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Experimental Framework for Mobile Cloud Computing System

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Abstract: Mobile cloud computing is an emerging and fast-growing computing paradigm that has gained great interest from both industry and academia. Consequently, many researchers are actively involved in cloud computing research projects. One major challenge facing mobile cloud computing researchers is the lack of a comprehensive experimental framework to use in their experiments and to evaluate their proposed work. This paper introduces a modeling and simulation environment for mobile cloud computing. The experimental framework can be used to evaluate a wide spectrum of mobile cloud components such as processing elements, storage, networking, applications, etc. The framework is built on top of the CloudExp framework which provides the major building blocks needed for any cloud system. Moreover, mobile cloud experimental framework can exploit CloudExp capabilities to simulate big data generation and processing scenarios. An experimental scenario is also introduced in this paper to demonstrate the capabilities of the proposed framework.