Sri Lanka Institute of Information Technology

PROJECT REGISTRATION FORM

(This form should be completed and submitted on or before 3.00 PM, Friday 3rd March, 2017)

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	Automated Knowledge Understanding and Recognition Assistant (AKURA)
RESEARCH GROUP	61
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	H.H.N.C.Jayanandana (GROUP LEADER)	IT14001826	071-5910955	nilesh.jayanandana@yahoo.com
2	H.P.N.H.Herath	IT13104504	077-5866536	It13104504@my.sliit.lk
3	H.M.S.Piyasundara	IT14063442	077-5018380	madumal.piyasundara@gmail.com
4	R.Rishanthakumar	IT14087820	077-1318039	rishanthakumar@gmail.com

SUPERVISOR

Mr.Darshika Niranjan Koggalahewa		
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:

The problem addressed through this research is the difficulty in simulating the human process of natural language learning and understanding, knowledge acquisition, representation, applying retrieval and answer interpretation in a Dynamic machine environment.

The existing solutions are only trained to respond to a predefined context. And whenever they are exposed to a particular task, which doesn't belong to that context, the solution is not able to acquire the required knowledge on its own and respond with a considerable level of accuracy. Even though the solution may be able to obtain a certain understanding it may require human intervention where a new dataset should be fed. This may take time, as the solution has to learn through the new dataset gradually and manually. Due to this reason, the existing solution cannot be used until the learning is complete.

Description of the Solution:

Define an ontology driven approach to simulate the Natural Language Learning, Understanding, Applying, knowledge retrieval and knowledge interpretation in dynamic machine environment.

Under this we are supposed to,
Introduce a generic framework that would constantly learn and expand its knowledge on a given domain by using data from semantic web, which are unstructured and derive meaningful information out of them to provide analytics, statistics, feedback and recommendations for a relevant business model.

Main expected outcomes of the project:

Define an ontology driven approach to simulate the Natural Language Learning, Understanding, Applying, knowledge retrieval and knowledge interpretation in Dynamic machine environment.

Based on the above, four research component approaches will be categorized

- Define an ontology driven approach to simulate the Natural Language learning and Understanding
- Develop an automated approach of transforming the learnt content into machine representable format.
- Define an approach of updating or expanding the existing knowledge based on newly learnt content
- Develop a generic framework of applying the acquired knowledge by targeting a relevant business model

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

MEMBER 1	H.P.N.H.Herath

- Define an ontology driven approach to simulate the Natural Language learning and Understanding.

Come up with a generic methodology that can automatically realize and understand the information in a text using text analysis from various textural information sources. This will extract specific types of information such as named entities, numbers, statistical data and semantic relations to update and or improve the current existing knowledge base and automate the learning process.

MEMBER 2	H.M.S.Piyasundara

- Develop an automated approach of transforming the learnt content into machine representable format.

Understand the context of the data through natural language understanding techniques and identify relationships between the data chunks derived from the previous layer and transform into a temporary machine representable knowledge model. This model will be used for updating or expanding the existing core ontology model later.

MEMBER 3	H.H.N.C.Jayanandana

- Define an approach of updating or expanding the existing knowledge based on newly learnt content

When a temporary knowledge model is derived with new information, it is analyzed and compared with the existing core knowledge model of the application domain. Then changes are applied where required to the main knowledge model by expanding or updating the model dynamically where necessary using an automated approach.

MEMBER 4	R.Rishanthakumar

- Develop a generic framework of applying the acquired knowledge by targeting a relevant business model

By using the existing knowledge model, develop a generic framework that would retrieve the said knowledge according to a given set of requirements and derive analytics, statistics, recommendations etc. for a given business domain.

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".

	STUDENT NAME	STUDENT NO.	SIGNATURE
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