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Real-World Large-Scale Study on Adaptive Notification Scheduling on Smartphones

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Abstract

Human attention has bottlenecked today's ubiquitous computing environment where users are consuming increasing amounts of information from numerous applications and services. Since the system-to-user provision of information is becoming more proactive, mainly via push notifications that often cause interruption at the users' side, attention management is becoming very important. Despite the many existing studies concerned with detecting opportune moments to present such push information to the users (in a way that preserves the users' attention and lowers their cognitive load and frustration), there is little evaluation of such systems in the real-world production environments. Overlooked areas of study also include the examination of real users and notification contents. In this paper, we present various results from the first extensive evaluation on users' interruptibility and engagement in the real-world environment with a market-leading smartphone application that boasts a large number of users, including real notification content on the application. Following our

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