



ASSIGNMENT 3 – PAPER REVIEW

CSCI 5409 – Advanced Topics in Cloud Computing

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Assignment 3 – Paper Review

Research Area – Mobile Cloud Computing: A Needed Shift from Cloud to Mobile Cloud

Summary

The central idea of the study is to explicitly reason the need of mobile cloud computing in real time and a relative assessment of cloud enablement for mobile technologies. The article explains the role of middleware technologies as a substitution for cloud-enabled mobile applications. Mobile cloud computing utilizes network potential to deliver their services to the users and charge them accordingly for their usage. Moreover, mobile cloud computing targets a larger customer base as the users can store their data on cloud just like they do on their mobile phones. Additionally, they can also explore the evolving cloud technologies [1].

Mobile computing offers the developer community to explore the benefits of empowered mobile computing and a broad-spectrum of available mobile cloud applications. These applications use natural language processing, image processing, sensor data applications, sharing GPS, and multimedia research. In this article, the authors explain the Optical character recognition (OCR) based image processing cloud applications with its applications. The authors further explain the applications that use natural language processing for numerous purposes such as language translation, text-to-speech, and many more. Sensor-based mobile applications, multimedia search, and crowd computing are some other research areas discussed in the research article. The authors have also highlighted the emerging domain in Mobile Cloud Computing, Mobile Gaming. The authors detail the approach that can be followed for exploring Gaming in Mobile applications [1].

The research article also highlights a comparative assessment of CloneCloud, Cloudlets, Embedded Hypervisor, Elastic Weblets, Web4.0, and HTML5 and CSS based applications. The analysis is performed emphasizing on the pros and cons of each of these technological domains in Mobile Computing. The authors explain how Middleware can be a solution to interoperability issues between multiple cloud services, and how it can perform data-intensive processing. Middleware provides a powerful platform for services to be more usable and robust. It hides the complex details of the various components in Mobile applications and offers a better mechanism for a convenient and device-to-device interaction. Conclusively, the authors highlight the research areas discussed and experimented in this article and explain why mobile cloud computing should be exploited for better research in the near future [1].

Answers

Answer 1 – The research article focuses on the various mechanisms for implementing various features in mobile computing applications. The article elaborates the usability details of application features such as Image processing, Natural language processing, Crowd computing, Sensor data applications, Mobile Commerce applications, Mobile Gaming, and Mobile Learning. The research performs a relative assessment of the existing cloud-enabled technologies such as CloneCloud, Cloudlets, Embedded Hypervisor, Elastic Weblets, Web4.0, and HTML5 and CSS3 to weigh the pros and cons of these solutions.

Answer 2 – The most important and relevant topic in the research article is the need of Middleware technology as explained by the authors. The relevance of this research area in cloud computing with the respect to its usage is mainly to deal with the interoperability issues while using multiple cloud services. Middleware also helps to perform data-intensive processing invocation from mobile devices and use platform independence solutions for mobile cloud applications. Another important fact highlighted by the authors are the key differences in the existing cloud-enabled technologies for mobile applications. I would like to explore the cloud-enabled mobile computing domain to be able to develop cloud-based mobile applications.

Answer 3 – The research paper highlights the need of mobile cloud computing and the advantages it brings to the developer and user community of mobile applications. It also explains the existing mechanisms used in mobile computing applications. The research performs a relative assessment of existing solutions. The next research paper I found relevant to my interest on the Internet is “**Cloud Computing for Emerging Mobile Cloud Apps**” [2]. The reason why I would like to explore this is because of my interest in Mobile Computing. I would like to explore the integration of Cloud computing with Mobile Computing.

References

- [1] R. Sharma, S. Kumar and M. C. Trivedi, "Mobile Cloud Computing: A Needed Shift from Cloud to Mobile Cloud," *2013 5th International Conference and Computational Intelligence and Communication Networks*, 2013, pp. 536-539, doi: 10.1109/CICN.2013.116.
- [2] M. Bahrami, "Cloud Computing for Emerging Mobile Cloud Apps," 2015 3rd IEEE International Conference on Mobile Cloud Computing, Services, and Engineering, 2015, pp. 4-5, doi: 10.1109/MobileCloud.2015.40.