only courses that both match the text in their title and meet the filter criteria will be displayed. The list of courses is updated dynamically.

**Key Points:**

- Combines text-based search with keyword filtering.
- Only courses matching both criteria are shown.
- Results update dynamically with changes in either the search query or filter selections.

# "Clear Filters" Button

The "Clear Filters" button, activated by a left-click, resets all filters. When clicked, it unchecks every active checkbox, returning the course list to its default, unfiltered state.

**Key Points:**

- Provides a single-click reset for all filter selections.

- Unchecks all active filters.
- Restores the full course list.

# Course-Specific Window

## Overview

When a course is selected from the Main Window, the Course-Specific Window opens and the user can opt to enroll in the course using the "Enroll" button. If the user is already enrolled in the course, the button appears as "Cancel Enrollment", and by left clicking on the user can cancel their enrollment status. This will reset any module progress, so if the user enrolls again later, none of the modules will appear as "Completed". The enrollment status is saved in the database using the Enrollments table, which records the user's ID, the course ID, their enrollment status, and timestamps. The Course-Specific Window displays:

- The course title.
- The "Enroll"/"Cancel Enrollment" button, allowing the user to enroll in the course, or cancel enrollment, if they are already enrolled.
- The topics related to the course.
- A short description of the course.
- A sequential list of modules belonging to the course.
- The progress for each module is stored in the UserProgress table, which tracks whether a user has completed or accessed a module.
- Module progress is reset if the user cancels their enrollment.
- A "Back to Courses" button to return to the Main Window.

## List of Modules

Within the Course-Specific Window, the modules are listed in the order they should be accessed. Modules are stored in the Modules table, each associated with a specific course via a course_id reference. They include the module title, description, and the order in which they are displayed. The user must enroll in the course to be able to access the modules, until then the modules are blocked, meaning even if the user attempts to open them, nothing will happen, the Module Window will not open. Users can click on a module (using the left mouse button) to open its corresponding Module Window. If the user has already completed a module, the "Completed" keyword will appear next to its title, otherwise "In Progress" will be written. The user can still open modules, even if they are marked as "Completed".

**Key Points:**

- Displays modules in a predefined sequential order.
- Modules are blocked as long as the user is not enrolled.
- Displays the status of each module next to its title.
- Clicking a module opens the associated Module Window.

# "Enroll" Button

By left clicking on the "Enroll" button, users can enroll in the course. This will unblock the modules and the user can begin accessing them. If the user is already enrolled in the course, the "Enroll" button is renamed to "Cancel Enrollment", and the user can cancel their enrollment by left clicking the button.

**Key Points:**

- Allows the user to enroll in the course.
- Activated by a simple left-click.
- If the user is already enrolled, the button is renamed to "Cancel Enrollment", and allows the user to cancel their enrollment.

# "Back to Courses" Button

The "Back to Courses" button allows users to return from the Course-Specific Window to the Main Window with a left-click.

**Key Points:**

- Enables navigation back to the Main Window.
- Activated by a simple left-click.

# <u>Module Window</u>

## Overview

When a user selects a module, the Module Window opens. This window displays the title of the module and all written learning material belonging to it, allowing for focused study. It also features a "Back to the Course" button to return to the Course-Specific Window, and a "Mark as Completed" button, with which the user can signal that they have finished the module. If the user already marked the module as completed, the "Mark as Completed" button is renamed to "Remove Mark" and by left clicking it, the user can remove the "Completed" mark from the module.

## "Mark as Completed" Button

This button allows the users to mark the module as "Completed" using a left-click. If the module is already completed, the "Mark as Completed" button is renamed to "Remove Mark", allowing the user to remove the "Completed" mark, by left clicking the button.

**Key Points:**

- When the 'Mark as Completed' button is clicked, the completion status is updated in the UserProgress table, setting the status to 'Completed'.
- The button is renamed to "Remove Mark", if the module is already completed, allowing the user to remove the "Completed" mark.
- Uses a left-click for activation.

# "Back to the Course" Button

This button allows users to return to the Course-Specific Window from the module Window using a left-click.

**Key Points:**

- Provides a way to navigate back to the Course-Specific Window.
- Uses a left-click for activation.