Designing English Audio Guide for *Mandala Bhakti Museum Kodam IV/Diponegoro* via QR Code

Final Assignment

A partial Fulfillment of the Requirements for the English Diploma III Degree

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ENGLISH DIPLOMA III PROGRAM

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APPROVAL
Designing English Audio Guide for *Mandala Bhakti*
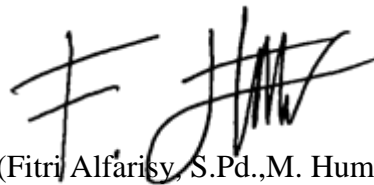# *Museum Kodam IV/Diponegoro* **via QR Code**

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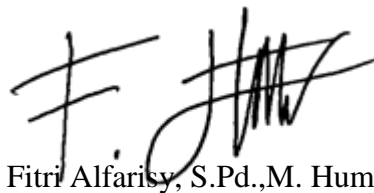
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ABSTRACT

The lack of English skill from *Mandala Bhakti museum's* tour guide gives serious impact towards tourism industry there.. The foreign tourists are having hard time understanding objects in the museum. English explanation should be provided to foreign tourists to make them understand. The reason is because English is a global language which mostly people understand. By using research and development and interview as research method, then English audio guide via QR Code was created. In the making of the audio guide explanation is in English, the explanations are put in the right order according to the museum segment. Finished product is hoped to help the museum tour guide explain foreign tourists in English. Furthermore QR Code is chosen as medium because QR Code is easy to use in this modern era. The use of the audio guide is expected in *Mandala Bhakti museum* to provide English explanation. The audio guide was approved by the museum's leader and ready to be used properly. This was done in order to improve the museum's services and capability handling foreign tourists.

Keywords: tour guide, museum, English, audio guide, QR code

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CHAPTER I

INTRODUCTION

A. Background of the Study

English is the language which has been used all over the world. English is used for speaking in many countries. But what is the exact meaning of the English language? English was initially the language of England over the historical efforts of the British Empire has developed the primary or secondary language of former British colonies such as the United States, Canada, Australia, Sri Lanka, and India, (Rajathurai, N.,2018) .

The interaction between English and tourism industry is good. Tourists often come to visit the destination, at the same time, the human resources should be able to speak English will affect not only staff but also t our guides. The tour guides should be able to speak English fluently to guide foreign tourists, and the last thing is that the label or the guidance inside the tourism destination should be in English. These objects do not necessarily all of them are written in English at least several of the labels are written in English so that tourists do not confuse reading them. But one of the most important things is that the tour guide should be able to speak English fluently.

The tour guide's role holds so much responsibility towards tourist destinations. By understanding the English language, tour guides can provide satisfaction to tourists. The satisfaction level will not also affect the local tourists but also foreigners. Tour guides are frontline employees in the tourism industry who play an important role in shaping tourists' experience in destination (Huang, S., *et al*., 2018). By mastering English, tour guides will have no problem in terms of taking care of foreigners.

The destination which people visit when they want a historical recreation is the museum. Having outlined the origins of the social role of the

museum and referred to some of history's most important protagonists, which shall revisit the turning point of the 1970s when a new approach to museology began, a moment that set in motion, at once, the creation of a new type of museum (eco-museums, neighborhood museums, *etc*.) and a new focus on museums for the collective good (Brown & Mairesse, 2018). Meanwhile, *Mandala Bhakti* Museum was built around 1906 and was used for the High Court for the people of Europe in Semarang (Bintaldam, 2019:6) .Moreover, *Mandala Bhakti* is a military museum that keeps the historical military aspect of TNI. *Mandala Bhakti* museum collects the display of 3D paintings and other objects which have connections to Indonesian military history. *Mandala Bhakti* museum also has staff from the Indonesian army, but unfortunately, the staff is not fluent in English. English skill is needed to explain information to foreign visitors because English is a global language and enough to cover up the explanation.

Usage of audio guides at the museums dates back to the 1950s, allowing museums' audience to indulge in narratives that aid the construction of meaningful memories as well as providing fulfillment of complete experience (Cesario, V., *et al*., 2017). The making of an audio guide is supposed to help the tour guides in the *Mandala Bhakti* museum without losing the tour guide's essence. Another advantage is to explain the museum in general between tour guide and audio guide. The tour guide hoped to be harmonious as requested by *Mandala Bhakti's* head of the museum. Moreover, the audio guide is not as bored as a written explanation, so the tourists are still likely to enjoy the tour inside of the museum. The audio guide provides information in English that can be listened to by the visitor who needs the English explanation. As the audio guide explains the objects in English, the QR Code performs as the media. QR Code is chosen because QR Code is the best medium. QR Code contains a lot of advantages in delivering information. The modern era has put QR Codes into every aspect of life. QR Code is also easy to use. By scanning the QR Code using a scanner then the content shows up. The scanner can be found on the smartphone that has a

camera and scanner application installed. The application can be downloaded in the play store or on any platform for free.

According to Mr Sariyono as the head of museum, and Lieutenant Commander Caj Syamsyul Ma'arif as the head of the museum's library, *Mandala Bhakti* museum lacking staff fluent in English. It includes the working staff and the tour guides. Listening to the audio guide makes the visitors feel enjoyed. They receive brief information about the museum. The audio guide will aid the tour guide's job of maintaining the essence of the tour guide. The audio guide via QR code will be provided from the museum and scanned by tourists who want to use it. After the QR is scanned it will play the whole audio guide from each tourist's mobile phone. QR code is used because QR code provides data that could be scan easily by the visitors. In this case, the data is in audio, and because the scanning process is easy. The usage of QR code makes the visitors easier when accessing the audio guide because visitors only have to scan the QR code using the camera which provided in the smartphone. QR code becomes a thing used in every aspect of this world. The example is commercial use, academically use, and even used as login access in some places.

The importance of using audio guides at *Mandala Bhakti* Museum is that the audio guide provides information spoken and delivered via audio. This method caused visitors to enjoy the tour because the audio explanation is funnier than the text. In addition, the audio guide is using English. The reason for using English rather than other language is because English is a global language so that people could understand even for foreigners and the other reason is that English is needed in the museum as the state of the museum leader .

B. The Scope of the Study

Mandala Bhakti is a military museum that displays Indonesian military objects, especially from the past. The Indonesian army is responsible for being the staff at the museum, but unfortunately, the staff is lacking in English. Designing an audio guide is required to increase the *Mandala Bhakti museum's* guiding quality by providing a short yet complex explanation for

tourists. The audio guide will explain the objects and the museum without wasting tourist's time just by stopping by. The audio guide is recorded in English, because using English alone supposed to be enough to explain all kind of tourist who visits *Mandala Bhakti museum.*

C. Aims of the Study

1. The study aims to design the English audio guide via QR Code in *Mandala Bhakti museum.*

2. The study aims to understanding the museum's leader perspective about the product.

D. Advantages of the Study

1. Theoretical

 a. The study has the theoretical advantages of knowing how to make an audioguide properly.

2. Practical

 a. The study has the practical advantages of keeping tourist to stay enjoy while being explained using the audio guide rather than explanation text.

 b. Other practical advantage of the study is to know how to design audio guide properly step by step, so that it can be useful tips in the future.

E. Methods of the Study

The method which used in this final assignment is research and development. Research and development are chosen because the final result of the final assignment is a product. Creating a product according to research and development steps can result in a more effective and accurate product.

1. Research and Development

The most important concept of the economy engages in Research and Development (R&D) because R&D expenditure is designed to locate new or improved products and to reduce the manufacturing cost of industry (D, Kasun., 2019) . The usage of the research and development method will result in a proper complete product. The reason is that research and development describe the entire steps of production carefully

step by step. To design a proper audio guide the following steps of research and development have to be followed.
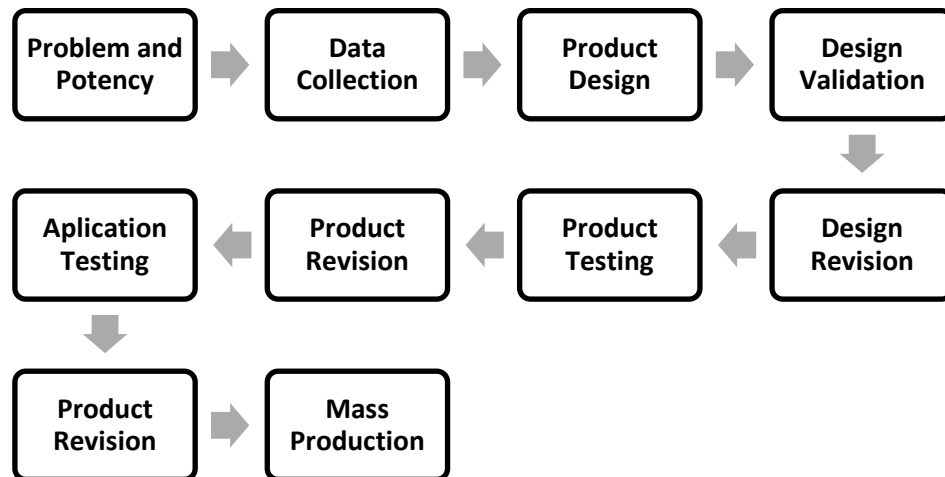

Figure 1.1 10 steps of Research and Development.

