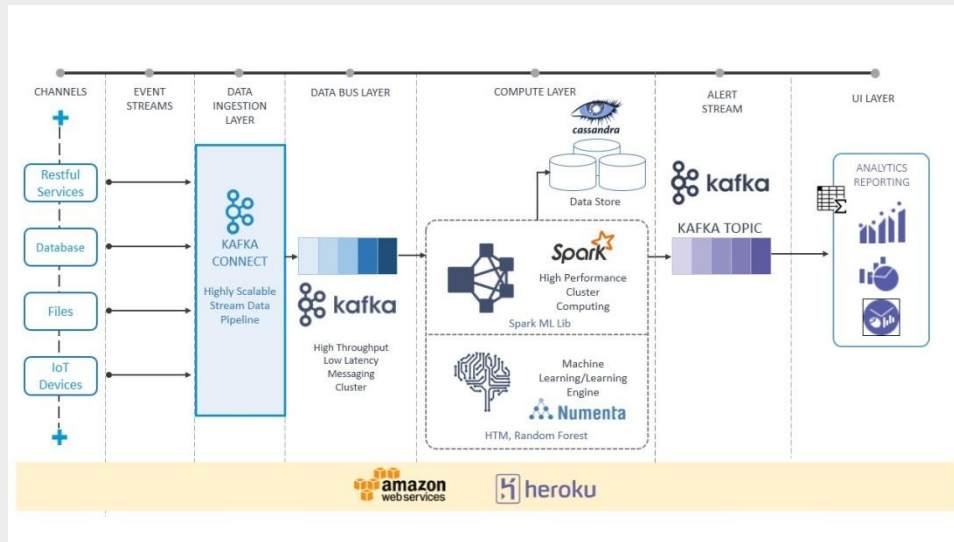


Real-Time Data Analytics - Patient Activity Monitoring Application

The Patient Activity Monitoring application was built to demonstrate how physicians can remotely collect, analyze and monitor patient vital signs, such as heart rate and body temperature. The application also detects and provides alerts for anomalous conditions, such as abnormal heart rates for a patient in a population cohort. The anomaly detected is based on several unique parameters collected in real time from the patient population.

Business Benefits:

- Real-time, high-volume data processing in healthcare use cases for the connected world
- Machine learning-driven predictive and temporal analytics
- High scalability – A seamless architecture to handle fast data analytics with actionable insights and alerts
- Faster time-to-market – Quick “bootstrapping” to any solution requiring intensive data ingestion, processing and reporting needs



Key Highlights

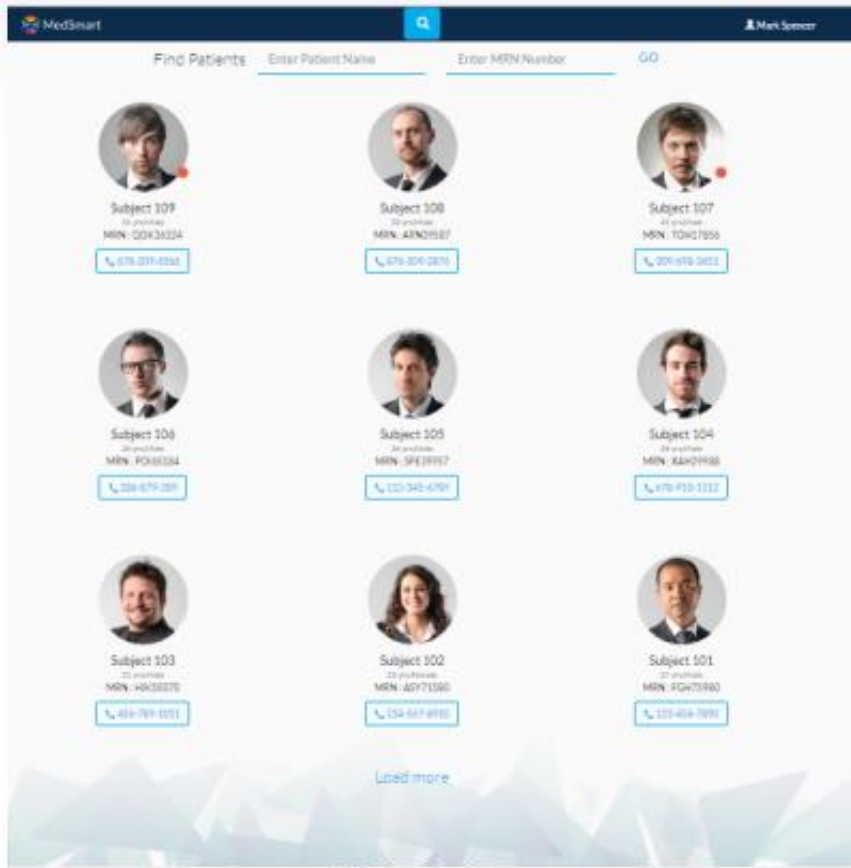
This application demonstrates the following:

- **High-Volume Data Aggregation and Integration** - Ability to handle large volumes of real-time data
- **Real-Time Data Processing** - Ability to stream/process data in real-time and in conjunction with complex rules
- **Temporal and Predictive Analytics** - Ability to perform time-oriented processing and predictive analysis (Contextual Analysis); done with state-of-the-art machine learning algorithms
- **Real-Time Data Analytics** - Ability to perform analytics on streaming data
- Batch and real-time data capture, ingestion and aggregation
- Data visualization with various open-source visualization engines

Technologies



Patient Dashboard and Activity Deduction Chart



MedSmart interface showing a list of patients. The dashboard includes a search bar with 'Find Patients' and 'GO' buttons, and a grid of patient profiles. Each profile displays a circular avatar, a subject ID, age, gender, and MRN, along with a contact button.

Subject ID	Age	Gender	MRN	Contact
Subject 109	23	Male	MRN: QOK36324	678-271-0284
Subject 108	23	Male	MRN: ARN21987	678-271-2875
Subject 107	23	Male	MRN: TONG7856	201-979-2821
Subject 106	23	Male	MRN: FOM8234	228-679-2891
Subject 105	23	Male	MRN: SPE19187	122-345-6789
Subject 104	23	Male	MRN: KAO19188	678-910-1232
Subject 103	23	Male	MRN: WAC33235	419-791-1221
Subject 102	23	Female	MRN: ADV71156	134-567-8910
Subject 101	23	Male	MRN: FGH7890	122-456-7890

