Kambaz Quizzes Project Requirements

Throughout this semester, we have been exploring various web development technologies, learning the fundamental tools and techniques that bring dynamic and interactive Web applications to life. To practice your development skills, you have been building Kambaz, our class's own version of a learning management system (LMS), inspired by a popular LMS. As we approach the culmination of our course, it's time to challenge yourselves further and extend Kambaz by developing a *Quizzes* section. This new feature will be a cornerstone of the Kambaz system, facilitating an interactive learning experience and enabling assessment to be seamlessly integrated into the online learning environment.

Authentication and Authorization

As part of the assignments we have implemented user authentication allowing multiple users to login simultaneously into the *Kambaz* application. Your implementation of the Quizzes must include support for multiple and simultaneous user signup, signin, and profile. Additionally you need to support two types of users: Faculty and Students. As a Faculty, a user can create, edit, preview, and delete quizzes. As a Student, a user can only view the list of quizzes, take a quiz, and view the final grade of the quiz. To simplify configuring a user's role, you can provide a checkbox or dropdown users can choose when signing up.

Northeastern University

myNortheastern Username

myNortheastern Password

Log In

Courses per User

When a user logs in, they should only see the courses they are associated with. For instance, in the *Dashboard* faculty should only see the courses they have created and students should only see the courses they are enrolled in. In the assignments we implemented the signin and course creation process so associating courses with the currently logged in user should be simple. For students, you'll need to create a mechanism for them to enroll into a course. One suggestion would be that their *Dashboard* is initially empty since they are not enrolled in any course, but they can click on some link that would take them to a list of all the courses available from which they can choose which courses they want to enroll in. Then back in their *Dashboard*, they would only see the courses they are enrolled in. Clicking the course from the *Dashboard* takes a user to the *Home* screen of the course. Faculty can edit the content in a course, but students can not.
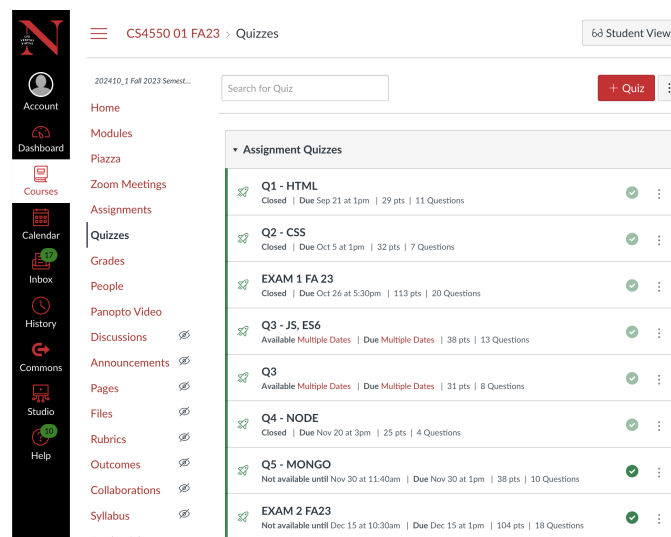
Quiz List Screen

Implement a *Quizzes* screen that display a list of quizzes as shown below. The *Quizzes* screen displays the quizzes for the current course. If a user navigates to a different course from the *Dashboard*, they would see a different list of quizzes.

Quizzes screen Requirements

- Displays list of quizzes
- Empty by default. Provide message to click *Add Quiz* button (+ Quiz)

- Clicking **Add Quiz** button (+ Quiz) creates a new quiz with a default name and navigates to **Quiz Details** screen for editing the quiz. Alternatively, it can navigate to **Quiz Details Editor** screen shown later in this document
- Clicking the context menu button (3 dots) reveals the Quiz Context Menu with options
    - **Edit** - navigates to **Quiz Details** screen
    - **Delete** - removes the quiz and stays in the **Quiz List** screen
    - **Publish** - publishes the quiz and option becomes **Unpublish** so you can unpublish
    - **Copy** - allows copying the quiz to another course (optional)
    - **Sort** - allows sorting the course by name, due date, or available date (optional)
- By default quizzes are unpublished and unavailable to students depicted with a **Unpublished** symbol 🚫 as shown below
- Clicking **Unpublished** symbol publishes the quiz, makes it available to students and is represented with the **Published** symbol ✅ as shown below
- Clicking quiz title navigates to Quiz Details screen
- Under the quiz title display
    - **Availability**
        - **Closed** - if current date is after quizzes **Available Date**
        - **Available** - if current date is between **Available Date** and **Available Until Date**
        - **Not available until <AVAILABLE DATE>** - if current date is before the **Available Date**
    - **Due date** - as shown below
    - **Points** - as shown below
    - **Number of questions** - as shown below
    - **Score** - if the current user is a student, the score from the last attempt is shown