According to Hanafi (2011) there are 10 steps of Research and Development :

a. **Problem and Potency**. Every research starts with potency or problem. Potency is something that can be considered as the plus point when empowered. The problem occurs when there is distortion and can be used as potency when empowered

b. **Data Collection**. Data collection is gathering references and literature studies to the problem to fulfill the expectation.

c. **Product Design**. Designing product base to keep the production as expected. In addition, comparing other products is a good thing to maximize the result.

d. **Design Validation**. Design validation is the step to decide whether the product can be useful and effective or not.

e. **Design Revision**. Design Revision is the step to analyze the product's weakness to overcome it.

f. **Product Testing**. The product has to be tested before being used in public using a prototype product.

g. **Product Revision**. Comparison is needed in this step to measure the effectiveness of the product.

h. **Aplication Testing**. Application testing is the step when the product is tested in a large-scale place to test after the revision is done.

i. **Product Revision**. Product revision is used to evaluate the result of the product's impact on the object.

j. **Mass Production**. The production on large scale starts when the product is fully revised and considered as final.

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┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│   Problem    │  ▶   │     Data     │  ▶   │   Product    │
│ and potency  │      │  collection  │      │    design    │
└──────────────┘      └──────────────┘      └──────────────┘
                                                    │
                                                    ▼
┌──────────────┐      ┌──────────────┐      ┌──────────────┐
│   Product    │  ◀   │   Product    │  ◀   │    Design    │
│   testing    │      │   revision   │      │  validation  │
└──────────────┘      └──────────────┘      └──────────────┘
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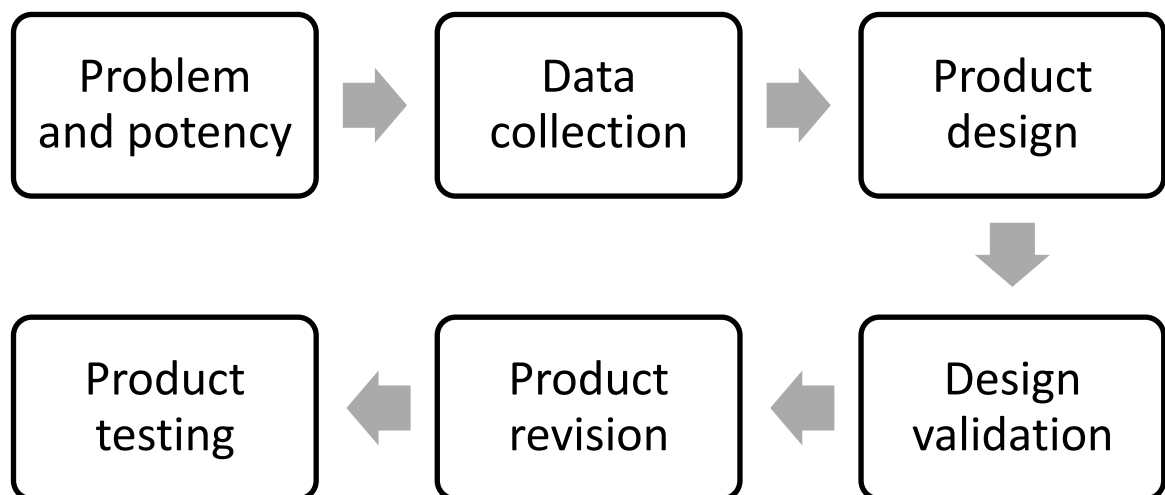
Figure 1.2 Research and Development 6 steps

According to the explanation, there are 10 steps of the Research and Development method. From the 10 steps, 6 steps are taken to complete the audio guide. The 6 steps are problem and potency, data collection, product design, design validation, product testing, and product revision.

Each of the steps will be taken care of to design a complete audio guide that suits the condition of the *Mandala Bhakti museum*.

a. Problem and Potency

The first step to do is to analyze what is the problem of the *Mandala Bhakti museum*. The staff said that the museum is lacking English experts. The condition also affects the tour guides that the tour guides need some help. There are two things which can be done to fix the problem. The first one is to create an English text; the second one is to design an audio guide. From the analysis, the audio guide suits better in the situation. The audio guide will explain the museum object and museum in general without erasing the essence of the tour guide itself.

b. Data Collection

The second step is to observe the location to take data. Data collection will decide what the museum wants. By understanding the reference book of the museum, the data which will be collected are strong enough. The data will support the designing of audio guide contents and the museum needs.

c. Product Design

The third step is product design. In this step, the audio guide is tested in several media to find the best way to deliver it to tourists. The first media is MP3 Player. The result is that MP3 Player sometimes occur an error where it could not read the drive, and will create an awkward situation because the tour guides have to bring the MP3 Player all the time. The second media is QR Code and the tourist just has to scan the QR. By scanning QR the audio guide will be played and tourists could enjoy it wherever they go.

The first thing to prepare is the book provided by *Mandala Bhakti Museum*. The book is written in Indonesia and has to be translated to English first. The translation process did not have to include all of the book's content. The content which had to be picked are the Diponegoro room, Diponegoro's heritage room, and event

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room. After the three contents are translated into English the next thing to do was recording audio in English. The recording was using Steelseries Arctic's microphone. The recording result was then edited to ensure the quality of the audio met the expectation. Lastly , the audio was uploaded to https://app.qr-code-generator.com/ to generate the QR Code and ran some tests to make sure the audio ran well.

d. Design Validation

The fourth step is design validation. The step will be to decide whether the audio guide is ready to be spread or not. In this step, correcting the content of the audio guide by the supervisor is important. To make sure the audio guide is proper enough, several testing on the field is required.

e. Product Revision

The step contains the final things to do in terms of spreading the product. The only thing to do is to check whether there is a mistake or not according to the product testing. The reason is to design a perfect product without weaknesses. Fortunately, there is no mistake from the product itself and the product did not have to be revised.

f. Product Testing

The final step is product testing. The step will be done by the staff of the museum by acting like a tourist along the museum tour. Foreign tourists are also the key in this step. But because of the Covid-19, there is a doubt that foreign tourists will come and taste the audio guide.

2. Interview

According to Muhammad, S (2016) interview is a technique used to understand the experiences of others. Characteristics of qualitative research interviews –

a. Interviews are completed by the interviewer based on what the interviewee says.

b. Interviews are a far more personal form of research than questionnaires.

c. In the personal interview, the interviewer works directly with the interviewee.

d. Unlike with mail surveys, the interviewer has the opportunity to probe or ask follow up questions.

e. Interviews are generally easier for the interviewee, especially if what is sought are opinionsϖ and/or impressions.

The interview is a sort of method used for collecting descriptive data. The data collected is not in number form, instead, it is the method in which the result is about the description or the definitive from the data. The interview is also can be done to ask someone about the information directly without any bridge.

The study takes interviews as one of the methods used. The reason is that interview was done to collect the museum's leader's perspective about the product which is the audio guide itself. The result from the interview was written down in this study to see what is the museum leader thinks about the audio guide.

CHAPTER II

LITERATURE REVIEW

A. Tourism Industry

Tourists are visitors that visit another place that may be considered tourism (Anthony,M. 2017). The tourism itself also required accommodation to complete the condiments. The reason is used for tourists that want to stay at the destination. For some reason and tourists need a place to take a rest. The other thing is that the tourism destination itself should have the attraction which can be the center of tourism activity.

