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INFORMATION TECHNOLOGY IN A GLOBAL SOCIETY
HIGHER LEVEL AND STANDARD LEVEL
PAPER 2

Thursday 8 November 2012 (morning)

1 hour 15 minutes

ARTICLE

INSTRUCTIONS TO CANDIDATES

- Do not open this booklet until instructed to do so.
- This booklet contains the article required for information technology in a global society higher level and standard level paper 2.

Theme: Home and leisure

IT system: using cell/mobile phones, geotagging and social networking sites

Patrick Chang took a photo of himself with his smartphone and posted it on *Twitter*.   Within minutes an NBC News team, who did not know Patrick, found his exact location in New York City. The team used the information posted from the smartphone along with the photo to locate him. Chang was very surprised when he was tracked down by the team.   He had no idea he could be found
5   through a photo that he sent from his cell/mobile phone to a social networking site.

All cell/mobile phones in the USA, made after 2005, are required by US law to have GPS technology. GPS-enabled phones are required for identifying the location of a cell/mobile phone user who may need help or who is reporting an incident.   A GPS-enabled cell/mobile phone, such as a Blackberry or iPhone, allows the date, time and geotags (latitude and longitude) to be invisibly attached to photos
10   that are taken with the camera.

[Source: http://itunes.apple.com/us/app/geotag-editor/id337473343?mt=8, 20 January 2011. Used with permission.]

The above images demonstrate how special software can be used to display the date, time, latitude, longitude and the actual location on a map for a geotagged photo.

Some efforts have been made to raise public awareness about the use of geotagged photos. A police spokesman warned that geotags associated with photos can provide information for crimes such as stalking, cyberbullying and theft. The website ICanStalkU.com also monitors online social media and notifies people when their online photos are giving away their location.

A group of web security researchers have been conducting studies about geotagging. Their lectures and papers demonstrate the problems associated with uploading geotagged photos to websites like *Twitter* and *Flickr*. Many of the photos show children, possessions and furnishings in the home. There are also photos of people at their friends' homes or places that they regularly visit. Photos may reveal home and work addresses, events they attended or activities that they may be involved in.

Researchers claim that anyone with a little knowledge about writing computer code can develop a program to search for geotagged photos on a website such as *Twitter*. They could write code that could search for all the photos accompanied with text like "on vacation", or those taken in a specific neighbourhood, or use other search criteria.

At times cell/mobile phone users may wish to share the geotagged information associated with their photos. However, in other situations, it is important that they take the necessary precautions so that they do not unintentionally place themselves, other people, or property at risk.