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		
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	Gunarathna T.M.T.A	IT14145476	0774644497	iamthandu@gmail.com
2	Kodithuwakku K.C	IT14136252	0729114275	kavinduchinthana@gmail.com
3	Perera P.A.D	IT14093210	0713365778	damithperera10@gmail.com
4	Madushani S.D.S	IT15028310	0710628122	Saumyamadushani6@gmail.com

SUPERVISOR

Mr. Nuwan S. Kuruwitaarachchi		
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)

Dr.Raj Prasanna				
Name	Affiliation	Contact Address	Contact Numbers	Signature/Date

ACCEPTANCE BY CDAP MEMBER

Ms. Shashika Lokuliyana		
Name	Signature	Date

PROJECT DETAILS

Brief Description of your Research Problem:

The world is full of emergencies caused by natural disasters. In such situations, vast amount of information exchange through social media like Facebook, Twitter, official websites and applications that are dedicated to natural disaster management. Victims who happened to face to the incident, People who are looking for loved ones, volunteers who are willing to help others and donors who are eager to donate actively participate on conversations on latter media and contribute to a massive amount of information which are crucially supports for the natural disaster management supporting teams.

In countries that natural disasters frequently occur has disaster management centers in provincial vice. In those centers, teams are employed to monitor and analyze information to get an insight of the situation more closely. For instance, during an emergency it will be helpful to identify most affected areas, types of emergency needs, the trust worthiness of posted information etc. It is a hard, error-prone and tedious task to analyze manually such overwhelming amounts of information. For emergency response, real-time disaster insights are important for quick decision-making. Social Media platforms can provide real-time or low-latency situation awareness information. However, finding actionable, tactical and informative information from social media has been a serious challenge for the natural disaster supporting teams who are distributed all over the world.

Description of the Solution:

The solution for the above-mentioned research problem would be a real time system that automate the data processing from social media and other dedicated media during an emergency. It would provide tools to visualize the trends and important factors related to the situation minimizing the human effort and saving time drastically. Moreover, it would have the capability to filter, aggregate, summarize and rank the information extracted from the data collected and which is focusing on sentiment analysis of a post for getting to know how critical, the corresponding situation could be, categorizing and prioritizing each post to distinguish whether it corresponds to the situation, summarizing each post to have a better insight of the situation and validating the accuracy of each post by its follow up comments. The solution would be solely focused on the natural disaster supporting teams for analyzing real-time, countless information generated on social media and take actions instantly.

Natural language processing (NLP) techniques would be used to train and test a model to support the inner workings of the system. Solution will be helpful to determine how local crowd react during disasters. It will also be used to help assess the extent of the devastation and find people who are in specific need during an emergency. As opposed to the manual analysis proposed system would be more productive in providing insight into the disaster by providing enhanced situational awareness through processing rapidly growing amount of which will support critical potential lifesaving decision making and coordination emergency- response actions

Main expected outcomes of the project:

1. Sentiment analysis of information to realize how critical, the corresponding situation could be.
2. Categorizing and prioritizing each post to distinguish whether it corresponds to the situation.
3. Information summarization for easy and better understanding of the situation.
4. Validating the accuracy of each post by analyzing the follow up comments.
5. Giving response for the natural disaster supporting teams on real-time basis.

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

MEMBER 1	IT14145476 Gunarathna T.M.T.A

Information summarization for easy and better understanding of the situation.

In an emergency situation, the social media which are dedicated for posting the current or on-going status of natural disasters publish emerging number of huge datasets which are incapable to process them manually. Because of that the research aspect of summarizing social media posts will be focused on identifying the core meaning of a particular post and extracting the summarized content over the bulk of social media posts. It will be crucial to be responsible to maintain the core meaning of a particular post without damaging the actual meaning of its.

MEMBER 2	IT14136252 Kodithuwakku K.C

Categorizing and prioritizing each post to distinguish whether it corresponds to the situation.

The posts which are published on a social media could be presented in varies forms likely questions which are asking about the situation, statements which could be information enriched, opinions, feelings, attitudes and religious thoughts etc. So, by this aspect of the research will be concentrating on categorizing each post content in order to assign into corresponding buckets which are priorities are labeled on.

MEMBER 3	IT14093210 Perera P.A.D

Sentiment analysis of information to realize how critical, the corresponding situation could be.

On this aspect of the research will be focusing on analysis of social media posts to drill down for distinguishing how much the opinion state of an individual who has posted the corresponding social media post could be. The analysis will be done for a scale that varies from neutral to critical states to gain a mathematical representation upon computational linguistics.

MEMBER 4	IT15028310 Madushani S.D.S

Validating the accuracy of each post (trust worthiness) by analyzing the follow up comments.

The structure of a social media post could be comprised of a main post where the root of conversation starts with and follow up comments of varies individuals to support the main post. This aspect of the research will be done by deeply analyzing the follow up comments which are supported to the root post (main post) context and identify whether the main post is worth to be trusted.

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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