According to Sofronov, B (2018) travel and tourism industry is one of the largest and fastest-growing sectors in the world, with economic growth in 2017 (4.6%) outpacing that of the global economy (3%) for the seventh year in a row, as well as all other major industrial sectors. The effect of tourism on the economy is so big. Even a country has to keep developing the tourism destination to attract tourists..

There is also another factor that affects the tourism industry . One of the factors is the tour guide as the key of the tourism industry. The reason is that the tour guide responsible for the satisfaction level of the tourist during the tour. Even a destination with a great attraction but low tour guide's skill can be a problem. Mandala Bhakti museum already offers the greatness about the history of the Indonesian military visualized beautifully in 3D paintings and another object, but the tour guide's English skill is weak according to the museum leader. The lacking of English skills affects the satisfaction level of the foreign visitor . By listening to the audio guide, the visitor which needs an English explanationdoes not have to worry about the object's description. An explanation can listen through an English audio guide via QR Code provided in the museum.

B. English Relation to Tourism Industry

"Since the English language has already been established as the one with the major influence, they expect that this is particularly evident in the area of international travel (Raţă, G., et al. 2015). As mentioned English also takes a large contribution to the tourism industry. The reason is that English is the global language. English is commonly spoken in Europe followed by other countries.

English takes part in the tourism industry as a spoken language but also as a written language. Spoken language mainly is about tour guide skills in terms of speaking English fluently. While the written language is used for tourism's site signs, brochures, restaurant menus, and written announcements.

One of the tourism sites covered in English is a museum. The use of English in the museum is varied. The reason is that museums often use both spoken and written explanations. Both of the explanation is taken to give brief information to visitors. They could understand each object in the museum. By using English audio guides both local and foreign visitors are not having a hard time understanding the information in the *Mandala Bhakti museum.*

C. Tour Guide

The World Federation of Tourist Guide Associations (WFTGA) defines a tour guide as a person who guides visitors in the language of their choice and interprets the cultural and natural heritage of an area, and who possesses an area-specific qualification usually issued and or recognized by the appropriate authority (WFTGA, 2014) Tour guide holds so much important aspect in thetourism industry. Especially handling tourist's satisfaction. Mastering English is helpful for a tour guide to take foreign tourists.

According to Rodjinandari & Supriadi (2016) here are 4 main role for Tour guide such as :

1. Tour guide act as Coordinator. Tour guide coordinates or directs the program and reports the duty at the same time to increase the performance of guiding itself.

2. Tour Guide act as Consultant. As consultant, tour guide supposed to have a lot materies, methods and developments in order to guide perfectly.

3. Tour Guide act as Group Leader. Tour guide should be able to lead a group as well as understand the group needs and create group activity.

4. Tour Guide act as Evaluator. Tour guide should be able to provide help in order to evaluate the topic, identificate problems, researching problems and development.

Mandala Bhakti museum tour guide is the Indonesian army itself who worked there. Tour guide is an essence of tourism. Then *Mandala Bhakti* tour guide has to be able to provide and guides the visitor along the tour. The problem is that the tour guide cannot provide information to the foreign visitor in English proper. The audio guide was designed to provide English information to foreign tourists; the tour guide job can be assisted.

D. Museum

According to Lewis, D (2021) museum is an institution dedicated to preserving and interpreting the primary tangible evidence of humankind and the environment. The museum exhibits objects which contain a value. The value follows from the museum concept such as science, history, or art.

Mandala Bhakti museum itself is a military museum. The purpose of the Mandala Bhakti museum is to keep records and displays of Indonesia's military past past history. Focusing on Diponegoro and Kodam. The objects contain the event's description, paintings, weaponry, and the portrait of the event's figure.

E. Audio Guide

The audio guide is a handheld device that provides recorded information for visitors touring a museum, gallery, or another place of interest (.....). There is a hardware device that offers audio. The explanation for tourists in each tourism site such as a museum.

The audio guide which used in this study is different. The context of the audio guide requires a hardware device is not used. The form of an audio guide is taken digitally or online instead. Meaning that the audio guide does

not need a specific device. The recorded audio guide is in English only and uploaded together with a QR code.

The audio guide recording result is not inserted inside the audio guide hardware device. The audio guide is inserted inside the QR code. The visitor does not necessarily have to bring an audio guide hardware device like the classic audio guide. The visitor only has to bring the smartphone and scan the printed QR code with a QR code reader available in the play store, app store, or web to play the audio guide online.

According to Wang, Henna (2020) here is how to design audio guide :

1. **Equipment needed:** Finish with just a smartphone, or invest in some hardware.

2. **Plan the route:** The ideal length for the tour will be between 20–60 minutes. The tour should feel brief rather than exhaustive.

3. **Recording:** The easy part. Tour guide, docent or curator can give a tour as planned, while recording. Carefully record a live tour with a large group of actual visitors. Any questions that get asked by visitors won't be picked up very well by the microphone and will be more distracting than helpful for listeners. Having attendees (e.g. colleagues) on the tour is reccomended, as it helps the tour guide give a more natural sounding tour.

4. **Post recording:** Basic editing is easy to do and can be picked up through a variety of tutorial YouTube videos. GarageBand is a free software that comes with every Mac these days. Also Audacity can be used, which is another free audio editor.

5. **Uploading:** Export the audio from GarageBand or Audacity as an mp3 file. Then, if planned to use the free Gesso web app, simply send it over to the maker.

6. **Time required:** The time required to do all of this should be equal to the tour recording length + 30 minutes. The first time, it will inevitably take longer as familiarize with the steps is needed.

The steps used in this study are slightly different. The script used in the making of the audio guide is based on the book. It is from the *Mandala Bhakti museum.* The recording was uploaded to the QR code generator web to

generate the QR code was ready to be scanned by the visitor. The English audio guide contains an explanation about *Mandala Bhakti museum* objects history is ready. The audio guide provides information which the tour guide can not provide to the visitor. The reason is that the tour guide is not fluent in English. The English audio guide can be the media for the English explanation.

F. QR Code

A QR code is an abbreviation for a quick response code. QR Code is a machine-readable optical label with information on the associated item or product. In barcodes, information is coded in one direction or one dimension only (Chang, Jae. 2014). QR codes are used in a lot of various aspects of life. The examples are commercial, education, and transportation.

QR codes can be made through the laptop, computer, and smartphone, or tablet. QR code can be generated through the QR code generator website https://app.qr-code-generator.com/ . Before making the QR code, the type of QR code use should be decided first. There is a QR code for URL or Link, images, social media, music or MP3, etc. Second, after it's decided, the file or the content can be inserted or uploaded. Lastly, the QR code can be generated. After that, the design can be edited.

Reading QR codes is also an easy thing. The first thing to do is to prepare a device with a camera-ready or installed. The reason is that a device without a camera can not scan the QR code. The second thing to do is install the QR code reader or scanner through Google Play, App Store, or Website. A QR code can be read or scanned by installing the app. Both generating QR codes and reading QR codes are free, so there is no problem accessing them.

According to Petrova, et al. (2016) here are some of QR code advantages such as :
1. Can decide the action you want the customerto take.
2. Follow ISO standards.
3. Completely measureable.
4. Instant information available to consumers.
5. Reduces reprints of advertising materials, and

6. Is an established marketing tool.

The use of QR codes in the *Mandala Bhakti museum* makes it tourists easier when accessing the audio guide. The tourist does not have to attach hardware. The tourist has to do is just install an application. It does not have to be a specific application, any QR code reader or scanner in the play store, app store, or web will work.

CHAPTER III

RESULT AND DISCUSSION

A. *Mandala Bhakti Museum's* Profile

Figure 3.1 Mandala Bhakti Museum

I Kuhr and Van Leeuwenwere, a Dutch architect from Firma Qoiman designed the building architecture of Mandala Bhakti Museum. The building of Mandala Bhakti Museum was used for Raad Van Justitie or the High Court for the people of Europe in Semarang in around 1906 after the Japanese won the pacific war in 1942 and the Dutch surrendered without the demand for Japan. The building was taken over as a military police base (Ken Pei Tai) by the Japanese.

Mandala Bhakti museum was taken aback by the people of Indonesia after Indonesia declared independence on the 17th of August 1945. The reason is to secure right away. The existence of the Japanese military was still strong even after Japan surrendered to the Allies in World War II. The heroic battle between TKR and civilians against the Japanese still occurred a lot. Five Days War in Semarang is considered the most heroic action ever in Indonesian history. The event was occurred in Semarang from 15 to 19 of October 1945.

