



INFORMATICS INSTITUTE OF TECHNOLOGY

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**FORAS | FEATURE OFFLOADING IN DEVELOPMENT
ENVIRONMENTS TO IMPROVE ADAPTABILITY IN LOW
END DEVICES**

A DISSERTATION BY

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Abstract

Software Engineers and developers use programming tools like development environments every day when creating applications. Although they invent applications and technologies that change the world, the way that they actually develop has seldom changed over the last few decades. It is the norm for a developer to have a relevantly powerful workhorse in order to use a development environment such as Eclipse or NetBeans, and programming on commonly available low-end devices such as tablet computers or smartphones is unheard of.

In this project, the reasons as to why commonplace development environments such as NetBeans and IntelliJ have not expanded into supporting low-end devices (i.e. tablets, smartphones, low-resource laptops and workstations) is analyzed and a cloud based solution is introduced that offloads the high computation components of a development environment in order to enable new or established development environments to adapt to low-end devices such as netbooks, smartphones and tablets.

The author envisions that by using the proposed system, development environments will be able to adapt to support low-end devices, and thereby improve the choice of programming devices available for developers in a bid to revolutionize the development process.

Subject Descriptors

- Computer systems organization~Availability
- Computer systems organization~Cloud computing
- Information systems~RESTful web services
- Information systems~Recommender systems
- Software and its engineering~Software as a service orchestration system

Keywords

Development Environments, Cloud Computing, Computation Offloading