Phithak: An End-to-End Approach to Online Content Filtering

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It has been known that Web and Internet Technologies are media which play an important role nowadays. In one aspect, they especially promote information and opinion sharing among individuals -- people can both freely consume and publish information and thoughts through, e.g., websites, web-log, web board as well as online multimedia. These activities foster community's learning and education. Nevertheless, sharing inappropriate online content in such a voluntary way can sometimes cause both short and long-term problems if the content is against nation's law and tradition. The examples of inappropriate online content include web-board posts that insult Royal family and web pages about pornography, sex-trading, gambling, fraudulent and phishing as well as provocation.

In Thailand, although there are some government agencies and foundations provide a certain amount of support for the inappropriate content identification and filtering by utilizing "reports" from a group of "experts" or many individuals, there is still a huge amount of inappropriate online content accessible to students and people in the community. Furthermore, new online content keeps producing everyday, causing a number of inappropriate online content exponential. Consequently, the manual labeling seems to fail at (1) coverage, (2) fairness and (3) accuracy of identifying such content. In many commercial products – some of which are made by Thais, artificial intelligence and statistical models have been used for identifying and filtering inappropriate content. Yet, their capabilities are still inefficient. Particularly, (1) they do not perform well on the content with Thai language; (2) they only cover pornographic content and (3) their license fee is per computer terminal, which is monetarily prohibitive when implementing them for all schools' and community's computers.

To address these issues, this project is aimed at researching and developing an effective method and system that is based on computer sciences techniques and uses information from various sources for identifying and filtering various types of inappropriate online content. The proposed system will help preventing school students and underprivileged people from inappropriate content, which will in turn aid strengthening Thai community.