

Automation in Healthcare



Report Generation



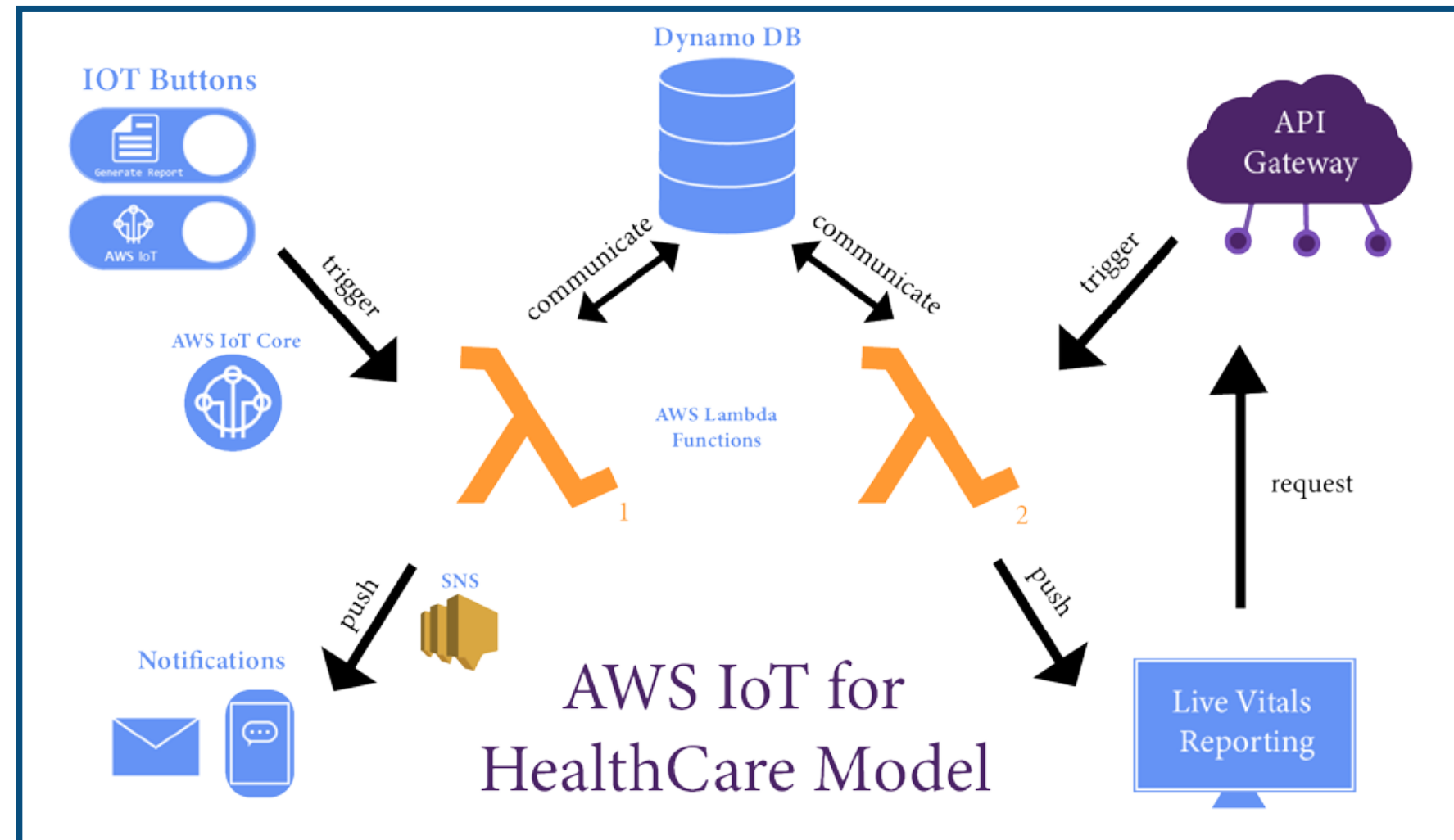
Patient Monitoring



Technician Notification



Virtual Bedside Assistance



Amazon Web Services

the on-demand cloud computing powerhouse that turns our automated hospital into a near-future reality.

- Patient vitals monitored by computer algorithms for abnormalities, triggering alerts to specific nurses.
- Databases contain patient information and vitals for immediate or scheduled report generation.
- Nurses or Doctors can file for equipment repair with just the press of an IoT button.

Amazon Alexa

AWS seamlessly integrates with Amazon Alexa, a virtual assistant and automation system, to provide patients with a comforting helper. Not only is Alexa a familiar presence to those who have her at home, but in the hospital, she is programmed with the ability to call your nurse, control the TV and lamp in your room, and tell you more about when and why you were admitted to the hospital.



Play games like Chess or the Magic Door, ask Alexa for more information about your condition, or receive reminders to eat food and take medication. Alexa can also alert medical staff in case of any emergencies.

In surgery rooms, Alexa can record notes like temperature, or operate medical devices and software remotely for the medical staff without them having to dirty their hands.

Conclusions and Future Work

- Connecting AWS to a HIPPA compliant database system
- Adding IoT sensors to monitor environment variables like temperature and moisture
- Extra Amazon Alexa functionality with native applications developed for hospital use

Technologies Used



Node js is the language used to program the AWS Lambda functions and API gateway



Alexa for Business gives companies the tools to build skills and manage devices at scale.



AWS is a collection of cloud computing tools on a metered pay-as-you-go platform

References

- AWS documentation:** https://docs.aws.amazon.com/#lang/en_us
- Node js Tutorials:** https://www.youtube.com/watch?v=TIB_eWDSMt4
- Alexa in Healthcare Ideas:** <https://www.excellent-webworld.com/alexa-skills-healthcare-medical/>

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