Sri Lanka Institute of Information Technology

PROJECT REGISTRATION FORM

(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.

PROJECT TITLE (As per the accepted topic assessment form)	Escort – University students guidance system based on NLP

RESEARCH GROUP **(as per the Topic assessment Form)**	Knowledge Inspired Computing (KIC)

PROJECT NUMBER	TMP-22-009	(will be assigned by the lecture in charge)

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

	STUDENT NAME	STUDENT NO.	CONTACT NO.	EMAIL ADDRESS
1	Deepika. S	IT19148632	0768777199	it19148632@my.sliit.lk
2	Abarna. U	IT19116952	0720276787	it19116952@my.sliit.lk
3	Parathan. T	IT19125176	0779898407	it19125176@my.sliit.lk
4	Shanghavi. R	IT19155708	0763780195	it19155708@my.sliit.lk

SUPERVISOR, CO_ SUPERVISOR Details

SUPERVISOR Name	CO-SUPERVISOR Name
Ms. Aarchana Kugathasan	Dr. Dharshana Kasthurirathne
Signature	**Signature**
Appendix 1	**Appendix 2**
12/01/2022	12/01/2022
Date	**Date**

EXTERNAL SUPERVISOR Details (if any, may be from the industry)

				Attach the email as Appendix 3
Name	Affiliation	Contact Address	Contact Numbers	Signature/Date

ACCEPTANCE BY CDAP MEMBER (This part will be filled by the RP team)

Name	Signature	Date

PROJECT DETAILS

Brief Description of your Research Problem: (extract from the topic assessment form)

Universities provide opportunities to improve knowledge, skills, and lifestyle. However, nowadays, university students face different issues [1]. They have issues in communicating with administration. Therefore, students face difficulties in getting information related to administration such as payment issues, course details, IC status and more. Students are facing difficulties getting a proper solution and university administrations are unable to provide solutions on time. More than that, the students who are having difficulties in communication(language) while sending emails and receiving proper reply on time [2].

Furthermore, many students are unable to identify the issues and weaknesses in their studies. And they there is an issue in referring proper tutorials, videos, and documentation in their preferred languages [3]. The number of students who are facing psychological issues is increasing day by day because of stress in study, family issues and other problems. Several students are not ready to share the issues they have with a person physically [4]. In addition, several students are facing issues in selecting a proper career path. And there is no way to provide a guidance considering field of study and area of interest to students [5].

References
[1] Rohana Bandara Weerasooriya, "Major problems and issues in Sri Lankan university system-study focus on the student perspective", 2013
[2] C.Gibaldi, "The problems and issues with all administrative universities; how did we get here and what can we do", 2012
[3] Innocent B.Mboya, Beatrice john, Eneck S.Kibopile, Lisbeth Mhando, Johnston George, James S.Ngocho, "Factors associated with menta l distress among undergraduate students in northern Tanzania", 2020
[4] Mohamed Thakir Mahees, "Stress among university undergraduates: A case study of university of Colombo, Sri Lanka", 2020, INTERNATIONAL EDUCATIONAL APPLIED RESEARCH JOURNAL (IEARJ), Volume 04, Issue 05, May 2020, E-ISSN: 2456-6713
[5] Wasantha Kalyani, Nirmal Chathuranga, "Career Choice Determinants of the Management Students: A Case of a Sri Lankan State University", 2021, Journal of Accounting Research, Business and Finance Management, Volume-2, Issue-1 (July-December 2021), e-ISSN:2582-8851

Description of the Solution: (extract from the topic assessment form)

We are exploring a solution using the features of Natural Language Processing (NLP) to give a better solution for students and lecturers related to university problems. Developing a trained chat-bot will make communication between university students and administration easier and will save a lot of time. When having multiple typing language, students will find it easier to explain their problems. When having a chat-bot university administration can provide a better solution for every problem/issue student raises.

When having psychological problems, and students do not like to express themselves to a real person, having an online system will be a great solution for that. Students can communicate with the system about their psychological problems and the pre-trained system will give a solution for them.

When giving better guidance for a career, students will have more knowledge of that and be able to select a suitable career. Students can get a suitable career path by sharing their transcript. The system will consider the student's interest and analyze the student transcript to suggest a suitable career path.

Also, there will be a feature to analysis students' weakness based on their exam grades, the system will analysis student's transcript based on each module and identifies in which area the student's performance is weak and provide a suitable solution to improve students' grade. This system will help students to overcome their weakness and improve their knowledge.

Main expected outcomes of the project: (extract from the topic assessment form)

- The system will provide an NLP based student guidance system in 4 various aspects.
- The chatbot will provide a recommended solutions related to the student issues such as exams, financial & student affair related issues
- A better psychologically related recommendation will be provided to students who interact with the system. From their input data the system will recommend a suitable mental health activity to overcome the problem.
- Based on the students' interest and input the system will be able to recommend a suitable career path through a knowledge-based system
- Based on the students' grades identifying the weakness and recommending suitable educational related activities for students to improve their skills

WORKLOAD ALLOCATION (**extract from the topic assessment form after the correction suggested by the topic assessment panel.**) Appendix 3
(Please provide a brief description about the workload allocation)

MEMBER 1	Deepika. S

A chat-bot application to contact university administration about issues.
In the application a chat-bot will be available, where students can choose a language as they preferred from the given options. The options available are English, Tamil, and English-Tamil code mix. Then they can ask questions about the issues, doubts, or any clarity they need for an administration issue using the selected language mode. Chat-bot system will identify the issue and give a better solution for that in English language. Users/ students can continuously ask questions like a chatting application and the trained bot will give an accurate solution for that by using NLP techniques. The chat-bot will be available for three administration issues which are payment, examination, and registration.
Input for the system: Students ask questions about the issues, doubts, or clarifications about administrative issues they face in a preferred language.
Output of the system: Give an accurate reply for each of the questions asked and give solutions for the issues.

