

# APTIKOM Journal on Computer Science and information Technologies

VOL. 5 NO. 1 March 2020



Indonesia Association of Higher Education Institutions  
In Computer Science and Information Technology



CSIT (APTIKOM Journal on Computer Science and Information Technologies) Published by APTIKOM & Organized by Aptikom Publisher and Pandawan. CSIT is published three a year, every March, July, and November.

**Publisher's Address:**

Jl. Jenderal Sudirman No. 40 Modern Cikokol Tangerang Banten 15117

Website : <https://bit.ly/csitjournal>

Email : [csit@aptikom-journal.id](mailto:csit@aptikom-journal.id)

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On this occasion, we invite researchers to submit a manuscript to our editorial summary. Finally do not forget we say many thanks to all those who have helped the publication of this journal, in particular to participate in sending articles to our editors. May be useful for all of us.



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Indonesia, November 2019

**Husni Teja Sukmana, S.T., M.Sc, Ph.D**

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## FOREWORD FROM CHAIRMAN OF APTIKOM

By saying the thanksgiving, Alhamdulillahirabbil 'Alamin,

APTIKOM Journal on Computer Science and Information Technologies is a peer-reviewed international journal that publishes original research articles, review papers, and short communications that will have an immediate impact on the ongoing research in all areas of Computer Science, Informatics, Electronics Engineering, Communication Network, and Information Technologies. The journal is published four-monthly (March, July, and November) by the Indonesian Association of Higher Education Institutions in Computer Science and Information Technology (APTIKOM).

According to the vision and mission of CSIT Journal, In 2022, APTIKOM Journal on Computer Science and Information Technologies (CSIT) becomes a journal publisher who succeeds in accommodating information on Journal on Computer Science and Information Technologies (CSIT) throughout the world, Contributing to researchers in promoting information on technopreneurship in the world. Therefore, APTIKOM always supports the Ministry of Research, Technology and higher education, regulation of the National Research Master Plan (RIRN) to prepare as early as the possible generation of nations to face the era of educational revolution, one of which is through the quality of APTIKOM Journal on Computer Science and Information Technologies (CSIT) journal, packaged digitally and based on the Open Journal System (OJS)

CSIT Journal is published 3 (three) times a year, in March, July, and November. Hopefully, the quality improvement will be achieved by registering CSIT in the journal indexation with the national reputation Science and Technology Index (SINTA) and the international level indexation of Scopus.

It is expected that through this journal CSIT, the downstream of education in the field of technopreneurship science can be realized better so that it can be beneficial for the entire academic community in APTIKOM in particular and the global community in general in order to increase knowledge of Computer science.



<https://bit.ly/FOREWORDFROMCHAIRMAN>

Indonesia, November 2019

**Husni Teja Sukmana, S.T., M.Sc, Ph.D**  
Chairman Of APTIKOM

## FOREWORD FROM HEAD EDITORIAL

Bismillahirrahmanirrahim praise and gratitude we pray over the presence of the Allah SWT who has given grace and guidance so that it can be finished publishing the CSIT Volume 4 Number 3 November 2019. Where the publication of this journal can be defined as media documentation and scientific information that can help lecturers, students and researchers in publishing research results, opinions and scientific studies to a wide scientific community. Publication of the CSIT Volume 4 Number 3 contains 6 papers, which evolves in the field of Multidisciplinary. Expected to be beneficial to a wide scientific community.

As for 7 (Seven) journal published in this edition are:

- |    |   |  |
|----|---|--|
| 1. | Sri Nawangsari<br>Dhea Ajeng Clara<br>Eri Prasetyo Wibowo                           | The Effect of Electronic Service Quality, Product, Price, Promotion On Customer Satisfaction (Case Study On Customer Online Stores Lazada.Co.Id Jakarta) |
| 2. | Veera Boopathy. E   | Traffic Lane Controller Using RFID and IoT   |
| 3. | Tanweer Alam<br>Abdulrahman A. Salem<br>Ahmad O. Alsharif<br>Abdulaziz M. Alhejaili | Smart Home Automation Towards the Development of Smart Cities  |
| 4. | Noureddine Maouhoub<br>Khalid Rais  | Extraction of Series Resistance and Mobility Degradation in MOSFETs Using Iterative Method   |
| 5. | Harya Gusdevi<br>Ade Setya<br>Puji Handini Zulaecha                                 | Prototype of LPG Gas Leakage Detector Using Flame Sensor and MQ-2 Sensor   |
| 6. | Maurizio Nolé<br>Carlo Sartiani   | Graph Management Systems: A Qualitative Survey   |
| 7. | Sunda Ariana<br>Hadi Syahputra<br>Tri Basuki Kurniawan                              | Identification Word Spacing of Erroneous Sentences on Indonesian Scientific  |

On this occasion, we invite researchers to submit a manuscript to our editorial summary. Finally do not forget we say many thanks to all those who have helped the publication of this journal, in particular, to participate in sending articles to our editors. It may be useful for all of us.



