

ABSTRACT

In modern building infrastructure management, especially in high-activity educational environments, Visual Monitoring-based security systems are a crucial component. Campus areas such as classrooms, corridors, and parks require reliable surveillance to support the comfort and safety of the entire academic community. This research evaluates the current condition of the Visual Monitoring system implemented in Graha Cacuk Sudarijanto-B Building and Tokong Nanas Building of Telkom University. The main focus of the research is on the effectiveness and coverage of existing CCTV monitoring, as well as the development of data and simulation-based solution designs. The approach used is the Network Development Life Cycle (NDLC) method, but only limited to the initial three stages: Analysis, Design, and Simulation Prototyping. Initial observations show that there are still many rooms and open areas that have not been reached by cameras or have non-optimal placement, resulting in blind spots that reduce the effectiveness of surveillance. Therefore, this research designs a new CCTV placement proposal that considers the camera's viewing angle, installation height, and distance between cameras so that the coverage area becomes wider and more comprehensive. The proposed design is also tailored to the needs of each room and considers technical aspects such as camera resolution, ability in low lighting, and integration with existing systems. In addition to technical aspects, the aesthetics of the installation are also considered so as not to disturb the spatial layout and user comfort. This research is expected to contribute to the development of a more proactive and sustainable campus security system, and can be used as a reference in the procurement and maintenance of Visual Monitoring systems in the future.

Keywords: *Visual Monitoring, Blind Spot, Network Development Life Cycle, Closed Circuit Television, coverage area*