

## Improving System Performance through User's Resource Access Patterns

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**Abstract :** This paper demonstrates a number of examples in the hope to shed some light on the possibility of designing future operating systems in a more adaptation-based manner. A modern operating system, we conceive, should possess the capability of 'learning' in such a way that it can dynamically adjust its services and behavior according to the current status of the environment in which it operates. In other words, a modern operating system should play a more proactive role during the session of providing system services to users. As such, a modern operating system is expected to create a computing environment, in which its users are provided with system services more matching their dynamically changing needs. The examples demonstrated in this paper show that user's resource access patterns 'learned' and determined during a session can be utilized to improve system performance and hence to provide users with a better and more effective computing environment. The paper also discusses how to use the frequency, the continuity, and the duration of resource accesses in a session to quantitatively measure and determine user's resource access patterns for the examples shown in the paper.

**Keywords :** adaptation-based systems, operating systems, resource access patterns, system performance

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