

A STUDY ON WEB SERVICES THROUGH ANDROID APPLICATIONS

*Santosh Vershney

Introduction

Android is an open source project developed by the Open Handset Alliance and held by Google Inc. It is often wrongly attributed to the operating system based on Linux kernel alone, but in fact it contains a middleware and a variety of additional applications. For these reasons it is more fair to say that Android is a software stack for mobile devices. All phones running the Android system come with a range of pre-installed applications like Maps, Google Search, Gmail or YouTube. Users can easily download new applications (also called apps) directly from their mobile devices, or by using the Android Market official web site (over 200,000 apps are available there). Both paths provide a very seamless experience and require only a little user interaction. The system takes care of the whole installation process in the background including finding a path for the new application. Users are only asked if they agree on the application's permissions which basically means a set of actions that the new app will be permitted to perform (like accessing resources or device's sensors). It is also important to mention that all applications within the Android system are equal. Regardless to whether it is a third party application or a core system application, they all run in the same environment and potentially have the same access rights to all phone resources. This way, for instance, new applications can easily replace the old ones if they offer similar functionality. Android is based on an event-driven mechanism so it is all a matter of listening to specific system broadcast messages and acting accordingly. One of the most appreciated aspects of Android is its openness. The source code has been revealed to the public, enabling many developers around the world not only to have better understanding of what is happening in the background of the system, but also to actively contribute to the project. It makes Android more flexible, allowing new cutting-edge technologies to quickly incorporate in the system. The World Wide Web has turned to be one of the largest information sources. It is heterogeneous, explosive, dynamic and mostly unstructured data repository. Some companies use the Web to find out more about their competition. Another example in the academic context is teams involved in research that use the Web to find out about related work. Students may use the Web to find out more about their University, certain departments or particular lectures and projects. Some individuals use it to keep up to date with the latest news, according to their interests. Because Web supplies extensive amount of information it raises the complexity of how to deal with the information

from the different point of view. The business experts want to have tools to learn the customer's needs. The users want to have the efficient search tools to find significant information easily. All of them are expecting tools or techniques to help them satisfy their demands and/or solve the problems encountered on the Web.

Review of Literature

Pintura (2014) Pintura is JavaScript web framework based on REST principles. The framework focuses on JSON formatted data and provides you with an easy to use RESTful data interface using JSON over HTTP. Pintura is used as the core for the Persevere4 2.0 framework, a framework which "is designed for rich Internet applications that rely heavily on Ajax-driven data communications from the browser".

RESTEasy (2013) RESTEasy is a fully certified portable JAX-RS implementation that has been created to help build RESTful Web Services and Java applications. It also includes a complementary client-side framework that makes it possible to use JAX-RS annotations and interface proxies to map outgoing HTTP requests to remote servers.

Developer Android (2015) Web applications are also supported through the use of a Web View component which can be placed within an Android application. As I own a smart-phone running Android 2.3.3, I will be using Android as the target mobile operating system for my project. Developer Android (2014) Android application development is done in Java, which is compiled and executed on a custom implementation of the Java Virtual Machine called Dalvik. Dalvik is optimised for efficiency on mobile devices.

Developing Intelligent Web Information System using Android

To use the large amounts of information efficiently on the Web to make the information processing intelligent, personalized and automatic is the most important applications of the current android technology. The main areas, android application covers for Intelligent Web Information System, in case of Web Intelligence are data mining and knowledge discovery, hypertext analysis and transformation, learning user profiles, multimedia, regularities in Web surfing and Internet congestion, text mining, web-based ontology engineering, web-based reverse engineering, web farming, web-log mining, web warehousing.

Observation about Restful Web Services Composition

In the composition of web services, the RESTful services has greater advantage than SOAP. This supports scalability as it is stateless which allows to include additional server behind a load balancer. The Uniform interface allows documenting which is independent of the operation of API and it is defined to be simplicity. The Restful services established to support the navigation between the services in the selection of services. Even though many services have been integrated at the server, it has the appearance of single service to the user. The probability of satisfying the user demands is high in these services composition. The hyperlink support helps to make these services dynamic and sometimes towards automated web services composition. URI (Uniform Resource identifier) is used to identify the type of content of the service and is tend to be easy-accessibility. These services are considered to be light weight as it does not contain encryption/decryption messages. This can be used for reusing the existing web service. The availability and security of web services should be high while the execution and response time should be less.

Some of existing tourist guide applications are designed for multiple mobile platforms a caused to incompatibility of mobile devices. The last recently used technology is Java 2 Micro Edition (J2ME). J2ME has rolled out in 1998, it represents a platform for small, portable with specific user interface and hardware constraints mobile devices. J2ME allows developer building applications that are executing on any device supporting CLDC/MIDP regardless of their underlying software/hardware architecture. Most mobile phones support J2ME, and therefore, the existing applications have been built using this technology. But Android now is the largest installed base of any mobile platform. It is Linux-based system developed by Google. It is a world-class platform

that is growing vastly (comparing with J2ME). Android has penetrated the digital world easily and it has rapidly become the fastest-growing mobile OS. The final statistics point that more than one million new Android devices are activated every day.

Conclusion

This research work research work primarily focuses on android applications sub tasks, classification, software tools and various web mining techniques to improve Web Intelligence. Researchers may clean, condense, and transform this research work to retrieve and analyze significant and useful information to determine best possible improvements of web mining techniques and effective software tools which can help to improve web intelligence to form the Intelligent Web Information Systems by using android applications.

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