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Internet of Things (IoT): Micro-location and Smart Buildings

Abstract: Microlocation, Geofencing and Proximity based Services (PBS) are a set of technologies that will play a key role in the transformation of smart buildings and smart infrastructure. Micro-location is the process of locating any entity with a very high accuracy (possibly in centimeters), while geofencing is the process of creating a virtual fence around a Point of Interest (PoI). PBS is a suite of techniques that can be used to personalize the experience a tenant receives from the surrounding objects. Such technologies require high detection accuracy, energy efficiency, wide reception range, low cost and availability. In this talk, we will provide insights into various micro-location enabling technologies, techniques, and services, and discuss how they can accelerate the incorporation of Internet of Things (IoT) in smart buildings. We will cover the challenges and propose some potential solutions such that micro-location enabling technologies and services can be thoroughly integrated with an IoT equipped smart building.

Biography: Dr Ioannis Papapanagiotou is a senior software engineer at Netflix and holds the Dipl. Ing in Electrical & Computer Engineering, University of Patras (5-years degree - 2006), MSc in Computer Performance Engineering, from Electrical & Computer Engineering, NC State University (2009), and a dual major Ph.D. degree in Computer Engineering and Operations Research from North Carolina State University, USA (2012). His research is focused in distributed systems/cloud computing, internet of things, and network systems. Ioannis serves as a graduate faculty at Purdue University, advising a team of 10 talented graduate students, and as an adjunct assistant professor at NC State University. Prior to joining Netflix, Ioannis was a tenure-track faculty member at Purdue University, where he was awarded the NetApp faculty fellowship and established an Nvidia CUDA Research Center. Ioannis has received the IBM PhD Fellowship, Academy of Athens PhD Fellowship, teaching awards, and best paper awards in several IEEE conferences. Ioannis has authored around 40 research articles and 10 patent disclosures. Ioannis is a member of ACM, and senior member of IEEE.