# DESIGNING CLOUD INFRASTRUCTURE FOR BIG DATA IN E-GOVERNMENT

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The development of new information services and technologies, especially in domains of mobile communications, Internet of things, and social media, has led to appearance of the large quantities of unstructured data. The pervasive computing also affects the e-government systems, where big data emerges and cannot be processed and analyzed in a traditional manner due to its complexity, heterogeneity and size. The subject of this paper is the design of the cloud infrastructure for big data storage and processing in e-government. The goal is to analyze the potential of cloud computing for big data infrastructure, and propose a model for effective storing, processing and analyzing big data in e-government. The paper provides an overview of current relevant concepts related to cloud infrastructure design that should provide support for big data. The second part of the paper gives a model of the cloud infrastructure based on the concepts of software defined networks and multi-tenancy. The final goal is to support projects in the field of big data in e-government.

**Keywords**: big data, cloud computing, e-government

## A MODEL OF SMART ENVIRONMENT FOR E-EDUCATION BASED ON CROWDSOURCING

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This paper deals with the application of the concepts of Internet of things and its application in creating smart environments. The specific goal is to design a smart environment for enhancing the teaching and learning processes at universities. The environment should integrate adequate concepts of smart buildings and smart classrooms with e-learning systems, in order to provide students with advanced e-learning services and services that improve the overall quality of students' experience. In addition, the model is based on the concept of crowdsourcing, where students actively participate in gathering the information, designing, and implementing the e-learning contents and services. Finally, the paper describes a prototype of the designed smart environment implemented at the Department for e-business, at University of Belgrade.

**Keywords**: smart environment, internet of things, e-learning, crowdsourcing

## WEARABLE COMPUTING IN E-EDUCATION

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Emerging technologies such as mobile computing, sensors and sensor networks, and augmented reality have lead to innovations in the field of wearable computing. Devices

such as smart watches and smart glasses, allow users to interact with devices worn under, with or on top of clothing. This paper analyzes the possibilities of application of wearable computing in e-education. The focus is on integration of wearables into e-education systems, so to support ubiquitous learning, interaction and collaborative work. We give a model for integration of wearable technology in an e-education system and discuss technical, pedagogical and social aspects.