

An Evolutionary and Empirical Review on Cloud Computing in Mobile Applications

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Abstract—Cloud computing is a currently an element that explores the way to deliver remote mobile apps to mobile devices through the world of internet. It offers remedy to the lack of resources in mobile devices plus a new level of security realized by centralizing maintenance of security-critical software. Such actions range from improving value added and classic belt is tightening to innovating in their firms. Research shows that the primary value-adding strategy for the most effective organizations are to focus on emerging mobile cloud computing technologies which will continue to grow more rapidly and take new dimensions as it get mature and converge. Customization is a great concern in cloud computing and mobility to access applications for mobile devices. Consumers' concept on this is that the applications requirement needs much customization so as to access cloud solution that is used and focused during proper utilization by various companies.

Keywords—Cloud Computing, Mobile Applications, Mobile Computing

I. INTRODUCTION

Mobile devices in the world of cloud computing such as Android, Blackberry, and iPhone have become popular due to their applications that help clients access and consume any web resources, and especially the web services. Cloud computing is a currently an element that explores the way to deliver remote mobile apps to mobile devices through the world of internet. It offers remedy to the lack of resources in mobile devices plus a new level of security realized by centralizing maintenance of security-critical software. Study shows that cloud computing offers mobile world a new ad hoc concept where data processing and storage make the device and cloud computing receives an extended feature of mobility (Ziyi & Ke, 2013).

In the empirical research developed by Divya (2009), the author favours the fact that cloud computing will in future offer new ways. They are on using, acquiring and developing mobile apps that have the potential of helping users access whatever they want anywhere in the world. Research shows that the execution of mobile application by users is not going to have any dependent on handset with the advance configuration. In respect to Senior Analyst Mark Beccue for mobile application designers, in the current times challenges are the existence of such a wide range of mobile operating systems. These developers are left with some confusing situations such as write for a single OS or engage in activities. These are for designing various versions that are of the same application for the end users (Shiraz & Gani, 2014).

II. LITERATURE REVIEW & DISCUSSION

Information technology platforms are responding to the key treacherous recession in memory when dealing with matters of mobile devices and their applications. Such actions range from improving value added and classic belt is tightening to innovating in their firms. Research shows that the primary value-adding strategy for the most effective organizations are to focus on emerging mobile cloud computing technologies which will continue to grow more rapidly and take new dimensions as it get mature and converge. Such moves develop considerable demand for enterprise applications that defines the ideal elements that should put in place for the purpose of any development and growth of mobile apps (Karim & Rahman, 2014).

Most mobile devices that contain application execution two basic important needs are of memory and processing power of the device that has the capability to support the corresponding application for the end users. The concept of cloud computing gives user's ability to execute their apps on servers instead of running them locally. It's an ideology that favours the users to overcome the handsets limitation of limited use of resources in a great extent. In that way, there exist no needs for mobile application developers and designers to come up with many versions that are of the same nature. Research indicates that it's the beginning of a new phase of mobile application development. There is still a lot to achieve in the new mobile world that comprises cloud computing with its base on new applications (Lopez, 2014).

A. Mobile Apps in Cloud Computing

With the level of study developed by different experts and scholars, it is agreed upon that there is no single definition that helps to define cloud computing. Despite that, in the current times, cloud computing in mobile devices plus other setting developed based on the deployment models, service models, characteristics, and offerings. Cloud computing is a model that offers and enables convenient on-demand mobile devices access to a shared setting of configurable computing. The aspect can rapidly release and provision with minimal management effort as well as service provider interaction. Using the layman's concept, the aspect of cloud computing is said to be the ability to have parts of bulk resources quickly. Also in respect to the requirement and the client is charged for the resources on how it is used (Goff, 2010).

