VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

NALAIYA THIRAN

4

Team ID : PNT2022TMID23196

Team Leader : Sneha S

Team Member : Susanthika M

Team Member : Sruthi R

Team Member : Urmikha G S

Mentor : Alaimahal A

Topic : Plasma Donor App

Literature Survey:

S.No.	Title	Author	Abstract
1.	Nearest Blood & Plasma Donor Finding: A MachineLearning Approach	Nayan Das, MD. Asif Iqbal	The necessity of blood has become a significant concern in the present context all over the world. Due to a shortage of blood, people couldn't save themselves or their friends and family members. A bag of blood can save a precious life. Statistics show that a tremendous amount of blood is needed yearly because of major operations, road accidents, blood disorders, including Anemia, Hemophilia, and acute viral infections like Dengue, etc. Approximately 85 million people require single or multiple blood transfusions for treatment. Voluntary blood donors per 1,000 population of some countries are quite promising, such as Switzerland (113/1,000), Japan (70/1,000), while others have an unsatisfying result like India has 4/1,000, and Bangladesh has 5/1000. Recently a life-threatening virus, COVID-19, spreading

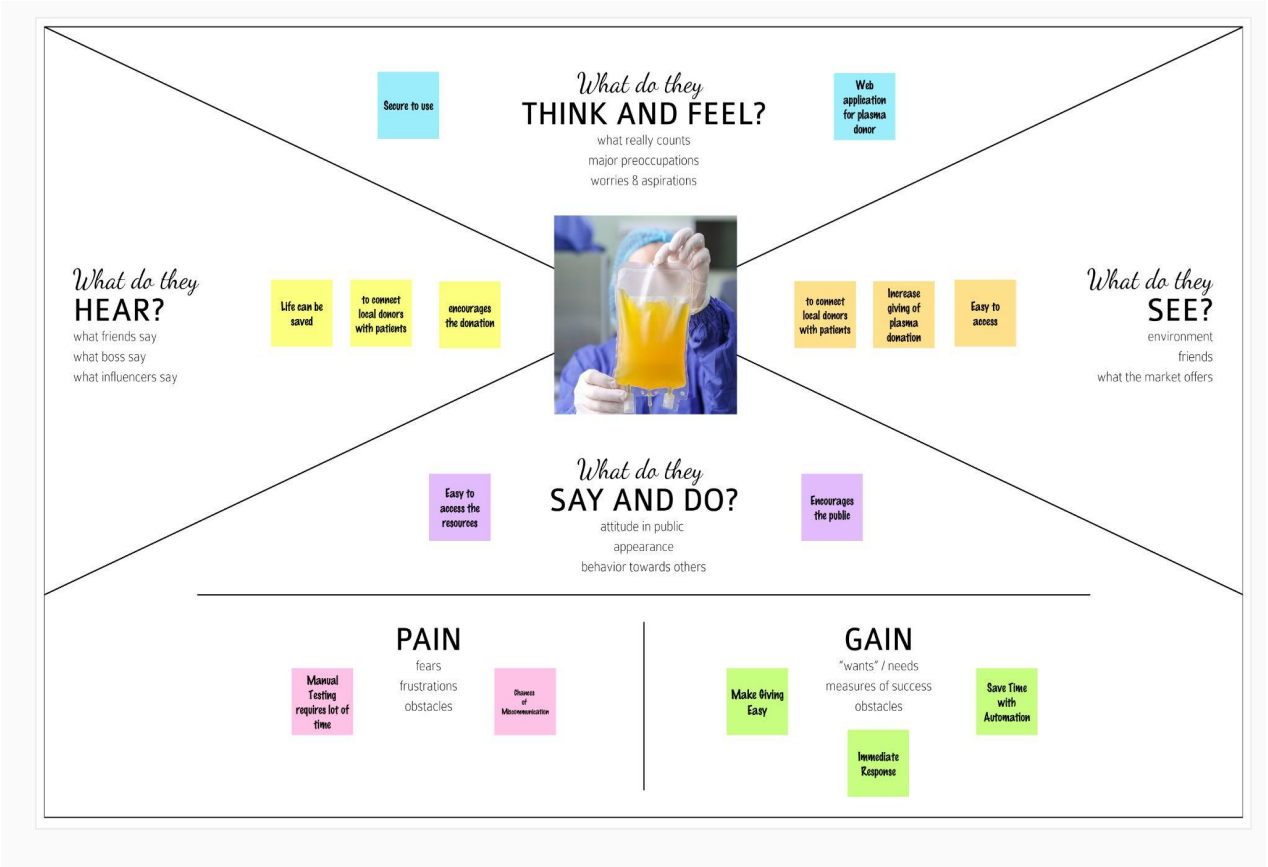
			throughout the globe, which is more vulnerable for older people and those with pre-existing medical conditions. For them, plasma is needed to recover their illness. Our Purpose is to build a platform with clustering algorithms which will jointly help to provide the quickest solution to find blood or plasma donor. Closest blood or plasma donors of the same group in a particular area can be explored within less time and more efficiently.
2.	Blood Bank System using Database Security	Dr. Danie Kingsley, Asst. Prof. Sr, SBST	Despite the immense technological advancement, blood bank systems are either manual or valuable data is easily retrievable. Consequently, one of the major issues in blood bank systems, as talked about in many research papers and articles, is the lack of data security. People always doubt whether their personal information and medical records are safely stored and secured. Therefore, our project aims to develop an online blood donation system applying the concepts of database security and encryption. The following is what our project aims to achieve: Any person who is willing to donate blood will have to register first, even if the user is a new donor, or the user can directly login if he/she has an account already. Whenever they want to donate blood, a form will have to be filled. In the user account, the user will be able to view all the details and records of all earlier donations as well as information about upcoming blood donation events. There will be a link provided to find blood donors in the region of the users' choice. All this is related to the blood bank system. Apart from this, we will be using concepts of database encryption to make sure that the users' information is kept secure