MEMBER 2	Abarna. U

Student Counseling Management
This application is to provide a solution for psychological issues of university students. Student are instructed to select the language from the available options (English, Tamil, English-Tamil Code Mix). After that, a Text box will appear to describe the psychological issues which the students have or what they are feeling, as a paragraph. Then the system will analyze that paragraph using 'Natural Language Processing'. As a result of this, the system will recommend some activities and exercises such as breathing exercise, brisk walking, and aerobic exercise as a solution for the students using the trained model.
Input of the system: A paragraph which describes the issues and feelings of the students.
Output of the system: Activities and exercises for those issues.

MEMBER 3	Parathan. T

IT Career Guidance System that gives recommended career path from students' interest and preference
The student needs to input a transcript writing as a paragraph of description describing the interest, their preference and experience from learning IT degree. From the input transcript, the system will process using NLP techniques such as sentence segmentation and classification techniques to get the student's field of interest for the fields that exist in the industry. Eg: (Database Administrator, Full-Stack Developer, Mobile Application, DevOps, Business Analyst and Project Manager). Then the system will provide students with recommended certifications and

other possible skills that students could improve to enhance their professional career path for the current trends.

Input for the system: Paragraph of description describing the interest, preference, and experience of learning IT degree

Process: There are two different approaches to this.

1. Building a model that could predict the specific field that the student prefers and from that specific field recommending the trends of that field using a graph database system
2. From the input text itself analyzing the key words that student given and from that randomly recommending the possible ways for the student to follow the career path

Building a model will need more data. So, the better approach would be to go with the second one. Initially planned to test on both possibilities.

Output: Recommending the certification that would be possible to enhance the student's professional career according to current trends in the specific field that the student interested.

MEMBER 4	Shanghavi .R

A system to identify the weakness of the students based on the student grade and recommend suitable solution.

Students are encouraged to provide their transcripts. The system will analyze their transcript based on each module and recommend proper tutorials and videos to overcome their weakness and help to improve their knowledge. In this system When a student submits their transcript the system will automatically analyze their academic performance and it will suggest suitable tutorials and videos based on the results which are evaluated by the system.

Input for the system: Student's grade and transcript.

Output: Recommend tutorials and videos to improve students' academic performance.

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 (Sri Lanka Institute of Information Technology) Regulations.

We are aware, that if we are found guilty of 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."

	STUDENT NAME	STUDENT NO.	SIGNATURE
1	Deepika. S	IT19148632	*Deepika.S.*
2	Abarna. U	IT19116952	*(Abarna)*
3	Parathan. T	IT19125176	*Parathan*
4	Shanghavi. R	IT19155708	*Shangha*

APPENDIX

Appendix 1
Supervisor Approval Email

Appendix 2

Co-supervisor Approval Email

Re: Requesting to approve the Project Charter submission

Deepika S. it19148632   8:21 pm
Dharshana Kasthurirathna

TMP-22-009-ProjectCharter.docx
DOCX – 107 KB

Dear Sir,

Group temporary number -> TMP-22-009

I am Deepika for research group TMP-22-009. Here I have attached the "Project Charter" document. Please review and approve our project charter document.

Thank you,
Sincerely,
Deepika. S – IT19148632

Dharshana Kasthurirathna   8:57 pm
Deepika S. it19148632

[EXTERNAL EMAIL] *This email has been received from an external source – please review before actioning, clicking on links, or opening attachments.*

I can't see the reviewers' comments here. Is this the updated document?

Dharshana
Kasthurirathna, PhD (USyd)
Assistant Professor
Department of Software Engineering
Faculty of Computing
Sri Lanka Institute of Information Technology
Sri Lanka

Deepika S. it19148632   9:02 pm
Dharshana Kasthurirathna

20220112_210221.jpg
JPG – 143 KB

Yes sir, we updated the document according to the review. Do we need to include the screenshot of the review we received also?

Ps. This is the review we got.

Dharshana Kasthurirathna   9:13 pm
Deepika S. it19148632

[EXTERNAL EMAIL] *This email has been received from an external source – please review before actioning, clicking on links, or opening attachments.*

Better to do that. I can confirm the updated document is ok.

Dharshana
Kasthurirathna, PhD (USyd)
Assistant Professor
Department of Software Engineering
Faculty of Computing

Appendix 3
Correction suggested by the panel

This part will be filled by the Topic Screening Panel members

Acceptable: Mark/select as necessary

Acceptance/ Rejection	Correction State	
	Minor Correction	Major Corrections
Accepted	☐	☐
Resubmit	☐	☐
Rejected	☐	

Accepted Major

Corrections (if necessary)

Member 01, 02, 03 parts should be clearly differentiated, there seems to be some overlapping research components. Explain inputs and outputs of all 04 members research component clearly.

Major changes proposed:

Member 01, 02, 03 parts should be clearly differentiated, there seems to be some

overlapping research components. Explain inputs and outputs of all 04 members

research component clearly.

—

Any other Comments:

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