CHAPTER – 07

CONCLUSION & FUTURE SCOPE

Object Oriented Languages and their semantics are well modeled by using Object Constraint Language (OCL). OCL is mainly focused on the application of constraints in the UML diagrams. These OCL integrated UML is being utilized for the modeling of real time systems. Real time systems properties are well represented by application Computational Tree Logic (CTL). For the formal verification of the developed models, such type of approaches is highly applicable. Real Time Constraint Notation (RTCN) is used for representing and modeling the constraints in real time mode.

The thesis brings out some valuable findings in developing Notation for the Real Time operations in mobile communication and ATM Transaction. The first phase of the thesis focuses on the proposing a model ATM Transaction through finger print identification. The approach identifies the behavior of classes, Message Sequence Charts constituting an attractive visual formalism which is used to capture system requirements during the early design stages in domains such as ATM Transaction. Our approach uses Finite State
Machines (FSM) and Object Constant language (OCL) in proposing a RTCN model. The Finite State Machine (FSM) for the Transaction through ATM after the verification of Finger Print Impression (FPI). FSM has been represented by ten States and is formally verified by applying OCL on Finger Print Impression with Pre and Post Conditions. The conditions mainly checked are of “Request Transaction” for user and the “Balance” which the user maintains.

The second part of the thesis focuses on developing a Ubiquitous framework which can record the incoming calls and sort them according to the service provider. The framework provides interoperability with various platforms by using conceptual object. When a user moves from one place to another the Ubiquitous environment provides an automatic movement of computing environment through Task Manager. As a primitive element of Ubiquitous computing the concept framework provides an intelligent context for entering date by capturing general concept of basic context and extending it for domain specific Ontology in a hierarchical manner. The heterogeneous network is also taken into account and detection of number plays an important sole. The second stage of this problem is verified by OCL for the specification of database integrity constraints.
Lastly we would like to summarize the impact of work two basic categories:
Firstly, The verification principle of FPI through RTCN, which is currently a major challenge for many banks as the sequence of Activity defined in the many ATMs are still susceptible for fraud, RTCN probably will be helpful in eliminating this fraud.
Secondly, the development of Ubiquitous computing facility will provide a framework that will help in identifying the service provider. This will help mobile companies to manage their switching interconnectivity with other service providers (MDBMS), later on it is being verified by the help of sequence diagram.
In future the authors would be interested to develop biometric security approaches for ATM & other Banking transactions by using cryptography subsequently verified by formal methods.
On the other hand the mobile call logging facility would be extended on the server site compatible with new technologies provided by service providers.

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