College　　　　　　:　GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR
Department　　　　:　Computer Engineering
Discipline　　　　 :　BE
Semester　　　　　:　Semester 8
Project Name　　　:　Plasma Donation Using Blockchain
Team ID　　　　　:　118058

Form 1 – APPLICATION FOR GRANT OF PATENT

Applicants :

Sr. No	Name	Nationality	Address	Mobile No.	Email Id
1	Lalwani Honey Mukeshbhai	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	9106595511	lalwanihoney108@gmail.com
2	Airao Jagruti Manoj	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	9638879241	airaojagruti@gmail.com
3	Dalicha Yugma Kraturushi	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	7043939007	yugmadalicha@gmail.com
4	Kalaswa Hetalben Dilipbhai	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	8735969609	hetalkalasva001@gmail.com

Inventors :

Sr. No	Name	Nationality	Address	Mobile No.	Email Id
1	Lalwani Honey Mukeshbhai	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	9106595511	lalwanihoney108@gmail.com
2	Airao Jagruti Manoj	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	9638879241	airaojagruti@gmail.com
3	Dalicha Yugma Kraturushi	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	7043939007	yugmadalicha@gmail.com
4	Kalaswa Hetalben Dilipbhai	Indian	Computer Engineering , GOVERNMENT ENGINEERING COLLEGE, SECTOR - 28, GANDHINAGAR , Gujarat Technologycal University.	8735969609	hetalkalasva001@gmail.com

I/We, the applicant(s) hereby declare(s) that:

Following are the attachments with the applications :

Form 2 – PROVISIONAL/COMPLETE SPECIFICATION

1 . Title of the project/invention :
Plasma Donation Using Blockchain

2. Preamble to the description :

Provisional

3. Description

a) Field of Project / Invention / Application :

Healthcare Management system - tracking the supply of Plasma, Ease of availability of plasma to patients, Verification of various entities using Blockchain.

b) Prior Art / Background of the Project / Invention :

Maintaining logs of various transfusions and verifying various entities that participate in the network. Further, eliminating any discrepancy in data by maintaining the data in firebase while storing the hash of information in the blockchain.

c) Summary of the Project / Invention :

Plasma Genesis is the next generation Blood/Plasma Donation network that leverages the power of Blockchain technology – where the entities can be trusted and rewarded for their good work at the same can be penalized if proved to be malicious.

d) Objects of Project / Invention :

1) Building smart contracts for ease of availability to patients in need
2) Recording various entities participating in the network.
3) Entity verification using a smart contract, hash functions, and firebase
4) Tracking transfusion from seeker to donor
5) Governing the supply of plasma on each stage

e) Drawings :

f) Description of Project / Invention : (full detail of project) :

What is Plasma Genesis?
Plasma Genesis (Plasma Donation using Blockchain) is a DApp – Decentralized Application that works for ease of availability and ensures the origin of Plasma.

Work Flow
This application is a smart contract that is first deployed on a network by an entity called Plasma Manager. Then any hospital that wants to be a part of this consortium blockchain is added by the Plasma Manager onto the network after verifying whether it is legitimate. Its data would be added to firebase while the hash of the data would be entered into Blockchain.
Any patient who wants plasma would create a profile on the platform and specify the need for blood/plasma and would be added to the seekers pool. The seeker would then will be verified by the hospital in which he/she is treated in. If the seeker turns out to be malicious it can be removed by any of the hospitals in the system.
Any donor who wants to donate blood/plasma or is willing to be contacted in the future would create a profile and their eligibility check would be conducted by the hospital. If the donor turns out to be malicious it can be removed by any of the hospitals in the system.
Transfusion can be tracked at various stages right from the donation to transfusion and the storage time of plasma/blood would be recorded in the Blockchain.

Need
Despite, the traditional web applications that function in a similar manner of connecting donors and patients the need for introducing such a system arrives due to trust and authenticity that tags along due to Blockchain. Along with centralized cloud storage (Firebase), a distributed storage ledger (Smart Contracts) authenticates the entity and ensures that the data is not manipulated at any point in time.

g) Examples :

h) Claims (Not required for Provisional Application) / Unique Features of Project

Deploying an amalgamation of centralized and decentralized systems to avail the benefits of both while eliminating their disadvantages.

4. Claims

5. Date and signature

6. Abstract of the project / invention :

Plasma Donation can be seen as one of the platforms that utilize the perks of Blockchain technology. This platform could guarantee the visibility, security, and reliability of records from donation to transfusion and prevents repudiation and falsification. Whereas blockchain-based solutions cannot prevent contaminated blood/plasma from being donated, they can be used to verify the origin of the plasma and ensure that it comes from a trusted source. Finding donors may remain a daunting task as plasma donations depend on certain conditions. Many are also reluctant to donate fearing a relapse. This could entail new incentive models for donations, which could increase donations. It can also facilitate researchers' access to large data sets, while at the same time protecting the privacy of donors and recipients. Hence, ensures abstraction which further leads to security and implies one of its principle that is "secure by design". The donation is accessible to all patients irrespective of socio-economic differences. That concludes, "Humans are Bias, Technology is Not" (cause for it's the use that matters!)

Form 3 – STATEMENT AND UNDERTAKING UNDER SECTION 8

Name of the applicant(s) :	I/We, Lalwani Honey Mukeshbhai ,Airao Jagruti Manoj ,Dalicha Yugma Kraturushi ,Kalaswa Hetalben Dilipbhai
	Hereby declare :
Name,Address and Nationality of the joint applicant :	(i) that I/We have not made any application for the same/substantially the same victim invention outside India.
	(ii) that the rights in the application(s) has/have been assigned to

Name of the Country	Date of Application	Application Number	Status of the Application	Date of Publication	Date of Grant
N/A	N/A	N/A	N/A	N/A	N/A

(iii)That I/We undertake that upto the date of grant of the patent by the Controller, I/We would keep him informed in writing the details regarding corresponding applications for patents filed outside India within three months from the date of filing of such application.

Dated this 17 day of April 2021

To be signed by the applicant or his authorised registered patent agent :	Signature.................
Name of the Natural Person who has signed :	Lalwani Honey Mukeshbhai ,Airao Jagruti Manoj ,Dalicha Yugma Kraturushi ,Kalaswa Hetalben Dilipbhai

To,
The Controller of Patents,
The Patent Office,
At Mumbai