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|  | **Sri Lanka Institute of Information Technology** |



PROJECT REGISTRATION FORM

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(This form should be completed and uploaded to the Cloud space on or before XXXXXXXXX)

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 entail 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.

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| PROJECT TITLE  (As per the accepted topic assessment form) | An application for Managing Blood and Organ Donation in Sri Lanka. |

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| RESEARCH GROUP  **(as per the Topic assessment Form)** | Computing for Inclusive and Equitable Society (CIEC) |

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| PROJECT NUMBER | Temporary ID= TMP-22-139 | (will be assigned by the lecture in charge) |

PROJECT GROUP MEMBER DETAILS: (Please start with group leader’s details)

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| --- | --- | --- | --- | --- |
|  | **STUDENT NAME** | **STUDENT NO.** | **CONTACT NO.** | **EMAIL ADDRESS** |
| Format | Perera C.D.D | ITxxxxxxxx | 0712345678 | itxxxxxxxx@my.sliit.lk |
| 1 | R.M.S. Dananjani | IT19121734 | 071 315 0464 | it19121734@my.sliit.lk |
| 2 | B N Dullewa | IT19112992 | 071 524 8624 | it19112992@my.sliit.lk |
| 3 | K.U.R.O.D Bandara | IT19236438 | 075 019 1639 | it19236438@my.sliit.lk |
| 4 | Malkanthi.P.L | IT19115108 | 077 524 5600 | it19115108@my.sliit.lk |

**SUPERVISOR, CO\_ SUPERVISOR Details**

|  |  |
| --- | --- |
| **SUPERVISOR Name** | **CO-SUPERVISOR Name** |
| Uthpala Samarakoon | Suriyaa Kumari |
| **Signature** | **Signature** |
| **Attach the email as Appendix 1** | **Attach the email as Appendix 2** |
|  |  |
| **17/12/2021**  **Date** | **17/12/2021**  **Date** |

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| EXTERNAL SUPERVISOR Details (if any, may be from the industry) | | | | | |
|  |  |  |  | **Attach the email as Appendix 3** |
| Name | Affiliation | Contact Address | Contact Numbers | Signature/Date |

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| ACCEPTANCE BY CDAP MEMBER (This part will be filled by the RP team) | | |
|  |  |  |
| Name | Signature | Date |

PROJECT DETAILS

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| Brief Description of your Research Problem: (extract from the topic assessment form) |
| There has been a significant increase in deaths Due to a lack of quick blood donors and the bureaucracy associated with sick people quickly receiving their required blood type. In 73 countries, donation rates are less than 1% (fewer than 10 donations per 1000 people). 70 of these are either developing or transitional countries. [7]  With the rapid growth in the use of social networking sites around the world, there has been a continuous increase in the number of calls for blood donors, as seen by the number of posts on sites like Facebook and Twitter seeking blood donors. In practically every country, finding a blood donor is a difficult task.  In Sri Lanka, the major causes of organ shortages are ignorance and a lack of awareness. People are under-informed on the advantages of organ donation. Today, social media and a variety of other platforms may be used to promote the benefits of organ donation and how more individuals registering for organ donation can save more lives.  There isn’t any significant system to connectOrgan and Blood donors with the donees.Therefore,lack of correspondence in between donors and the donees is a major problem in the research.  Inability to detect the blood donors in a respective area in an emergency. When there is an urgency of finding blood donors, it is hard to find the donors from the area which the emergency occurred.  Poor manageability of blood donation camps. It is impossible to locate the areas in which the blood donation camps are held and to inform the potential donors effectively.  The deficiency of future accessibility of blood and lack of prediction. This idea is suggested by a medical officer form his personal perspective. The focus on rural hospital such as base hospitals and divisional hospitals by the blood bank is relatively low. In emergency situations such as the ongoing covid pandemic, these rural hospitals often get crowded and the hospitals won’t be able to supply the necessary blood to all the patients. As solution for this matter, we have done this research to overcome the future obstacles. |
| Description of the Solution: (extract from the topic assessment form)  The system builds the correspondence in between the donors and the respective donees efficiently by themselves. The donors who need money can sell their organs to the respective donees confidentially.  The system aids to locate the potential donors from the respective areas of emergency. A notification will be sent to the potential donors from the nearby areas of emergency. It simplifies the process of reaching out to potential donors and encourages them to become voluntary donors. Donors can also track the impact of their contributions and raise awareness about blood donation.  Proper management of blood donation camps. The potential areas to hold the blood donation camps will be located while notifying the potential donors from the located areas. The blood donors can detect the nearest available blood donation camps.  The proper accessibility of blood which are needed for base hospitals and divisional hospitals. It is easy to predict the amount of blood needed for the future. As an example, the is a high demand of blood in festive seasons due to accidents. Therefore, the predictability of blood through this system leads to minimize the wastage of blood and to be prepared for the respective time periods.  Through this application, organ donors and recipients, individuals and blood donation camps, and hospitals may easily donate and receive blood, as well as raise public awareness about the need for and advantages of blood donation. |