Cloud computing offers web based processing where shared resources software and the information offered on demand to Smartphone computer as well as devices that allow user to make adjustment on computing. It all depends and based on the level of need at any given situation. Research has it that cloud computing and mobility to access applications everywhere revolves various aspects such as cloud services and cloud platform (Khan et al., 2014). Cloud services refer to the process of hosting services. In this manner, a computer group of computers working as internet servers provides a platform of the required resources for use in the exchange of various rental fees. They are known as cloud services ideal in ensuring possibility of various clients who want to access information, content, services, and any other similar element located on any remote location. End users manage to use servers that shares different information plus expand their skills (Tavis, 2011).

With no doubt, cloud computing helps users to use the internet to connect with the displays and server for their ideal content to the client. It is clear that cloud service is software system that is responsible for providing interoperable machine to machine interaction over a network that is further accessed or used by other computing components, end users, software, and clients directly. On the other angle, cloud platform is the host that offers the required resources to the end users. These resources in mobile devices applications are web access, storage, and computational power (Shiraz et al., 2014). It is just an arrangement focused on executing software apps in a logical abstract manner that respects the environment and comprises of different utility cloud services. Cloud computing gives a suitable platform that helps developers to design and create apps that run on the cloud, and enable users to utilize the services provided by relevant expert on cloud computing. It is the platform of cloud that is responsible for offering an application that specifies the environment for better executing and sharing information through mobile devices applications (Sanaei & Gani, 2013).

Through cloud computing platform, most service providers arrange for an operating system that manage its corresponding software and hardware requirements. The work of the service provider is to develop environment setting that allows user's application and development demand meet. Any platform that is ideal for offering an application its specified environment for its executed without the call of managing and buying its corresponding materials. On further, users are required to design and install the required applications for the end users. Yahoo, Salesforce, and Google are among the common tradition vendors recommended for cloud computing services (Divya, 2009).

B. Wireless Coverage

Given that wireless coverage is available in most places, there are mobile apps where application access is not guaranteed. In a situation where an organization enters a

wireless dead zone, productivity nature of the thing will fall to zero. There are field service applications especially those with workers operating in remote and rural areas coverage tend to develop challenges (Park & Jeong, 2013). Based on that, a subscription-based application is believed not to be the best fit, unless the provider has the potential to offer offline functionality required by the end users. Using warehouse management plus other applications that do leverage wireless setting, users require having a robust network put to facilitate proper operation of cloud-based aspects. Site survey plus analysis to the deployment, need to be conducted in the matter of identifying the gaps in coverage (Stang & Handler, 2012).

C. Ways to Approach Cloud Computing & Mobility

So as to get and operate in a pervasive setting for cloud computing in mobile apps, there are various stages of infrastructure that relates to mobile devices to be focused. These are aspects responsible for added network or the setting transmission delay. Efficiency of having and delivering apps needs increase so as to achieve goals and merits of success anywhere with the use of whatever devices (Ee-May & Wan-Young, 2013). With the use of cloud computing system in mobile apps world, it calls for proper design and supplying mobile application as well as services in the cloud, which is enabled by the use of cloud service providers. They then deliver it to the clients' mobile handsets over the internet at the times they are needed. In that way, to make remote apps available to mobile devices by the use of cloud computing, there are key entities that must put in consideration at all times (Tavis, 2011).

Customization is a great concern in cloud computing and mobility to access applications for mobile devices. Consumers' concept on this is that the applications requirement needs much customization so as to access cloud solution that is used and focused during proper utilization by various companies. With no doubt, hosted solutions must be customized; hence such modifications and changes might be centrally developed. The concept shows that they are developed much easier and faster than it would be given that each mobile device needs upgraded on any instance (Divya, 2009).

III. CONCLUSIONS

Implementation and designing of cloud computing in mobile device apps are going to be a high trend in the years to come. The element combines or uses the advantages of cloud computing and mobile devices application. These two gives optimal services for mobile users. Looking at various research and growing demand for ultra-fast 4G mobile networks and highly featured smartphones, tablets and wearable computing devices, the mobile cloud computing and services will rapidly increase and mature for easy and use of internet by the end users, reduce complexity and minimize the dependence on legacy thinking. The traction in such a case helps to push the entire revenue of mobile cloud computing to billions of money.

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