

# Web Tags Formatting with Multilevel Numbering

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**ABSTRACT**

To know the headline location in a web page/blog automatically needed an extraction method because each website/blog has own unique characteristic in advertisement, headline, and link list placement. This research developed a system to mapping tag pairs, and single tag of HTML on website/blog code, the result can be used as a pattern or comparison against already saved patterns in the database. Extracting and mapping method use both vertical and horizontal multilevel numbering. Data example has taken from 20 websites of government, school, and also private companies to obtain the result of tag mapping that is going to be used to know the amount of pattern that produced by a website. Template comparisons are up to 5th level, the result of extracted website/blog contains hundreds of pages starting from the lowest that is 110 and the highest 280 and it is only less than ten patterns for each website. Conclusion of this research is that all extracted website has pattern less than 10% of the total pages.

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**1. INTRODUCTION**

Over the past decades, researches in computing science and information technology have been intensively carried out worldwide to pervade computer systems into every area of human life [1]. Managing knowledge on the World Wide Web has become an important issue to given the large volume of information that is now available on the Internet. However, the management of this knowledge is a difficult task both because of the dynamic nature of the Internet [2].

Currently, most Web content written in HTML, which follows a rigid format in displaying content because web pages for the syntax based HTML Web written for human comprehension [2]. The HEAD element contains information, also called metadata, about a web page, such as its title, keywords, description, language, and place of publication that may be useful to search engines, and other metadata that not considered page content [3]. The purpose of Meta tags are search engines can find key information from the website [4], [5]. The Meta tag provides authors and Web site owners a means to control how their information displayed and retrieved in a search engine [6]. Observed that collaborative tagging users exhibit a great variety in their sets of tags; some users have many tags, and others have few [7]. Other research has revealed from 27% to 38% of website pages containing Meta tags descriptions [8]. It means that 62% up to 73% of web pages do not have Meta tags descriptions.

Meta tags description has characters length limitation [9], [10]. There are many web pages which do not have Meta tags description [11], Meta tags description are not suitable with the web page content and Meta tags description only describes website thoroughly, not per page. Creating a pattern must tags based because tags have standard rules in use and BODY element of website consists of tags, news and links. Therefore, author created a method to extract and map the BODY element on every website page so that each tag converts to unique series number in a tiered series numbering called multilevel numbering method. A website page converts to a tiered series numbering, if the tiered series numbering does not exist in the database then the tiered series numbering going to stored as a pattern on the database in others it saves as a comparison result. Author created a system using multilevel numbering method to extract and map the

information in BODY element based on web tags. The result used as a pattern or comparison material against the pattern. It will be useful such as to know the main content of a website page.

**2. RESEARCH METHOD**

Purpose of this research created an extraction method called multilevel numbering, building a system based on the method, test the system against 20 websites that have been online, count total web tags pattern and error page presentation. System features are able to perform the reading three website pages at once, process of patterns extraction and comparison to stored pattern in the database is running as background.

The use of tags to identify potential description wording usually text of Web pages had proved relatively unsuccessful [8]. Multilevel numbering is a level that contains level groups put into order based on the number according to position of the element. Mapping a web page can be a pattern or comparison material to patterns used Tags in the BODY element of web code.

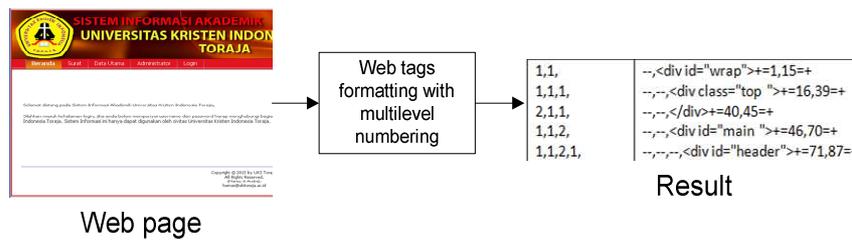


Figure 1. Overview of system

In general, system extracts web page code into level numbering arrangement (see figure 1). The developed system takes all pages from a website and processes it one by one. Thus, each page has an extraction result.

