Project Title: Automated Media Watch for Early Warning of Emerging Infectious Diseases
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Abstract:

With international travel becomes increasingly frequent, the global transmission of infectious diseases has become a major public health concern. Because of facing with the bird flu outbreaks on the rise, it is important for constructing a timely information system for monitoring the global outbreak news. This study aimed to establish an automated media monitoring system on detecting the avian influenza-related news in the world and to evaluate the performance of the system.

An automated system for detecting and collecting the news related to avian influenza was constructed mainly through using the RSS (Really Simple Syndication) feed of the Google News. An information retrieval agent was created to automatically retrieve the news and to store the news in the database. Once the system had detected the latest news, the server sent an alert e-mail to the staffs. One staff manually processed each upcoming news to rule out the duplicated one. The unduplicated news were automatically transferred to a geographical database for interactive geographic information system (GIS) displaying by Google Maps API.

Our demonstration showed that the avian influenza-related news detected by our system were 4 hours earlier than the ones sent by the Google Alerts. The amount of the avian influenza-related news collected by the system during 2007/9/23~2007/10/22 was three times more than the ones collected by the HealthMap.org, which was created by Harvard's team and used by the ProMed. The staffs could use our system with the interactive interface to query the latest news and to display the spatial distribution of the outbreaks. Overall, it was beneficial for our institution to decrease the labor-intensive efforts to monitor the global news and to promote the efficiency of detecting outbreak news. In the future, other emerging infectious diseases will be considered to be included in this system.

Keywords: Epidemic Intelligence, Disease Outbreaks, Mass Media, Internet