

SEARCH APPLICATION DEVELOPMENT PRODUCTS MAKE UP TUTORIAL VIDEO OF USE API YOUTUBE AND GOOGLE ANDROID-BASED SPEECH TO TEXT

Tisya Luqyana¹, Dian Dharmayanti²

^{1,2}Information Engineering - University Computer Indonesia

Jl. Dipatiukur 112-114 Bandung

E-mail: tisyaluqyana20@gmail.com¹, dian.dharmayanti@email.unikom.ac.id²

ABSTRACT

Dissemination of information through a variety of online media. The rapid technology could help ease the job of society in fulfillment of the various aspects of life needs. Progress gadget or smartphone currently broad reaching, impacting the development of android mobile devices and mobile commerce. One is a video blog, or vlog often called. Vlogs can usually be found in the media Youtube. Beauty vlog or Beauty Blogger makes all kinds of videos that discuss about beauty, such as makeup tutorial. When playing video makeup tutorials on youtube there are some difficulties such as having to repeat two to three times watched video tutorials to get the brand and type of product you want and record it and then play it back and so on. Therefore, This study intends to build an application that can play the videos tutorial how to make up that comes from Youtube API. Superior feature of this application is capable of performing the conversion of video voice into text by using Text To Speech Cloud from Google. Then from the resulting text will be conducted searches and pendekteksian words beauty product brands are mentioned in the video using naïve Bayes algorithm. Users can search for the brand product of the extraction of these videos in online shops like bukalapak. Then from the resulting text will be conducted searches and pendekteksian words beauty product brands are mentioned in the video using naïve Bayes algorithm. Users can search for the brand product of the extraction of these videos in online shops like bukalapak. Then from the resulting text will be conducted searches and pendekteksian words beauty product brands are mentioned in the video using naïve Bayes algorithm. Users can search for the brand product of the extraction of these videos in online shops like bukalapak.

Keywords : Beauty Vlogs, Make Up, bukalapak, Naïve Bayes, Google Speech To Text, API Youtube, Android

1. PRELIMINARY

Dissemination of information through a variety of online media. The rapid technology could help ease the job of society in fulfillment of the

various aspects of life needs. Progress gadget or smartphone currently broad reaching, impacting the development of android mobile devices and mobile commerce. This modern trading activities more effective and appropriate use in the era of technological sophistication. One is a video blog, or vlog often called. Vlogs can usually be found in the media Youtube. On YouTube, everyone can have an account. Easily upload video makes many creative to create a variety of videos. Thus, in its development, vlogs have a lot of interest and also develop into different types. There vlog contains comedy, adventure, beauty, or so-called beauty vlog. Beauty vlog according to the above description means that the video blogs that discuss about beauty. People who create beauty vlog called a beauty blogger. Beauty blogger makes all kinds of videos that discuss about beauty, such as makeup tutorial. Review of a product is one of the types of videos created by the beauty vlogger. Moreover, the beauty vlogger who already have a lot of followers and the audience they would be more likely to upload their videos. There is also a video they made a makeup tutorial showing the various products they use while providing reviews of the products he uses. Beauty blogger makes all kinds of videos that discuss about beauty, such as makeup tutorial. Review of a product is one of the types of videos created by the beauty vlogger. Moreover, the beauty vlogger who already have a lot of followers and the audience they would be more likely to upload their videos. There is also a video they made a makeup tutorial showing the various products they use while providing reviews of the products he uses. Beauty blogger makes all kinds of videos that discuss about beauty, such as makeup tutorial. Review of a product is one of the types of videos created by the beauty vlogger. Moreover, the beauty vlogger who already have a lot of followers and the audience they would be more likely to upload their videos. There is also a video they made a makeup tutorial showing the various products they use while providing reviews of the products he uses.

