Abstract

      Anomalous behavior is behavior that is out of habit. Current technology requires detection of anomalies for the security sector because anomalous behavior cannot be immediately known before recognizing the habit, so anomaly detection is designed to find behavior that is different from the habit. In this Final Project, the authors build an anomaly detection system using the Fingerprint Log data to detect anomalies by applying the Density Based Spatial Clustering of Application with Noise (DBSCAN) method to find unusual behavior (anomalies) from employee Fingerprint Log Data. Tools used in this system are *VB.NET* and *MySql* as database storage. DBSCAN performance has the ability to form a cluster of irregular data forms, the better the resulting cluster, the system can detect anomalies more accurately. This mechanism aims to employee managers can monitor employee behavior by using the Fingerprint sensor as attendance in and out of an agency. The problem is, an employee manager of an agency cannot control employee activities that are not timely entering or leaving the agency so that with this system the employee manager can control anomaly detection using Fingerprint Log data. When anomalous behavior is discovered, it is reported to the employee manager by SMS Gateway for notification

Keywords: Fingerprint, anomaly, *VB.NET* , *MySql*, Density Based Spatial Clustering of Application with Noise, DBSCAN, SMS Gateway.