

APPLICATION FOR A PATENT

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**THE DISINTERMEDIATED SMALL ENTERPRISE MARKETPLACE FOR
INSTANT GLOBAL TRANSACTIONS**

The Problem we seek to solve

Small businesses, including small retail, represent close to 99% of businesses worldwide and nearly USD 57 Billion in annual revenues, as per ACI Worldwide. Yet SMEs face persisting problems in transacting globally. Costs of transaction are high, amounting to an average of 6% via correspondent banking. Small enterprises in different parts of the world may not know one another and in the absence of familiarity and trust, are unable to trade without intermediaries. Small traders are unable to accept cashless means of payments and are forced to rely on cash, both options being expensive. For example, various reports point to more than 80% of retail transactions in most of the world being in cash. As an example, Uber now accepts cash in India, contrary to both its own worldwide approach as well as to the larger industry aim to go cashless. Smaller companies have little choice but to accept cash, as in many markets centralized payment processing and the accompanying costs make it prohibitive to find any viable alternative. These contribute to the lack of global markets and lack of efficiencies which limit the growth of SMEs. Beyond the costs of transactions are the high overheads that all companies need to maintain for book keeping, reconciliation and fraud management. On an average, estimates within organizations show that above 20% of costs go into these areas. In case of small enterprises, the percentage can be higher. More importantly, sole proprietors and solitary entrepreneurs would find it disheartening to try and grow their revenues under such circumstances. In a time of radical changes in the employment market and overall issues with productivity, this can be discouraging and have an impact on overall economic growth. Our invention seeks to bring about significant improvements in these stated areas. Given below are the details of the invention. Our invention is the Disintermediated Small Enterprise Marketplace for Instant Global Transactions. We call it Electra.

At the outset, it is important to emphasize that the proposed invention lies in the area of Blockchain(alternately and interchangeably referred to as Distributed Ledger Technology). The terms cryptocurrency and token are used here interchangeably and frequently. These refer to virtual currencies that are generated from underlying distributed ledger protocols and which have digital transactionl functions. Each cryptocurrency also carries an inherent value which may (in most cases) rise or fall due to the movement of the market. However, in some cases, it is possible that such a currency may be pegged to a fixed fiat currency value, either permanently or temporarily. One class of tokens are not likely to be used widely as currency-that is the smart contracts which are used for arriving at agreements between two or more parties. In our context, smart contracts are tokens which are encoded as per the terms of the contracts they represent and their specific role is to represent contracts.

Any entrepreneur or entity with a smartphone can download an easy to use application, register and start their business. Such a business is thereby integrated into Electra. It can now search for other businesses and enter into agreements and transactions with them. They can define what their business is, issue their own cryptocurrencies, and accept multiple crypto currencies, whether those are issued by other businesses or are already in existence. They are able to enter into bi-lateral and multi-lateral contracts that are enforceable under the laws of specific domiciles. There is no single authority to vet transactions. The key element here is the ledger which can be seen by all parties to a specific transaction. Each such party can download a copy of the ledger. The records therein are immutable, preventing fraud and misuse of payment instruments. The consensus protocol underlying SendX enables the prevention of powerful attacks by malignant parties and can eject participants who may try to carry out such attacks. It is possible to ensure that each party can only see the ledgers pertaining to it's own transactions. These businesses are, at the same time, able to transact with end-consumers(should their business be B2C or contain a B2C component). End-consumers can buy business or retailer specific tokens(should these businesses want to issue such tokens) while some businesses may accept widely used third party tokens.

The acceptance of virtual currencies or tokens reduces the cost of cashless transactions considerably. Some of the other advantages of such acceptance, especially on the administrative side, have been mentioned already in the previous paragraph.

