TITLE: Better the Martian you know? Trust in the crowd vs. trust in the machine when using a Martian Citizen Science platform

ABSTRACT BODY:
Abstract (2,250 Maximum Characters) : Citizen science platforms allow untrained volunteers to take part in scientific research across a range of disciplines, and often involve the analysis of remotely sensed imagery. The data collected by increasingly advanced and automated instruments has made planetary science a prime candidate for, and user of, citizen science online platforms. In order to process this large volume of information, such systems are increasingly performed in conjunction with data-mining analysis software, with varying configurations of computer and volunteer contribution. Despite citizen science being a relatively new approach, there has been a growing field of research considering the practice in its own right beyond the scientific problems they address, with studies involving interface HCI, platform functionality, and motivation particularly adding to a growing body of citizen science scholarship.

Through iterations of the FP7 iMars project's 'Mars in Motion' platform, the work presented studied the effect that guidance information had on volunteers' accuracy and trust. Whilst analysing imagery for change, volunteers were told whether automated change detection software or the consensus of other citizen scientists had found change, with this information varying in terms of accuracy. Results showed that volunteers' ability to both identify change and the type of feature undergoing change was improved when both the software result and crowd opinion guidance information provided had a greater accuracy. However, when guidance information was less accurate volunteers' level of trust fell at a sharper rate when it came from the crowd than when it came from the algorithm, and participants reported more frustration – a counter-intuitive result compared to existing research. Citizen science practitioners need to consider the information they provide to volunteers and how they present it; the results of software analysis or the consensus of a crowd need to be conclusive and above all accurate in order to improve both the performance and engagement of their volunteer community.

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CURRENT * CATEGORY: Education

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