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Assignment 3: Requirements Analysis

Users

- ❖ Student
- ❖ TA
- ❖ Teacher

Student Activities

- ❖ Post or resubmit an assignment
 - Requires a viewable assignment to post into.
 - Requires multiple data entries. One for each submission or resubmission.
 - The entries should have the student, assignment, and post date as attributes.
 - Data entries for submissions can be a file or github link.
 - Should only be allowed to be posted before the submission deadline.
 - Should be able to resubmit and update the current submission if before deadline.
- ❖ Leave a comment on their own posted assignment
 - Requires a data entry which holds a string of characters.
 - The data entry should have the student, user posting, assignment, and post date as attributes.
 - The user posting and student can be different if it is the TA or Teacher posting the comment.
Note that the student attribute refers to the student who made that submission that is being commented on while the user posting refers to the comment poster.
 - Should be able to post multiple comments on the same assignment.
 - The post date and all relevant attributes should be saved for each comment so they can be properly displayed later
- ❖ View published grades and comments for their own assignments
 - Requires a grade data entry for each assignment as well as multiple comment data entries.
 - The grade and comment data entries should have the user posting, student, assignment, and post date as attributes.
 - The grades and comments should only be viewable to the student they correspond to.
 - The grades and Teacher/TA comments should only be viewable when published.
 - The grades should not be changeable by the student.
 - Should only view most recent grade if changes to grade have been made.
- ❖ View their own submission
 - Requires each submission data entry to have a student attribute that can be searched for.
 - Students must be able to view only their own submissions and no one else's.
 - Most recent submission should be shown.
 - Students should have the option to download their submission in the case of file submissions.

TA Activities

- ❖ Grade an assignment or change the grade on an already graded assignment
 - Requires a floating-point data entry for each assignment submission to hold the grade.
 - Data entry should have the user posting, student, assignment, and post date as attributes.

- The user posting attribute refers to who graded the assignment so that grading and grading changes can be monitored.
- Grade should only be viewable by the TAs and the Teacher.
- User should be able to change the grade.
- After grades are published they should then also be viewable to the student the grade corresponds to.
- ❖ Comment on assignment
 - Requires a data entry which holds a string of characters.
 - The data entry should have the student, user posting, assignment, and post date as attributes.
 - Should only be viewable to student after grade is published.
 - Comment will be linked to a student and an assignment through the student and assignment attributes. These attributes will later be used to display the comment in the proper place.
 - Comment should only ever be viewable to people who have access to the submission.
- ❖ View all grades for a specified student
 - Requires grade data entries with at least the student and assignment attributes.
 - Requires grade data entries to be searchable by a student attribute.
 - Should be able to display the grades in a list.
 - Should be able to search for a specific assignment grade as well.
 - Only most recent grade should be shown.
- ❖ View a list of past grading changes that were made and who made them
 - Requires grade data entries with at least the student, assignment, user posting, and post date attributes.
 - Requires that a new data entry is created each time the grade is changed so past ones will be retained.
 - Grade data entries must be searchable by student and assignment to be properly displayed.
 - Grade changes should be shown in order by post date.
 - Grade changes should show who made the change as well as what the past grade was.
- ❖ View a list of posted programs either by student or by assignment
 - Requires submission data entries containing a file or github link.
 - Requires the data entries to have at least the student, assignment, and post date attributes.
 - All submission data entries must be searchable by user or by assignment.
 - Should show only the most recent submission for an assignment, but give the option to look at past submissions.
 - Should have the option to download file submissions.
- ❖ View information about a submission such as posting date, past submissions, and comments.
 - Requires submission data entries with the student, assignment, and post date attributes.
 - The submission data entries must be searchable by student and assignment.
 - The post date attribute of the data entry should be accessible.
 - Comment data entries also need to be searchable by student and assignment so they can be linked to the submission.
 - Past submissions need to be accessible to the user.
 - Should have the option to download current and past submissions.
- ❖ Publish or hide grades from student view.