As time, enthusiasts are increasingly clever in using technology. One of them utilize content vlog beauty in obtaining reviews of products they want to purchase as individual skin type. Therefore, the applicants no longer need to feel the loss of the products they want to buy. Because by looking at

product reviews, consumers will be more confident with the products they buy. They will no longer immersed in ignorance of the products to be bought. The results of questionnaires on October 17, 2018 the minimum school children aged 15 years and students totaling 52 respondents to the characteristics of sex confluence, makeup tutorial video viewers,

Therefore, this study intends to build an application that can play the videos tutorial how to make up that comes from Youtube API [1]. Superior feature of this application is capable of performing the conversion of video voice into text by using Text To Speech Cloud from Google [2]. Then from the resulting text will be conducted searches and pendektaksian words beauty product brands are mentioned in the video using naïve Bayes algorithm. Users can search for the brand product of the extraction of these videos in online shops like bukalapak.

2. BASIC THEORY

2.1 Procedures corrective makeup

Corrective makeup is a procedure to hide the flaws on the face to make it look perfect. Eg less simestris face, or face looks puffy be camouflaged with make-up products in accordance with what is required. [4]

2.1.1 Procedure for characterization makeup

Widely used for the benefit of the world of acting and entertainment. Makeup like this could use a lot of colors to suit the character he played, for example antagonists suitable for use dark colors to be more assertive character traits. [4]

Youtube API 2.2

Application Programming Interface, or YouTube API, allowing developers to access statistical YouTube video and data channels through two types of calls, REST and XML-RPC.

To use the YouTube API, a developer must have a Developer ID. This is an additional property attached to the YouTube account of the developer. The information available to the developers similar to the information that can be obtained by accessing the YouTube RSS feed.

As of March 2006, API calls from Flash are disabled due to security concerns.

2.3 Naïve Bayes algorithm

Naive Bayes algorithm is a classification method using probability and statistics that put forward by the British scientist Thomas Bayes. Naive Bayes algorithm to predict future opportunities based on the experience in the past so it is known as Bayes' Theorem. The main feature Dr. Naive Bayes classifier are very strong assumptions (naive) would be the independence of each state / event.

2.4 Google Speech To Text

Google Cloud Speech-to-Text allows developers to change the audio into text by applying neural network model is strong in API that is easy to use. API recognizes 120 languages and variants to support your global user base. You can activate a command-and-control voice, transcribing audio from the call center, and more. It can process streaming real-time or previously recorded audio, use Google's machine learning technology.

3. RESEARCH

3.1 Analysis System

Analysis of the system in a way to find out the problems existing in the system and determine the system needs to be built. The analysis will be discussed is the problem analysis, requirements analysis software (functional) and analysis of non-functional.

To build an application that will function in accordance with their needs is required analysis of the system is running at this time or running in general. This analysis aims to create a system to be built is not out of the system that is currently running. Analysis of the system of application, namely:

1. The system took a video tutorial on Youtube API.
2. The system is playing a video and subtitle text extraction process of the video being played.
3. Subtitle text of the video being played will be analyzed to detect the brand or product names mentioned in the video.
4. The system can then search for products from bukalapak API.

3.1.1 Analysis of Domain Case

Domain analysis of cases made to obtain a general and comprehensive overview of the social situation study or research object:

1. Banyak makeup brand manufacturers start brewing provide product information through the beauty vlogger.
2. Pengguna tend to want to buy once influenced by the beauty vlogger in reviewing the brands and types of products.
3. Pengguna tend to want to refer products to others he had seen.
4. Pengguna make products that are seen as the main preference.
5. Pengguna will be looking for more about the information of the products he saw and look for the positive things that support those products.

3.1.2 Analysis of the Problem

A problem analysis aims to identify the problems to be solved. Analysis of the problem is also the first step in the analysis phase of the system. Problems will be identified could be from a question. This problem causes the target system is not reached. Therefore, the first step that must be done at the stage of problem

analysis is to identify in advance the problems that occur.

In watching video tutorials on youtube sometimes we have to repeat two to three times watched video tutorials to get the brand and type of product you want and record it and then play it back and so on.