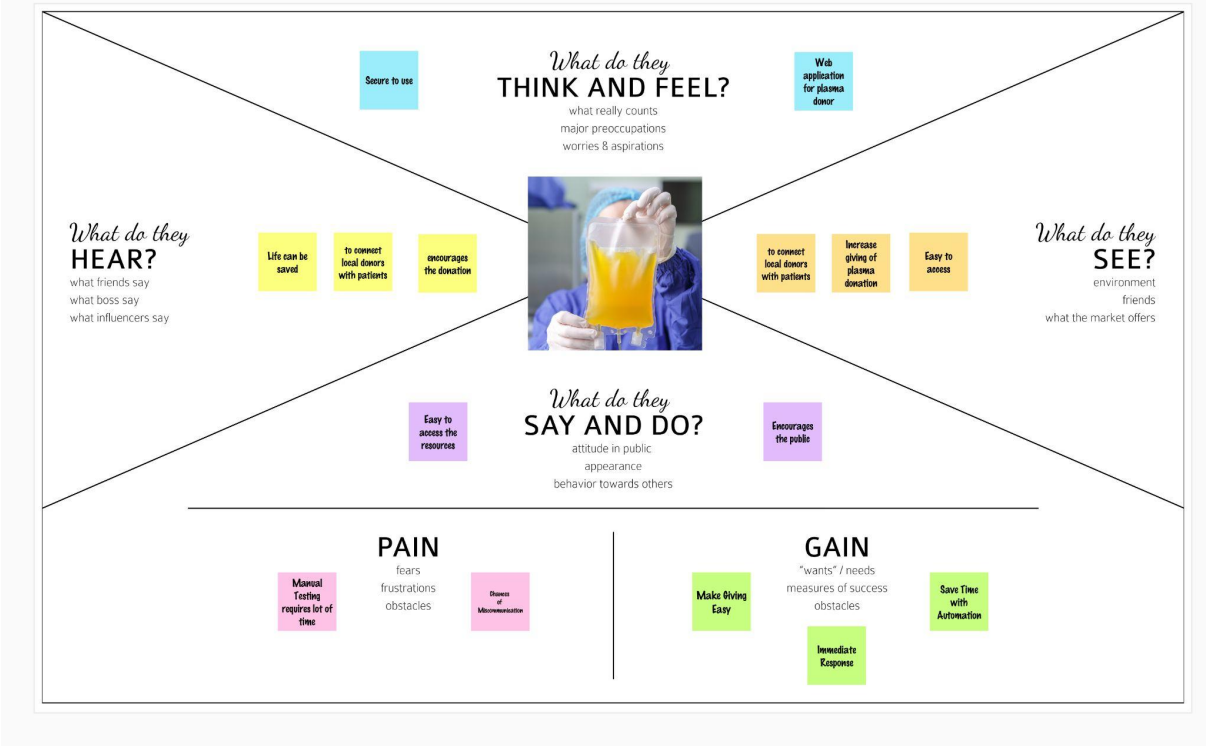
			and confidential. This will help us keep their donation records protected from any threats from individuals with potentially malicious intentions, or any unforeseen hazards to the security of the data.
3.	Generation and Applications of Plasma	Faizan Mehmood, Tariq Kamal and Umair Ashra	Plasma being the fourth and most abundant form of matter extensively exists in the universe in the inter-galactic regions. It provides an electrically neutral medium of unbound negative and positive charged particles, which has been produced by subjecting air and various other gaseous mixtures to strengthen the electromagnetic field and by heating compressed air or inert gasses for creating negative and positive charged particles known as ions. Nowadays, many researchers are paying attention to the formation of artificial Plasma and its potential benefits for mankind. The literature is sparsely populated with the applications of Plasma. This paper presents specific methods of generation and applications of Plasma, which benefits humankind in various fields, such as in electrical, mechanical, chemical and medical fields. These applications include hydrogen production from alcohol, copper bonding, semiconductor processing, surface treatment, Plasma polymerization, coating, Plasma display panels, antenna beam forming, nanotechnology, Plasma Torch, Plasma pencils, low-current non-thermal Plasmatron, treatment of prostate cancer, Plasma source ion implantation, cutting by Plasma, Plasma etching, pollution control, neutralization of liquid radioactive waste, etc. Resultantly, worth of Plasma technology in the medical industry is increasing

