WEEKLY EVAL. FILE - 1

Course: Cloud Application Development

Submitted to

Prof. Saurabh Shanu

Submitted By

Name: Rudrakshi Gupta

Batch: B - 04

Sap Id: 500087336

Enrollment No: R2142201837

Problem Statement :

Develop a Location Tracking application of your friends and family using GPS and deploy the application on AWS.

Index

1. Conceptual Review

As a guardian/parent or someone who deeply cares for the safety of their family and friends , we do worry a lot about our loved ones. We care for our child's safety when he's outside the house, and sometimes when their phones are unreachable we panic; we just wish for something to tell us where they are or where they were just a few hours or minutes ago.

The "**BUDtrack**" , **a server-less GPS monitoring and notifying system** is developed to address such challenges and keeps your friends and family worry-less.

1.1 How the application functions??

- The application has to be installed/browsed on your device which will read your current location's co-ordinates through GPS of your device and saves the data on Cloud.
- Whenever a new location of a 'starred marked person' in BUDtrack appears in the Database, a notification will be sent to the user in the form of SMS.
- You can also view the location of everyone connected to you on MAP.
- Locations can only be viewed by people you give access to.

1.2 Working Diagram

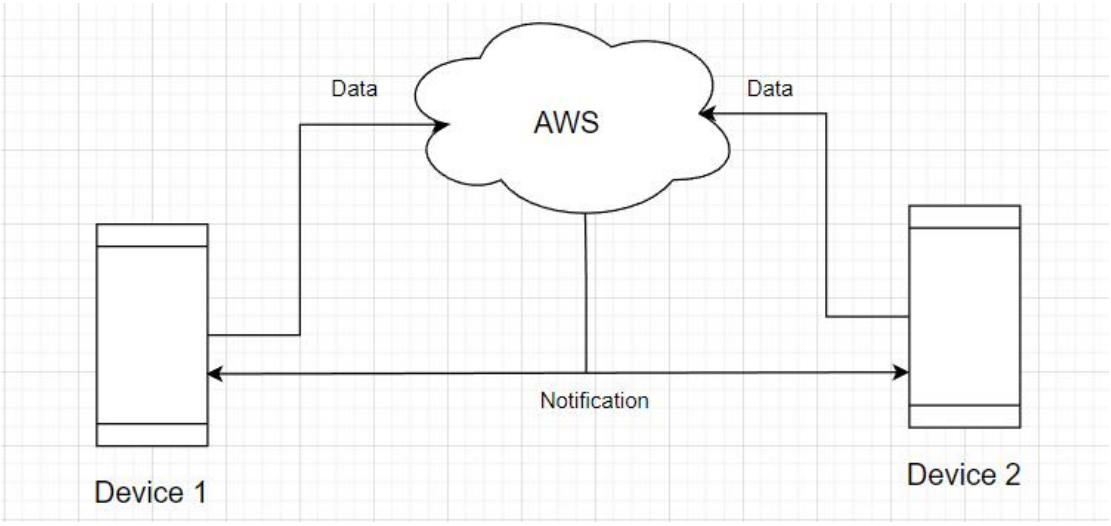

Image 1 - Workflow

2. Liteature Review

Cloud is not a one-size-fits-all solution.

Some applications are a good fit for the public cloud, others are better suited for a private cloud, and some applications shouldn't or can't move to the cloud at all.

Many legacy applications weren't written with portability or virtualization in mind, and may be tied to very specific environments that can't be duplicated in the cloud while some can be easily deployed on cloud and reap its all benefits.[1]

2.1 Is the above application cloud-ready?

When evaluating whether a particular application is suitable for a cloud, some of the factors to consider are redundancy, the application's ability to migrate, performance, security and cost.[1]

The reasons for BUDtrack to be easily deployed on Cloud are :

- ✓ Any application that can be accessed through different devices can be deployed on cloud. As BUDtrack is an application that can be logged in from any device at any time, that's why the need for the application to be deployed on cloud is essential.[2]
- ✓ As the BUDtrack is only in its starting phase, the cost of buying our own Infrastructure decreases, which makes cloud a relevant choice and need.
- ✓ The need to store data as well as backup is very essential for checking the history of locations of friends and family in any urgency. This also shows the need for deployment on cloud.
- ✓ Putting on triggers and sending notifications type services are already provided by Cloud Service Providers, which will make the BUDtracker function very well with the use of Cloud.
- ✓ BUDtracker requires availability 24x7, which can be very well achieved through deployment on Cloud.

2.2 Literature

a) GPS - The GPS (Global Positioning System) is a "constellation" of approximately 30 well-spaced satellites that orbit the Earth and make it possible for people with ground receivers to pinpoint their geographic location.