Around 1946, the Dutch with the Allies were back to regain power in Indonesia. Semarang was occupied by the Dutch and turned the building into a base.

Mandala Bhakti Museum is considered a military museum. The museum is purposed for keeping military-historical objects and events. Objects kept in Mandala Bhakti Museum have various kinds. There are 3D paintings, weaponry, military uniform, and etc. The military museum holds the purpose where the museum connects the link between the past and the future. The museum acts as the media where the function is to pass down the heritage to the next generation about predecessor's struggles.

Mandala Bhakti Museum was a building for the Dutch government office with a European design known as Late Romanticism. The building has a symmetrical floor and roof. The construction was finished using concrete and lumber. *Mandala Bhakti Museum* has a fusion between European and Javanese designs.

The building architecture is suitable for the tourism industry and good for taking photos or videos. The middle of the Mandala Bhakti building has a touch of art. The doors are as tall as the window and it has symmetrical vents. Maroon red with green lines tiles is used as the component of the front floor. The stairs are white using wood construction. The reason is to create building architecture using press tiles. The layout of the museum is made horizontally to maximize the exhibit room contains historical objects.

The building of the *Mandala Bhakti Museum* was taken back by the Indonesian Military (TNI) and used as a base for Division III Central Java led by Colonel Gatot Subroto after the Dutch recognized the Republic of Indonesia on 27 of December 1945. Division III began to expand. Later became Tentara Territorium IV Central Java/Special Region of Yogyakarta was the seed of Kodam VII/Diponegoro. The building was used as the main base. Colonel Gatot Subroto, Colonel M Bachrun, Colonel Suharto, Colonel Pranoto Reksosamodro, Major General Sarbini, Major General Suryosumpeno, Major General Sukoco, Lieutenant General Ismail, and Major General Sugiarto were the commanding officer who worked on that base,

The army of Indonesia began to move soon after the construction of Makodam VII/Diponegoro at Perintis Kemerdekaan Watugong street Semarang wasfinished and officially announced by the Ministry of Defence on December 15th, 1984.

The main base building was changed into a museum based on a Telegram Number ST /79/ 1985 by Pangdam/VII Diponegoro on 1 of March 1985 after Makodam VII base was moved to Perintis Kemerdekaan Watugong street in Semarang.

Mandala Bhakti Museum was chosen as a cultural heritage site by the Semarang major as a historical tourism site in Central Java. Maintenance is needed to maintain the quality of the assets and prevent damage caused by time.

Mandala Bhakti museum is located in Sugiyopranoto street number 2 Kelurahan Barusari, Kecamatan Semarang Barat.

B. **The Process of Designing English Audio Guide**

The study is using Research and Development as the method but also Interview to finish the study.

1. Problem and Potency

Figure 3.2 Condition of Mandala Bhakti Museum

The study starts with analyzing the problem inside the Mandala Bhakti museum. After the analysis was done, the result was designing an English audio guide for the museum. The reason is that the

tour guide cannot provide an English explanation to foreign visitors due to the lack of English skills as the state from the museum leader. The audio guide provides an English explanation to the foreign visitor. The audio guide later delivered via QR Code to be accessed easily. The QR Code can be scanned by visitors.

2. Data Collection

The study continued with collecting data as the reference of the audio content. The collecting data was done in the Mandala Bhakti library. The reason is that the library itself has a book that suits the content from the audio guide. Collecting data as the reference of an audio guide also made the content more accurate.
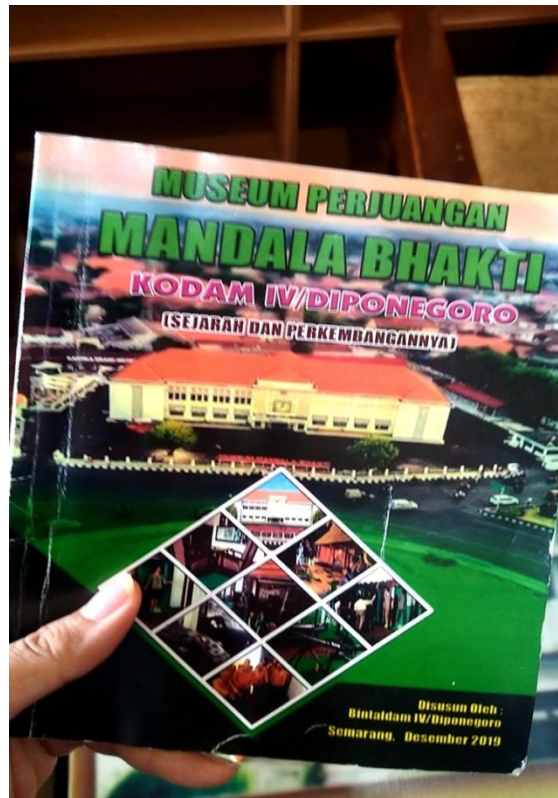

Figure 3.3 Mandala Bhakti Book Reference

Figure 3.4 Mandala Bhakti Book Reference

3.   Product Design

        The content of the audio guide is made from the script. The script is the result after reading the Mandala Bhakti museum book as the reference. The content can be designed thoroughly according to the history, objects, and rooms.

        After the script was done, the next thing to do was to record the audio itself. The recording process was using Steelseries Arctis 5 headset. The reason is that the headset has a good quality microphone installed so that the recording result was good. The final result of the audio was then edited with the laptop using *Editor Musik* application. The editing itself was meant to put together the audio and see there is an unwanted voice or errors.

        The result of the edited audio then had to be uploaded to the QR Code website. To do it, the first thing to do was to enter the website.

The website which used in this study is https://app.qr-code-generator.com/ . Then MP3 format was chosen to put the audio inside the QR Code. The other thing is because the audio guide is in MP3 format. After that, the audio was uploaded to the website to generate the QR Code. When the uploading process was done, the result of the QR Code can be downloaded for the purpose of use.
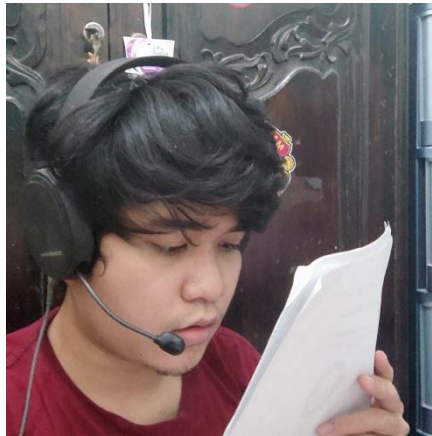

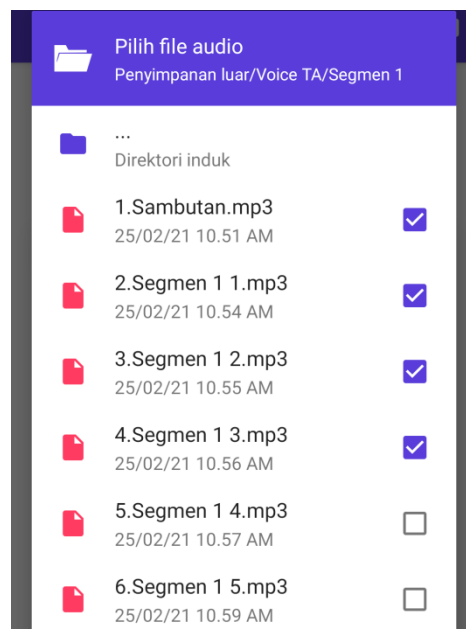Figure 3.5 Recording Progress using Steelseries Arctis 5

