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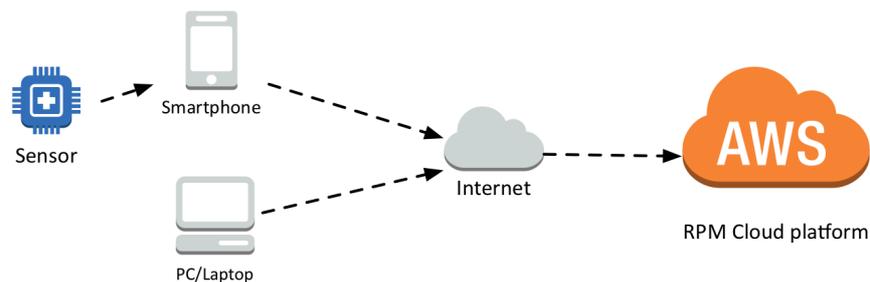LINDDUN: Remote Patient Monitoring System

Context

DistriNet Inc has decided to create a startup focusing on next generation healthcare prevention platform. The platform is called remote patient monitoring (RPM) that focuses on detection, early prevention and more customized care path for patients with a specific health condition. Initially we consider cardiovascular diseases, however the same setup can be reused for diabetes, pregnancy monitoring, etc. Patients can subscribe to RPM and they will get an appropriate set of sensors they should wear. Below you can find a very high-level "architectural" overview.

Sensors will send regular information to the RPM App that runs on the patient's smartphone. Sensors communicate using the standard Bluetooth protocol. If there is a communication failure between the RPM App and the sensors the RPM App will send a notification to the RPM Cloud that sensory data is missing.

RPM App will sync this information periodically to the cloud system. In addition to the sensory data patients are required to fill out various questionnaires, which measure additional overall wellness information (e.g., did the patient sleep enough) or any other information that could be requested on case basis by the physician.

All patient data will be provided to legitimate researchers as well as sold to pharmaceutical companies.

Certain patients may opt to assign a trusted buddy who will be able to fill out the questionnaires on their behalf.

Physicians will also have access to the system and have the ability to monitor their patients' condition and tweak the sensor configurations (via the RPM Cloud), assign additional questionnaires or adjust their periodicity.

Challenge

1. Review the data flow diagram of the Remote Patient Monitoring system
2. Perform a LINDDUN analysis of DFD elements that cross a trust boundary
3. List assumptions
4. Document non-mitigated threats

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LINDDUN: Remote Patient Monitoring System

DFD