

## An Integrated access control security system model for institutions of higher learning

Defining an Access Control security system service for any organization's application requires the choice of the access control security model and process for the formulation of access decision rules to be used by the access enforcement mechanism that can be implemented in such organizations. The lack of an integrated access control security system model to provide framework for the development of an access control system for universities has presented enormous challenges to the universities in Kenya. The universities need to monitor, authenticate and verify people entering into and utilizing their resources. Additionally, there is a challenge of integrating different systems and departments thereby leaving a gap in the administration process. There is therefore need to provide a model that would help in providing the benchmark for developing access control systems to integrate different systems and departments in the institutions. Such benchmarks can be guided by technology such as smart cards, rules and policy definition among others. This research aims at designing a policy driven access control model (PD-ACM) that can be used in both developing the access control model and formulating the access decision rules adopted by institutions of higher learning in Kenya to develop their access control systems more specifically for their physical access control. In summary, this thesis aims at developing an integrated access control security system model for universities in Kenya and this process will be guided by Activity, System and Set theories. It is important for institutions to adopt a specific model to guide their access control security system development process so as to be able to effectively, efficiently and reliably monitor, authenticate and authorize all those accessing their facilities and resources.