Kanbas 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 Kanbas, 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 Kanbas by developing a *Quizzes* section. This new feature will be a cornerstone of the Kanbas 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 *Kanbas* 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.

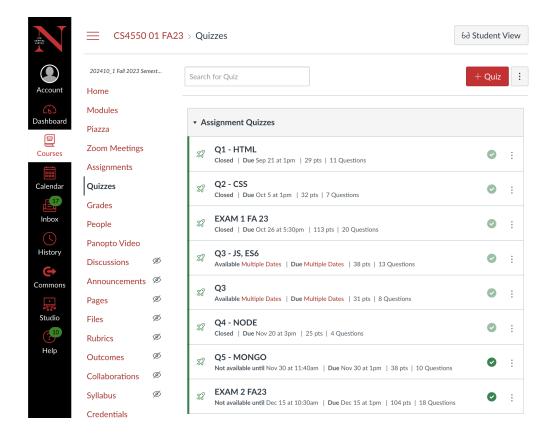
myNortheastern Password

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

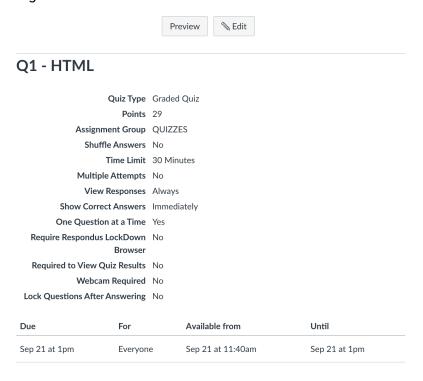
- Displays list of quizzes
- Empty by default. Provide message to click Add Quiz button (+ Quiz)
- Clicking Add Quiz button (+ Quiz) creates a new quiz with a default name and navigates to Quiz Details
 screen for editing the quiz. Alternatively, it can navigate to Quiz Details Editor screen shown later 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
 - o **Publish** publishes the quiz and option becomes **Unpublish** so you can unpublish
 - Copy allows copying the quiz to another course (optional)
 - o **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
 \(\infty\) 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
- o 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
- 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



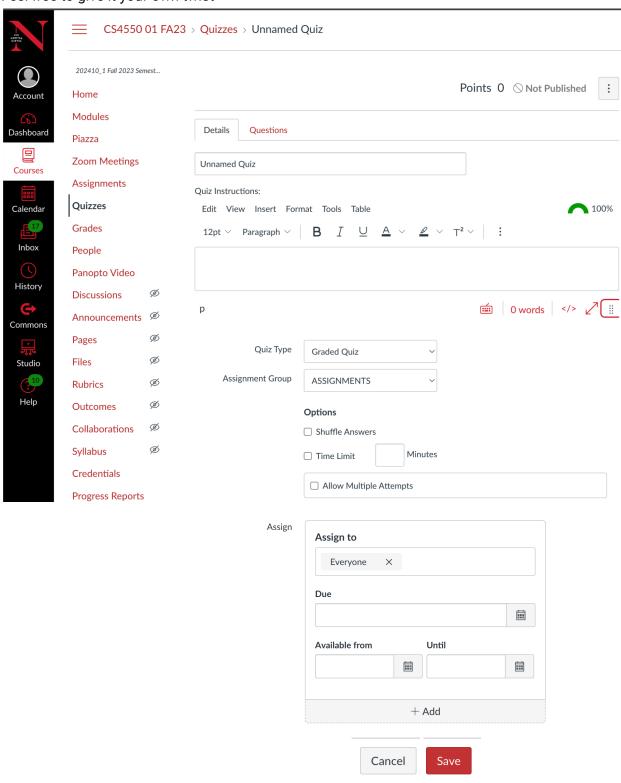
Quizzes Details Screen Requirements

- 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



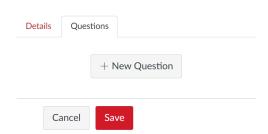
- Has 2 tabs
 - Details (default)
 - Questions
- Clicking Details navigates to the Quiz Details Editor screen
- Clicking Questions navigates to Quiz Questions Editor screen
- Can edit fields
 - Title (input text)
 - Description (WYSIWYG)
 - Assigned to Ignore
 - Quiz Type Graded Quiz (default), Practice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

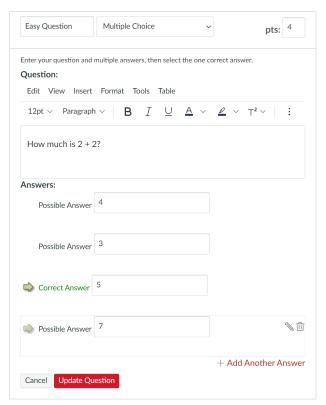


Multiple Choice Question Editor (default)

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

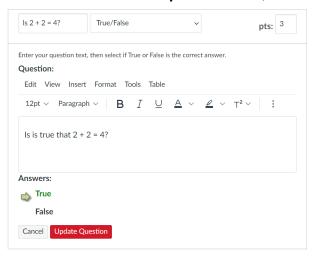


True/False Question Editor

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

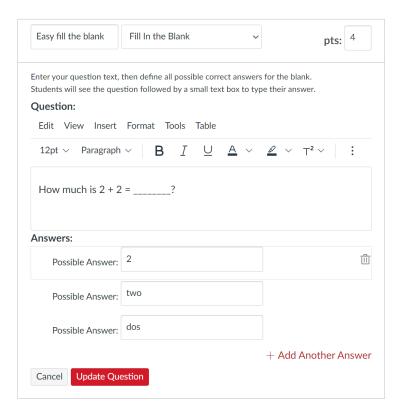


Fill in the Blank Question Editor

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 guestion
- 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, and (optional) can have multiple right
 answers
- 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. The answers are stored in the database for the user that took the quiz so that next time the faculty previews the quiz, they can see when and what they answered the last time they took the quiz. Faculty can not edit the quiz while they are taking the quiz. To edit the quiz they can click on a button *Edit Quiz* that navigates them to the *Quiz Questions Editor screen* described earlier.

Q1 - HTML ① This is a preview of the published version of the guiz Started: Nov 29 at 8:19am **Quiz Instructions** Question 1 1 pts An HTML \underline{label} element can be associated with an HTML \underline{input} element by setting their id attributes to the same value. The resulting effect is that when you click on the <u>label</u> text, the <u>input</u> element receives focus as if you had click on the input element itself Next ▶ Quiz saved at 8:19am Submit Quiz Neep Editing This Quiz Questions ? Question 1 ② Question 2 ? Question 3 ② Question 4 ? Question 5

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.