There are satellites, orbiting around the planet. A GPS receiver takes the signals that these satellites send out, and calculate the difference in timing from receiving the signals from at least 2 different satellites. [3]

b) AWS - Amazon Web Services (AWS) is a secure cloud services platform, offering compute power, database storage and it helps Running web and application servers in the cloud to host dynamic websites.[4]

2.3 References

[1] How to determine if your application is suitable for the cloud, https://www.networkworld.com/article/2172168/how-to-determine-if-your-application-is-suitable-for-the-cloud.html

[2] What types of applications can run in the cloud? https://www.quora.com/What-types-of-applications-can-run-in-the-cloud

[3] https://www.quora.com/Is-there-a-GPS-tracker-that-I-could-insert-into-an-email

[4] Amazon Web Services, https://en.wikipedia.org/wiki/Amazon_Web_Services

Additional resources -

- https://www.traccar.org/documentation/
- 15+ Important Applications of Cloud Computing, https://www.jigsawacademy.com/blogs/cloud-computing/applications-of-cloud-computing/
- Amazon Location Service, https://docs.aws.amazon.com/location/latest/developerguide/start-tracking.html
- Creating a serverless GPS monitoring and alerting solution, https://aws.amazon.com/blogs/publicsector/creating-a-serverless-gps-monitoring-and-alerting-solution/
- Field Notes: Fleet Tracking Using Amazon Location Service with AWS IoT, https://aws.amazon.com/blogs/architecture/field-notes-fleet-tracking-using-amazon-location-service-with-aws-iot/
- CreateTracker, https://docs.aws.amazon.com/location/latest/APIReference/API_CreateTracker.html

3. Flow-chart(Pert)

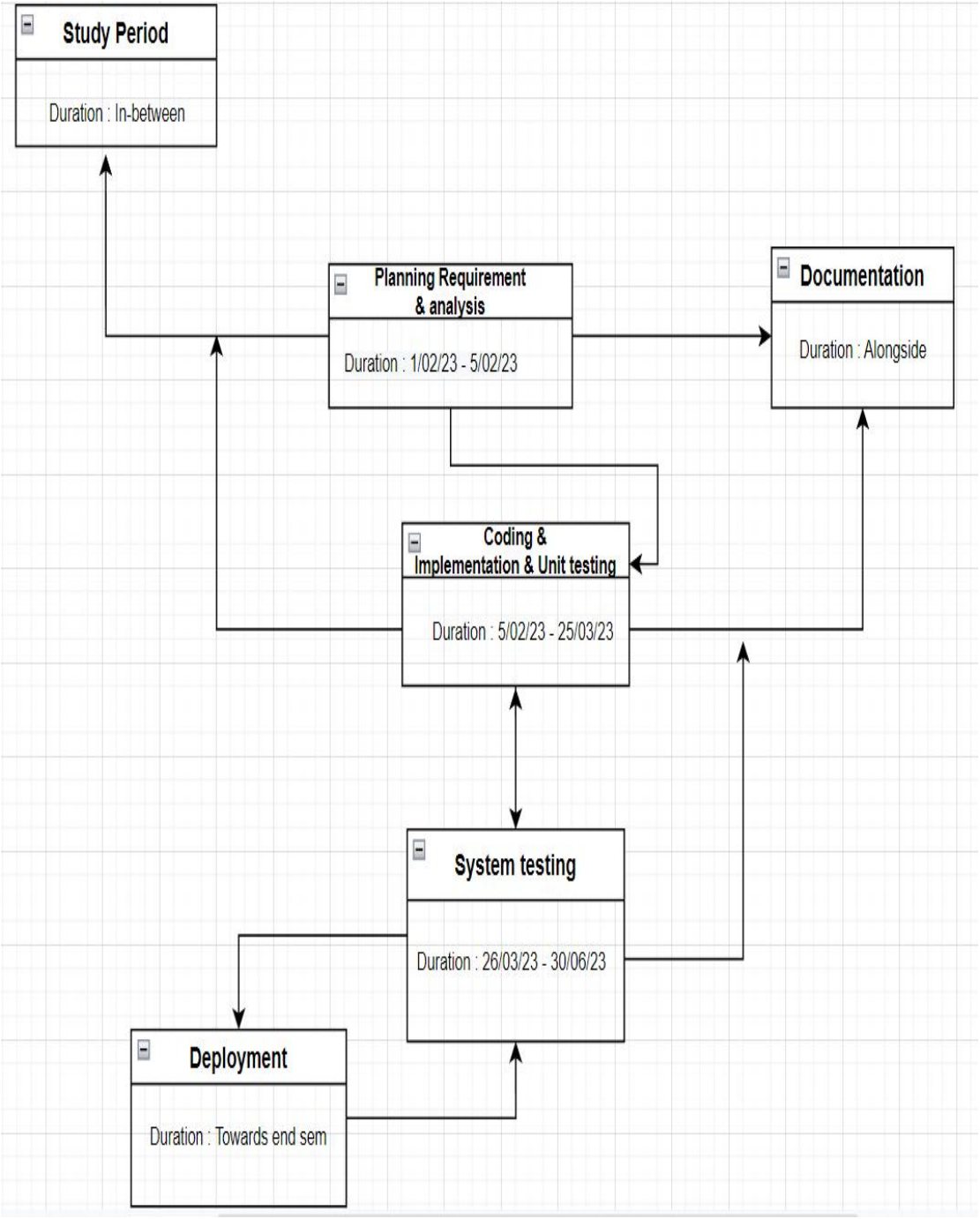

Image 2 - Pert chart