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A Prototype for Distributed Computing Platform

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distributed systems, android, smartphone

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As mobile devices continue to grow in power and number, their combined computing capacity has grown as well. Much of this capacity sits unused, smartphones often sit idle throughout the day and while charging at night. This project explores the possibility of harnessing that otherwise unused computing power through the implementation of a mobile-based distributed system designed to tackle large computing tasks. To demonstrate the capabilities of the system, an example challenge is borrowed from the medical field: identification of genes associated with the development of renal cancer. The system is set to work identifying such genes using only the processing power of smartphones and a central server to coordinate them. Finally, the performance of the system is compared to a similar system that is adapted to run on desktop computer hardware.

Title: A Prototype for Distributed Computing Platform

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