

Product Note - Digital Hospital

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Product Overview

Customer's journey



A digital hospital intends to tie together the various components of a patient's journey in seeking and resolving medical assistance by using emerging technological solutions that

- (i) streamline the patient's journey,
- (ii) collate patient data,
- (iii) provide access to the data to caregivers in a secure and authorized manner and,
- (iv) connect the various industry participants that participate in providing Healthcare solutions to the customer.

Healthcare is an area where a patient's journey from (i) seeking a consultation, to (ii) having digital access to Health records for sharing with caregivers / insurers, to (iii) admission to

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Hospitals, to (iv) billing and claim settlement through insurers, seems outdated given the current technology advances. No digital solution ie these disparate pieces together. Further, an important aspect of such a system is that it must enable collaboration between the different parties in a secure manner. This means that only a party authorized to access an information field should be able to do it, and none of the others should have the same access. Further, the kind of access whether it is read-only, read and comment, or read / write needs also to be defined and implemented.

We outline the Key components of such a *Digital Health Information System* in the following sections.

Customer Profile

The first part of the journey involves maintaining the profile of the customers in a secure manner with robust privacy features so that all medical data related to the customers is stored and access provided to the required parties in a secure manner with permissioning authority in the hands of the customer.

Consultation (Outpatient services / Diagnostics)

A consultation with a reputed hospital / doctor is quite cumbersome to the customers in the brick and mortar world. Seeking an appointment through phone calls, beating the traffic to reach the Hospital in time and the waiting time involved takes a toll on the customers and is a huge administrative overload to the hospitals. A Digital Hospital would maintain a listing of Hospitals, Diagnostic centres, Healthcare services, doctors, departments, that would help customers choose the one most appropriate for the problem he / she has irrespective of the location of the hospital. The hospital can maintain itself as a brand and reach out to customers in cities / towns / villages where they do not have presence for consultations that do not require physical presence of the customers and additionally reducing space and manpower requirement for even the existing Outpatient services. Consultations which are diagnosed mostly by Q&A methods

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(follow up conversations for pregnancy, orthopedics, psychological treatments that do not require physical presence, etc) would be enabled by a Digital Hospital by the provision of Video and text chat that could be archived (along with diagnosis, prescription) in a secure manner for future reference.

Health Records

Customers today get a file folder every time they visit a Hospital / Diagnostic centre and medication that needs to be tracked over long periods of time (new born baby's vaccination schedule, diabetes test results and medication dosage, any long term disease, injury treatment etc) is at the mercy of a physical file folder which if lost can complicate treatment continuation. Further, the more the heads under which a patient needs medical support, the more the proliferation in the number of physical folders. In the life of an average adult the number of health related folders and prescription sheets is simply endless: one folder for the nutritionist, another folder for pregnancy related support, a third folder for a baby in a family, a card or booklet to keep track of the vaccination of the baby, a card or a booklet to log weight and height, another card or booklet keep a record of eye refraction, etc. Our solution would maintain these records in a secure manner ensuring privacy to the customer and providing access to a Healthcare centre with permissioning access authorization rights resting completely with the customer.

In-patient admissions, Payment & Claim Settlement

When customers get admitted to the Hospital for treatment, surgery etc, the onus of ensuring smooth billing and cashless claim settlement lies substantially on customers without much technological help. Our digital hospital solution would track the admission details and integrate with the Hospitals' billing systems to ensure intimation to the insurance companies with which the customer maintains a Healthcare policy happens real time. The record verification for claim settlement would (a) occur real time, (b) automatically adhere to the terms of the policy, and (c) be done in a transparent manner. This would yield the following benefits for hospitals and insurance companies:

- (i) lower cost because of lower administrative overheads in billing and raising claims
- (ii) faster speed of claims processing, leading to faster claim settlements, which in turn lead to lower working capital requirements for hospitals
- (iii) better patient experience / customer satisfaction.

Technical Details

The solution is divided into front-end and back-end products bringing the best of the cutting edge technological solutions together to provide an end to end customer journey.

The backbone which is the key backend solution is envisioned in the form of a cutting edge Blockchain based solution which provides security, privacy features that help industry participants trust the authenticity of the data they access and also help them share data without concerns of illegal and unpermissioned access. A complete supply chain integration is possible with tight control over the access of data. This solution would solve the two main areas mentioned above - Health Records, Claim Settlement.

The front-end solutions would be key web-based video chat and text chat modules that are aimed at smooth user experience with an ability to interact freely, search for required services and safely archive data.