Every page on a website going to extracted to know the level of tags in it. The result going to compared with stored patterns in the database. If a pattern is not the same with the patterns in the previous pages, the pattern saves as a new pattern in the database. This system has three classes, *TDownloadPageHttp*, *TPartingStringHml* and *TDatabaseAdder*.

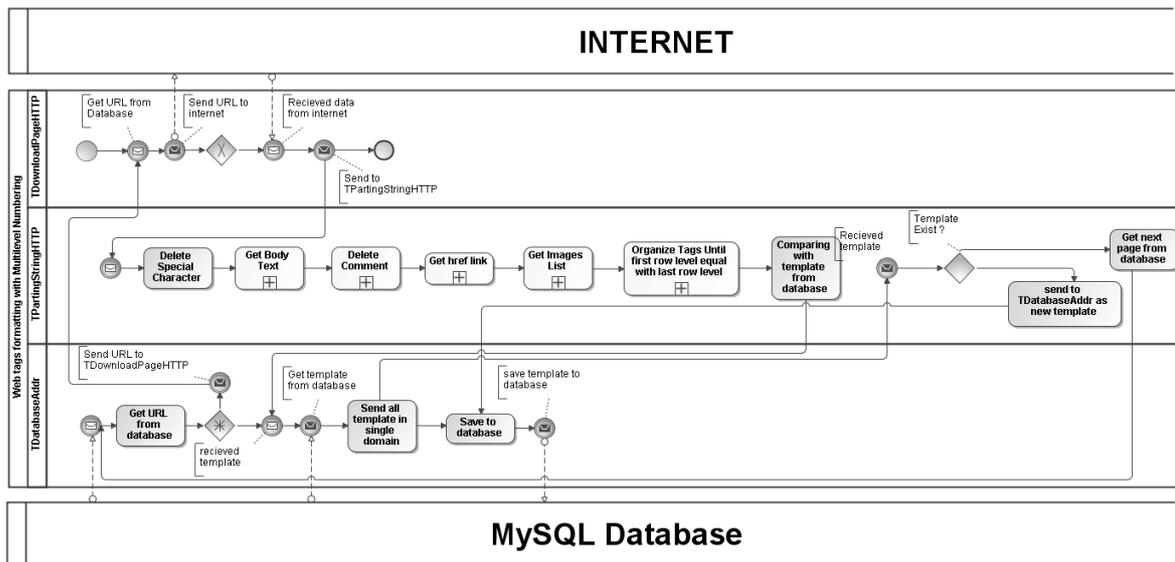


Figure 2. Collaborative Process

*TDownloadPageHttp* class function is to take website page from the internet and send it to *TPartingStringHml*. *TPartingStringHml* function is to conduct extraction and mapping to the page has downloaded. *TDatabaseAdder* class function is to keep extraction result in the database if the extraction result does not exist in database (See Figure 2).



Page Name	Thread	Byte		
http://www.upxanel.com	2	13010	Done	
http://ukitoraja.ac.id	3	17883	Done	
http://resensifilmbagus.blogspot.com	3		Start	
http://www.pa-amurang.go.id	2	38390	Done	
http://www.pa-sidrap.go.id	2	71462	Done	
http://karnyoto.blogspot.com	3		Start	
http://www.sman1-pacitan.sch.id	2	51534	Done	
http://www.sekolahciputra.sch.id	2		Start	
http://www.acsjakarta.sch.id				
http://www.sekolahbogorraya.com				
http://www.amartakarya.co.id				
http://www.aneahira.com				
http://www.metrodata.co.id				
http://idrsmudeng.wordpress.com				
http://www.akprind.ac.id				
http://dprd-mamujuutarakab.go.id				
http://dprd-pareparekota.qo.id				