3.1.3 Analysis System Proposed

The system architecture is proposed in this study has the architectural design as follows:

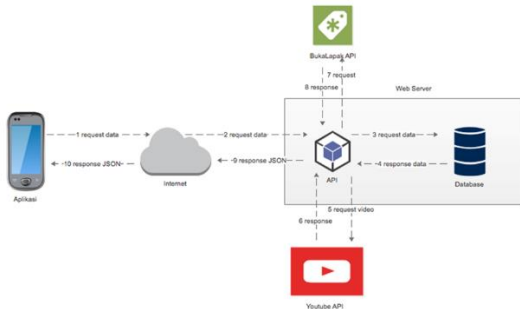


Figure 3.1 Proposed System Architecture Design

Description of architectural design drawings above are as follows:

1. Aplikasi perform data request (request) to the API inside a web server via an internet connection.
2. Request data from the application is received by the API and determine the type of the request.
3. If the type of request is a request data that resides in the database server, the API will perform queries on the database system.
4. API get data from the database according to the queries made.
5. If the type of request is requested video data, the API will perform a data request to the YouTube API to get the video data.
6. Youtube APIs provide a response in the form of video data to the API JSON format.
7. If the request is requesting data types of products, the API will perform a data request to bukalapak API products.
8. Bukalapak APIs provide a response in the form of product data to JSON API.
9. API provide response data to the application with JSON format data.
10. Aplikasi receive a response requested data in JSON format, and then do the parsing process by the application.

3.1.5 Analysis Technology

Technology analysis aims to determine what technology will be used within a system to be built. The technology used in this system are:

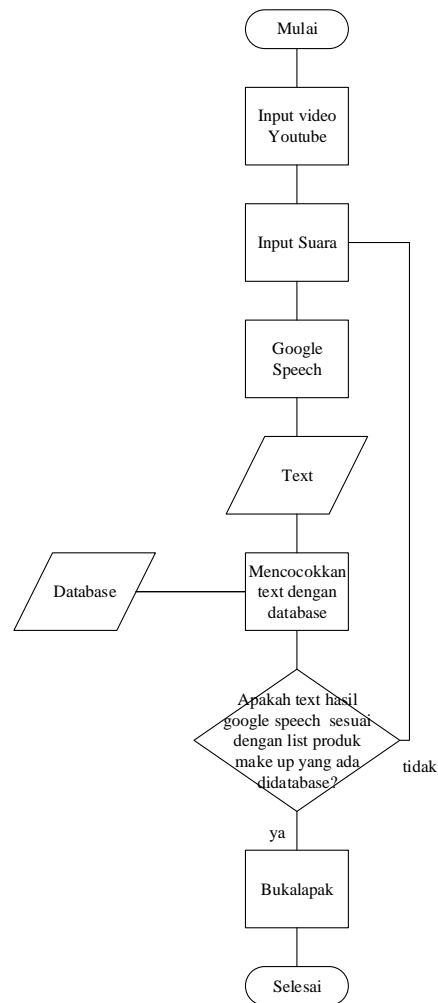


Figure 3.2 Flow Applications

3.1.6 Input Data Analysis (Analysis of Algorithms)

Data input used is the text that resulted from the conversion process of the voice in the video into text. The following examples of data input.

Table 3.1 Data Input

duration	Sentence
0: 00: 03.0: 00: 05	So in the video this time, I want to make
0: 00: 05.0: 00: 10	Video Makeup Tutorial themed Bridesmaid Makeup
0: 00: 13.0: 00: 17	Incidentally right now who's wedding have started much so right
0: 00: 17.0: 00: 22	It makes possible the bridesmaid you could replicate this makeup
0: 00: 22.0: 00: 25	Insha Allah, this makeup also is easy to spot and local products
0: 00: 29.0: 00: 35	Well so first, I want to wear Makeover Change Water Power Skin Moisturizer
0: 01: 16.0: 01: 21	Next I use Liquid Foundation Weightless Powerstay Makeover

0: 03: 03.0: 03: 06	Well let me be more durable, I want to wear this
0: 03: 06.0: 03: 09	Makeover Powerstay Matte Powder Foundation

3.1.7 analysis Preprocessing

Preprocessing is the stage to prepare the text into data to be processed in the next stage. Preprocessing stage the text used in this study was the establishment of a sentence, case folding, tokenisasi sentence, removal of stopwords as can be seen in the following figure.



