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|  | **Sri Lanka Institute of Information Technology** |



PROJECT REGISTRATION FORM

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(This form should be completed and uploaded to the Cloud space on or before XXXXXXXXX)

The purpose of this form is to allow final year students of the B.Sc. (Hon) degree program to enlist in the final year project group. Enlisting in a project entails specifying the project title and the details of four members in the group, the internal supervisor (compulsory), external supervisor (may be from the industry) and indicating a brief description of the project. The description of the project entered on this form will not be considered as the formal project proposal. It should however indicate the scope of the project and provide the main potential outcome.

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| PROJECT TITLE  (As per the accepted topic assessment form) | ez-learning - Online video classroom app that makes learning and teaching easy |

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| RESEARCH GROUP  **(as per the Topic assessment Form)** | E-learning and Education (ELE) |

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| PROJECT NUMBER | TMP-22Late-003 | (will be assigned by the lecture in charge) |

PROJECT GROUP MEMBER DETAILS: (Please start with group leader’s details)

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| --- | --- | --- | --- | --- |
|  | **STUDENT NAME** | **STUDENT NO.** | **CONTACT NO.** | **EMAIL ADDRESS** |
| 1 | Soujanyaah.K | IT19123400 | 0762613111 | it19123400@my.sliit.lk |
| 2 | Sivarajah.K | IT19119786 | 0773165543 | it19119786@my.sliit.lk |
| 3 | Viknatharshan.N | IT19107110 | 0769964525 | it19107110@my.sliit.lk |
| 4 | Sivashankar.S | IT19047102 | 0776887978 | it19047102@my.sliit.lk |

**SUPERVISOR, CO\_ SUPERVISOR Details**

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| --- | --- |
| **SUPERVISOR Name** | **CO-SUPERVISOR Name** |
| **Dr. Jeewanee Bamunusinghe** | **Miss. Wishalya Vanshanee** **Tissera** |
| **Signature** | **Signature** |
|  |  |
| **12/01/2022** | **12/01/2022** |
| **Date** | **Date** |

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| EXTERNAL SUPERVISOR Details (if any, may be from the industry) | | | | | |
|  |  |  |  | **Attach the email as Appendix 3** |
| Name | Affiliation | Contact Address | Contact Numbers | Signature/Date |

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| ACCEPTANCE BY CDAP MEMBER (This part will be filled by the RP team) | | |
|  |  |  |
| Name | Signature | Date |

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| Brief Description of your Research Problem: (extract from the topic assessment form) |
| Monitoring student behavior during online classes using video processing [1]. Converting lecture audio into text using natural language processing [2]. Mining Big Data in Education: Affordances and Challenges [3]. Automatic question generation and answer assessment [4].   **References**  [1] https://www.mdpi.com. 2021. *A Computer-Vision Based Application for Student Behavior Monitoring in Classroom*. [online] Available at: <https://www.mdpi.com/2076-3417/9/22/4729/pdf> [Accessed 28 December 2021].  [2] https://www.researchgate.net. 2021. *Analysis and Processing of Lecture Audio Data: Preliminary Investigations*. [online] Available at: <https://www.researchgate.net/publication/2936203\_Analysis\_and\_Processing\_of\_Lecture\_Audio\_Data\_Preliminary\_Investigations> [Accessed 28 December 2021].  [3] journals.sagepub.com. 2022. *Mining Big Data in Education: Affordances and Challenges*. [online] Available at: <https://journals.sagepub.com/doi/full/10.3102/0091732X20903304> [Accessed 28 December 2021]. [4] https://telrp.springeropen.com/. 2022. Automatic question generation and answer assessment: a survey. [online] Available at: <https://telrp.springeropen.com/articles/10.1186/s41039-021-00151-1> [Accessed 24 December 2021]. |
| Description of the Solution: (extract from the topic assessment form)  ‘Online class’ has become a much familiar term nowadays with almost every education provider switching to online platforms from physical classrooms due to the Covid-19 pandemic. It’s true that it has made life easy for most of the students and teachers, but we can’t deny the fact there are some cons in conducting the online classes. Thus, throughout this project we’d be trying to minimize those cons and improve the efficiency of the online learning system by providing a platform with some special features.  The main problem of the online classes has been the students getting distracted quickly and focus on other unwanted activities while the teacher is taking the class. It’s not easy for the teacher to monitor each and every student during a class thus, some students take it as an advantage to do other fun-filled activities while pretending to be focusing on the classes. Thus, the solution we proposed here, would automatically monitor each and every student’s activity and an automated warning or notification will be displayed on the student’s screen if it detects anyone not focusing on the classes. If it happens multiple times, there an alert message will be displayed to the whole class including the teach stating that the specific student doesn’t seem to be focusing on the class. This could actually make the students to behave good and concentrate on the classes even if there are lot of things to distract them  Moreover, to assist the students who have language problems or network issues or even data shortage, our system will be automatically converting the audio that was recorded from teacher’s mic and convert it to a text format which can be referred by the students after the class too. Initially, the text will be in the same language in which the teacher was taking the class and can be converted to a different language later. Even a student who couldn’t attend the class can get the whole explanation that was given by the teacher by reading that text file, incase if they don’t have enough data or bandwidth to watch the recorded lectures.  In addition to the above-mentioned features there will be multiple-choice questions (MCQs) generation for CBTE using Natural Language Processing (NLP) techniques is a system that helps teachers set multi-choice questions from their documents in a text file and thereafter provide answers to the questions generated. Consequently, it can be used in every area of the education sector to test the knowledge or level of the students. What it focuses on is the application of NLP techniques to generate MCQs about facts explicitly based on keywords as stated in a text format of given lesson material. The results, it has shown that the system was capable of extracting keywords from lesson materials in setting examinable questions. Apart from all of these, the system will also be able to automatically generate a report containing details of how the student has behaved in the class (how many times the alert messaged popped up), how many times he/she has attempted the automated quizzes and how well he/she has performed in them which will be reported to the teacher and parents afterwards. |

