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# Building Semantic Information Mediator Runtime Application using Native API From Heterogeneous Data Sources

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***Abstract*— *Semantic Information Mediator Runtime Application Using Native API(S.I.M.R.A.N.) is Artificial Intelligence based android mobile Application in which the agent is assigned to perform a particular operation or task. It is like an intermediate agent for the user who want to search the string and check given string matched or not. In this paper author provide a proposed model which is able to perform searching based on artificial Intelligent including semantic web features also***

***Keywords*— *Agents, Mobile agent , Manifest file ,Regix Agent, Native API,RDF.***

## I. INTRODUCTION

Semantic Information Mediator Runtime Application Using Native API is an android application. It is basically combination of semantic and artificial intelligence features. This application provide the solution of user information .This is basically Text matching application which used 3 level matching steps.

Step1: In first step user information break into form of Subject Object predicate type and then string matching operation perform.

Step2:In this user information directly converted into form of regular expression then based on regular expression matching operation is perform.

Step3: In this approach we design model based on model we can match particular string pattern.

In this Semantic information Mediator Runtime Application Using Native API we use a basic Interface driver layer Native API. Native libraries means a set of functions which is written into another language .With the help of this layer convert user specific calls into Agent specific calls and agent specific calls into user specific calls. This is android based mobile application model. Android operating system is a platform which provide developers to design mobile application It is developed by Google and after some time the OHA(Open Handset Alliance).There are several features of android like open source, customize application features ,easy to use etc.

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## II. PROPOSED MODEL

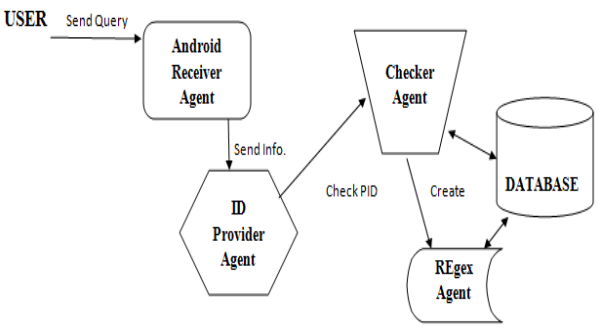


**figure 1.Semantic Information Mediator Runtime Application Using Native API(S.I.M.R.A.N.)**

In this model basically use 4 android agent which is given below:

a. Receiver Agent
b. ID provider Agent
c. Checker Agent

REgex Agent

1. Working of Semantic Information Mediator Runtime Application Using Native API(S.I.M.R.A.N.)

In this flow diagram when process is start i.e. when user want to search any information then firstly Android Receiver Agent receive user request and send this information to next android based agent IDProvider.ID Provider accept that request and provide a basic unique key .This unique Key is act primary key which is everytime unique and generated with the help of android Programming. In next phase condition checking phase

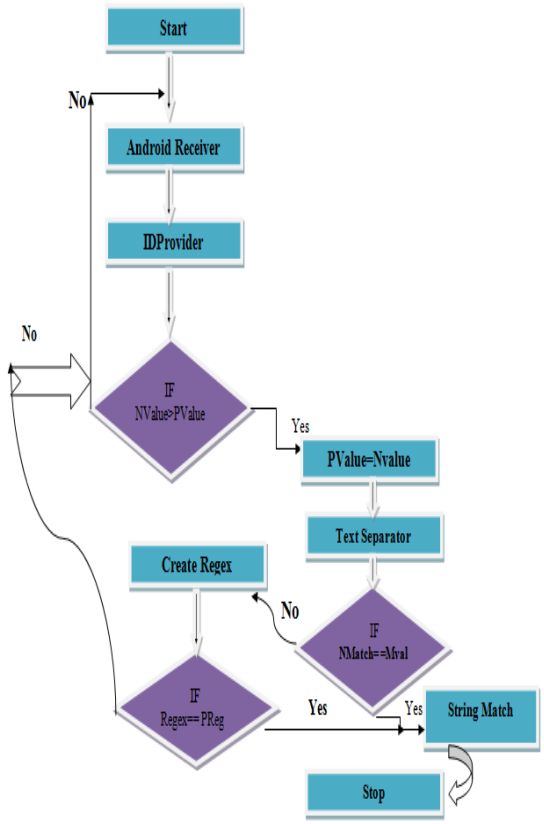


**Figure 2. Working of Semantic Information Mediator Runtime Application Using Native API(S.I.M.R.A.N.)**

Condition box check that unique key value to previous stored key value. if value greater than pervious value then agent send this information to another agent if not then agent provide waiting time for that task and this information will send to waiting task agent system. If condition is true than first stored key value replace with new key value after that given information separated by Text separate agent. This agent separate provided information based on semantic approach using RDF(Resource description Framework) .Using RDF information is break down into Subject ,Object and Predicate form.RDF is a part of web semantic so with the help of RDF we use semantic approach mechanism. Subject ,Object and predicate stored in another literals after that these literals matched with previous liters if they properly matched then string matched and process successful completed if did not matched then this information send to Regex Agent. Regex agent create regular expression of user information and with the help of regular expression information compare with previous stored information if regular expression match then string successfully matched and pointer will move to final state if not then pointer will go to dead state.

## III. EVALUATION METRICS

| Agent | Unstructured Query | Semi Structured Query | Structured Query |
|---|---|---|---|
| Checker Agent | Yes | Yes | Yes |
| REgex Agent | Yes | No | No |

In Evaluation table there are two types of agent checker agent and REgex agent. Checker agent is responsible to handle different type of data like structured, unstructured and semi structured where as REgex agent only handle unstructured data. the region behind this REgex agent active only when user provide unstructured query .So accessibility of checker agent is more than REgex agent

## IV. DATA FLOW DIAGRAM OF S.I.M.A.R.N & RESULTS

A data flow diagram is a graphical representation of the flow of data through a information system

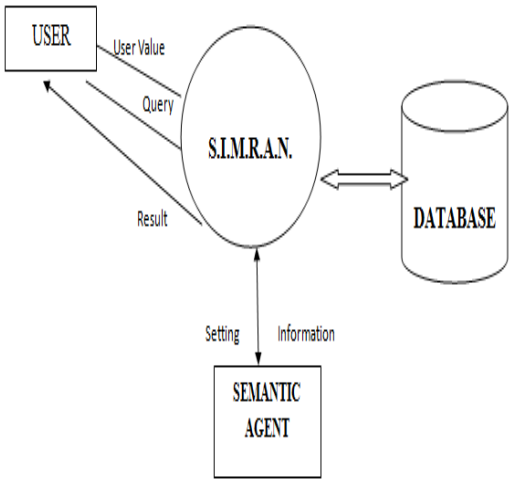


**Figure 3. 0 level DFD**

In the above DFD there are several flow component are given like storage management ,save data ,required data, History management, verification code and settings and more .to provide access permission for these component we use android manifest file. In every android based application must contain manifest file .this file contain all information related to your application like accessibility permission and all.

## V. CONCLUSION

In this paper we have dealt with the limitations of normal pattern matching process and proposed a model which is used to match a pattern, based on regular expression . Inspired by this idea the future work will deal with introduction of the concept of "Agile" in semantic information system & also provide full stack implementation of this model with the help of internet of things.

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