Figure 3.3 Preprocessing

a) sentence segmentation

Stage Segmentation is the process of separating the input sentence in the document text into units of the sentence. The result of the segmentation process sentences of a document can be viewed below.

Table 3.2 Sentence Segmentation

S1	So in the video this time, I want to make
S2	Video Makeup Tutorial themed Bridesmaid Makeup
S3	So loads are nanya to me, "Sister, create makeup bridesmaid dong."
S4	Incidentally right now who's wedding have started much so right
S5	It makes possible the bridesmaid you could replicate this makeup
S6	Insha Allah, this makeup also is easy to spot and local products
S7	Well so first, I want to wear Makeover Change Water Power Skin Moisturizer
S8	Next I use Liquid Foundation Weightless Powerstay Makeover
S9	Well let me be more durable, I want to wear this
S10	Makeover Powerstay Matte Powder Foundation

b) Case Folding

The process of folding case is a phase change all the letters in the document to lowercase.

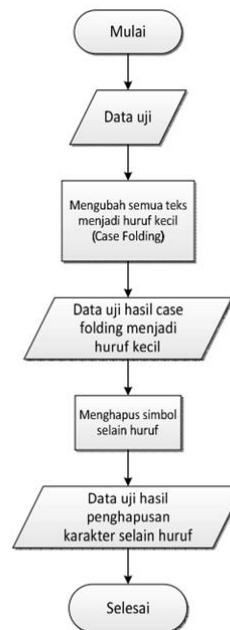


Figure 3.4 Figure groove folding case

Table 3.3 Case Folding

Si	Sentence
S1	so in the video this time, I want to make
S2	themed video tutorial bridesmaid makeup makeup
S3	so loads are nanya to me, "kak, create makeup bridesmaid dong."
S4	coincidence right now who's wedding have started much so right
S5	the bridesmaid happens maybe you could replicate this makeup
S6	God willing, this makeup also is easy to spot and local products
S7	nah so first, I want to use the power makeover skin moisturizer water change
S8	I use a makeover next Weightless powerstay liquid foundation
S9	nah let more durable, I want to wear this
S10	powerstay makeover matte powder foundation

c) filtering

Stage filtering process is to delete numbers and punctuation marks leaving only az characters in each sentence.

Table 3.4 Filtering

Si	Sentence
S1	so in the video this time I want to make
S2	themed video tutorial bridesmaid makeup makeup
S3	so loads are nanya to me kak create makeup bridesmaid dong
S4	coincidence right now who's wedding have started much so right
S5	the bridesmaid happens maybe you could replicate this makeup

S6	God willing, this makeup also is easy to spot and local products
S7	nah so first, I want to use the power makeover skin moisturizer water change
S8	I use a makeover next Weightless powerstay liquid foundation
S9	nah let more durable, I want to wear this
S10	powerstay makeover matte powder foundation

d) Tokenisasi

Tokenisasi stage is the stage of cutting string input by every word that constitute it.



Figure 3.5 groove tokenisasi

Table 3.5 Tokenisasi

Si	Kalimat	Term	
S1	jadi di video kali ini aku mau buat	jadi	di
		video	kali
		ini	aku
		mau	buat
S2	video makeup tutorial yang bertemakan bridesmaid makeup	video	makeup
		tutorial	yang
		bertemakan	bridesmaid
		makeup	

e) Stemming

At this stage, the word affix disposal. For example, the word "however" the steps taken by the next run stemming check the word "however" in the dictionary basic words, if no then it will go to the stage of particle removal is "-pun" on the basis of further checks suffix prefix words if no then the algorithm returns said to be a "how to" and stemming stop. For stemming the word "jg" and "jd" then the system will check the dictionary that contains the abbreviation of the words basic anomalies which have been registered with the example contained in the dictionary the word "DND" = "also", "sn" = "so". So that all the words are not listed in the dictionary that contains the abbreviation of the words will be changed to the word basic standard basic.

