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Hospital 4.0

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EXECUTIVE SUMMARY

With Technology taking the longer strides than ever in history, it becomes imperative to integrate it to one of mankind's building blocks; healthcare.

Upon in-depth analysis and based on concrete findings, we cited four problems in four integral areas of healthcare which could be solved using modern technology to reap better results:

- **Surgery:** Steady statistics displaying substantial numbers of medication errors.
- **Cost Accounting:** Loss and Manipulation of data due to unnecessary lateral shifting of information and associated unpredictability.
- **Food Services:** Health threats due to poor composition and ineffective service.
- **Human Resources:** High turnover rates accounting for large number of revenue loss.

The listed problems are individually a huge stumbling block for their respective areas, moreover, the combination is a huge conundrum for healthcare.

Hospital 4.0 is the proposed model that overcomes all the listed problems and also gives room for further development and optimization with advent of new technologies. The model applies revolutionary and innovative methods to existing technologies to reap better results.

- ✓ **Surgery:** The system reduces medication error by intervening at different stages of perioperative care, thereby introducing redundant checks in the medication process.
- ✓ **Cost Accounting:** Instantaneous charting of cost accounts at either end by keeping the patient as the central entity and automating service/consumable and non-consumable logging.
- ✓ **Food Services:** Mapping the cycle of ingredients to monitor freshness, providing personalization in choices to patients and using Robots for food delivery.
- ✓ **Human Resources:** Introduction of training and scheduling methods based on comfort and aspirations of employees monitored by the internet of things.

Hospital 4.0 is based on the 'Here and now' but employs methodologies of the future. It uses various systems integrated with one another that not only enhance the functionality of their own areas individually but holistically provide many more benefits.

OUR MISSION

The goal set by the Eleventh Hour team aims at building a model for 'Hospital 4.0', a 'smart' hospital with efficient systems to manage most of its functionalities and ensure a smoother workflow in all domains.

We center our work at initially, finding and focusing at certain problems in four areas of healthcare that are highly influential and require immediate technological intervention to solve them.

Upon identification of the problems, we direct our attention at solving them individually or as a whole in an innovative manner so as to simplify the existing systems, bring ease to the healthcare employees and minimize errors.

We look to design the solutions to the problems using one of the most flexible and contemporary collection of technologies at our disposal; the internet of things. Taking into account the vast adaptability, ease of usage and the multiple domains they can be used in, they have great utility