© 2017 IJSRSET | Volume 3 | Issue 2 | Print ISSN: 2395-1990 | Online ISSN : 2394-4099
Themed Section: Engineering and Technology

Security Based Novel Context Aware Mobile Computing Scheme Via Crowdsourcing

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ABSTRACT

Quality of services is playing a major factor of the cloud providers in mobile cloud computing. Context awareness is a method to provide the automatic awareness of the mobile environment. The data which is searched by the users that is context information can be encrypted and stored in the cloud. It is to provide a security and quality of service enhanced mobile cloud service using the context aware service providing, in this technique user contacts are collected from the various resources and all the details are mined and make end to end encryption for enhancing security. After encrypting all the details we are making the database for all the user's base on the different context properties. The cloud will divide the service into different category based on the user's context. Crowdsourcing is technique is to discover and select cloud services in order to provide efficient and stable discovering of services for users based on group choice. The technique is to reduce the time deficiency while searching and security will protect the data.

Keywords: Context-awareness, Encryption, Crowdsourcing, Quality of services

I. INTRODUCTION

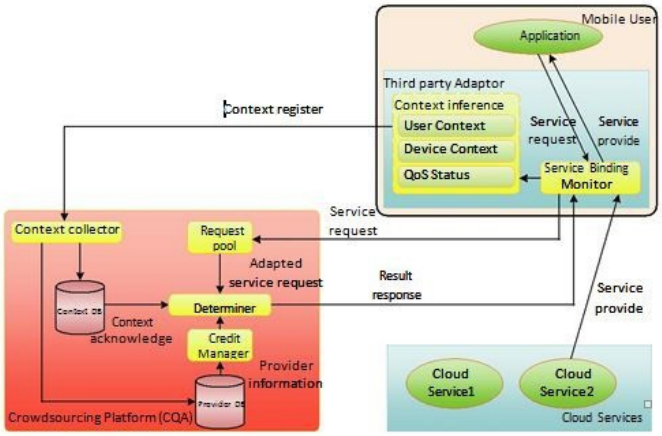
Quality of cloud service (QoS) is one of the main factors for the success of cloud providers in mobile cloud computing. Context-awareness is the method for automatic awareness of the mobile environment.

Lack of context information which can harm the users' confidence in the application rendering it useless. Thus, mobile devices which is need to be constant aware of the environment and to test the performance of each cloud provider, which is inefficient and wastes energy. But major issue was security problems in our system we are adding the security related encryption for our context aware information's. This useful for all the security related applications. Thus, the concept using here is crowdsourcing which is to solve the complex problems. The key factors to summarize as:

II. METHODS AND MATERIAL

A. Problem Statement

In the existing system the information which is searched by the users cannot be encrypted here we providing the encryption for the user context information by using the elliptic curve cryptography algorithm. The overall quality of service was low in the existing system. The service which is provided was not related to the user context properly.it is not highly secured, third party can easily hake the data's of the user.



(a) The architecture of crowdsourcing based QoS supported cloud service.

B. Related Work

The Quality of Service in mobile cloud environment measures service in priority, response time, etc. The types of cloud service, an operator is needed to be developed to achieve different treatment within the environment it is to function properly. Thus it have the novel service selection approach in CSSHR so that it first Quantify the weight of the historical records based with the similarities of the records(1),It can also be used in the medical emergency field where there is no discrimination of data for the medical the data which is stored it not highly secured(2)here the context aware service can be used for the data.

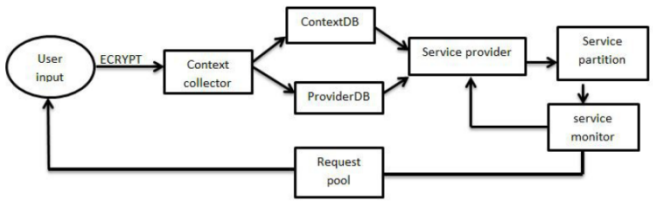
C. Proposed Work

In this approach user contacts are collected from the various resources and all the details are mined and make a end to end encryption for enhancing security .After encrypting all the details we are making the database for all the users base on the context properties so that the resources which is frequently searched by the user can be maintained in secure manner. Context-awareness is the solution to sense mobile environments and choose the cloud services. Major issues is security related problem to overcome that here in proposed system we using the elliptic curve cryptography where the searching information of the user can be encrypted and stored context collector.

