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Architectural Formalism for Cyber Foraging in Smartphones

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Abstract

Smartphone usage has increased ever since it was introduced to the market few decades back. It has grown to be a necessity than a luxury ever since. Smartphones soon became powerful portable computing devices which became vital to do day to day activities such as remembering phone numbers, addresses, notes, appointments, etc. Meeting the ever-growing need of Ultra-portability has become a bottle neck to the performance and battery standby of such devices. So a technique called Cyber Foraging was introduced in 2002 which help these devices to offload its process to other computing devices in the vicinity.

Even though Cyber foraging has been incorporated in various ways there are significant drawbacks in the decision making engine which has higher over head or lack of energy consideration. And also the developer effort is higher and offloading to unknown environments is hard. A light weight framework is proposed to achieve cyber foraging in existing applications with an easily configurable decision making engine. The solution improves performances up to 19 times with better energy consumption and developer effort than existing solutions. The proposed solution shows significant potential in solving the problem targeted to be addressed.

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