



Harbinger Systems
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Harbinger develops a HealthCare Blockchain Platform for a US based start-up

A US based healthcare technology company with a product idea looking to apply Blockchain technology for secure storage and handling of health data.

About the Client

A US based healthcare technology company with a product idea to apply Blockchain technology for secure storage and handling of health data.

Business Situation

The client wished to build a healthcare Blockchain platform based on Ethereum Blockchain. The objective was to cater to various needs of handling health data:

- Patient controlled secure sharing of health data
- Effective use of health data avoiding silos
- Data security and privacy
- Audit trail traceability of health data access

Harbinger Solution

Harbinger devised the below steps as a part of the solution:

- Harbinger developed decentralized app (called as DApp).

If a web app = frontend + server, then DApp = Frontend + Server + Smart contracts + Ethereum Blockchain.

- The platform enabled patients to have complete control over their health data. Patients can import health records in the system, store those in secure way and share selected records with Care Givers of their choice. Also, patients can, at any point in time, remove the data access with Care Givers and can even have a look at the audit trail of which all Care Givers accessed health records. In true sense, this is a patient driven system empowering them to fully own their health data.

- System also has a feature to enable patients to invite Care Givers in the system, easy connectivity with your own choice of Care Giver.

- From Care Giver standpoint, the system provides a complete view of the patient's condition and access to data records across various Care Centers. This helps in providing better care to patients and thus avoiding any safety issues due to health data silos.

- Being sensitive health data handling, the Administrative access to the system is also covered in HIPAA compliance manner.



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Harbinger Solution contd..

- Harbinger team created an ERC 20 token system for availing services of the system.
- The system is built in such a way that the health data can be made available anonymized for clinical research. So there is scope of implementing analytics in future.
- Harbinger team initially created a Proof of Concept (POC) version of the app, client conducted various demos and presented the idea at various events and conferences. it then got shaped as product to be launched.
- Node JS, JAVA, Ethereum blockchain, Solidity Smart Contracts, COSMOS database and Azure Cloud platform were used to set up the Blockchain network.
- Client has the vision to make this ecosystem as open consortium where Care Centers, Research Organizations and other health care domain entities will be able to join the network.

Benefits

Harbinger was able to deliver the below benefits to the client:

- DAapp developed by Harbinger, based on decentralized Blockchain network, served as an easy, centralized place for Patient and Care Givers to collaborate with each other effectively for health data sharing.
- Patient driven Blockchain platform ready to deliver better care to patients with effective sharing of health data.
- Health data security and privacy is protected in a HIPAA compliant manner.
- Blockchain proved to be a suitable match for handling sensitive health data leveraging Blockchain features – encryption, tamper-proof data storage, traceability of data access, and confidentiality.