			exponentially that is closing the gap between its benefits and cost of equipment used for generating and controlling it.
4.	Plasma Technology Research and Its Applications	Muhammad Nur	Researchers on the application of plasma technology in the areas of environment, health, food, agriculture have been conducted in the Laboratory of Atomic and Nuclear Physics Division of Plasma Technology in the Faculty of Science and Mathematics, University of Diponegoro. This paper reported research results on plasma technology and its applications in these fields that have been carried out in the recent years. Plasma for environmental applications can reduce gas emissions released by motorcycle and vehicle exhausts. This technology can reduce significantly emissions of SOx, COx, and NOx. Non-polluted plasma muffler prototype adaptation has been done in four wheels and more vehicles. Pilot scale improvement has done by integrating reduction system into vehicle muffler from it previous position outside the muffler. High voltage that used to develop plasma condition comes from 12 V 34 A accumulator which connected with electronic equipment and able to develop voltage up to 20kV. Exhaust gases reduction Ability has done by varying engine rotation. Plasma muffler appearance in vehicle doesn't change outside dimension of its original muffler and it reactor placement in muffler has a function to change resonator chamber function and make this muffler still fulfill muffler standardization with more performance in reducing exhaust gases (COx, NOx. HC). Optimal reduction level made at 2200 rpm

			for COx is 88,52%. for CO is 88,93%, for HC is 97,34% and for NOx at 4800 rpm is 76,19%.
5.	Applications of Plasma-Liquid Systems	Fatemeh Rezaei L, Patrick Vanraes AntonNikiforov, Rino Morent and Nathalie De Geyter	Plasma-liquid systems have attracted increasing attention in recent years, owing to their high potential in material processing and nanoscience, environmental remediation, sterilization, biomedicine, and food applications. Due to the multidisciplinary character of this scientific field and due to its broad range of established and promising applications, an updated overview is required, addressing the various applications of plasma-liquid systems till now. In the present review, after a brief historical introduction on this important research field, the authors aimed to bring together a wide range of applications of plasma-liquid systems, including nanomaterial processing, water analytical chemistry, water purification, plasma sterilization, plasma medicine, food preservation and agricultural processing, power transformers for high voltage switching, and polymer solution treatment. Although the general understanding of plasma-liquid interactions and their applications has grown significantly in recent decades, it is aimed here to give an updated overview on the possible applications of plasma-liquid systems. This review can be used as a guide for researchers from different fields to gain insight in the history and state-of-the-art of plasma-liquid interactions and to obtain an overview on the acquired knowledge in this field up to now

Empathy Map:


What do they
THINK AND FEEL?
what really counts
major preoccupations
worries & aspirations
Secure to use
Web application for plasma donor
What do they
HEAR?
what friends say
what boss say
what influencers say
Life can be saved
to connect local donors with patients
encourages the donation
to connect local donors with patients
Increase giving of plasma donation
Easy to access
What do they
SEE?
environment
friends
what the market offers
What do they
SAY AND DO?
attitude in public
appearance
behavior towards others
Easy to access the resources
Encourages the public
PAIN
fears
frustrations
obstacles
Manual Testing requires lot of time
Chances of Miscommunication
GAIN
"wants" / needs
measures of success
obstacles
Make Giving Easy
Save Time with Automation
Immediate Response


What do they
THINK AND FEEL?
what really counts
major preoccupations
worries & aspirations
Secure to use
Web application for plasma donor
What do they
HEAR?
what friends say
what boss say
what influencers say
Life can be saved
to connect local donors with patients
encourages the donation
to connect local donors with patients
Increase giving of plasma donation
Easy to access
What do they
SEE?
environment
friends
what the market offers
What do they
SAY AND DO?
attitude in public
appearance
behavior towards others
Easy to access the resources
Encourages the public
PAIN
fears
frustrations
obstacles
Manual Testing requires lot of time
Chances of Miscommunication
GAIN
"wants" / needs
measures of success
obstacles
Make Giving Easy
Save Time with Automation
Immediate Response