

The Gift of Life: Transform Organ Donation and Transplantation Process with Blockchain enabled AI System

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Every year many thousands of people receive the gift of life but due to various factors such as serious trauma, drug abuse, loss of blood, sepsis, poisoning, leukemia, and other acute diseases and due to unhealthy dietary habits, lack of exercise, alcohol consumption and drug abuse leading to failure of organs. Transplantation is one of the great medical advances of the time. With the rapid advancements in the health industry, organ transplantation has become one of the greatest medical procedure for saving the lives of humans and it is considered as one of the most noble acts of humanity. It is a way in which an organ is removed from one body and transferred to another body, to replace the missing or damaged organ. A lifesaving transplant of a heart, kidney, liver, lungs, pancreas or intestines and thousands more people receive corneas and other tissues that restore sight and health. If a person is a good candidate for a transplant, he or she will be on a national transplant waiting list. Once a person is on the list, the wait for an organ begins. A national system matches people on the waiting list with donors. In certain situations, some people do not receive an organ in time and sometimes result in loss of life. Because the waiting list is very long and there are not enough donors available. If there is a proper system in place how many we could save if everyone could be donors. So, this study proposes a disruptive technology-based solution to transform the organ donation and transplantation process. The report discusses the organ donation and transplantation process and its issues in the world and in Sri Lanka, what are the systems currently available in the world. Thereafter, all the factors were analyzed, and a disruptive technology-based solution was proposed. Finally, the roadmap was given to solve the issue in Sri Lanka by implementing the solution and the recommendations were discussed. A blockchain enabled AI system was developed to transform the organ donation and transplantation process. Anyone can make the decision to donate an organ. Any age is the right age, young or old and any day is the right day to register as a donor through the system. The hospitals, medical centers and the general public can adapt to this system and save the lives.

Keywords: Organ Donation; Donor Recipient Matching; Organ Transplantation Process; Blockchain; Artificial Intelligence

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