Figure 6. The Process of Page Extracting

Nama Halaman	Tmp	Title	Tanggal
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=38&Itemid=8	2	proses beracara	6/4/2013 1:20:25 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=28&Itemid=7	2	pendaftaran perkara	6/4/2013 1:20:30 PM
http://www.pa-amurang.go.id/	2	situs resmi pengadilan	6/4/2013 1:20:31 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=69&Itemid=77	2		6/4/2013 1:20:28 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=67&Itemid=76	2	panduan pengajuan	6/4/2013 1:20:32 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=68&Itemid=75	2		6/4/2013 1:20:33 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=124&Itemid=7	2	buku panduan	6/4/2013 1:20:42 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=frontpage&Itemid=27	2	situs resmi pengadilan	6/4/2013 1:20:44 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=56&Itemid=67	2	statistik pengaduan	6/4/2013 1:20:43 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=55&Itemid=66	2	data hukuman	6/4/2013 1:20:48 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=53&Itemid=64	2	mekanisme pengadu	6/4/2013 1:20:51 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=52&Itemid=63	2	pedoman pengaduan	6/4/2013 1:20:50 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=50&Itemid=59	2	hak-hak pencari kea	6/4/2013 1:20:54 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=frontpage&Itemid=25	2	situs resmi pengadilan	6/4/2013 1:20:56 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=89&Itemid=94	2		6/4/2013 1:20:52 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=87&Itemid=93	2	dipa 2012	6/4/2013 1:20:58 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=90&Itemid=95	2		6/4/2013 1:20:57 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=article&id=88&Itemid=92	2		6/4/2013 1:20:59 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=category&id=7&Itemid=8	2	transparansi	6/4/2013 1:21:01 PM
http://www.pa-amurang.go.id/index.php?option=com_content&view=category&id=29&Itemid=	2	laporan usang iwadi	6/4/2013 1:21:03 PM

Figure 7. List of page download

Table 2. The Result of Extracting Websites

Website	Pages	Templates	Errors
http://www.upxanel.com	129	4	0
http://ukitoraja.ac.id	110	3	1
http://resensifilmbagus.blogspot.com	280	6	0
http://www.pa-amurang.go.id	214	9	2
http://www.pa-sidrap.go.id	271	7	3
http://karnyoto.blogspot.com	153	4	0
http://www.sman1-pacitan.sch.id	122	6	3
http://www.sekolahciputra.sch.id	112	4	2
http://www.acsjakarta.sch.id	206	8	6
http://www.sekolahbogorraya.com	168	3	4
http://www.amartakarya.co.id	139	2	0
http://www.aneahira.com	113	4	0
http://www.metrodata.co.id	114	4	0
http://idrsmudeng.wordpress.com	117	3	0
http://www.akprind.ac.id	167	7	3
http://dprd-mamujuutarakab.go.id	123	4	4
http://dprd-pareparekota.go.id	140	6	1
http://www.barrukab.go.id	181	8	3
http://sementonasa.co.id	111	3	3
http://www.ekaristi.org	194	4	2

Table 2 shows system execution results to perform the extraction and mapping of pages to 20 websites. Table columns shows the amount of processed pages, amount of template result by using multilevel numbering, and amount of pages cannot be processed. Error while conducting a mapping and extraction on several pages of website caused by incomplete tag syntaxes, it written by website programmer even though the browser can still read or ignore it.

#### 4. CONCLUSION

Contents of the BODY element are a combination of news and web tags, a method required to extract and map web tag into unique series number, and this research uses multilevel numbering method.

All extracted websites have a pattern is less than 10% that number of whole pages in a website. The least amount of the page is 110, and the highest is 280 pages. The system produces less than 3.5% error by using multilevel numbering method. The system result is web tag pattern and it are can be material to determine the position of headlines, advertisements and links list. All components position listed in unique tiered series numbering. Sometimes, the web programmer was not paying attention in writing complete web tags of a website. Therefore, there were tags which had an opening but not a closing element or otherwise. Thus, the system reads as "error". It suggested doing further research to get the news of a website by using this multilevel numbering method, and researches formatting website tags by using other methods.

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