

Chapter 7

Cyberbullying Blocker Test Application for Android Devices

ABSTRACT

In this chapter, the authors present an application for Android smartphones to automatically detect possible harmful content in input text. The developed application is aimed to test in practice the performance of the developed cyberbullying detection methods described in previous chapters. The final goal of the developed application will be to help mitigate the problem of cyberbullying by quickly detecting possibly harmful contents in user's entry and warning the user of the possible negative influence. The test application was prepared to use one of two methods for detection of harmful messages: a method inspired by a brute force search algorithm applied to language modelling and a method which uses seed words from three categories to calculate semantic orientation score SO-PMI-IR and then maximize the relevance of categories to specify harmfulness of a message (both methods were described in previous chapters). First tests showed that both methods are working properly under the Android environment.

INTRODUCTION

Although humiliating and slandering people through the Internet has existed almost as long as the Internet became a tool for casual communication between people, the appearance of new devices, such as smartphones and tablet computers, which allow using this medium not only at home, work or school but also in motion, sometimes with different access points with simplified anonymity, has further exacerbated that problem. That motivated us to try preventing the problem of cyberbullying with the use of mobile devices. We decided to apply existing methods of detecting harmful contents on the Internet and focused on transferring them to a mobile device.

The first step to fulfil this goal was developing an Android application which we describe in this Chapter. We created the application to test whether it is possible to apply the detection algorithms previously developed on much more powerful machines also on mobile devices such as smartphones and tablets, and find out which algorithm will work best. The result of this experiment and its possible implications are described in this chapter.

The outline of this chapter is as follows. Firstly, we describe other available solutions and explain how our software differs from other cyberbullying detection software. Next, we describe our application, starting from the description of its functions and elements it contains, followed by the description of interface. Further, we describe the two methods used for detecting cyberbullying applied in the software at the moment. Finally, we describe the preliminary testing meant to verify the performance of the developed application and discuss the results of those tests.

RELATED WORK IN DEVELOPMENT OF PRACTICAL APPLICATIONS FOR CYBERBULLYING DETECTION

With the popularization of mobile devices, the problem of cyberbullying has become more noticeable. Apart from the research in cyberbullying detection described in previous chapters, a number of research teams around the world have attempted to develop practical solutions for detection and mitigation of this problem. However, most of the research is still in a developmental phase and is yet to be fully applied in practice. On the other hand, there have been developed market solutions for the detection and mitigation of online bullying,

12 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/cyberbullying-blocker-test-application-for-android-devices/217355

Related Content

Computer Vision Syndrome among Internet Users

Liang Huand Fan Lu (2012). *Encyclopedia of Cyber Behavior* (pp. 782-798).
www.irma-international.org/chapter/computer-vision-syndrome-among-internet/64802

The Case for Universal Design for Learning in Technology Enhanced Environments

Stuart Peter Dinmore (2014). *International Journal of Cyber Ethics in Education* (pp. 29-38).
www.irma-international.org/article/the-case-for-universal-design-for-learning-in-technology-enhanced-environments/123981

Cyber Crime in India: An Indian Perspective

Ritu Pareek (2023). *Cyberfeminism and Gender Violence in Social Media* (pp. 252-268).
www.irma-international.org/chapter/cyber-crime-in-india/331910

Does Credibility Count?: Singaporean Students' Evaluation of Social Studies Web Sites

Malkeet Singhand Marie K. Iding (2011). *International Journal of Cyber Behavior, Psychology and Learning* (pp. 19-35).
www.irma-international.org/article/does-credibility-count/60868

Toward an Infrastructural Approach to Understanding Participation in Virtual Communities

Ben Li (2014). *Cyber Behavior: Concepts, Methodologies, Tools, and Applications* (pp. 1765-1785).
www.irma-international.org/chapter/toward-an-infrastructural-approach-to-understanding-participation-in-virtual-communities/107815