Figure 3.6 Editing using *Editor Musik*

Table 3.1 Introduction Room's Content

Segment	Explanation
Historic Aspect	The Mandala Bhakti Museum's buildings were built by the Dutch East Indies government in 1906. It was constructed for the Dutch East Indies's Council of Justice (Raad van Justitie). After the Japanese won the Pacific War in 1942 and the Dutch surrendered without the demand for Japan. As a result, The Japanese took over the building and used it as Military Police Base (Ken Pei Tai) After Indonesia Declare its Independence on 17 August 1945, this building was taken aback by the people To secure Independence. Despite Japan were surrendered to the Allies in World War II, the existence of the Japanese military was still strong. The heroic battle between the People's army (Tentara Keamanan Rakyat/TKR), young warriors, and the people against the Japanese military still occur a lot. The most heroic act ever recorded in Indonesian History was the Five days war in Semarang on 15-19 October 1945. After Makodam VII/Diponegoro 's base was moved to PerintisKemerdekaanWatugong street in Semarang, this historic building was changed the use as a Museum based on a Telegram Number ST/79/1985 by Pangdam/VII Diponegoro on 1 March 1985. After that,

	the building was officialy announced as a museum which named Museum PerjuanganKodam IV/Diponegoro "Mandala bhakti", Inaugurated by Pangdam IV/DiponegoroMayjen TNI Setiyana on 1st of April 1987 and open for public.
Location	Museum Mandala Bhakti Kodam IV/Diponegoro is located in JalanSugiyopranoto No.2 KelurahanBarusari, Kecamatan Semarang Barat. Geographically, the northern border of the museum is Sugiyopranoto street, on the east is DrSutomo street and the west is HOS Cokroaminoto Street The location of the museum is very strategic because it's located in the heart of Semarang City and very accessible for visitors. The Museum is also protected from flood and far away from the Industrial district which may affect the asset of the museum. The Museum's plot is 12.522m^2 wide which is occupied from former KNIL buildings. The museum itself is 6.606,32m^2 wide consist of the main building and supporting buildings.
Introductory Room	This room is the entrance and also the introduction room for visitors. In this room, there is an illustration in 3D which illustrate the condition of Prince Diponegoro Village.
3D Painting	This room illustrates the history of life and the struggle of Diponegoro since he was born until his death. The

	second floor also contains some collection about Dharma Bhakti Kodam IV/Diponegoro and Java War Animation Studio
Biography and Early Life	Diponegoro was born in Keraton Yogyakarta on 11 of November 1785 at near dawn during fasting month. Some said that Diponegoro was born on 8 of Sura at Be WukuWayang year or on 8 of Muharram 1200 Hijriah. His childhood name was BendoroRaden Mas Mustahar. His father, Gusti Mas Suryo who later on became Sultan HamengkuBuwono III. When Diponegoro was born, his father was 16 years old because among the Keraton family at that time, having married at a young age was a normal thing. Diponegoro is the only generation from HamengkuBuwono III with RadenAyuMangkarawati, and seoranggarwasampeyan (istri non permaisuri). Keraton family welcomed his born gladly. The event happened near dawn, on Friday pasaran wage means that the baby will become someone special. According to Javanese Horoscope, weton (big day) like Diponegoro means that someday he will become a great man who's wise, and energetic. But he will through a lot of obstacles because of the kind of straightforward and argumentative person.
Diponegoro's Name	Diponegoro has different meanings like Mataram. These names were the gift from parents, self-initiative also from his spiritual journey such as: a)

	BendoroRaden Mas Mustahar, given by his parents since he was born; b) Raden Mas Ontowiryo, the name during teenager; c) Diponegoro this name was the gift from his father when his father promoted to HamengkuBuwono III; d) SyechNgabdurrahim, the undercover name so that he could take study in pesantren as normal people and spread knowledge to the Pantai Selatan; e) Ngabdulkamit, the name after he meditated at Pantai Selatan. Some said this name was a gift from SunanKalijaga, right now this name likes to be used by Diponegoro himself; f) Sultan Erucokro, the name from his supporters during Java War. But from all those names, the famous one is Diponegoro. Dipo (Dia) according to Kawi-Djawa dictionary poerwardaminta same as the word "Dwipa" means Diyan (Lights that shines the path, torch, elephant, and island). Meanwhile, Negara means Nation. So it can be concluded that D(w)iponegoro means the torch of Nation or the Lightbringer for the dark of his country. Javanese people believe that name is a prayer or hope and hope can be realized. Diponegoro became a smart and inspiring person.
Character Development : Diponegoro's Mentors	When he was almost 7, Raden Mas Mustahar changed his name to Raden Mas Ontowiryo, had to move out from Keraton Yogyakarta, and lives in Tegalrejo (Approximately 4km Northwest from Keraton Yogyakarta) at his Great-Grandparents house RatuAgeng. This place is where he grew up until his

	adulthood.
	RatuAgeng is HamengkuBuwono I's Empress. She is the daughter of Ki AgengDerpayuda, a famous *Kyai* at the time. Ki AgengDerpayuda is the descendant of King Bima. RatuAgeng is known as a strong woman, likes simplicity, and a religious person.
	Diponegoro is given Islamic Education and Javanese Culture. RatuAgeng also likes to engaging Diponegorowith blending in with society's activities such as go to the market and rice farming. The purpose of that is so PangeranDiponegoro could get along with every part of society, to have a strong personality, good morals, and not forgetting his Javanese heritage.
	PangeranDiponegoro also got his education from various *Ulama (*Scholar) in Yogyakarta. One of the teachers is KyaiTaptojani, a *mursyidthariqahsyattariyah* who studied from KyaiNoerImanMlangi, Sultan HamengkuBuwono I's Brother. Then, Diponegoro took education from Syekh Abdul Akhmad bin Abdullah Al Ansari, an Arab who's a Descendant of Prophet Muhammad, then Kyai Muhammad Bahwi, *Penghulu* (Chief) of Yogyakarta and Leader of Suranatan Mosque (Sultan's private mosque), Haji Badarudin Commander of Corps Suranatan and the other scholar around Yogyakarta.
	PangeranDiponegoro learned quite a lot of books such as Al-Quran (Islam's Holy Book) and Its Interpretation,

Propet's Hadith, *Kitab* Tuhfan al-Muhtaj bi syarh al-Minaj. This book is a famous *Fiqh* book written by Imam Syihabuddin Abu Al bin Hajar Al Makki Al Hayatmi, which was referenced by lots of Islamic scholars during the Islamic most advanced era. According to Pete Carey, this book's content is Sufism, Aqidah (Creed), About what's wrong and what's right (Haq&Batil), or base of faith (Iman) and something that could destroy your faith. *Kitab* NasihatulMuluk, is a book about pieces of advice for kings, *Serat am biya,* contains history about Islamic Prophet, *Suluk* and *Primbon, KakawinArjunawijaya, SeratAmbiya, Tajussalatin (*King's Crown), *Lubab al Fiqh* by Iman Abu al Hasan Ahmad bin Muhammad bin Ahmad Al Dhabi al Muhamiili al Syfii which content is Book about FiqhMazhabSyafi'yah. Muharrar by Iman Abu al Qosim Abdul Karim al Arafi'iy, which is a summary of an Al Khulasah book by ImanHujjah. *BabadMajapahit (*History of Majapahit) et cetera.

Young Diponegoro also likes to wander to do a Spiritual Journey (Lelono) to a place like South Beach for meditation. He also disguised as a normal person, hiding his Prince's status to visit a site by Mataram Islam such as WatuGilang, Goa Song Kamal, ParangTritis, and Prang Kusumo.

PeperanganDipo negoro (The Java War)	At *Goa Selarong,* Diponegoro's followers which contain the nobilities and the regular people came over which eventually turning the cave into a base operation.

Prince Diponegoro is helped by SentotAllibasya Alias MustofaPrawirodirjo, Prince NgabehiJayakusuma, Kyai Mojo, et cetera on weaponry and battle strategy support. The Diponegoro Troops were split into some Battalion and each battalion was given a name like Turkiya, Arkiya, etc.

The Battalions are equipped with guns crafted in the forest. In the war against the Dutch, Diponegoro uses Guerilla tactics which means that they don't attack a large scale and instead, they attack in a small surprise attack. The tactics were effective, but They still lost and Diponegoro Surrendered.

When the Dutch leave Selarong, Diponegoro's troops return to Selarong. Several times the Dutch attack Selarong they found an empty place. KyaiMaja, a famous *Ulama* from Surakarta joined Diponegoro's force. To avoid Dutch attack, They moved their Defence Center to Daksa. On the People's will, Diponegoro is chosen as the head of state and given the title "Sultan AbdulhamidHerucakraAmirulMukmininSayidinPantag amaKalifatullah Tanah Jawa". After a strong defense. This thing was done so that they could anticipate Dutch invaders. The defense around Plered was taken by KertaPangalasan.