<https://bit.ly/Forewordfromheadeditorial>

Indonesia, November 2019

**Husni Teja Sukmana, S.T., M.Sc, Ph.D**

Editorial In Chief

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## Identification Word Spacing of Erroneous Sentences on Indonesian Scientific

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### Abstract

*Scientific writings in Indonesian language must the rules of the General Guide to the Reformed Indonesian Spelling especially in terms of word spacing. good word spacing is proportional to the width of the typeface. generally use the align right facility in order to have article look neat in typing, but causes space from word to word over space. Additionally, according to the General Guide book for the updated Indonesian spelling, there are rules that use the distance of words with punctuation after and before punctuation. This research is intended to make for detecting applications using word spacing of the Regular Expression String algorithm and to comment on articles based on principles that are in accordance with the General Guidelines for Indonesian Reformed Spelling.*

**Keywords:** *word spacing, Regular Expression, Indonesian Scientific.*

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### 1. Introduction

Bahasa Indonesia is the official language in education [1]. In accordance with Article 36 of the 1945 Constitution [2], it is stated that the Indonesian language as the State language has the function of being the official language of the state, the language of instruction in educational institutions, the means of communication at the national level for the interests of running the government and development, utilization of science, art, and modern technology. Unfortunately, not all language users use good and correct Indonesian, according to the context of their usage. On the other hand, the writing of scientific papers must use good and correct Indonesian language.

In the writing of scientific papers, researchers generally use the align right facility in order to have article look neat in typing. Unfortunately, the use of align right facilities causes spaces from word to word more than one space because good word spacing is proportional to the width of typeface [3], and also as required in the General Guide to the Reformed Indonesian Spelling [4], there are rules that use the distance of words with punctuation after and before punctuation. Therefore, the purpose of this research is how to build an application to detect word spaces using Regular Regression String algorithms [5], and add comments suggestions or notices on articles based on principles in accordance with the General Guide to the Reformed Indonesian Spelling rule.

### 2. Research Method

Typographically, coercion align right(combined without word decoding) causing reading problems or reading comfort. The readability is disturbed when the word spacing is not the same [6]. Other than that in the General Guide to the Reformed Indonesian Spelling there are rules in the use of word spacing and punctuation, the following is a figure of the use of word spacing before and after the punctuation.

Tanda Baca	Simbol	Spasi sebelum	Spasi sesudah	Contoh
Tanda titik	.	✗	✓	Kami pergi. Mereka datang.
Tanda koma	,	✗	✓	Satu, dua, dan tiga.
Tanda titik koma	;	✗	✓	Hari sudah siang; ia masih tidur.
Tanda titik dua	:	✗	✓	Dua hal yang utama: akal dan hati.
Tanda tanya	?	✗	✓	Apa katamu? Aku tidak mendengar.
Tanda seru	!	✗	✓	Jangan masuk! Ia sedang tidur.
Tanda hubung	-	✗	✗	Kemarin ia di-PHK.
Tanda pisah	-	✗	✗	Acara itu berlangsung tanggal 5-10 bulan ini.
Tanda garis miring	/	✗	✗	Harganya Rp200/lembar.
Tanda petik	"..."	✓	✓	Ia dijuluki "si hitam".
Tanda kurung	(...)	✓	✓	Lokakarya (workshop) itu resmi dibuka.
Tanda elipsis	...	✓	✓	Jangan-jangan ... ia pelakunya.
Tanda apostrof	'	✓	✗	Mereka sudah datang, 'kan?

Figure 1. Word spacing after and before punctuation  
 sumber : <https://pbs.twimg.com/media/Cso-113UAAA81JN.jpg>

By utilizing computer technology in the form of software can help in applying General Guidelines to Reformed Indonesian Spelling especially in using word spacing. the outline is to open the document, read the document, find space in the document, comment on the document, and create a new document that contains comments on the use of word spacing (Figure 2).

