Sri Lanka Institute of Information Technology

PROJECT REGISTRATION FORM

(This form should be completed and submitted on 31st January and 1st February 2019 as per the schedule)

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	
RESEARCH DOMAIN	
PROJECT NUMBER	(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	Liyanage A.Y.K. (GROUP LEADER)	IT16032798	0713935880	it16032798@my.sliit.lk
2	De Silva W.A.T.P.	IT16051980	0715699048	it16051980@my.sliit.lk
3	P.H.P.S.L. Pathirana	IT16004382	0772685129	It16004382@my.sliit.lk
4	S.B.M. Hilmy	IT16005372	0770695817	it16005372@my.sliit.lk

SUPERVISOR

Name	Signature	Date

CO-SUPERVISOR (will be assigned by the Supervisor, if necessary)

Name	Signature	Date

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

Name	Affiliation	Contact Address	Contact Numbers	Signature/Date

ACCEPTANCE BY CDAP MEMBER

Name	Signature	Date

PROJECT DETAILS

Brief Description of your Research Problem:

MOOCs are becoming a popular mean of self-learning and as MoocRec v1 has shown, there's a huge variety of learning/teaching styles and it might prove difficult to chose what is best for you from a sea of MOOCs. While MoocRect v1 has tackled the initial stage of recommending MOOCs based on individual learning/teaching style, there are more learning styles that are needed to be identified. Therefore, with MoocRec v2, the problem for our research spans across the need to identify more teaching/learning styles, taking forum-based user activity into account when recommending MOOCs. Also, in v1, the learning style that each individual leans in to, was identified using a questionnaire, we plan to identify the feasibility of capturing an individual's learning style in a more interactive, and an elegant way. Also, with the advancement of video graphics/animations, more and more MOOCs are utilizing more than one style of presentation, and seem to heavily rely on animations. So, in v2, we plan to classify such complex videos and take them into account when recommending a MOOC to an individual.

Description of the Solution:
The solution, as it stands now will work as follows.

From the backend:-

- Constantly training data models to be able to recognize new styles of MOOCs
- Crawling forums related to MOOCs to analyze what the users are talking about aforementioned MOOCs and map the user ratings with the MOOCs so that it is taken into consideration when recommending.

From the user's perspective:-

- User is initially shown a small video that contains all the styles of learning/teaching and his/her attention and interactions are documented, analyzed at each point. Through this we can decide to which styles the user was most attentive, thus elegantly decide what the user's learning/teaching style is.

Main expected outcomes of the project:

1) Identify a range of video styles of MOOCs that a learner prefers by using a more video based, interactive, one-time session than presenting a questioner, thus the learn can engage with an interactive one-time session with the application rather than filling a questioner which is a bit long.
2) The system will be able to identify a wider ranger of complex video styles, and the scope will be extended to Science/Technology area.
3) The system will be able to classify MOOCs with animations.
4) Forums, comments sections on MOOC sites will be analyzed and used to recommend courses and to identify the possible contexts of a MOOC.

WORKLOAD ALLOCATION (Please provide a brief description about the workload allocation)

MEMBER 1 Liyanage A.Y.K

Analyze and classify newer/different styles of videos

- Identify newer, complex video styles used not just in Information Technology field but also in Science/Physics field and develop a broader data model and train it to classify a wider range of video styles.

- Develop an algorithm along with a data model to accurately distinguish a talking-head video from a video that has a person talking in the audio track while the video contains an image of a person (who is not the speaker). This is a false positive in the current system(v1) and will be mitigated in v2.

MEMBER 2 De Silva W.A.T.P.

Identify user's preferred MOOC video style more precisely and elegantly

Moving away from the questioner used in MoocRec v1 to identify a learner's learning style and mapping it against a video style, this vertical aims to directly identify what types of video styles the user seem more engaged with, using facial-pattern-analysis and provide the user with their most preferred learning style as a result.

MEMBER 3 P.H.P.S.L.Pathirana

Detecting more complex types of video styles

- Our research project should be able to handle more complex types of video styles such as animations.
- Identifying whether a video is an animation and analyzing it is a complex progress. So, we've taken it as a separate vertical.
- MoocRec V1 does not implement this feature. In MoocRec V2, we will develop an algorithm to classify different types of animations.

MEMBER 4 S.B.M. Hilmy

Estimating Course Popularity Based on Forum Discussions

- Getting an estimate on how popular courses are based on forum discussions. Comments sections of course videos are considered forums.
- Getting details on how active discussion forums regarding the topic/course are
- See how engaged learners are in the community and how much learning takes place in this format
- Creating a web crawler to go through different forum discussions and get the required information

DECLARATION

"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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