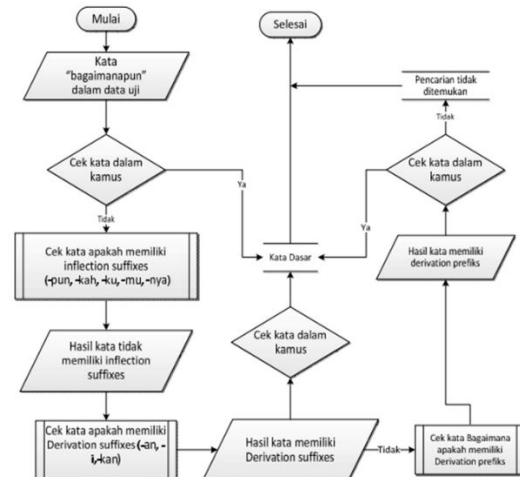


Figure 3.6 stemming groove

Table 3.6 Stemming

Si	Kalimat	Term	
S1	jadi di video kali ini aku mau buat	jadi	di
		video	kali
		ini	aku
		mau	buat
S2	video makeup tutorial yang bertemakan bridesmaid makeup	video	makeup
		tutorial	yang
		tema	bridesmaid
		makeup	

f) Removal of stopwords

Stopword or stopwords are words which are substantial in the corpus that has the function but does not have the meaning that should not be used for identification purposes so that the document can be eliminated. Sample collection list Adikara stoplist by Pandu's son.



Figure 3.7 stopwords

Table 3.7 Removal of stopwords

Term				
ada	akhiri	antaranya	atas	bagaimanapun
adalah	akhirnya	apa	atau	bagi
adanya	aku	apaan	ataukah	bagian
adapun	akulah	apabila	ataupun	bahkan
agak	amat	apakah	awal	bahwa
agaknya	amatlah	apalagi	awalnya	bahwasanya
agar	anda	apatah	bagai	baik
akan	andalah	artinya	bagaikan	bakal
akankah	antar	asal	bagaimana	bakalan
akhir	antara	asalkan	bagaimanakah	balik

The result of the removal of stopwords.

Table 3.8 Results of stopwords Disappearance

Si	Kalimat	Term	
S1	jadi di video kali ini aku mau buat		
		video	
			buat
S2	video makeup tutorial yang bertemakan bridesmaid makeup	video	makeup
		tutorial	
		bertemakan	bridesmaid
		makeup	

3.1.8 Product Data Analysis

Here are examples of product data.

Table 3.9 Product Data

Fashion Brow Pomade Crayon
Gigi Hadid Fashion Fluffy Ultra Brow
Fashion 3D Cream Brow Pencil
Fashion Duo Brow Shaper
Brow Precise Fiber Volumizer
Fashion Cream Brow Pencil
Fashion 3D Brow Palette
Fashion Brow Mascara
Tattoo Maybelline Brow Gel Tint
Ultra Brow Fashion Fluffy
Hypersharp Wing
Hypersharp Power Black
Master Liner
Lasting Drama Gel Liner
Liquid Foundation Weightless Powerstay Makeover
Hypermatte Liquid Liner
Hyperglossy Liquid Liner
Hyperink
Hyper Impact
Hyper Glitz Ink
Gigi Hadid Gel Liner
Gigi Hadid Hypersharp Liner
The blushed Nudes
Gigi Hadid Eye Contour Palette
Color Sensational Diamond
Rock Nudes Palette
The Tone On Tone Nudes

Makeover Powerstay Matte Powder Foundation
Gigi Hadid Eyeshadow Palette
Makeover Power Skin Moisturizer Water Change

