ABSTRACT

One of the most used way to protect the data when mobile phone is lost is using user authentication, where only the registered user can access the data inside the smartphone. One of the latest development in user authentication is using touchscreen on the smartphone, especially android, to identify the user.

On this thesis, touch gestures is used as input to identify the user and the system will be simulated. Generally, the system has two stages which are feature extraction, where user registers their feature to the system, and classification, where identification is done. The feature extraction method that is used is based on Mario Frank's journal, Touchalytics. The classification method that is used is Radial Basis Function Network.

The result from this research is that system can work reliably with the requirement that the maximum user is 6. It cannot work reliably for 10 user. The highest accuration for 6 user is 88,89% using Inverse-Multiquadric function and 30 gestures. In comparison, the highest accuration for 10 user is only 51% using Inverse-Multiquadric function.

keyword: **android, radial basis function network, touch gesture, touchscreen, identification**