When Sambirata held a celebration, the Dutch suddenly attacked Diponegoro. Diponegoro successfully escaped to Pengasih resumed the attacks. Meanwhile, in Kroya, Sentot succeeded robbed 400 guns and cannons

	together with its gunpowder and also managed to imprison hundreds of the Dutch army. Sadly Kyai Mojo was captured by the Dutch at Merapi's Slope war.
	The Dutch forced to make an edict in order to capture Diponegoro on 21 September 1829 which said "Those who are managed to capture Diponegoro whether he is alive or dead will get 50.000 guldens together with lands and honors." That edict seemed to be useless in the people's perspective because they stayed loyal to their hero.
The Dutch Betrayal	At the end of the year 1828, Diponegoro became struggled because KyaiMaja was captured by the Dutch in 12 of Oktober 1828 and then exiled to Manado.
	Sentot gave up to the Dutchtogether with his men on 16 of October 1828 because of the economic crisis and baited by the Dutch's words. Fortunately, there were a lot of nobles who still followed Diponegoro and returned to the Keraton. Diponegoro's wife R.A Ratnaningsih together with her son was captured by the Dutch on 14 October 1829. But Diponegoro did not give up so the Dutch offered a discussion towards Diponegoro in 1839 at Magelang. They promised if the discussion did not go well, Diponegoro may leave freely.
	Diponegoro accepted that offer, so one day after Eid on 28 of March 1830 Diponegoro with his army entered Magelang for having the discussion and visited General

	de Kock inside his office. When General de Kock prevented Diponegoro to leave the room, Diponegoro was captured by organized the Dutch army. So then the Dutch had done their betrayal for many times.
The Miserable End	Started by the Dutch's tactic "PerangBenteng" to get the absolute victory towards Diponegoro and then followed by peace edict which brought Diponegoro into the council. Diponegoro was tricked by General Marcus de Kockwho invited him to the discussion in order to capture him. As a result, his sons DipoAnom, DipoAdmojo, and Raden Mas Jemet were also arrested. On 28 March 1830 at 11 pm Diponegoro had been brought to Semarang together with his wife and his followers by train guarded with Detasemen. On 15 April 1830, he was brought to Batavia to continue his trial. Then on 30 April 1830, he was sentenced for his crimes and exiled in Manado. On 30 May 1830, Diponegoro was arrested in Manado using a Pollux ship. After that on 2 June 1830 exactly at 11 PM, Diponegoro was brought to the Fort Amsterdam in Manado. In the year of 1834, Diponegoro was moved from Fort Amsterdam to Makassar (Ujung Padang). He was on the trial of his exile for 25 years, and in his exile, a cleric and also a fighter made a biography about Diponegoro from 1831 until 1832. That writing was given a name as BabadDiponegoro.

	Inside the text, Diponegoro showed his feeling towards people. The struggle that had been through by Diponegoro miserably ended in the Dutch hand. Also, Diponegoro was tricked by General Marcus de Kock and exiled. The text of BabadDiponegoro was set as a Documentary heritage or Memory of The World in 2013.
	After Living imprisoned for approximately 25 years, on 8th of January 1855, PangeranDiponegoro passed away aged 70. He was buried at KampungMelayu (KampungJera) KelurahanPattunang, KecamatanWajo 9 (Now Jl. Diponegoro Ujung Pandang). At the same Cemetery, Diponegoro's wife R.A RatuRatnaningsih along with their five children and their descendants and loyalists. The Java War results in lots of casualties and Damage as many as 8000 Dutch, 7000 *Bumiputera*, and No more than 200000 Javanese people and half of Yogyakarta's Population went missing.

Figure 3.7 Introduction Room QR Code

Table 3.2 Diponegoro Room's Content

Segment	Explanation
Diponegoro Room	1. Cloak. The cloak is a Muslim outwear which used by Diponegoro to fight against the Dutch. 2. Alquran. Diponegoro was used to read Alquran in order to make a closer connection to Allah SWT. 3. Discussion Table. This table was used for discussing between Diponegoro and the Dutch, but Diponegoro was tricked. 4. Diponegoro Painting and Vitrin about the collection which explains the struggle of Diponegoro.
Animation Studio Room	Animation Studio Room was built with modern technology and design. It was made to illustrate how Diponegoro fought against the Dutch in Java bravely. Visitors could do some interactions and taking notes during the film is played. Visitors may copy and record the film. After visitors watch the Java War film actively and interactively, they could take the values and morals as a lesson from Diponegoro and his men. Then visitors could visit the event room through the corridor. There is a text about the history of Kodam IV/Diponegoro and the meaning of PatakaKodam IV/Diponegoro among the walls.

Figure 3.8 Diponegoro's room QR Code

Table 3.3 Event Room's Content

Segment	Explanation
The War Around Central Java and Yogyakarta	After the proclamation which happened on 17 August 1945, the Indonesian Army decided to rob Japanese colonialism's weapons and power. The discussion was done in order to loot the weapons from the Japanese army. The discussion has happened in order to loot weapons at Japanese Base Dormitory (Kido Butai) in Jatingaleh between Indonesia National Committee (KNI), BKR, AMRI with Japan. The looting process was not going well. It all started with that and then ended with violence from Indonesia to force Japan. The fire of war was spread through the spirit of people so the 5 Days War at Semarang was conducted from 15 until 19 of October 1945.
The War of Palagan, Ambarawa.	On 20 November 1945 allied troops lead by Colonel Eduard and Colonel Pugh resign from Magelang. In their resignation, they terrorize Pingit's people (aroundAmbarawa). Because of that, TKR carried out the pursuit, on 21 November 1945, the soldier of Imam Androng success to catch up and the war happened in Pingit and TKR Soldier's success to forced back in around Pingit. Learned from the experience of that war, there was no unified command, so since Ambarawa seized by allied troops, our fighters devised a powerful

	and unified strategy for effort. formed the headquarters of the battle leader and lead by Colonel HolanIskandar. the battle commander was entrusted to the commander of the V TKR division Colonel Sudirman. With the minimum equipment and weaponry they have at that time, victory after victory was claimed. Finally, on 15 December 1945, the Allies withdrew from Ambarawa and completely under control by TKR. The Army who was directly involved in the Ambarawa war: colonel Sudirman, Colonel HolanIskandar, Lieutenant Colonel GatotSubroto, Lieutenant Colonel M. Sarbini, Lieutenant Colonel Isdiman , Lieutenant Colonel Palal , Lieutenant Colonel Umar Slamet and Lieutenant Commander SuryoSumpeno.
Battle of Kota Baru (Yogyakarta)	Indonesia which represented by Muhammad Saleh, Sudarsono, Sendjoto, and Bardosno. Whereas the Japanese are represented by Major Otsuka was holding a negotiation. In that negotiation, Japan didn't want to surrender and given its weapons, while Indonesia continued to demand and declare it would be use force. Face this situation Japanese politely refuse by promising to hand over their weapons at 10:00 p.m. after obtaining permission from Major General Nakamura at Magelang. So that means the negotiation hit the deadlocked and their leave the negotiation.

	After that negotiation failed, on 6 October 1945 at 11:00 p.m. the villages had heard "Siaaapp…" in an instant, hundreds of young men were lined up towards Kota Baru as a Japanese headquarters. They are together with TKR and police surrounding the Japanese dormitory. But the effort to get in of their soldier headquarters was hampered by electrified barbed wire. The leader of TKR instruct when a grenade explosion was heard, which means the electricity has been cut off dan the attack started. At 04:00 a.m. heard grenade explosion, then scatter the fighters attack the Japanese soldier.
SeranganUmum 1 Maret 1949	With the capital city of RI Yogyakarta on 19 December 1948, The Dutch thought that the republic of Indonesia was gone.TNI would be paralyzed if the Dutch succeed in captive president with the vice president and few ministers.

The Propaganda was false because the president had submitted a mandate to Mr. SyafrudinPrawiranegara to establish PDRI under the leadership of the great commander of Sudirman. Specifically, to encounter attack from Netherland in Yogyakarta, Leader of TNI trusted with Brigade Unit X under the command of Lieutenant Colonel Suharto.

To give a great counter, the Yogyakarta area became a Wherkrise III and divided into 5 sectors that are composed in Sub Wherkrise (SWK). That |

| | Guerrilla attack against the Dutch ranks was increasing. Outside Yogyakartacity there is the battle too like Bantul, Wonosari, and Sleman. Likewise, in the city of Yogyakarta, that attack was helped by Sri Sultan Hamengkubuwono IX morally and materially.