3.1.9 Analysis of Data Search Products

Suppose there is a sentence as follows:

Table 3.10 Data Search Products

Si	Kalimat	Term	
S7	nah jadi yang pertama aku mau pakai makeover power skin water change moisturizer	pertama	pakai
		makeover	power
		skin	water
		change	moisturizer

All terms that are formed will be sought in the product data with the following results:

Table 3.11 Results of Product Data

Term	Jumlah yang sama di data produk
Pertama	0
Pakai	0
makeover	3
power	1
Skin	1
Water	1
Change	1
Moisturizer	1

Then the product detection results for sentence examples are as follows:

Table 3.12 Results of Detection Products

Si	Kalimat	Produk yang dikenali
S7	nah jadi yang pertama aku mau pakai makeover power skin water change moisturizer	makeover power skin
		water change
		moisturizer

3.2 Use Case Diagram

Here is the use case diagram created for the application to be built:

Figure 3.9 Use Case Diagram

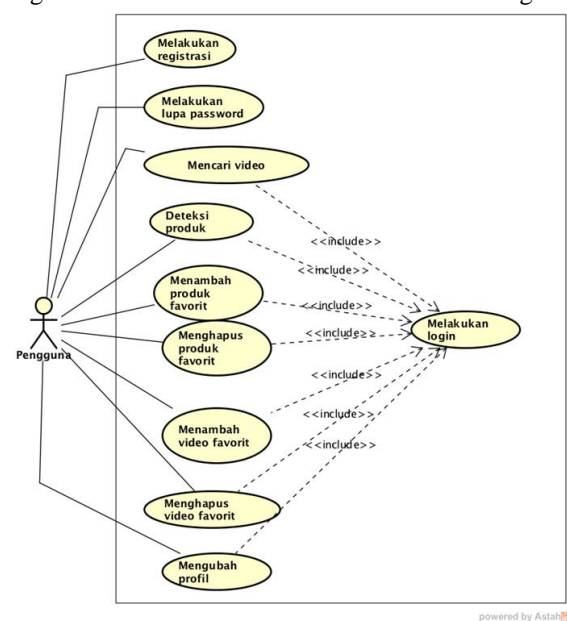


Figure 3.8 Use Case Diagram

3.3 Scenario Testing

Testing is done by trying all possibilities occur and testing is done repeatedly if the test found an error it will do a search or repairs to correct an error. If you have finished doing repairs, it will be done continuously in order to obtain the best results. Plans alpha testing will be done on this software can be seen in Table 0.6 Table Alpha Test Plan as follows:

Kelas Uji	Poin Pengujian	Jenis Pengujian
Login	Input data login	Black Box
	Validasi data login	Black Box
Registrasi	Input data pendaftaran	Black Box
	Validasi data pendaftaran	Black Box
	Menyimpan data pendaftaran ke database	Black Box
Lupa Password	Input data lupa	Black Box
	Validasi data lupa	Black Box
	Menyimpan data lupa ke database	Black Box
Mencari Video	Input data cari	Black Box
	Validasi data cari	Black Box
	Menampilkan data video	Black Box
Menambah Video	Input data video	Black Box
	Validasi data video	Black Box
	Menyimpan data video ke database	Black Box
Menghapus Video	Input data hapus	Black Box
	Validasi data hapus	Black Box
	Menghapus data video di database	Black Box
Menambah Produk	Input data produk	Black Box
	Validasi data produk	Black Box
	Menyimpan data produk ke database	Black Box
Menghapus Produk	Input data hapus	Black Box
	Validasi data hapus	Black Box
	Menghapus data produk di database	Black Box
Ubah Profil	Input data profil	Black Box
	Validasi data prod=fil	Black Box
	Merubah data profil ke database	Black Box
Deteksi Produk	Input data video	Black Box
	Validasi data video	Black Box
	Menampilkan hasil deteksi video	Black Box

Conclusion of black box testing:

Based on the results of testing that has been done, it was concluded that all processes in the application of makeup product search using youtube video tutorial has been running as expected.

