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DYNAMIC LOCATION AWARE STRATEGIES IN AGILE ENVIRONMENT

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Abstract

Global wireless networks enable mobile users to communicate regardless of their locations. One of the most important issues is location management in a highly dynamic environment because mobile users may roam between different wireless systems, network operators, and geographical regions. In this paper, a location management and location aware mechanism is introduced that consists of intersystem location updates and intersystem paging. Intersystem update and intra system is implemented by using the concept of boundary location area, which is determined by a dynamic location update policy in which the velocity and the quality of service are taken into account on a per-user basis. This is updated with logical data in registration and updation of tuple which is recovered when needed. The concept of boundary location is done by mobile agent registration, which is used to maintain the records of mobile agent, while crossing the boundary of systems. Also significantly decreases call-loss rates and delays. The performance evaluation of the proposed schemes is provided to demonstrate their effectiveness in agile environment communication systems

Introduction

The capability to predicate information of last and current location of mobile device in agile environment is a significant issue. This allow network to detect know current status and connect current data to updated data. If we consider with mobile handheld then data may be a call. So, location management has the two main functions as follows location-registration(LR) and call delivery(CD)[1].

Location management is not only limited to predicate mobile position it should also provide service at updated location [2]. Current techniques for location management involve database architecture design uses data mining for different location on registered server in network[1][2].As this is not directly done by mobile user so there is mobile user who manages location platform on agent(MA)[3].Mobile agent is an autonomous entity as it use to do several tasks which lead to complete certain goal[4]. In the domain of networking, mobile agent can run even if the user disconnects from the network. Some agents run on dedicated servers, others work on standard platforms .This may work on basis of mobile following are the

other issues of dynamic database updates, querying delays, terminal paging methods, and paging delays[1][5].This can be avoided by topology management and intelligent query processing[6].As tracking sensor network through topology can track user but it need data mining at base station in which mobile device travelling. All these lead to location management of mobile device with various method.

1. Location Management

The main aim of location management is to design the common adaptive location management technique which tried to reduce the updating cost of the individual mobile terminal (MT)[1] below the entropy bound. The Existing Location management [1] basically involves two processes namely, Location Update, Where the mobile terminal proactively reports its current location to the network. Paging, Where the network search for mobile terminal within a certain set of cells to confine its location uncertainty.

As location management does not involve only location predication of user status and base station it have to manage protocol in network and type of network .

When mobile device travel in intra region , it has to update its location information in the Region Agent Database (RAD) of that cell region. And it called as an Intra Region Location Update[3][6]. While in inter region travelling of device , the agent has to update the location information in the RAD of present region and register in the RAD of the target region, specifying the host in that region to which it is cell it travelled. As this is depend with following objectives.

Bind operation is performed when new MA get registered, whose registered location is also stored. This operation causes the insertion of a new tuple in the database. As the agent name has to be unique, this operation fails if a tuple with the same name already exists in the database.

EW Location operation is performed when the agent changes its location, during agile environment. This operation updates the existing tuple value in the database.

Search operation is performed when an agent has to be located in order to interact with it. For a given agent name, this operation returns the current location of the agent.

Unbind operation is performed when an agent name is no longer used (i.e., the agent has been disposed off). This operation causes the deletion of the relative tuple from the database.

3.Existing Location Update System:

Three well known location updating system used now a days are time based, movement based, and distance based. As different strategy used easy as mobile device need internal clock, which recognised that what was the last location updating[11] . But it may be seen that location updation may be multi tier as mobile travel indoor or outdoor in inter or intra cell during travelling[12].As location updation generally does not take place in steady form[1][3].

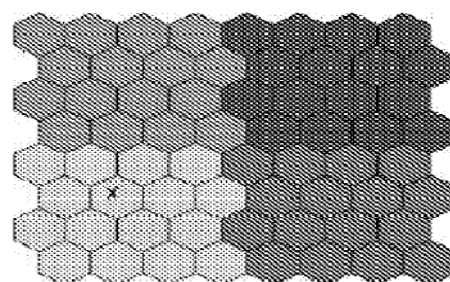


Diagram of Inter Cell and Intra Cell.

MA-awareness is one of strategy for locating mobile device that can be implemented as an adaptation of the user interface or the contents of the service[7].

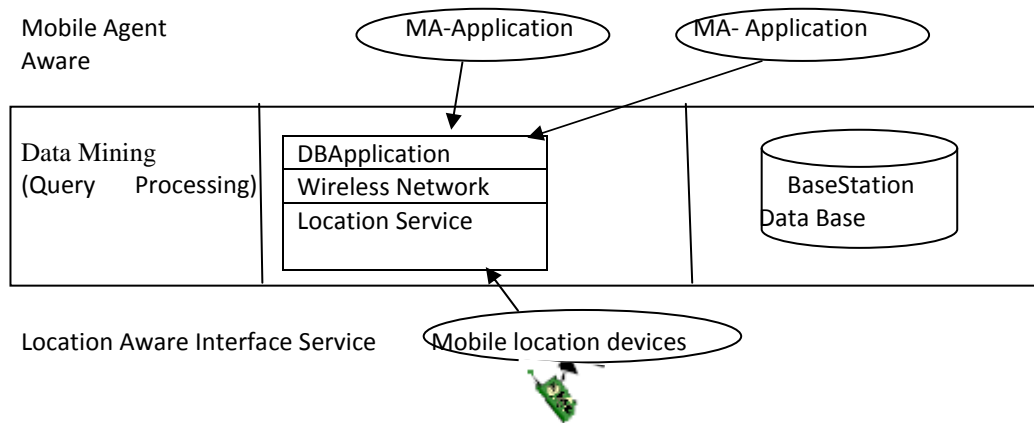
Services can also be invoked based on the identified MA. A context-aware user interface can select the appropriate modes for service interaction on the minimum distance travelling in a present network. This mobile device if continuously in moving then MA have to provide this service updation with MA-aware. All this information is stored logically at base server station. And server only enable to provide location information.

It may use location service provider which lead to aware the location with help of query fired on data base called as data mining. This location information uses query processing.

4.Location Information Awareness

Location aware service provides location-dependent information. The Location

aware service is a collection of objects that retrieve location information from existing location database and make this information available to mobile agent applications[5]. The type of location information available is highly dependent on the location-technologies being used. Location Service interprets this information and presents it in a location-technology independent format in query information service. Uses various techniques for location precdication by following architecture may tried to explain it.



CONCLUSION

This paper focuses on location management of current mobile system with location updation in respect to its position. It covers not only intersystem or intrasystem updation, also gives information about network topology updation. The cell gives position but not exact one which is very useful in the location management. It also needs to continue predicting position of a mobile device with distance travelled, time updation and movement of mobile agent by from current cell to another cell. This is given by general accessing methods. So this needs more research and new techniques of location management in mobile computing. RAD requires future research because current methods are not

enough for predicting positions of mobile devices.

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