The Army of about 2.000 people plus the help from people and young men, the attack began at 06:00 p.m. at the same time with sirens (to indicate the end of curfew), Yogyakarta was attacked in 4 corner place. Lieutenant Colonel Suharto as a leader gets in from the west with put his post on Kuncen. As a marking in each of the fighters, they are using a yellow leaf. The target is a few of The Dutch and machine warehouse, station, Watson factory, Tugu Hotel, Kota Baru, Tangisi Police of Patuk, Fortress, and the other place. Because of help from people around there, TNI success to occupy Yogyakarta for 6 hours. General attack 1 March 1949 has an important meaning for the Indonesian military and in the world in Discussion between Indonesian and The Dutch. the perpetrators who were directly involved in the fighting: Sri Sultan Hamengkubuwono IX, Lieutenant Colonel Suharto, Lieutenant Colonel Suhut, Lieutenant Colonel Sudarto, Major Sujono, Major Sarjono, Captain Widodo, Lieutenant Marsudi, and Atmonadi |
|---|---|
| Destroying the Rebellion of DI/TII | DI (Darul Islam) is essentially a problem raised by an extremist group of Muslims that will establish |

in Central Java	the independent Islamic state of Indonesia with the Islamic religion at its base, DI Headquarter is on west java and lead by KM. Kartasuryo. Then they influence extends out Central Java, Aceh, Kalimantan, and South Sulawesi. To resolve this chaos. Lt. Col MochBachrun, SW/III Brigade Commander, unites SWKS III which was previously separated, then completely surrounding the DI's Center. The next movement was done in the offensive phase. The movements which done day and night successfully break apart DI/TII.They also went after the Dutch DI/TII. After cornered, the Dutch calls for a ceasefire. This results in Dutch-Indonesian Round Table Conference (KMB) which decision Indonesian Army has to do is merge with Dutch East Indies Army (KNIL). During this merging situation, Amir Fatah tries to regain his power and choose Bumiayu as a base and command center. After they're strong enough, they started to attack the army's base. They use the locals as a mass during the attack. To make sure Amir Fatah's DI did not spread across Central Java, Division III Commander's Col. GatotSubroto has a strategy to separate Amir Fatah's DI with Kartosuwiryo's DI, to completely obliterate their Arsenal and any branch and connection involving DI. From the strategy, an operation was created called Operation National

	Bulls or GerakanBantengNasional (GBN). The operation's leader in order was Lt. Col Sarbini, Lt. Col M.Bachrun, and lastly, Lt. Col A. Yani. In Lt. Col A. Yani's leadership, he creates a squadron called Banteng Raiders to destroy Central Java's DI and the Eastern movement from Kartosuwiryo's DI. The Banteng Raiders' Strategy changed from being defensive to offensive. They storm the area and didn't give a chance to regroup. The Operation was a success to obliterate DI's movement from Central Java and more to the east.
Operation RMS (South Maluku Republic)	After the KMB's Agreement was achieved, KNIL (Dutch East Indies Army) from South Maluku feels anxious about losing power due to merge with the Indonesian Army (TNI) in APRIS (United States of Indonesia's Military) So on 8th August 1950, they held a meeting which attended by the member of PersatuanTimurBesar (PTB). During the meeting, Ir.Manusama says that Maluku could be a standalone country and not Invaded by another country (Indonesia), he also said that the Republic of Indonesia is a Product of the Japanese and they refuse to accept the Indonesian Army's merge. In Fighting the RMS, Division III from Central Java was sent by Brigade V under Lt. Col

	SlametRiyadi and Brigade SS under Lt. Col Sudiarto. Despite the rebel's effort fighting back, RMS was defeated in September 1950 and Dr.Sousmokil was arrested in 1963 which later face death sentence after trials at Military court. The operation was successful but it comes at a price of fallen soldiers and one of them was Lt. Col SlametRiyadi who was Killed in Action in a battle to retake the Victoria's Fortress and Lt. Col S.Saudiarto which KIA in Hitu (A small town north of Ambon)
Operation PERMESTA	It appears that Independency isn't appreciated by anyone. PerjuanganSemesta (PERMESTA) Is one of them. PERMESTA is revolting and declares a country in South Sulawesi. Behind PERMESTA's movement were Lt. Col Sumual (Teritorium VII Commander). He revolts and built a country in South Sulawesi and separates themselves from the government in Jakarta. To destroy this rebellious movement, the Indonesian Army did an Operation called OperasiMerdeka (Operation Freedom) On 16 June 1958, Operation Merdeka's Commander landed at Kana Beach and occupy PERMESTA's main base in Manado. The rebels were defeated and the rest of them escape to the woods. The rest of the higher's PERMESTA surrendered to the republic in October 1961 and the operation ended on 4th December 1961.

PRRI Rebellion (Permesta) in West Sumatera	The Liberal Democratic system in the 50's Indonesia results in extremely unstable politics. The 1955 Election left a political polarization even resulting in various states declaring Independence and building their own country.
	This situation was used by Ex-Banteng Division. They held a reunion at Padang on 20-24 November 1956. In the reunion, they decide to create Boards of *Banteng* which lead by Lieutenant Colonel Ahmad Husen and Insist of rebelling against the republic.
	Since Its creation, the Indonesian Army is not allowed to do political activities ignored by Boards of *Banteng* by took over the Central Sumatra's government from Governor RuslanMulyoharjo because they think the governor was not good enough to govern. The same things happened in East Sumatera. There was also the Dewan Gajah (Elephant Council) led by Colonel M. Simbolon in this province. They took over the authority of TentaraTeritoriumI/BukitBarisan.
	Operation 17 of August was led by Colonel Ahmad Yani and the target was Padang city, Bukit Tinggi, and other cities. To take care of this betrayal Kodam IV/Diponegoro sent Batalyon 438 led by Major S. SuryoSukamto, Yon 440 led by Major Suroso.
	The territory of West Sumatera could be taken care of by sending the Military Operation so that could

	be resumed territorial operation by strengthening Batlyon 441 led by Major Haryoprasetyo, Batalyon 446 led by Major Sabdonodan, Batalyon 443 led by Major Ratmojo. By the presence of Amnesty from the government, all of Indonesia's power could be retrieved, so that people were secured once again.
DWIKORA Incident in West Kalimantan	The Incident happened in Indonesia in 1961. The background was the plan that brought together the ex British colonialism area in South East Asia such as Malaya, Sabah and Sarawak became Malaysia. Indonesia thought that Malaysia was a threat because Indonesia believed that it would become the doll of West Countries to control South East Asia. On 16 September 1963 Malaysia Federation was created and the Indonesian government did not accept that so Confrontation Politic happened.Malaysia integrally split into 2 factions and so followed by betrayal. Confrontation Politics was the same as another country's view which was free and active politics. Since then there was diplomatic contact between Indonesia and Malaysia to maintain the relationship. The text of peace purpose was marked and accepted at Jakarta on the first of August 1966. The confrontation was ended between Indonesia

		and Malaysia so they became friends.
	PGRSand PARAKURebellious Groups	The incident of PGRS/PARAKU betrayal was the side effect of confrontation politic Indonesia and Malaysia. By the acceptance on 11 August 1966, people of Sarawak and North Kalimantan disagreed. As the first step to follow up this deal PANGKOLAGA created an instruction through Radiogram on 10 August 1966 Number STR-26/1966 to field commander to stop the operation. The next step was to work together in the military or non-military department. This was meant to consolidate the volunteers from Sarawak and North Kalimantan, but sadly they did not agree and start the rebellion. Indonesian government tried to stop the trouble and rebellion PGRS/PARAKU by doing Operation SapuBersih I, II, and III. The operation was very effective did not take too long to take down the rebellion.
	Operation TRIKORA	To execute Trikora plan, Komando Mandala was created led by Major General Suharto. The first step was infiltration through the ocean and air. 10 packs Indonesian Army were deployed to take over the area. From Kodam IV/Diponegoro was prepared Batalyon 454/Para BR. In May 1962, 2 packs led by Captain Kartawi and LettuIdrus

	deployed in West Irian. Kartawi pack deployed in Fak-fak meanwhile Idrus pack deployed in Kaimana. LettuIdrus was killed in a fight against the Dutch. After the infiltration process was done, there was a big attack named Operation Jaya Wijaya. Meanwhile, this case was discussed by the UN and the deal was achieved to a cease-fire under the UN order. On 6 August 1962, the President/Commander of ABRI gave an order to a ceasefire. The order was followed up by Commander Mandala to all troops in West Irian. After the long process, since the first of May 1963, West Irian returned to Indonesia's part.
West Irian Event Room	The Indonesia Authority Proclamation by the Dutch on 27 December 1945 which area consists of all Netherland-Indies except West Irian. This thing was against the Constitution 1945 which said that the Indonesian area is all of ex Netherlands Hindia from Sabang to Merauke. Meanwhile the Dutch were insisted claimed that West Irian still a colonialism area of them. Indonesian government tried to do diplomacy action so that West Irian could become part of Indonesia but always failed. That is the reason why West Irian become the contradiction area of Indonesia and the Netherland
The Communist	This room describes the heroic figures of the

