AN ABSTRACT FOR CONSIDERATION OF ORAL PRESENTATION AT ACRS 2014.

A cloud-based platform for recording and  
analysing geological features via mobile device

Antony Harfield1\*, Sakda Homhuan2, Uthai Phattharanamchok1, Somjintana Korbut1

1 Department of Computer Science & Information Technology, Faculty of Science, Naresuan University, Phitsanulok, Thailand

2 Faculty of Agricultural Natural Resources and Environmental,

Naresuan University, Phitsanulok, Thailand

\*Corresponding author: antonyh@nu.ac.th

**Abstract**

Traditionally, geologists collect data in paper-based ‘fieldbooks’ by sketching the geological structure following precise predefined techniques, depending on types of survery. In this paper, a system is described and implemented to replace paper fieldbooks with digital tablets. The purpose of the system described in the paper is to provide support for digitally storing the fieldbook data via a web application. As the work is performed outside, the web application is designed for tablet use and the geologist can use the tablet’s camera to take a photo to enhance the sketch. Furthermore, detailed data can be stored by the web application, e.g. the exact location of the photo, the sketch and the sketch annotations in terms of what type of fault, dips, etc. All data is sent to and stored in a cloud-based database and is made immediately available for analysis by other users via a cloud-based website that is accessible from tablet or desktop. As well as describing the implementation, the paper also describes how the system was tested by geologists at Maemoh Mine in Lampang, a Thai northern province which contains a large open-pit mine. During the tests, the significant outcome was the capability of the system to combine, overlay and integrate drawings of areas of the mine with GPS data (position and elevation) and geological descriptions of the ground (e.g. faults, dips, soil/coal). The paper describes the system and the results from the Maemoh Mine test.