Global Organ Donation and Transplantation System

**Domain:** Health care

**Description of the Project**: The motivation behind this project is to make the organ donation and transplantation available at a global level to the patients through technology. We aim to build a transparent system (managed by a central authority like WHO) for this process in order to minimize the deaths caused due to unavailability of organs for transplantation.

**Scope of the Project**:

* A major responsibility of this organization is to carry out an awareness of importance of organ donation at a global level through advertisements.
* A Registration portal will be used for registering donors for living donation/diseased organ donation (After initial health screening, donors are registered by Donor Registration Centers(DRCs) at different locations globally).
* Hospitals can also register candidates for diseased donation from their hospital patients (on artificial/ mechanical life support) after taking consent from the family members.
* Registered hospitals will login to the system to raise a request for organ transplantation requirement and provide the patient details like organ required, blood type, body size etc.
* Before allocating the donor, WHO administrator does a compatibility check of body size and other medical factors between the donor and receiver. Other factors like geography, urgency, waiting period, financial condition are also take into account. The donor is then allocated to the requester hospital’s patient.
* WHO’s Organ Procurement and Transplantation Department(OPTD) then carries out set of tests for organ matching and notifies in the system.
* After the successful test results, WHO’s legal department provides NOC (No Objection Certificate) or rejects the proposal after certain background checks on donor and receiver.
* OPTD (present in each city) arranges for removing the organs from the donor’s body, keeping the organs on life support until transplanted, transporting the organs to the deceased patients and the final transplantation.
* In addition, every hospital and Donor Registration center will have a survey to record living patterns (like smoking, drinking) and other habits, to be filled by the visitors at the hospital.
* These surveys will be then used for estimating the probability of required organ transplants in future. Hence this system will try to ensure the availability of donors for future cases as well.
* Report generation to depict the donors based on age and gender, transplants on organ type etc. Reports on survey analysis and availability of donors for the future.

**Conclusion:**

Due to the absence of a transparent global system for organ donation/ transplantation, a lot of patients waiting for organs for considerable time suffer due to unavailability of organs. We aim at minimizing deaths of such patients.