Quiz Details Screen

For faculty users, implement a **Quizzes Details** screen as shown below with only following properties. For students, provide a button to start the quiz. Ignore other properties

- **Quiz Type** - **Graded Quiz** (default), **Practice Quiz**, **Graded Survey**, **Ungraded Survey**
- **Points** - the sum of the points of all questions in the quiz
- **Assignment Group** - **Quizzes** (default), **Exams**, **Assignments**, **Project**
- **Shuffle Answers** - Yes (default) / No
- **Time Limit** - 20 Minutes (default)
- **Multiple Attempts** - No (default) / Yes

Quiz list panel (right side):

202410_1 Fall 2023 Semest...

- Home
- Modules
- Piazza
- Zoom Meetings
- Assignments
- Quizzes
- Grades
- People
- Panopto Video
- Discussions
- Announcements
- Pages
- Files
- Rubrics
- Outcomes
- Collaborations
- Syllabus
- Credentials

▼ Assignment Quizzes

Quiz	Details
Q1 - HTML	Closed | Due Sep 21 at 1pm | 29 pts | 11 Questions
Q2 - CSS	Closed | Due Oct 5 at 1pm | 32 pts | 7 Questions
EXAM 1 FA 23	Closed | Due Oct 26 at 5:30pm | 113 pts | 20 Questions
Q3 - JS, ES6	Available Multiple Dates | Due Multiple Dates | 38 pts | 13 Questions
Q3	Available Multiple Dates | Due Multiple Dates | 31 pts | 8 Questions
Q4 - NODE	Closed | Due Nov 20 at 3pm | 25 pts | 4 Questions
Q5 - MONGO	Not available until Nov 30 at 11:40am | Due Nov 30 at 1pm | 38 pts | 10 Questions
EXAM 2 FA23	Not available until Dec 15 at 10:30am | Due Dec 15 at 1pm | 104 pts | 18 Questions

---

Preview | ✎ Edit

Q1 - HTML

Quiz Type	Graded Quiz
Points	29
Assignment Group	QUIZZES
Shuffle Answers	No
Time Limit	30 Minutes
Multiple Attempts	No
View Responses	Always
Show Correct Answers	Immediately
One Question at a Time	Yes
Require Respondus LockDown Browser	No
Required to View Quiz Results	No
Webcam Required	No
Lock Questions After Answering	No

Due	For	Available from	Until
Sep 21 at 1pm	Everyone	Sep 21 at 11:40am	Sep 21 at 1pm

- **How Many Attempts** - 1 (default). If **Multiple Attempts** is **Yes**, then can configure how many times the student can retake the quiz
- **Show Correct Answers** - If and when correct answers are shown to students
- **Access Code** - Passcode students need to type to access the quiz. Default is blank
- **One Question at a Time** - Yes (default) / No
- **Webcam Required** - No (default) / Yes
- **Lock Questions After Answering** - No (default) / Yes
- **Due date** - date the assignment is due
- **Available date** - date assignment is available
- **Until date** - date assignment is available until

Quizzes Details Screen Requirements

- Displays summary of quiz properties
- Click **Preview** button to navigate to **Quiz Preview** screen
- Click **Edit** to navigate to **Quiz Editor** screen

Quiz Details Editor screen

The **Quiz Editor** screen allows faculty to edit the meta data for a quiz. Implement the **Quiz Editor** screen as shown below. Feel free to give it your own twist

- Has 2 tabs
  - Details (default)
  - Questions
- Clicking **Details** navigates to the **Quiz Details Editor** screen
- Clicking **Questions** navigates to **Quiz Questions Editor** screen
- Can edit fields
  - **Title** (input text)
  - **Description** (WYSIWYG)
  - **Assigned to** - Ignore
  - **Quiz Type** - **Graded Quiz** (default), **Practice Quiz**, **Graded Survey**, **Ungraded Survey**
  - **Points** - the sum of the points of all questions in the quiz
  - **Assignment Group** - **Quizzes** (default), **Exams**, **Assignments**, **Project**
  - **Shuffle Answers** - Yes (default) / No
  - **Time Limit** - 20 Minutes (default)
  - **Multiple Attempts** - No (default) / Yes
  - **Show Correct Answers** - If and when correct answers are shown to students
  - **Access Code** - Passcode students need to type to access the quiz. Default is blank
  - **One Question at a Time** - Yes (default) / No
  - **Webcam Required** - No (default) / Yes
  - **Lock Questions After Answering** - No (default) / Yes