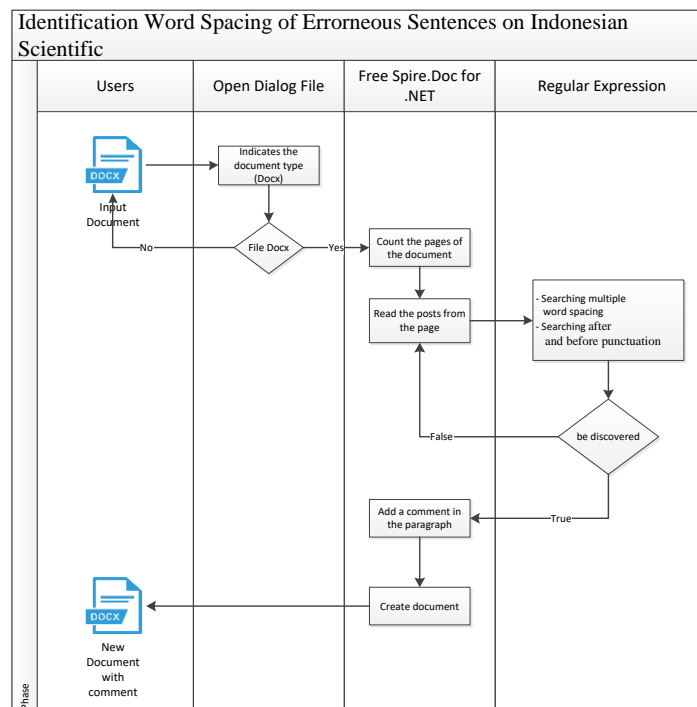


Figure 2. System Architecture

To open a document file in the application requires addition of references or functions. So that allows the application to find and open the file along with filter what files will appear when performing the search process. The OpenFileDialog component allows users to browse the folders of their computer or any computer on the network and select one or more files to open. The dialog box returns the path and name of the file the user selected in the dialog box. Once the user has selected the file to be opened, there are two approaches to the mechanism of opening the file. If you prefer to work with file streams, you can create an instance of the StreamReader class. Alternately, you can use the OpenFile method to open the selected file [7].

The process of changing the word document becomes readable by the app using an external library Free.Spire.Doc for .NET [8], by calling the word document that has been read by the OpenFileDialog component, counting the number of pages in the document, counting the number of paragraphs on the page, and getting the text or words that are then compared to the word search. This process is done repeatedly until the number of paragraphs and the number of pages in the document are met and marked with comments on the document if the article in the paragraph is found.

The process of detecting strings using a regular expression algorithm [5]. In accordance with the figure (Figure 1), the following tables use of regular expression in programming language c# (Table 1).

Table 1. The punctuation formula of the regular expression in C# programming language

Punctuation	Symbol	Formula
Multiple word spacing		<code>Regex(@" ")</code>
Word spacing before the dot	.	<code>Regex(@" [\.\ ]")</code>
Word spacing before the coma	,	<code>Regex(@" [\,\ ]")</code>
Word spacing before the semicolon	;	<code>Regex(@" [\;\ ]")</code>
Word spacing before the colon	:	<code>Regex(@" [\:\ ]")</code>
Word spacing before the question mark	?	<code>Regex(@" [\?\ ]")</code>
Word spacing before the exclamation mark	!	<code>Regex(@" [\!\ ]")</code>
Word spacing before the hyphen	-	<code>Regex(@" [\-\ ]")</code>
Word spacing after the hyphen		<code>Regex(@" [\-\ ] ")</code>
Word spacing before the dash	_	<code>Regex(@" [\_\ ]")</code>
Word spacing after the dash		<code>Regex(@" [\_\ ] ")</code>
Word spacing before the slash	/	<code>Regex(@" [\/\ ]")</code>
Word spacing after the slash		<code>Regex(@" [\/\ ] ")</code>

In general can be described flow diagram for identification word spacing (Figure 3), and the process of searching the string with regular expression (Figure 4).