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| Main expected outcomes of the project: (extract from the topic assessment form) |
| **Main Objective:**  Design and develop an application to manage blood and organ donations in Sri Lanka Using NLP, Indexing technique, Google map API, Real time messaging, Image Processing.  **Sub Objective 1:** Design and develop a component to Predict future blood usage using gathering and analyzing of anonymous data through indexing technique  **Sub Objective 2:** Design and develop a component to manage the blood donation camps effectively using Google API and social media.  **Sub Objective 3:** Design and Develop the component to Create a successful correspondence in between the donors and the donee using NLP and social media.  **Sub Objective 4:** Design and Develop the component to Locate the potential donors in the respective emergency area Identification of the nearest donors by using K-means Algorithm, Google Maps, Image Processing. |

WORKLOAD ALLOCATION (**extract from the topic assessment form after the correction suggested by the topic assessment panel.**)

(Please provide a brief description about the workload allocation)

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| MEMBER 1 | ………………………………………………………………………………………………………………………………………………………… |
| [IT19121734]: **The Prediction of blood for the future use.**    This component mainly focuses on the Blood Availability in Base Hospitals and Divisional Hospitals in Western Province. The need of blood prediction for future use is suggested by a doctor. The information was gathered from the Homagama Hospital, Awissawella Hospital, Navagamuwa Hospital etc. in Western Province. Since we don’t take personal details, the hospital allowed us to take their blood availability details.   * The amount of Blood needed for each Hospital by the Blood bank is predicted by the System. * To identify the severity of emergency using an indexing technique, count of blood will be counted using indexing technique for the researchers to decide on a control method. * In which Times, selected Hospitals need more Blood than Regular months. * The amount of Blood needed for Hospitals in the seasonal Times is higher than normal times. * Using previous data records system can predict how much blood is needed for these times and the system will send a notification to user. * For A selected Hospital, the most and least wanted Blood Groups are predicted. * By taking the amount of most used and least used blood groups for a year, system can predict the amount of blood needed for the next year. This will mainly manage blood storage efficiently. | |

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| MEMBER 2 | ………………………………………………………………………………………………………………………………………………………… |
| [IT19112992]: **Manage the blood donation camps effectively.**  This function includes blood donation event handling. Use a dashboard to keep track of the blood percentages based on data from a blood donation camp. We do not use the client’s name and instead we give them a unique ID where the client’s could be recognized and the detailed could be managed through the ID.   * Select the proper location to hold the blood donation camp. * If a person needs to organize a blood donation event, the person can easily find a proper area. * The current availability of registered blood donators detected in the respective blood donation camp’s area * The event organizer can find how many blood donators are detected in event area by selecting the area name. * The potential donors will be notified through an auto generated message. * When a person organized a new blood donating event, registered users will be notified through a message. * Locate the nearest blood donation camp and the camps which are to be held in future. * If a person needs to donate blood, the donor can locate the nearest available blood donation camp and the path via the map. | |

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| MEMBER 3 | ………………………………………………………………………………………………………………………………………………………… |
| [IT19236438]: **Create a successful correspondence in between the donors and the donees.**   * Send a confirmation message to the Donor * When the donee selects the blood group that he or she need, the donor is automatically shown, and a confirmation message is sent to the donor. * If the first donor is not available, the system will automatically search for the next available donor in the queue. * When a donor donates an organ, the donor's information is automatically removed. * Chat bot and real time Message * The first person who respond to the notification is added to the separate chat room with the donor. * After adding the donor and donee to a separate chat room, the donor will be removed from the queue. * share post to the social media platform * after the donee accept to share their details to the social media platform, the entered details will share to the social media platform through post. | |

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| MEMBER 4 | ………………………………………………………………………………………………………………………………………………………… |
| [IT19115108]: **Locate the potential donors in the respective emergency area and managing passbook.**   * All the registered donors are given an online passbook which is updated automatically by the system. * Individualized QR cord is given for each donors which is given access to the passbook.      * Select the registered donors in an emergency according to their eligibility to donate blood and send the notifications to that filtered eligible donors.      * Relevant donors are chosen automatically by the system based on their blood type and their location, who are tracking using Google Maps.      * Donors who are not complete 4 months since there last blood donation are excluded by the system      * Send reminders to the chronic blood donors      * Chronic blood donors are eligible to donate blood in 4-month intervals.      * Such donors are automatically detected ty the system and send a reminder with convenient date and time to donate blood | |

DECLARATION (Students should add the Digital Signature)

“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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|  | STUDENT NAME | STUDENT NO. | SIGNATURE |
| 1 | R.M.S Dananjani  (GROUP LEADER) | IT19121734 |  |
| 2 | B.N Dullewa | IT19112992 |  |
| 3 | K.U.R.O.D Bandara | IT19236438 |  |
| 4 | Malkanthi.P.L | IT19115108 |  |