

Survey on Context-Aware Transaction Management for Mobile Cyberspace

Abhijeet.V.Patil¹, V.V.Kimbahune²

¹Smt. Kashibai Navale College of Engineering, Pune, Maharashtra, India

²Professor, Smt. Kashibai Navale College of Engineering, Pune, Maharashtra, India

Abstract: *Quick advances in software frameworks, remote systems, and embedded devices have prompted the improvement of a pervasive and mobile cyberspace that gives a framework for anywhere/anytime administration provisioning in distinctive domains for example, engineering, business, education, and entertainment. This style of service provisioning empowers clients to freely move among geographical areas and to continuously access data and conduct online transactions. On the other hand, such a high mobility may cause execution and reliability issues during the execution of transactions. For instance, the unavailability of sufficient transfer speed can result in failure of transactions when users move from one area to another. In this survey paper we discussed about the survey done by the researchers for designing and developing by using the combination of distinct queuing models.*

Keywords: Cyberspace handover, mobility management, pervasive, context-aware.

1. Introduction

Persistent and mobile cyberspace gives another open and, adaptable computerized stage in which devices and administrations are connection aware, versatile, and receptive to user's necessities and execution situations. Without respect to time and area, it permits clients to acquire varieties of services utilizing handheld processing devices and remote (sensor) systems. For example, Google Mobile gives clients with access to variety of services from their cell phones, going from simple Web pages to items' costs to driving directions. Additionally, different research models and systems have been produced in order to encourage mobile navigation, searching [1], [2], and service discovery [3], [4].

Nevertheless, majority of data and services as of now accessible to clients are through read only queries, for example, news notice, climate data, and item prices. On the other hand, in request to completely understand the vision of the pervasive and mobile cyberspace, it is basic to extend services provisioning past perused just limit and to take into consideration for upgrade operations (exchanges) on information and services. Consider, for instance, a situation of car insurance services which can be made accessible to clients (drivers and protection staff) through cell phones. If there should be an occurrence of accident or an car breakdown, drivers can utilize their cell phones to make claims and request for recovery services. In order to process such demands, insurance agency staff need to finish various tasks, for example, finding data about the car and its driver, police reports, accidents data, and area of accident or breakdown. In certain cases, the staffs are required to physically visit the area and analyze the harmed car so as to give cost estimate to protection claims.

We consider that transaction management (TM) technology can play an important role in satisfying the true vision of pervasive and mobile cyberspace as it can possibly dependably manage data and services in terms of read only as well as update capacities. Guaranteeing reliability and

execution is extremely essential for diverse types of utilizations, for example, electronic business, auctions, and Web-based environments [10], [11]. In the previously stated situation, TM can be utilized to accurately and reliably finish the diverse tasks included in the insurance claim. In TM, a transaction represents an unique perspective of a succession of operations included in the execution of a (pervasive) application.

Existing TM models and protocols [5], [6] are constrained to the traditional commit methodology which don't give consideration to context awareness and mobility management. On the other hand, in the current environment, transactions ought to be overseen such that they are context mindful and adjust to the client needs and execution environment. For example, a transaction can be effectively finished (conferred) that it meets the desired context for example, area, time, and execution. In the previously stated situation, transactions for arranging a tow truck ought to take into record the "area" context wherein a GPS facility can be utilized to discover the close-by accessible tow truck and send it to the accident area.

As indicated by Dey et al. [7], context is characterized as "any data that can be utilized to explain the circumstance of individuals, assets, and services in a services oriented environment. It may incorporate all other data that can be viewed as relevant to the connection among a client and services." Context data can be either straightforwardly obtained from the service interface definition utilizing the Context-Based Web Service Depiction Language [8] or obtained utilizing external services.

Past examination work proposes a context aware transaction model for pervasive and mobile applications [9]. However, it does not consider mobility management which is a one of most imperative and challenging issues for context aware transactions. In such an environment, a framework must give consistent development of clients among distinct geographical territories while at the same time executing context aware transactions and, getting services without any

interruption of communications. For example, utilizing a cell phone, the insurance staff can transform the case transaction while travelling out to the accident area. Such transactions are by and large of long duration of time as they include distinct frameworks which are distributed over pervasive and mobile cyberspace. In this manner, transaction may begin at one site and end at another. It is extremely crucial to guarantee a continuous association during the entire session of an transaction such that it can be given over consistently from one area (or cell) to another with no interruption and loss of data.

