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Assignment 3: Requirements Analysis

Step 0

- Make sure you understand the problem. You can ask questions in the GitHub channel #requirements in the SWES17 Team.

Step 1: Identify the different types of Users of the software system

The types of users will be the students, the TA's, and the instructors.

Step 2: For each identified User, identify the Activities they will perform with the software. (These are User Requirements.)

Students:

- Log in to the software system
- Select their desired course
- Select the assignment
- Submit the assignment

TA's:

- Log in to the software system
- Select the course they are the TA for
- Select the assignment that is submitted by students
- View/Grade all the assignments
- Download submissions via a file upload

Instructor:

- Log in to the software system
- View all courses that they are instructing
- Select the course they want to work on
- Manage the TA's for the course
- View, edit, remove the course sections and students
- View, edit, remove or add assignments to the course

Step 3: For each identified Activity, identify…

1. Relevant data within the system. Data entities and attributes may be simply listed or you may construct a data model if it helps.
2. Constraints (non-functional) on the activity or the resultant state of the system

Student:

- Logging in to the system: There is a table for all users with attributes for their ID (int), type of user, such as student, TA, or instructor (char), and a password (string).
- Selecting a course: There is a table for all the courses with attributes for their course ID (int), course name (string), and a student ID (int).
- Selecting an assignment: There is a table for all the assignments in the course with attributes for their assignment ID (int), course ID (int), assignment name (string), and a due date for the assignment (date/time).
- Submitting an assignment: There is a table for assignment submissions with attributes for the submission student ID (int), assignment ID (int), course ID (int), and a filename (string).
- There will also be a table for the courses students are enrolled in with attributes for the student ID (int), section (int), and course ID (int)

TA:

- Logging in to the system: There is a table for all users with attributes for their ID (int), type of user, such as student, TA, or instructor (char), and a password (string).
- Selecting a course: There is a table with attributes for the TA ID (int) and the course ID (int).
- Selecting an assignment: There is a table for all the assignments in the course with attributes for their assignment ID (int), course ID (int), assignment name (string), and a due date for the assignment (date/time).
- Viewing the assignment submissions: There is a table for assignment submissions with attributes for the submission student ID (int), assignment ID (int), course ID (int), and a filename (string).
- Downloading an assignment: There is a table for assignment submissions with attributes for the submission student ID (int), assignment ID (int), course ID (int), and a filename (string).

Instructor:

- Logging in to the system: There is a table for all users with attributes for their ID (int), type of user, such as student, TA, or instructor (char), and a password (string).
- View a course: There is a table with attributes for the TA ID (int) and the course ID (int).

- Selecting a course: There is a table with attributes for the TA ID (int) and the course ID (int).
- Managing TA's: There is a table with attributes for the TA ID (int) and the course ID (int).
- Manage the course sections/students: There will also be a table for the courses students are enrolled in with attributes for the student ID (int), section (int), and course ID (int)
- Manage an assignment: There is a table for all the assignments in the course with attributes for their assignment ID (int), course ID (int), assignment name (string), and a due date for the assignment (date/time).

Step 4: Identify System constraints and requirements, i.e. hardware and necessary components

- This software system will need to be hosted on a server to become more accessible and easier to maintain. This server needs to be large enough for all the students submissions and then a little extra space for adding/removing the files temporarily.
- The system will ne a database with enough storage for all the attributes in the tables used for all the actions stated in Step 3.
- The system will need a web UI for logging in, selecting courses and assignments, and submissions.
- There will need to be support for multiple users at one time.