

ABSTRACT

The final assignment was made to design software that can identify the authenticity of bilyet giro through the process of image processing by using Hidden Markov Models. As for how to identify a bilyet giro if all the components of the inscription on the bank draft is already filled with a look at the materials that would be seen if the UV emitted UV light, then if we feel the bilyet giro's number it will tend below giro's surface, also by looking at the type of paper of bilyet giro, giro generally using cotton fiber as the paper type so it feels heavier, That's the feature of the general traits are used almost all the banks.

In making this identification software consists of two parts, namely the establishment of a database and identification process itself. Establishment of a database to generate database practice characteristics and the probability value of HMM models consisting of 3 types of models, namely bank BNI, Mandiri, and Sumatra and their msing there are 2 types of HMM models for detection of authenticity. The identification process is carried out in this thesis has two stages of identification. The first stage is the identification of the issuing bank giro and the second stage is to identify the authenticity of the bank draft. Identification of the issuing bank giro done by taking a certain pattern on the scanning results giro. Patterns taken here is the form of letters from each bank draft. Authenticity identification is done by taking the patterns formed results from Ultra Violet radiation (UNV). Pattern on each bank draft is used as a characteristic that will be taken as data to determine the authenticity of a bank draft.

Analysis is conducted show the effect of variations in the size of the image, the amount of training, and adjacency LBP as to the accuracy of the identification software. Experiments conducted on a bank draft by changing the parameters of LBP feature extraction and classification of HMM. Test results are obtained that the detection accuracy rate of 96% identity and bank rate giro authenticity detection accuracy of 100%.

Keywords: Image Recognition, bilyet giro identification , Hidden Markov Model