

## **Developing an intelligent olfactometer for a psychological study**

Chaiyapoj Netsiri

Cognitive Science Research Program, Rice University, Houston, TX

Khokiat Kengskool

Department of Industrial Engineering, Florida International University, Miami, FL

In the past, a psychological study related to olfaction has been done manually by an experimenter. Smells used in the experiments are presented to the subject one by one by hand. The process is inefficient and sometimes produces errors. Therefore, an olfactometer, a device that automatically presents smells to the subject has been developed. The device is consisted of three main parts: the air/odorant delivery system, the electronic system and the software. The whole system is controlled by an E-Prime software package which provides flexibility of programming as well as accurate timing for stimulus presentation. A set of 4 smells and 1 air could be selectively presented with specific timing specified by the program. The software is designed to interact with human subject via a display monitor and keyboard. This provides intelligent functions such as repetition of individual smell and automatic data collection.