PROJECT DETAILS

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| Main expected outcomes of the project: (extract from the topic assessment form) |
| **Main Objective:**  Our main objective is to create an online video classroom app that monitors, manages the students, teachers, and parents and to increase efficiency of online education system.  **Sub Objective 1:** Monitor the students’ behaviors during online class activities.  **Sub Objective 2:** Converting audios of the video lectures into text format and navigate the students to the location of the video by searching keywords.  **Sub Objective 3:** Generating personalized questions and providing answers.  **Sub Objective 4:** Tracking children’s activities and records and generate reports based on students’ behaviors. |

WORKLOAD ALLOCATION (**extract from the topic assessment form after the correction suggested by the topic assessment panel.**)

(Please provide a brief description about the workload allocation)

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| MEMBER 1 | ………………………………………………………………………………………………………………………………………………………… |
| **Teachers can monitor the students easily with the help of face detection technique, that will track the eyeball movements of the students and detect the students who aren't paying attention to the class. A warning message will be displayed to the student initially, but the names of the students will be displayed to the whole class including the teacher, if they repeatedly get distracted from the class. - Video Processing** | |

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| MEMBER 2 | ………………………………………………………………………………………………………………………………………………………… |
| Students are facing some problems like pace, intelligibility in video Learning platforms so using NLP video lecture audios into text and students can read and after the class finished and also it will convert to preferable language which students want to get more clarification on lessons. When student search the keyword, the system will be able to navigate the students to the location of the video by using keywords and NLP. – N**atural Language Processing** | |

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| MEMBER 3 | ………………………………………………………………………………………………………………………………………………………… |
| Multiple-choice questions (MCQs) generation for CBTE using Natural Language Processing (NLP) techniques is a system that helps teachers set multi-choice questions from their documents in a text file and thereafter provide answers to the questions generated. Consequently, it can be used in every area of the education sector to test the knowledge or level of the students. What it focuses on is the application of NLP techniques to generate MCQs about facts explicitly based on keywords as stated in a text format of given lesson material. The results, it has shown that the system was capable of extracting keywords from lesson materials in setting examinable questions. – N**atural Language Processing** | |

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| MEMBER 4 | ………………………………………………………………………………………………………………………………………………………… |
| Parents track their children's activities and their improvements. The system will automatically generate a report containing details of how the student has behaved in the class (how many times the alert messaged popped up), how many times he/she has attempted the automated quizzes and how well he/she has performed in them which will be reported to the teacher and parents afterwards. Also, the system will be able to predict the progress of a child based on available data.– **Big Data Analysis** | |

DECLARATION (Students should add the Digital Signature)

“We declare that the project would involve material prepared by the Group members and that it would not fully or partially incorporate any material prepared by other persons for a fee or free of charge or that it would include material previously submitted by a candidate for a Degree or Diploma in any other University or Institute of Higher Learning and that, to the best of our knowledge and belief, it would not incorporate any material previously published or written by another person in relation to another project except with prior written approval from the supervisor and/or the coordinator of such project and that such unauthorized reproductions will construe offences punishable under the SLIIT Regulations.

We are aware, that if we are found guilty for the above mentioned offences or any project related plagiarism, the SLIIT has right to suspend the project at any time and or to suspend us from the examination and or from the Institution for minimum period of one year”.

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| --- | --- | --- | --- |
|  | STUDENT NAME | STUDENT NO. | SIGNATURE |
| 1 | Soujanyaah.K | IT19123400 |  |
| 2 | Sivarajah.K | IT19119786 | A picture containing shape  Description automatically generated |
| 3 | Viknatharshan.N | IT19107110 | Shape  Description automatically generated with medium confidence |
| 4 | Sivashankar.S | IT19047102 |  |