ADVANTAGES

- ✓ The main contribution was security related issues will removed.
- ✓ User can protect their personal context information

1. ARCHITECTURE DIAGRAM



(b) The workflow of the context-awareness based service discovery process.

MODULE DESCRIPTION

1.Context collector
The context information from users is stored in two databases: Context DB and Provider DB. The Context DB stores user context information and device context information. The QoS performance of the used cloud service in this environment and store in Provider DB. Together with user context, device context describes an environment context. When assign a unique identity to index for different context environments in Context DB. For each context environment, we record the QoS performance of the used cloud service in this environment and store in Provider DB.

2. Context Encrypted

To encrypt all the personal context information's of the user. In which it applying the elliptic curve cryptography algorithm this will automatically apply the encryption to the context information's, which is collected from the user. By applying the encryption can provide security for the user personal data's from the unauthorized usage.

3. Determiner

This module is the core of the CQA. It plays three main roles in the CQA:

1. service requestor
2. environment matching
3. provider selection

Service requestor can chooses the highest priority request to run. As the service requestor has different QoS needs, we give the priority for each request to meet the demand.

Environment matching is, at runtime, it will triggered by a message from the request pool to find the records of some of the best match context environment descriptions.

Provider selection can select the service based on the user request and respond to the user.

4. Service binding monitor
This module takes charge of adapting a service request to the Broker and monitoring the service in use. When

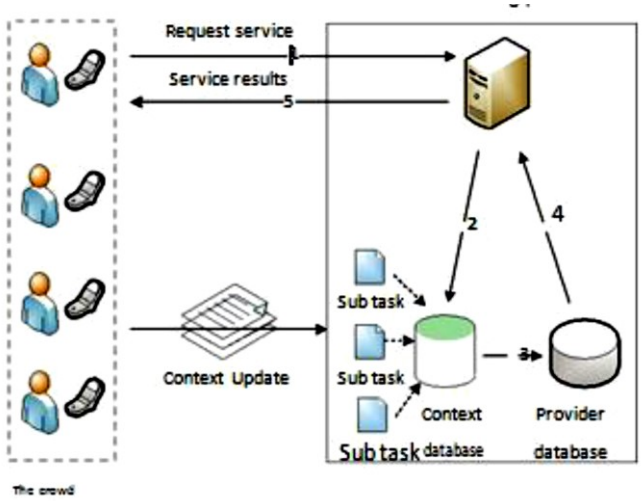
an service is available, the Service Binding Monitor can forwards the service request and responds to the requestor. It also gathers the resource usage by each service and reports it to the Determiner. When an appropriate service is available, the Service Binding Monitor forwards the service request and responds to the requestor. It also gathers the resource usage by each service and reports it to the Determiner.

5. Service provider

It merges different types of cloud service for a mobile device and supplies the profile information of each cloud service. There are three main steps to finish the whole system task. 1. Context gathering: The context information is related to the user. If one user does not find the data from the location then they log on the new aware task and update the information to CQA.

✓ Crowd source Computing:

The crowd will request the service to the crowdsourcing platform then the context database will access it from the provider database and the provider database will send the service to the platform of crowdsourcing, therefore the crow sourcing will send the service result to the crowd.



(c) the workflow of crowdsource computing

ALGORITHM

In ECC algorithm scheme, a public key cryptosystem is to generate both the private and public key it can b done in random manner where the user A context data can be encryt the plain text by using the user B's public key to store the data in cloud, then the user B can decrypt the cipher text from the cloud whenever it needs.it will decrypt it using its own private key to get the plain text and it will protect the data which is searched by the user.
ALGORITHM FOR ENCRYPTION

1. Calculate APL=P(AP)
   Where p-> ascii value of text AP is random point the curve
2. Calculate kBP=k*BP
   Where Bp->base point
3. End the cipher test to user B

$$CM = (kPM, APL + k * PUB)$$

✓ Algorithm For Decryption

Here let the KPM be the firstand APL+kPUB be the Second

1. To calculate PBkBP=PB*firstpoint
   Where it is an equivalent point to kpub
2. Calculate the APL
   APL=rAP where r is the discrete and p is the original ASCII value.

III. CONCLUSION

Thus, in this paper we provide the security for the context information of the user context information so that the data which is searched by the individual can be encrypted and stored it cannot be hacked by others the results show that the crowdsourcing based awareness method it can reduce the cloud service discovery time than the traditional local context awareness method, it is for frequently moving user

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