

*Image sensing for short message transmission*

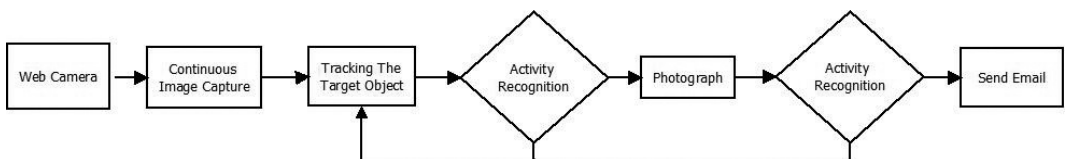
C-S. Wang, C-W. Liu, W-Y. Wang, Y-C. Huang. **Image sensing for short message transmission providing assistance to families with older adults.** *Gerontechnology* 2014;13(2):297; doi:10.4017/gt.2014.13.02.277.00 **Purpose** With the current development of information technology, the use of computers and cell phone applications has become nearly universal. Nevertheless, a small percentage of elderly people remain unfamiliar with these devices. In this regard, this study suggests the use of identified image signals for short-message transmission. The image analysis module receives and identifies the image from an image-sensing unit through a receiver module pathway. The image analysis module creates background objects by analysing its' two-dimensional contours. Simultaneously, this module traces the target's action in the background, outputs action signals, and finally triggers the operation of a control unit if these action signals meet a standard set of requirements. **Method** This study also provides a handwriting analysis system used to trigger the control unit module. When the action tracing meets the requirements, it would highlight the background object and, at the same time, create a saved file of this background object for the further delivery on the internet. The system uses a webcam to record the image, taking both methods of a computer vision interface as the input and handwriting analysis system (*Figure 1* provides a flowchart of the system). The system is composed of two main parts, the image processing unit and control unit. The image processing unit, has both a static detection mode and dynamic tracking mode. By using a camera to capture dynamic images, the main function of the static detection mode is to detect the object in the two dimensional background and to divide the on-moving target into segments<sup>1</sup>. The dynamic tracking unit monitors the displacements of specific moving targets, and files them as the feedback signal to the control unit. If the difference between the pixels equals zero, it means that pixel not moving and vice versa<sup>2</sup>. If the difference of the subtraction is below to threshold value, the unmoving object then creates background<sup>3</sup>. We use a technique of colour reference to identify the background image in establishing the domain of background image in order to rapidly analysing objects<sup>4,5</sup>. **Results & Discussion** This measurement is set in a well-light area and uses a strip of yellow paper as the background, since yellow-coloured background provides the best identifying outcome. Image-detection techniques are already well developed. Many applications use motion detection, human face identification, robot, tracing and medical graphing. This research, overcoming some, finishes the image identification and message transportation facilitating people with inconveniences or unfamiliarity to use cell and computer.

**References**

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**Address:** Oriental Institute of Technology, New Taipei City, Taiwan; E: ff020@mail.oit.edu.tw



*Figure 1. System flowchart*