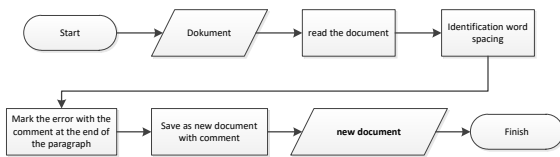


Figure 3. Flow Diagram Identification Word Spacing

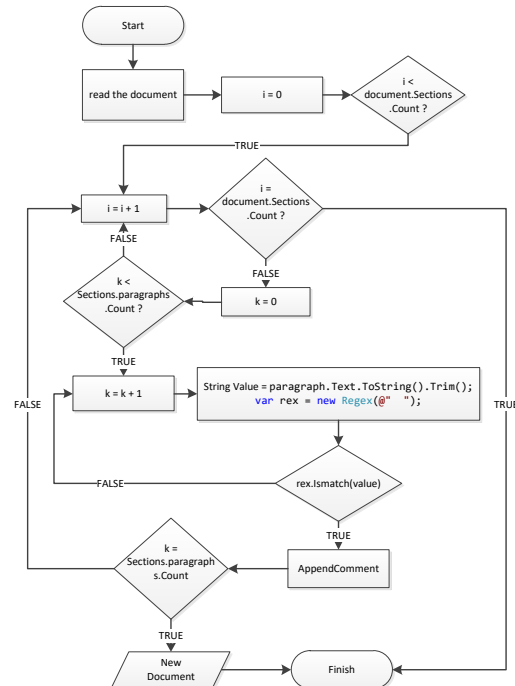


Figure 4. Flow Diagram Searches for Multiple Word Spacing

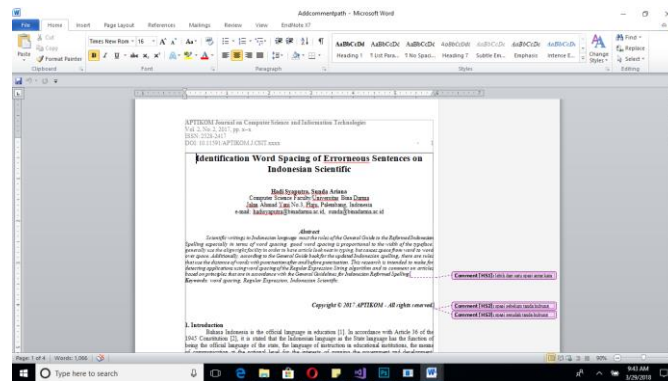
### 3. Results and Analysis

Testing on the application is done by testing the needs of functionality. Test functionality using black box method with the result that all functional system can be run as it should be. Figure 5





Figure 5. Flow Software Identificaton Word Spacing of Erroneous Sentences on Indonesian Scientific



#### 4. Conclusion

Writing scientific papers of Indonesian language follow the rules of the General Guide to the Reformed Indonesian Spelling, word spacing is the most important part in a writing, because with word spacing will help readability of writing. Errors can be identified with the help of the software. The search method uses the Regular expression method, the result of this identification software is to comment on a paragraph where there is an error in using word spacing.

#### References

- [1] Sari, I. P. *Bahasa Indonesia Sebagai Pemersatu Negara Kesatuan Republik Indonesia (NKRI)*. In *Seminar Nasional Bulan Bahasa*. UNIB. 2015: 234-242.
- [2] E. Z. Arifin. *Implementasi Pasal 36 UNDANG-UNDANG BAHASA*. In *Pujangga*. 2015: 1-23.
- [3] Strizver Ilene, *Word Spacing*. 2013 : 1.
- [4] Grasindo, Tim. *Pedoman Umum Ejaan Bahasa Indonesia & Pembentukan Istilah*. Gramedia Widiasarana, 2016.
- [5] Thompson, Ken. *Regular Expression Search Algorithm*. *Communications of the ACM* 11.6 (1968): 419–422. *Communications of the ACM*. Web.
- [6] Swardjono. *Aspek Tipografis dalam Penyajian Karya Tulis Imiah/Akademik/Profesional*. In *Seminar-Loka*. 2008:1-12
- [7] Jones, Mike, At all. *How to: Open Files Using the OpenFileDialog Component*. Microsoft, .2017. <https://docs.microsoft.com/en-us/dotnet/framework/winforms/controls/how-to-open-files-using-the-openfiledialog-component>. 26 March 2018
- [8] Nuget. FreeSpire.Doc for .NET. 2016. <https://www.nuget.org/packages/FreeSpire.Doc/>. 27 March 2018