As is obvious from the above description, the low cost of transaction is key to the entire proposition being unique and commercially successful. This will be possible by implementing DIEPP, a distributed internationale exchange for payment processing. DIEPP will enable the exchange of one cryptocurrency or token with another as well as the exchange of cryptocurrencies with fiat currencies. DIEPP enables instant processing of transactions through the underlying distributed ledger consensus mechanism which is significantly faster than bitcoin and much more stable and reliable compared to Ethereum. The ledger records of the transactions are available immediately and are immutable. DIEPP will be able to connect to banks through the Electra transactional layer. The exchange value between different cryptocurrencies or tokens that are issued by entities on the network will be determined by their relationship to the SendX Global Token. The SendX Global Token(SGT) will be pegged to a portfolio of existing fiat currencies through an algorithm which is confidential and determined by the SendX management from time to time. The value of SendX in terms of US Dollar and derived values in terms of Bitcoin, Ether, etc will be always available. Each of the tokens or cryptocurrencies issued by these entities will be given a value in SendX Global Token Terms. For example $A=0.2$ SGT. Thus, if A is entering into an agreement with B, there can be a cryptocurrency swap between A and B in SGT terms. If only one of these parties has issued a token, then the exchange scenario becomes simpler. DIEPP will also act as a traditional cryptocurrency exchange for any other third party or third party cryptocurrency that needs to be exchanged either for another token or for fiat.

The Core of Electra

At its core Electra is made up of:

- i) A series of adaptors that can integrate into any underlying protocol. This allows an end-user transaction to pass credentials through to the protocol and to be processed appropriately, passing back the output to the platform and then the application level.
- ii) Business applications such as “view your ledger”, management dashboard, smart contracts.
- iii) A toolbox that allows anyone to set up an online store from scratch or add his/her existing business.
- iv) The ability to create multi-signature contracts for multi-lateral business relationships, with the ability of enforceability in specific jurisdictions of choice.
- v) Every business can generate it's own encrypted digital currency. Every business can accept digital currencies of it's choice which may be issued by other businesses or already be in choice.
- vi) All transactions are cleared instantly in DIEPP with the SendX Global Token (SGT) used for that function. DIEPP also provides the means for achieving fiat settlement as well as for buying and selling already existing cryptocurrencies.
- vii) Customer Care- Customers can rate individual merchants/businesses. They can search for merchants and businesses by product category, city, and name of business. This is possible through a series of algorithms written into the Electra stack.

Electra Technical Product Info**1) Consumer and Merchant App**

- a. Enabled with end-user identifier processes of choice
- b. KYC/KYB process to be in line with regulatory requirements.
- c. POS - items for sale, scanning of product, manual product code entry, show of price. This can be injected as a specification into a PCI-DSS compatible terminal or used as a virtual terminal.
- d. Consumer Payment
 - i. Consumer scans QR to pay
 - ii. Consumer taps phone to pay
 - iii. Consumer taps card to pay
- e. Backoffice
 - i. Dashboard
 - ii. Transaction Ledger
 - iii. Smart, multi-signatory contracts
 - iv. Virtual currency issuance
 - v. Virtual currency acceptance
 - vi. DIEPP-A distributed exchange with storefronts accessible via the web and mobile from anywhere in the world.
 - vii. Settlement flows into end financial institutions to convert tokens to fiat
- f. Customer Care
 - i. Merchant search - keyword and category
 - ii. Consumers can rate merchants

2) Management Console

- a. Admin Access Management
 - i. Role based security access management - admin user account creation, deletion, suspension and access control to modules.
- b. Token Vault - Lifecycle Management (Account Level)
 - i. Bulk issuance of token (naming, pegging, quantity, UAT or Production).
 - ii. Balance - Unassigned in Token Vault, Assigned to wallets
 - iii. Suspension - freeze tokens
- c. Reporting
 - i. Real time transaction search with results filters
 - ii. CSV downloadable

3) Transactional API

- a. Token Assign - assign tokens from token vault to wallet-ID or from wallet-ID back to token vault
- b. Token Balance - queries available token balance based on wallet-ID
- c. Token Transfer - transfers token ownership from wallet-ID-1 to wallet-ID-2

4) Infrastructure

- a. Cloud Based - Elastic, Auto-Scaling
- b. UAT and Production environments
- c. API key
- d. SSL
- e. IP Whitelisting

Claims

We seek to claim the world's first disintermediated global marketplace for small and medium enterprises (inclusive of retailers) whereby any entrepreneur or business, no matter how small and limited their resources may be and irrespective of their geographical location, and irrespective of their mutual past levels of familiarity or otherwise, are able to set create an online presence and transact and trade with one another at acceptable levels of trust and with their end-consumers instantly, at significantly lower costs than possible today, through distributed applications, encrypted and smart contracts, their own issue of cryptocurrencies, acceptance of cryptocurrencies and derivation of economic value from a globally available distributed exchange which has a clearinghouse token embedded inside it.