Rebellion (G30 S/PKI) Room	revolution who were victims of the G 30 S/PKI 1965. The insurgency of the PKI was meant to replace the Pancasila ideology. The Insurgency carried out during the history of the Indonesian people has been repeated in 1926, 1948, and 1965. The intent and moral message conveyed from this room are should be constantly alert to the imminent dangers of communist latency for the younger generation. In this room the showing: 7 Heroes of the Revolution, Picture of Ade Irma Suryani, Ahmad YaniWorktable , and painting of Ideological Pancasila.
Communist's Cruelty Room	This room contained a collection of objects to give illustrations and descriptions of the ferocity of the massacre of PKI to Madiun people in 1948. Another diorama describes the cruelty of PKI that killing 7 General Army in the 1965 PKI uprising. In the tragical moment, 7 generals were kidnapped, tortured in LubangBuaya and the dead bodies were taken to a well of death. This diorama describes the 7 generals bodies being removed from the well of death. PKI revolution also took place in such areas as Yogyakarta or other places like Blora, Cepu, and the surrounding areas. Items on display in this room include jackets used by Katamso, Mortar Key, Communist teaching book, youth hat, PRC Flag, Eyelid Banner, PKI

	Flag, headband, Clurit, cane, and a belt

Figure 3.9 Animation and Event Room QR Code

Figure 3.10 English Audio Guide Overall

4. Design Validation

The step contains the process of making sure that the product is ready to be used in the field for testing purposes. Moreover, the design validation step was done to avoid mistakes. The step includes the audio testing by the museum's leader before went to the field and of course the QR Code test itself.

The QR code was once again scanned and tested whether it worked well or not before being used in the field testing. The QR Code was scanned manually using Google lens to check the content of the audio guide can be played or not. The checking was done by the museum's leader. Once the checking was done and there was no mistake

and error at all, then the QR Code was ready to be used in the field for further testing. The transcript from the museum's leader is showed down below :

The Interviewer   : "Sir the protoype of the QR Code is done, please take a look."

Museum's Leader :"Yes I see for now it is good, I think there is no revision to be done. You can continue." (see "Appendix A" for more details)

           The result of the interview said that the museum's leader gives permission to continue on next step of designing. This means that no revision is needed in this step.

5. Product Revision

           Product revision is supposed to be done to correct any mistakes, errors, or revisions of the product. The study, fortunately, has no revision in the product so that the product revision is not needed. After the product was ready and there was no revision at all, then the product was finally given to the museum.

6. Product Testing

           Product testing is where the step contains product field testing. The step was done to achieve the final check readiness before being used for real use. The step includes the process where the QR Code was scanned in the Mandala Bhakti museum. When the audio guide is played it has to be worked well without problem. The result is that the QR Code can be scanned normally and the audio guide itself worked well without a problem.

C. Museum's Leader Perspective

     The perspective of the Mandala Bhakti museum's leadership is needed in the study. The reason is to find out whether the product has a problem or not, and also the museum's leader perspective has the actual thoughts of field testing. Furthermore, the museum leader's perspective is

also a valid statement because the statement is not fiction. The transcript from the museum's leader is showed down below :

The Interviewer   : "Excuse me sir here's the final result of my product."

Museum's Leader   : "Yes, please have a sit. The audio guide is good enough and has met the expectation. I also want the soft file send into my whatsapp, and lastly do not forget to come again in the museum tomorrow to claim your certificate." (see "Appendix B" for more details

From the statement above, it is clear that the product does not require any revision. In addition the product has met the expectation from the museum's leader.

As a summary in this chapter, 6 steps of Research and Development were taken to finish English audio guide. Audio guide is then mediated in QR Code in order to be scanned by tourists. The progress of the audio guide is also approved by the museum's leader. The checking by the museum's leader was done to make sure that no mistakes in product through Design Validation. In the final statement from the museum's leader also said that the final form of the product has meet the expectation. As expected the audio guide hoped to fix the problem in Mandala Bhakti museum which is providing English explanation to foreign tourists to help the tour guide there.

CHAPTER 4

CONCLUSION

A. Conclusion

Mandala Bhakti museum is a museum that focused on the military. The objects inside include 3D paintings and other collections from Indonesian military history. The museum itself has enough attractions. They can be large potential in the tourism industry, the museum still has a problem guiding foreign visitors. The reason is that the tour guide is not fluent in English to communicate with a foreign visitor. English itself is a global language that every state can understand.

The study decided to design an English audio guide via QR Code in the Mandala Bhakti museum. The audio guide contains the explanation of each object in the museum in English. So foreign visitor does not have to worry. The audio guide is in QR Code medium. The QR Code is used in many aspects of the modern world. In addition, QR Codes can be scanned by visitors easily by using a scanner installed in the smartphone. When the QR Code is scanned the audio guide plays, a visitor could enjoy the tour just by listening to the audio guide.

The study combined the Research and Development and Interview as the methods. By combining the two then the study becomes more complex and met the expectation. The Research and Development contains steps used to design the audio guide itself, while the Interview becomes the final method to collect the museum's leader perspective.

The result is the English audio guide which is mediated in QR Code. The audio guide contains the content of each segment in the Mandala Bhakti museum. The reason is that the audio guide helps the foreign visitor in terms of English explanation need. The audio guide was also approved by the museum's leader to understanding the perspective and to avoid mistakes. In the future the product is hoped to fix the problem in Mandala Bhakti museum

which is to provide English explanation to foreign tourist to help the tour guide.

B. Suggestion

Based on the result of the study, the audio guide is approved by the museum's leader to avoid mistakes and hoped can fix the problem in Mandala Bhakti museum. In addition, two suggestions are expected of to Mandala Bhakti museum. The first suggestion is that about applicating the audio guide via QR Code in the future. The audio guide contains the English explanation of each object in the museum is useful when foreign visitors need the explanation. The last suggestion is that the audio guide can be developed more and more in the future inside the museum. The reason is that the audio guide can be the game-changer from the museum. Furthermore, put the audio guide inside the museum whether putting it on o each object or put it as a whole, makes the modern feel towards the museum. The visitor will feel that the museum is not outdated usually comes out to the perspective of people these days about the museum.

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APPENDICES

A. **Appendix A. Inter view Transcript with the museum's leader of Mandala Bhakti.**

Date	**: Thursday, 18 February 2021**
Time	**: 09.00-09.15 a.m**
The Inteviewer	**: Muhammad Faiz Ghazi**
The interviewee	**: Mr Sariyono (Mandala Bhakti museum's leader)**
The Interviewer	:"Good morning sir."
Museum's Leader	:"Good morning, please have a seat."
The Interviewer	: "Sir the protoype of the QR Code is done, please take a look."
Museum's Leader	:"Yes I see for now it is good, I think there is no revision to be done. You can continue."
The Interviewer	:"Thank you sir."
Museum's Leader	:"Have a nice day and just focus on your task yes."

B. **Appendix B. Inter view Transcript with the museum's leader of Mandala Bhakti.**

Date	**: Tuesday, 23 February 2021**
Time	**: 09.30-09.45 a.m**
The Inteviewer	**: Muhammad Faiz Ghazi**
The interviewee	**: Mr Sariyono (Mandala Bhakti museum's leader)**
The Interviewer	:"Good morning sir."
Museum's Leader	:"Good morning."
The Interviewer	:"The product is finished sir."
Museum's Leader	: "Oh you finished the product?"
The Interviewer	: "Excuse me sir here's the final result of my product."
Museum's Leader	:" Yes, please have a sit. The audio guide is good enough and has met the expectation. I also want the soft file send into my whatsapp, and lastly do not forget to come again in the museum tomorrow to claim your certificate."