- Grade data entries must only be viewable to student users after they have been published and only to the student corresponding to the grade's student attribute.
- Likely requires added an additional flag attribute to the Assignment data entry that determines if the comments and grades for that assignment has been published.
- Must be able to update the flag to publish the grade.

Teacher Activities

- ❖ Access to all TA activities
 - Requires the teacher to have access to all the same activities as the TA.
- ❖ Control access level of TAs
 - All TA activities must be able to be disabled or enabled for that TA.
 - Only the Teacher should have the ability to enable or disable TA activities.
 - Likely requires data flags which determine if the TA currently has access to an activity or not.
 - The data flags can be stored in a data entry with the TA and each flag as an attribute.
 - Teacher should be able to view which TA activities are currently enabled for a specific TA.
 - Requires a searchable TA data entry with their name and all their activity flags.
- ❖ Create New Assignments
 - Requires a data entry for information about the assignment.
 - The entry should contain a name, some information text and should have two flag attributes, a due date attribute, and a submission deadline attribute.
 - The first flag attribute determines if the grades and TA/Teacher comments are published or not for use in the "Publish or hide grades" activity.
 - The second attribute flag determines if the assignment is currently viewable to students.
 - Will be linked to the submission data entries through the assignment data attribute
 - Assignment should be able to be made viewable to students once the Teacher has published the assignment.
- ❖ Change assignment due dates and submission deadlines
 - Requires an assignment data entry with the due date and submission deadlines attributes.
 - Teacher must be able to change the due date and submission deadline attributes of the assignment data entry.
 - Students should be able to view the new deadlines after the change.
 - Students should not be able to post past the new submission deadline date.
- ❖ Edit assignment requirements
 - Requires an assignment data entry with text as the content.
 - Teacher must be able to edit the text of the assignment prompt.
 - Requires some sort of text editor or way to edit the text as well as a way to save the changes to the server.
 - Student should be able to view the new assignment text after the changes have been made.
- ❖ Create a new section/module
 - Requires assignments to have an additional section attribute that determines which section they will be displayed in.
 - Assignments must be able to be displayed by section.

- Teacher must be able to create a new section data entry which contains the name of the section and a flag to determine if the section is published or not.
- All assignment added to the section will be displayed in that section in the future.
- The Teacher must be able to publish the whole section at once by changing the section flag.
- The Teacher still must be able to only publish or hide one or more assignments in the section without affecting the others using the assignment flags.

System Requirements

- ❖ Each user needs access to a computer
- ❖ A server is needed to store data entries
- ❖ The server likely requires some sort of database management such as MySQL.
- ❖ A Network connection is needed for all users to connect to the server
- ❖ Each computer must be able to run at least a basic operating system, the grading program, and connect to the internet.
- ❖ The computers also need to be able to input and output so a keyboard, mouse, and monitor, or something equivalent will be needed for each computer.
- ❖ The computers will require minimum hardware to be able to run such as motherboard, CPU, Graphics card, and RAM.
- ❖ To grade the assignments, each TA/Teacher will need to be able to run the software development program that was used to create the submissions.
- ❖ At minimum at least one Teacher user is required.

Data Entries and their attributes

- ❖ Section
 - Name
 - Publish flag
- ❖ Assignment
 - Name
 - Text content
 - Publish grades and comments flag
 - Publish assignment text flag
 - Due date
 - Submission deadline
 - Section
- ❖ Submission
 - File or github link
 - Student
 - Assignment
 - Post date

- ❖ Comment
 - Text content
 - Student
 - Assignment
 - User posting
 - Post date
- ❖ Grade
 - Grade Percent
 - Student
 - Assignment
 - User posting
 - Post date
- ❖ Student
 - Student Number
 - PawPrint
 - Name
- ❖ TA
 - Name
 - Activity flags (to determine if certain activities are enabled)