A Novel Anti-Spam Solution to Minimize False Positive Alarm Rate in Bulk Spam

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Abstract

Spam has emerged to be an impending problem for internet users and operators as the extensive penetration of spam is now affecting almost every entity associated with the internet. Email filtering and blocking efforts by network operators, software vendors and Internet service providers (ISPs) are the key actions that are used to stop spam before it reaches their users. Recent estimates by reliable organization nonetheless indicate that spam makes up between 70% and 80% of email traffic worldwide. Thus, spam can create a significant burden for network operators, and the problems associated with spam are more dominant in developing countries, where high volumes of incoming and outgoing spam can cause a severe drain on the already choked bandwidth that is available in those regions. While providing an overview of the impact caused by spam and the efforts carried out worldwide to fight spam, a novel solution for spam analysis is presented in this study. The main strength of the proposed approach lies in the reduced rate of false positive alarm, i.e. detection and rejection of valid emails. Five functional blocks along with six spam analysis techniques were employed in this anti-spam solution which operated in a sequential manner with intelligently designed rules to minimize false positive
emails. The proposed model was tested on 56 email accounts handled by enrolled students in three major departments of a local Saudi Arabian University over a span of one year and results showed a marked decrease in false positive alarm rate. The model proved to be an effective solution for multi-tier anti-spam defense and can be employed in various applications to mitigate spam outreach in online email and messaging services.

References

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Index Terms

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Keywords

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