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	Simulation of IOT based Greenhouse using AR
RESEARCH DOMAIN	Virtual Reality & Internet of Things
PROJECT NUMBER	47 (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	W.P.T.S.Weerasooriya	IT16009714	077 5692996	tshaleendra9@gmail.com
2	P.A.B.T.Wishvamali	IT16051362	076 8011166	buddhiwishstar@gmail.com
3	M.P.N.D.Gunarathne	IT16412880	077 5913613	deshakan@gmail.com
4	S.Hareendran	IT16516526	077 1252126	hareendran.1st@gmail.com

SUPERVISOR

Name	Signature	Date
Dr.Pradeep Abeygunawardhana		31.01.2019

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:

Currently many Automated Green Houses are available for the betterment of agriculture. Though several technological methods are used to enhance the productivity it isn't that effective to yield the maximum output from it since there's a gap in agriculturalists understating and using the technological aspects. Due to this most of the agriculturalists are reluctant to use the advanced products and also the technological companies are finding it really hard to communicate/explain the final look and feel of automated greenhouses with them.

Firsthand experience of an automated greenhouse and lack of understanding of technological enhancement in improving the greenhouse are the major issues here.

Description of the Solution:

In order to overcome the above-mentioned issue, we propose to use Augmented Reality through simulation. Rather than implementing and building a whole automated greenhouse the final effect of an automated greenhouse can be given to users/ agriculturalists through AR. The workings/outputs of several IOT devices, sensors, and other devices will be visually shown to users to get the real experience and feel through the simulation process with the help of augmented reality.

Factors which are going to be controlled, and analyzed are,

- Light Intensity
- Humidity
- Soil Moisture
- Temperature

Devices which are going to be visually enabled/disabled based on the controlled factors are,

- Growth Light
- Cooling Fan
- Water pump
- Heating Bulb
- Exhaust Fan

Furthermore, our proposed solution will help them to be aware about the actual way we are going to automate the green house.

Main expected outcomes of the project:

- Agriculturalists can visually experience the IOT enabled greenhouse
- Agriculturalists can visually experience several recommendations/notifications of optimum levels of light intensity, humidity, soil moisture and temperature
- Technological service providers will find it easier to explain IOT based greenhouse workings to agriculturalists
- The simulation of automated greenhouse experience through computer generated images and data analysis to ensure optimum parameters in green house for specific plant growth

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

MEMBER 1	W.P.T.S.Weerasooriya

Light Intensity related work

- Gathering and storing of sample data for light intensity for a specific plant
- Data analysis and predications through algorithms
- Creation of AR models and images according to analyzed data for visual simulation

MEMBER 2	M.P.N.D.Gunarathne

Humidity related work

- Gathering and storing of sample data for humidity for a specific plant
- Data analysis and predication throughs algorithms
- Creation of AR models and images according to analyzed data for visual simulation

MEMBER 3	S.Hareendran

Soil Moisture related work

- Gathering and storing of sample data for soil moisture for a specific plant
- Data analysis and predications through algorithms
- Creation of AR models and images according to analyzed data for visual simulation

MEMBER 4	P.A.B.T.Wishvamali

Temperature related work

- Gathering and storing of sample data for temperature for a specific plant
- Data analysis and predications through algorithms
- Creation of AR models and images according to analyzed data for visual simulation

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
1	W.P.T.S.Weerasooriya	IT16009714	
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