4. COVER

4.1 Conclusion

Based on test results obtained from studies conducted in the preparation of this thesis as well as referring to the purpose of the study that has been created, it can be concluded that:

1. Application of the product search makeup tutorial youtube videos on android platform already helps users specifically in the search process in the beauty products makeup tutorial videos on youtube.

4.2 Recommendations

Search software products from makeup tutorial video on youtube that have been built have been able to resolve the problems faced. As for suggestions on the development of search software products from makeup tutorial videos on youtube are as follows:

1. Adding menu purchase history in order not to repeat purchase painstakingly.
2. Can add other e-commerce such as Tokopedia and others for more promo offer.
3. Increase the number of content categories that make up tutorial information desired by the user more specific.

BIBLIOGRAPHY

- [1] EW Wirga, "Content Analysis In Social Media Video Youtube To Support Political Campaign Strategies," Journal of Information and Computer Science, vol. 21, pp. 14-26, 2016.
- [2] khairunizam, Danuri, Jaroji, "Music Player Application Using Speech Recognition," Journal of Information Inovtek Polbeng-Series, vol. 2, no. 2, 2017.
- [3] A. Syakuro, "Public Sentiment Analysis Of E-Commerce On Social Media Method Using Naive Bayes classifier," Journal of the Development of Information Technology and Computer Science, pp. 20-35, 2017.
- [4] RS Pressman, Software Engineering: Practitioner Approach, Yogyakarta: Andi Offset, 2013.
- [5] MTP Martha, Make-up 101 Basic Personal Make-up, Jakarta: Gramedia Pustaka Utama, 2013.
- [6] D. Mulyawan and N. Suriana, AZ About Cosmetics, Jakarta: Elex Media Komputindo, 2013.
- [7] J. Helianthuson, YouTube Marketing, Jakarta: Elex Media Komputindo, 2016.
- [8] M. Priawan, Technology, Smartphone, and Android, Semarang: Department of Curriculum and Educational Technology, UNS, 2013.
- [9] P. Widodo, Applications Voice to Text Conversion Using Google's Android-Based Speech API, Ferris Informatics, 2014.
- [10] Ian H Witten, Eibe Frank, Mark A.Hall, Christopher J.Pal, Fourth Edition Data Mining Practical Machine Learning Tools and Techniques.
- [11] Yuwono, EL, Antonio, T. ., Study Format Audio and Text to Speech to Text Modules, 2015.
- [12] S Thite, A Gore, S Yelmar, Y Lonkar, "Android-Based Speech Recognition," International Journal of Advanced Research in Computer Networking, Wireless and Mobile Communications, vol. 2, no. 3, pp. 125-133, 2015.
- [13] O Kevin, Shibwabo KB, "The Application of Real-Time Voice Recognition to Control Critical Mobile Device Operations," International Journal of Research Studies in Science, Engineering and Technology, vol. 2, no. 7, pp. 174-184, 2015.
- [14] The Lio Tiofan Justicia, Herman Tolle, faizatul Amalia, "Construction of Android-Based Application

massaging Voice Interaction for People with Visual Impairment On Android Operating System," Journal of the Development of Information Technology and Computer Science, vol. 1, no. 7, pp. 620-627, 2017.

[15] Maya Rossaria, Boko Susilo, Ernawati, "String Matching Algorithm Implementation Knuth-Morris-Pratt In Digital Document Search-Based Applications Android," Recursive Journal, vol. 3, no. 2, 2015.

[16] AD Andriana, "SOFTWARE TO OPEN IN COMPUTER APPLICATIONS USING VOICE COMMANDS WITH MEL FREQUENCY Cepstrum Coefficients," KOMPUTA: SCIENTIFIC JOURNAL OF COMPUTER AND INFORMATION TECHNOLOGY, vol. 2, no. 1, 2013.