We live during an era in which mobile devices are available to almost everyone. The services and equipment utilised within these small devices are growing with each new generation of mobile network technologies. Today’s mobile devices offer different methods and protocols for exchanging data among their users. A famous example of such methods that support users’ communication needs is the technology named: Location-Based Services (LBS). LBS users also wish to receive multimedia information regarding their surrounding area, such as high-quality pictures and videos. Hence, a large amount of data is transferred from the server to the client. However, due to the constraints of wireless network bandwidth, mobile device limited storage, and short battery lifetime, slow data transmission rates within the system inhibit the efficiency of LBS. Therefore, this thesis presents a solution for the large data-size problem based on better managing the data-flow from the server to the client. The outcome of this research work was the design of a new data transfer procedure named Zone-Based Update Mechanism.

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