

## ABSTRACT

In our daily life, lies frequently happen among interpersonal relation. Whatever the purposes are, lies often cause harm to people, especially when they come to big events which involve large amount of people such as in business, criminality, etc. The necessity of lie detector increases with the development of technologies that help people in carrying out their daily tasks.

Available lie detector is hard to use because it is expensive and has complex components so that it is unpopular to people. The high price of lie detector often becomes an obstacle for legal institutions, police, government, and businessman to do their job effectively and efficiently. Therefore, an affordable lie detector with its simple components is needed to make this thing easy to use and well received to people.

In this final project, a system based on video camera which can detect lies through pupil diameter alteration and eye blinks has been made. According to a psychological theory, people who tell lies have dilated pupil and do not blink while telling the lies, and then blink to eight times as much right after telling the lies. A video camera which is integrated with computer software measures the pupil diameter and counts the eye blinks of people being tested to be analyzed whether the people telling lies or not.

It used 289 videos from 15 people to test the system. From the test result, the accuracy of the system is between 42,358% to 51,528% depends on the scenario.

Key words: lie detector, video camera, pupil, eye blinking