Sri Lanka Institute of Information Technology

PROJECT REGISTRATION FORM

(This form should be completed and submitted on or before 4.00 PM, Friday 6th January, 2015)

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	Mathematical problem solving system
RESEARCH GROUP	
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	Chathurika W.M.T (GROUP LEADER)	IT12142538	0711680796	tcweerasoriya@gmail.com
2	Raddella A.M	IT12082148	0718259778	asitharaddella@gmail.com
3	Ekanayeka E.M.R.S	IT12142774	071644021	ridmasul@gmail.com
4	De Silva K.C.E	IT12143214	0754066927	sdsujatha533@gmail.com

SUPERVISOR

Name	Signature	Date
Mr.Yashas Mallawarachi		

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

Name	Signature	Date
Mr.Anupiya Nugaliyadde		

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

Name	Affiliation	Contact Address	Contact Numbers	Signature/Date

ACCEPTANCE BY PROJECT COORDINATOR

Name	Signature	Date
Dr.Koliya Pullasighe		

PROJECT DETAILS

Brief Description of your Research Problem:

- Natural Language Processing (NLP) has a high impact currently. This will be a new turn to the technology related to Sinhala language processing. Mainly, this research is based on Mathematical problem solving in Sinhala language.

- This system will have the capability of solving sentence based math problems where the required mathematical operation is not directly given.

To achieve the target:-

- System will break the question in to words.(content extraction)
- Filter the most required words (key word identification)
- Identify the objects (ex: numbers) and the mathematical operation.
- Perform the operation.
- Generate the answer.

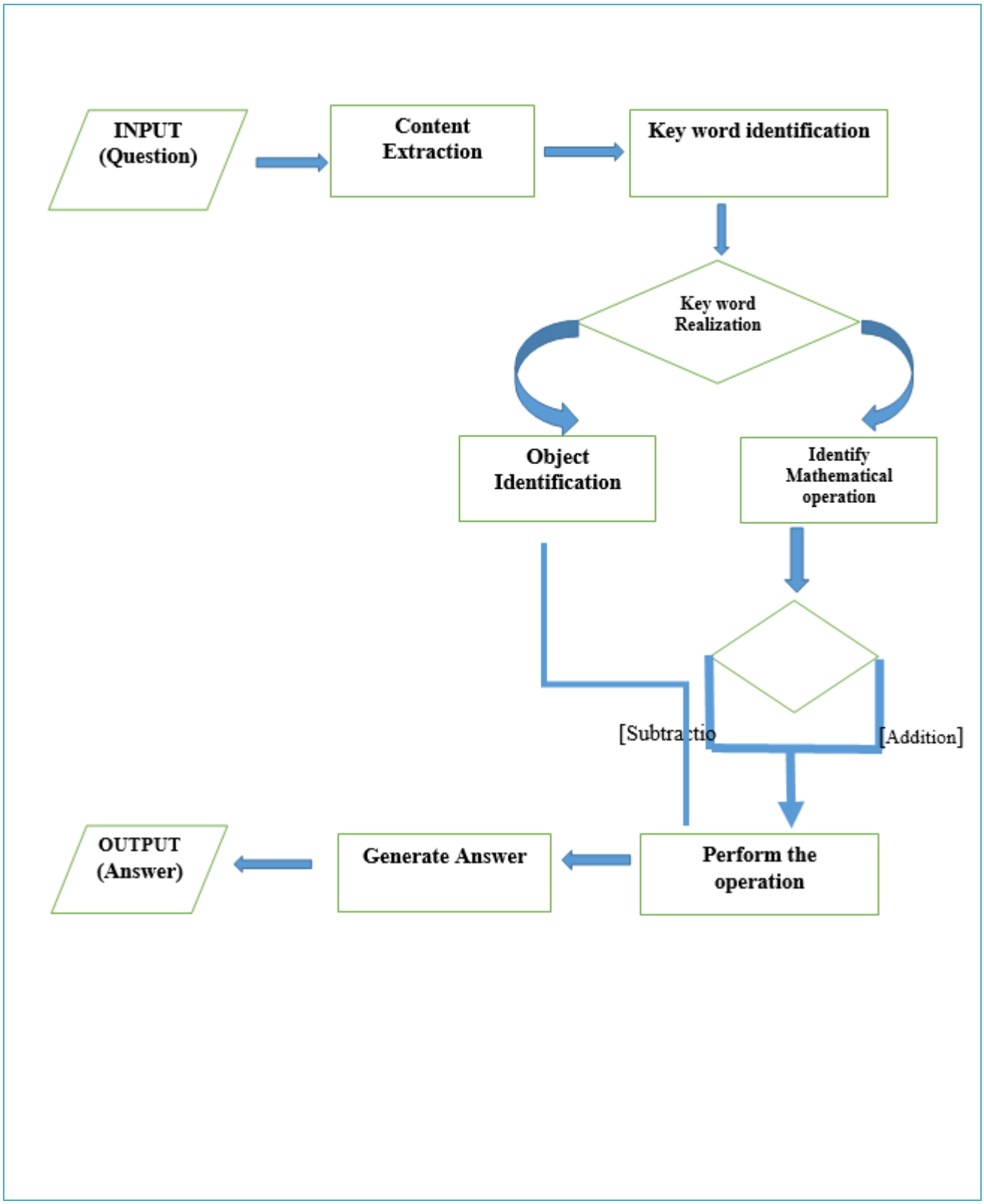
Description of the Solution:

We propose a simple mathematical problem solving system that is capable of understanding a detailed sentence mathematical problem in Sinhala language.

In this project we are going to apply some of the Natural Language Processing (NLP) techniques to analyze mathematical sentence problem in Sinhala.

With the aid of parser trees we segment the problem sentences in to words. We use PPMI (Positive Point wise Mutual Information) to identify the word similarity.

'Mahoshada 2' is introduced in the charter, which solves mathematical sentence questions. This enables a simple algebraic mathematical questions to be solved automatically. This will be a continuation of a Question Answering System developed named "Mahoshada" which handles theoretical questions.


INPUT
(Question)
Content
Extraction
Key word identification
Key word
Realization
Object
Identification
Identify
Mathematical
operation
[Subtractio
[Addition]
OUTPUT
(Answer)
Generate Answer
Perform the
operation

Main expected outcomes of the project:

The expected outcome of this project is to generate an accurate answer for given mathematical question in Sinhala language in user friendly environment.

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

MEMBER 1	

- Identify objects using relevant algorithm

MEMBER 2	

- Use relevant algorithm to identify mathematical operation

MEMBER 3	

- Identify and understanding overall question

MEMBER 4	

- Identify and understanding overall question

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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