ASSIGNMENT - 3, 4, 5

AIM : Write a program to perform profile translation-based proactive adaptation using context management in smartphones.Objective of this assignment is to automatically generate users prole according to the scenarios using machine learning approaches. System should allow to keep users full profile in user domain resulting into centralizing or exchanging the prfile information with increase in the consistency of profile information.

OBJECTIVE :

- To automatically generate users profile according to the scenarios using machine learning approaches.

- To keep users full profile in user domain resulting into centralizing or exchanging the profile information.

SOFTWARE REQUIREMENTS :

- Linux Operating System

- Java Compiler

- Eclipse IDE

MATHEMATICAL MODEL :

Consider a following set theory notations related to a program. The mathematical model M for profile management application is given as below,

M={S,So,A,G}

Where,
S= State space.
So= Initial State.here Initial state is storing the personal information into database.
A= Set of Actions/Operators.In this case,actions are automatically generating users profile according to the scenarios using machine learning approaches.
G= Goal state., users full profile information gets displayed.

THEORY :

ALGORITHM :

Let,
C < - - - - - context
A < - - - - - Users Action

Sense function will sense users action and will return current context. This context is passed to the ContextHandler. ContextHandler will handle this context. Handling of context is done by using stored context information. Here, NewContext function takes context as input, compares it with stored context and returns true (Boolean value) if the context is new i.e. not available in stored context. If so, then Predict function is called in ContextPredictor. Predict function checks if current context requires profile to be generated. If yes, the ContextStorageManager will store the new context.

If profile generation is not required then reject current context and goto step 1 to repeat i.e. again sense users action. Now if current context is not new context i.e. old or stored context then directly goto step A.2. At the end the context that needs profile to be generated will be passed to the ProactiveAnalyzer. Ever since the internet has come into evolution, it has made users life very comfortable and convenient to do the work from his desk. Traditionally internet uses client-server model. Client requests for some pages and server responds to client or client may give his information to server if required.

This is a reactive model. To give more ease at the client end we can use proactivity concept. Proactive service can be defined as giving response without explicit request. In proactive systems, user is provided with different suggestions according to the different situations. To apply proactivity we should store users information, situation or some rules (context) and to enhance proactivity, concept of context awareness is applied. Nowadays every service is being computerized and made available to users online. Many users are using these online services through their desktops or through the Smartphones. Due to the emerging of centralized markets, we have seen an explosion in the number of applications for Smartphone. So here, concept of context aware proactive system is applied on android Smartphones. In current scenario, profile of user is stored at service providers. As one user uses various kinds of services, his profile is stored at different places. Each service provider uses their own personalization architecture.

The credentials in users profile keep on changing frequently as time, place, and interest areas of user changes. So, user needs to remember all different credentials that he has submitted at different places. User must udate his information with all the service providers he is interacting with. This is a tedious task. In this way storage of profile database at service providers raises the issues concerning privacy and consistency of the information. This can be made easy if the profile is under users control.

Context awareness is a potential technology for mobile devices as it can facilitate the device use in demanding situation by dynamically adapting the device behavior. Hence storing the profile at user domain and providing it to the service provider can be made convenient using context aware proactivity. With the increasing use of web apps present in Smartphones it has become tedious job for the users to provide the detailed profile to service provider. In current scenario the users profile is maintained by service providers.

When the particular website requires the information of user, whole profile is provided by the user. But this is actually not relevant because all the information is not needed. Accordingly, only the specified information of the usage should be provided. So here we propose a system which is android based and generates specific profile for specific website. As if the website relates to shopping, the profile would contain only the name, postal address and contact or online reservation will require name, age etc. So according to the requirements, different profiles of user are generated. These will be the abstract views of actual profile of user. And these abstract views are provided to the service provider.

This is android based context aware proactive system which manages users whole profile information and gives abstract view of profile according to the current context requirements . As whole profile information is stored at one place consistency of information will be maintained. Profile of user will be in users control and not of service provider. In this way it becomes convenient for user to update his profile. He can update his profile stored in the database and next time when he visits different websites using apps, this updated information will be made available to that website proactively.

CONCLUSION :

Thus, we have implemented an android application for profile management.

Roll No.	Name of Student	Date of Performance	Date of Submission	Sign.
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