Department of Computer Science and Engineering
National Institute of Technology Calicut
NIT Campus (PO), Calicut-673601, India

DCC Meeting Minutes

Date: 20/01/2021   **Time: 12:20 PM**   **Venue/Mode: Online**
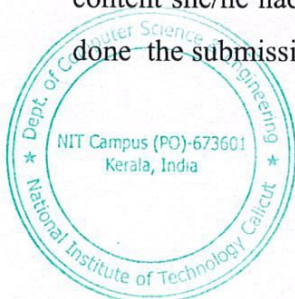
Agenda Item: Discussion on how to ensure fairness in online evaluations - Reg.

The DCC meeting started online at 12:20 PM. The Chairperson welcomed all members to the meeting.

Dr. Saleena explained the matter leading to the agenda, reported by the parent of a student, that it was found that students were copying through social media, and that it may affect honest students to be left out in the evaluation process.
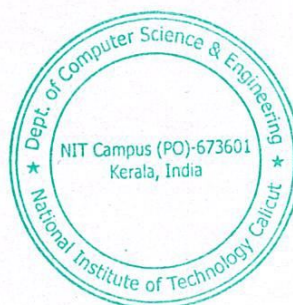
The DCC Chairperson requested all the members to present their views and suggestions for solutions regarding the agenda issue. During the discussion, the following evaluation strategies were suggested by the members, so as to improve fairness in online evaluations:

1. **Face to face evaluations:** Face to face evaluations can be effective in a class with a small number of students. This also gives clear feedback to the student about her/his understanding of the subject and permits the students to interact with the faculty/teaching assistant. This method can be considered in courses with fewer students, or where there is adequate support of teaching assistants. After evaluating the submitted laboratory assignments, the faculty/teaching assistant may conduct a viva-voce to check the understanding of the student about the content she/he had submitted. This can help to ascertain whether the student had done the submission honestly.
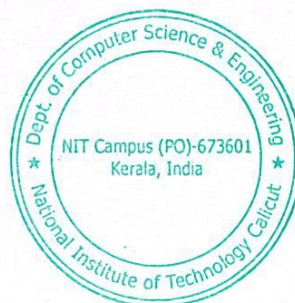
2. **Group assignment evaluation followed by a Viva-Voce:** When the student strength is too large to conduct individual viva-voce assessments, asking the students to do an assignment in a group followed by a group viva-voce to quickly assess the knowledge level of the members can be effective and practical even for courses with moderate numbers of students.

3. **Opening a shared document (say google doc) link between each student and a teaching assistant during Laboratory Evaluations:** In laboratory courses with adequate support of teaching assistants, the student may be asked during evaluation to write down their design in a document shared between her/him and the teacher/teaching assistant. (One teacher/teaching assistant may be observing the shared documents of a few students simultaneously.) Each student may be asked to write down every step of her/his design into the document shared with her/him and may be instructed not to erase any material written earlier. Consequently, the teaching assistant can continuously track the progress of the student. If a student changes her/his design/writeup drastically at a later point in time during the examination, the suspect activity will be visible to the teacher/teaching assistant monitoring the shared document. Moreover attempts at erasing previously written content can also be detected from the revision history.

4. **Upload of Hand-written Answer scripts:** Asking the students to upload scanned copies of hand-written answer sheets can be considered even when the student strength in a course is high. Hand-written answers can stop the possibility of one student writing the answer for another student. If strict timelines are specified for uploading the answers, even in the event of a student scanning her/his solution to another student, the recipient will need time to write down the answers, which can be made difficult with strict timelines. Finally, suspected cases of reproducing the scanned answer sheet of another student can be detected as the handwritings will be the same.

5. **Questions with a sequence of parts:** When the examination is conducted using eduserver (non-handwritten submissions), faculty can split each question to have multiple parts. Faculty may upload different parts of the question at different times. After the first part, the second part may be uploaded after a few minutes. Strict timelines may be given for the submissions so that students will be busy in their own examination rather than helping other students to copy.

6. **Multiple Choice questions with justification:** When multiple choice or Yes/No questions are given with automated evaluation in eduserver, the student may be asked to provide a short justification. This forces the student to write a justification note in one's own words. Suspect case of copying of the justifying arguments can be detected with automated text matching tools.

7. **Use of Facilities in Eduserver:** When online examination is conducted using eduserver,

a) The faculty may keep a sufficiently large number of questions in the question bank and choose questions randomly from the question bank for the quiz. The level of difficulty needs to be almost the same when we employ this strategy.

b) It is recommended that the questions appear in random order to the students. Moreover, the student may be allowed to proceed to the next question only after completing the present question. These measures ensure that only a small random set of students will be answering a given question at a time, reducing the chances of pre-planned collaborations.

c) Eduserver settings allow numerical questions to be organized such that random values can be given to the variables in the question. This allows questions where each student gets different numerical values for the question. If the solution to the question can be expressed in terms of a formula involving the variables, the eduserver supports automated evaluation of the answers as well. The above

measure can be effective in stopping copying as the question given to each student is different.

d) Eduserver permits checking multiple logins to a single account during examination, instances of login into multiple accounts from the same IP address, and such suspect events. Moreover, the log file can be inspected to check whether a student has made multiple submissions during an unreasonably small time duration. These checks can help identify suspect cases.

8. **Open a separate Webex link during evaluation to monitor the student:** A separate meeting window during examination may be opened with the instructors and students during an online-examination. This online proctoring allows the team of instructors to observe the connectivity issues faced by students. If a student has a connectivity issue during submission of the answer scripts, the instructors can observe the same and ask the student to make their submission through email.

It was also decided that a detailed course plan with the evaluation scheme (including weights and modes) should be presented by the instructors in the first class committee itself.

The meeting came to a close at 1:00 PM

Minutes Circulated to
Members and approval
by Email at 10:00 AM. 25/01/2024.

24/1/2024
K. Murali Krishnan.