Today, surveillance system has become more influential in every organization. Video surveillance system is one of the solutions to detect any anomalies occurred in the organization so that the administration can plan and decide an appropriate course of action for the detected objects or able to use the record as evidence in the future. As for the detection system, in case where background changes such as lighting, vibration, or looped movement of the background do not only obscure the detection system but also waste the system storage space as to store those records.

Therefore, this research would like to present a solution to the problem by employing detection system in the record with looped movement in order to distinguish objects of interest that can be identified in normal system. The result of the experiment showed that such method can detect objects of interest accurately and also reduce the amount of data that the system have to store background with looped movement as well.