

Assignment 5

Part A

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Subject

**CSCI 5410 (Serverless Data
Processing)**

Professor

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Amazon Kinesis

Amazon Kinesis is a service that gathers and processes real-time data of different types, including image, video, mobile apps, new e-commerce purchases, in-game player activity, social networks, financial trading Flores, and geo-special services. It helps to setup a pipeline at any scale and offers key capabilities to cost-effectively process streaming data, and it also gives you the option to choose the tools that help your application the most.

Application of Amazon Kinesis

Problem

Amazon Kinesis can be hypothetically used while considering the possibility that there is a lot of traffic congestion nowadays and that many issues are brought on by traffic. The fastest path is too tough to discover in an emergency since there is traffic everywhere. Due to their urgent need to reach a hospital or other location, paramedics are the ones that deal with the worst situations.

Solution which uses Amazon Kinesis

Using Amazon Kinesis, we can find a solution by utilising the surveillance system that is installed on most roads, and from the resulting videos, data could be found in real time as to where there is significant traffic congestion, and the routes could be found as to which routes are busier at what times. Amazon Kinesis Video Streams will watch and consume this video content. By analysing the live feed that we will receive from Amazon Recognition Video, we can use Kinesis to analysis the information that reveals which routes are busier and we can also get a traffic control person at that location. We can even use the Amazon Simple Notification Service to send messages alerting people to heavy traffic.

Block Diagram of the Solution

The block diagram of the traffic congestion analytical application that makes use of Amazon Kinesis is shown in the above figure.

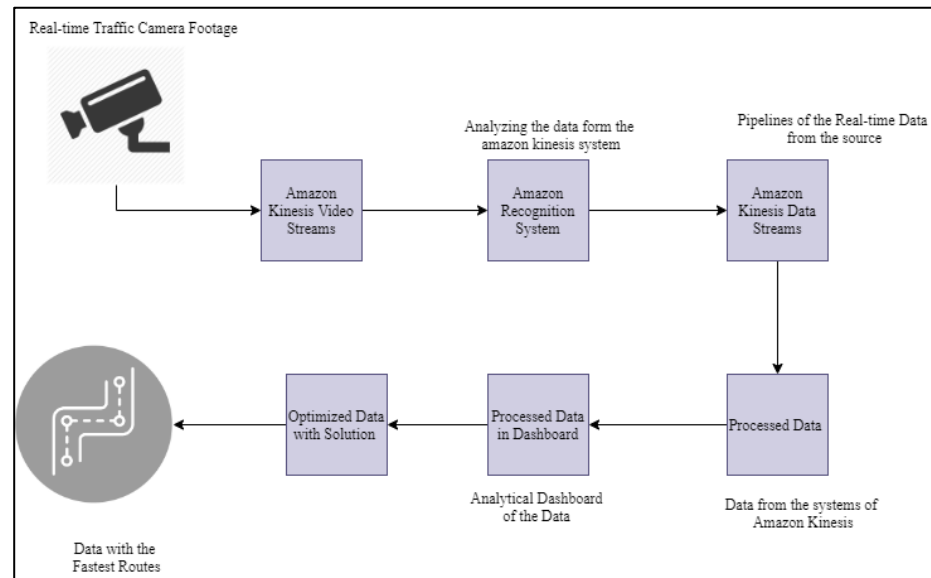


Figure 1:Block Diagram

References

- [1] draw.io, "Flowchart Maker & Online Diagram Software," draw.io, [Online]. Available: <https://app.diagrams.net/>. [Accessed 26 July 2022]
- [2] Amazon Web Services, Inc. 2022. *Amazon Kinesis - Process & Analyze Streaming Data - Amazon Web Services*. [online] Available at: <https://aws.amazon.com/kinesis/> [Accessed 22 July 2022].