Usage of development guidelines for optimizing the energy consumption of mobile applications

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The market of mobile devices and the power of mobile computation has increased significantly over the last years. Although the technology has evolved a lot the main issue of mobile devices is that they are and will remain severely limited by their battery life. The need to preserve this critical resource has driven mobile devices OSes to take into consideration the power management and has driven the developers of mobile applications to optimize the energy consumption of the applications.The two main fields of research in this area are finding solutions to estimate the energy consumption of an application and finding ways to determine applications and bugs that lead to energy consumption and unexpected battery drain.

In this paper we will show how we can use development guidelines for mobile applications in order to determine the pieces of code that could generate a bug and could lead to an abnormal batery drain. We will analyze the impact generated by the unappropriate usage or the lack of usage of certain development guidelines on the energy consumption. We will show how the development guidelines and the best practices can be used to ensure that a mobile application is more efficient, has a better performance and consumes less energy.

References

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