

UCF Faculty Cluster Initiative and Dept. of Computer Science

Spring 2018 Seminar Series

Building Predictable and Adaptable Mobile Systems

March 8th, 2018

Time 11:00am-12:00pm – HEC 356

Time predictability is a requirement for computer systems that have deadlines to meet, but it is frustratingly difficult to achieve in the complex, layered, execution environments that are common place today. This talk will consider how to bring a degree of time predictability to Android applications.

Potential solutions include fundamental changes to the Android framework and the introduction of a new programming model, which focuses on the interplay between real-time activities and the rest of the system. This talk will detail the changes in the Android APIs which are required for developers to express the timeliness requirements of code and how well those requirements can be met on stock hardware in the presence of multiple, potentially interacting applications.

The talk will also cover some experimental data validating feasibility over several applications including UAV fight control, implantable medical devices, as well as a wind turbine monitoring device. Lastly, I will discuss future directions, including adding adaptivity to the system to achieve a dynamically defined real-time system.

Lukasz Ziarek

Assistant Professor In the Department of Computer Science and Engineering at the State University of New York at Buffalo



Lukasz Ziarek is an assistant professor in the Department of Computer Science and Engineering at the State University of New York at Buffalo. He completed his Ph.D. at Purdue University in 2011. He works at the intersection of programming languages, real-time systems, and mobile systems and has published over 55 peer reviewed articles. He has received several teaching awards, including University at Buffalo Innovative Teaching Award in 2017, the School of Engineering and Applied Sciences Early Career Teacher of the Year in 2016, and the CSE Early Career Teacher of the Year in 2015.

Hosted by: Dr. Aziz Mohaisen



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