2. Literature Review

In this section, discussed the literature survey recognizing no specific work on mobility management in context-aware transactions. In This section therefore reviews works that are generally related to context-aware transactions and mobility management.

In [12], J. H. Lee, J. M. Bonnin, Ilun You and T. M. Chung analyze and compare existing IPv6 mobility administration protocols including the recently standardized PMIPv6 and FPMIPv6. Authors distinguish every IPv6 mobility management protocol's attributes and execution pointers by looking at handover operations. At that point, authors examine the execution of the IPv6 mobility management protocols as far as handover latency, handover blocking likelihood, what's more, packet loss. In [13] F. Tang, M. Guo, M. Li, and I. You, proposed a novel network framework for MUC transactions, with the objective that individuals can get online network access and transaction even while moving around; and design a context-aware transaction model and a context driven coordination algorithm adaptable to progressively changing MUC transaction context.

In [14] M. Younas and S. K. Mostéfaoui, exploits the service oriented computing technology and likewise proposes a new method that oversees transactions utilizing the context oriented data of mobile services. The proposed methodology has a several advantages. It oversees transactions such that they adjust to the required service context and additionally client's requirements. It additionally guarantees the reliability of transactions furthermore builds their versatility to failures. In [15] M. Younas and I. Awan, present a context aware transaction model that alterably adjusts to the clients' requirements and execution environments. Appropriately, they build up another versatility administration plot that guarantees consistent integration and solid execution of setting mindful exchanges amid portability of clients. The proposed plan is designed and created utilizing a combination of distinct queuing models.

In [16] F. Perich, A. Joshi, Y. Yesha, and T. Finin, looks at the issue of transaction management in pervasive computing environments and presents novel method to deal with location them. They present each element as mobile or static semi-autonomous devices. The reason for each device is to fulfil client queries based on its local data repository and connections with other devices presently in its region. Pervasive environments, unlike customary mobile registering paradigm, don't distinct among of customers and

servers that are located in fixed, wired infrastructure. Therefore, they show all devices as associates. These environments additionally relax different presumptions made by mobile computing model, for example, the possibility of reconnection with a given devices, support from wired infrastructure, on the other hand the presence of a worldwide pattern. These basic qualities of pervasive computing environments limit the utilization of methods produced for transactions in "mobile" computing environments. They characterize an option optimistic transaction model whose primary emphasis is to give a high rate of successful transaction terminations and to maintain neighbourhood based consistency. The model performs this through the assistance of active witnesses and by utilizing an epidemic voting convention. The benefits of their model is that it empowers two or more peers to take part in a reliable and consistent transaction while in a pervasive situation without accepting that they can converse with one another by means of framework, for example, base stations. The benefit of utilizing active witnesses and an epidemic voting convention is that transaction does not rely on upon any single purpose of a failure. Moreover, the utilization of an epidemic voting protocol does not require all included entities to be simultaneously joined whenever and, therefore, further overcomes the element nature of the environments. In [6] M. Younas, I. Awan, and K.-M. Chao, presents a network centric methodology in order to enhance the execution of mobile transactions. The proposed methodology is based on utilizing pre-emptive resume scheduling component in mobile transactions. An expense effective analytical model for the system network with burst arrival traffic and organized scheduling component has been produced utilizing maximum entropy (ME) methodology.

3. Proposed System

Our framework is based on context aware transaction management where the client is moving in geological zone, the client area will change time to time if he is travelling, the client will have Smartphone that will utilized for our area based service in which we are going to develop a system that will create multiple advertisement based on the distinct location. The framework will have area based advertisement that will created when client is moving from one location to another, these ad will be assume, a client will get ad of a shopping of item from a shopping centre inside that region, and if he want to perform a transaction in light of those promotion, all things considered he is going in the district and assume he exited the area that he was assume associated with Wi-Fi system and he go along and the Wi- Fi system is loss then he will loss the important transaction that may be assume to loss in money exchange.

4. Conclusion

This paper has survey on into the mobility management of context aware transactions in pervasive and mobile cyberspace. In such a environment, transaction are important as they provide consistency of information and dependability of the applications in the instance of correspondence failures or when clients move from one area to another. We have developed to another plan for the mobility service of context aware transaction which is based

on a mix of distinct queuing models. Such plan gives a proficient and solid execution environment where clients can unreservedly move starting with one cell then onto the next while preparing setting mindful exchanges.

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