- ○ *Due date* - date the assignment is due
- ○ *Available date* - date assignment is available
- ○ *Until date* - date assignment is available until
- Clicking *Save* saves changes and navigates to *Quiz Details* screen
- Clicking *Save and Publish* saves & publishes quiz and navigates to *Quiz List* screen
- Clicking *Cancel* doesn't save and navigates ton *Quiz List* screen

Quiz Questions Editor screen

Clicking *Questions* tab navigates to Quiz questions screen with the following behavior

- Displays list of questions for this quiz. List is initially empty
- Clicking *New Question* adds question at bottom of list. *Multiple choice* question is default
- New questions are displayed in edit preview mode by default
- Clicking *Edit* displays question in edit mode
- Dropdown to choose question type
- *Points* shows sum of all the points of each question.
- Minimum question types:
  - ○ True/false question
  - ○ Multiple choice question
  - ○ Fill in a blank question
- Clicking *Cancel* button dismisses the edits
- Clicking *Save* saves the edits but does not publish the quiz

Here's an example of how *Canvas* renders the *Questions editor*, but feel free to give it your own twist.

Multiple Choice Question Editor (default)

Implement a *Multiple choice* type question where students need select one correct choice out a list of multiple choices. Faculty can configure the following question properties

- Title (input:text) - the title of the question
- Points (input:number) - how many points is the question
- Question (WYSIWYG)
- Choices (textarea) - multiple paragraphs of which only one is the correct choice. Faculty can add/remove any number of choices. Each choice has a radio button that selects it as the single correct answer.
- Cancel button discards changes
- Save/Update Question button saves question

Here's an example of how Canvas renders the *Multiple choice question* editor, but feel free to give it your own twist

Points 0

Details   Questions

+ New Question

Cancel   Save

Easy Question   Multiple Choice ⌄   pts: 4

Enter your question and multiple answers, then select the one correct answer.

Question:

Edit   View   Insert   Format   Tools   Table

12pt ⌄   Paragraph ⌄   **B**   *I*   U̲   A ⌄   ✏ ⌄   T² ⌄   ⋮

How much is 2 + 2?

Answers:

Possible Answer   4

Possible Answer   3

➡ Correct Answer   5

➡ Possible Answer   7   ✎ 🗑

+ Add Another Answer

Cancel   Update Question

True/False Question Editor

Implement a **True false** type question where students need select whether a text is true or false. Faculty can configure the following question properties
- **Title** (input:text) - the title of the question
- **Points** (input:number) - how many points is the question
- **Question** (WYSIWYG)
- **Tue/false** - whether the correct answer is true or false. Can be a simple checkbox or a couple of radio buttons.
- **Cancel** button discards changes
- **Save/Update Question** button saves question

Here's an example of how Canvas renders the **True false question** editor, but feel free to give it your own twist

Fill in the Blank Question Editor

Implement a **Fill in the blank** type question where students need to fill in a blank and the answer is compared to various possibly correct answers. Faculty can configure the following question properties
- Title (input:text) - the title of the question
- Points (input:number) - how many points is the question
- Question (WYSIWYG)
- Blank (input:text) - a list of possible correct answers for the blank. Faculty can add/remove any number of possible correct answers. Answers can be case insensitive
- Cancel button discards changes
- Save/Update Question button saves question

Here's an example of how Canvas renders the **Fill in the blank question** editor, but feel free to give it your own twist

Quiz Preview screen

The **Quiz Preview** screen allow faculty to view the quiz as students would see the quiz. The faculty can answer the quiz and view the score they would get with the answers they provided. Like students, after the faculty completes a preview of the quiz, they can see what questions they got wrong and the final score. The answers from the faculty don't need to be stored in the database. Faculty can not edit the quiz while they are taking the quiz. To edit the quiz they can click on an **Edit Quiz**

button that navigates them to the **Quiz Questions Editor screen** described earlier.

Persist Student Quiz Answers and Scores

Although faculty can edit and preview a quiz, a student can not edit a quiz, but can take the quiz as many times as configured in the **How Many Attempts** property in the **Quiz Details screen**. The answers to the quiz are stored per student so that they can come back later and see the when they took the quiz, what score they got, and what they answered the last time they took the quiz. Questions are highlighted as green or checkmark if they were correctly answered, and red or X if they were answered incorrectly. Students can't change the answers of a quiz they already took. They can take the quiz again if **Multiple Attempts** is configured and as many times as configured in **How Many Attempts**. Once a student has exhausted the number of attempts, they can not take the quiz again. Students can only see the answers and score to the last attempt. If another student takes the quiz, their answers are stored separately so that when they submit their answers and then comeback to view the results, they can see what they answered in their last attempt.