

Implementation of Application Programming Interface (API) in Indonesian Dance and Song Application

Bayu Priyatna¹, Aprilia Hananto²

^{1,2}Program Studi Sistem Informasi, Universitas Buana Perjuangan Karawang

Email: bayu.priyatna@ubpkarawang.ac.id

Abstract

The development of multimedia technology has become a phenomenon that cannot be contained. All technology platforms now use multimedia elements as GUI Interface because it makes it much easier for users to control it. The introduction of cultural customs such as Indonesian traditional dances and songs is critical so that it remains sustainable and is not undermined by foreign influences. A new and appropriate media is needed to socialize it, amicable and fun media for young children. Application of Application Programming Interface (API) in Indonesian death dance and song applications makes it easier to change data so that data flow mobility can be faster to change. The results of the research show that the implementation of API in the application has better effectiveness. and the white box test results show that the coding system can run according to function.

Keywords: Application, API, UCD, Web Service, Traditional

1. INTRODUCTION

The introduction of cultural customs such as Indonesian traditional dances and songs is very important so that it remains sustainable and is not undermined by foreign influences. A new and appropriate media is needed to socialize it, amicable and fun media for young children[1]. The development of multimedia technology has become a phenomenon that cannot be contained. All technology platforms now use multimedia elements as GUI Interface because it makes it much easier for users to control [2].

Utilization of YouTube channel technology is one of the technological trends in presenting video type information [3], But in addition to the benefits obtained from Youtube, some shortcomings are now being felt, such as too complicated the information sought is increasingly reducing the truth of the information collected, and the more extensive advertising on YouTube content without filtering makes inconvenience for users.

Along with the development of multimedia technology data presentation techniques using the Application Programming Interface (API) is becoming a trend now, because of the mobility of data transfer that is easy and centralized. API Is a link that can allow an application to interact with other applications and share data [4].

Based on the weaknesses and strengths of technology as well as concerns about the erosion of Indonesian culture, it makes researchers interested in combining and developing the presentation of information in the form of multimedia to facilitate and provide comfort for users, especially users who are still under parental supervision.

2. METHODS

UCD (User-Centered Design) is a new method of system development, UCD is a language that is widely applied in describing designs. The concept of UCD is the user as the system development process, and the goal is that the system environment is entirely based on user experience[5]. UCD is an interactive process in which design and evaluation steps are made at the beginning of the project up to the implementation phase. UCD follows a series of methods and techniques well for the analysis and evaluation of hardware device displays, software displays [6].

The Design in this study uses the method of developing a UCD (User-Centered Design) system. Why research applies this UCD model because this UCD model presents the best approach if it outlines the rules of the game from the initial interactive stages of the process where the design and evaluation [7] steps are made at the beginning of the project until implementation The following are the scenes of the UCD method can be seen in the figure. 2:

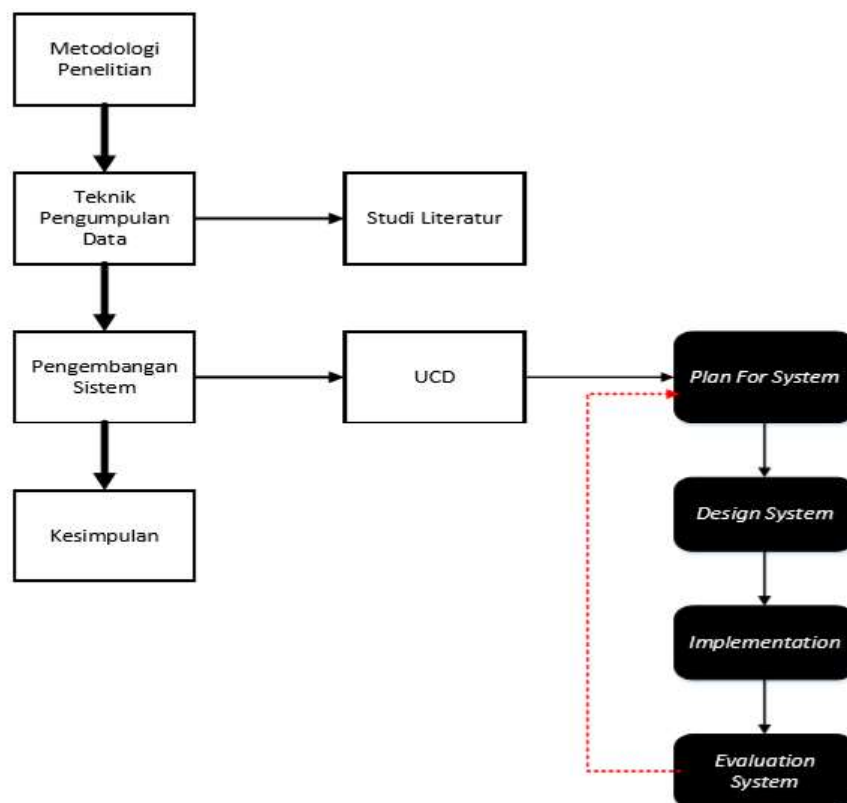


Figure 2. Research Methods with UCD Development

3. RESULTS AND DISCUSSION

A. Plan for system

Application Programming Interface API, created as an intermediary between the WEB backend as a data centre controller and the Dances and Dances application using the Android platform. Every time a Web application is made that changes data, it will automatically send an instant message on the Dances application and songs of the archipelago. Following are the stages of applying the API to the Indonesian dance and song application:

- 1) The user enters the application
- 2) My dance applications and archipelago songs invoke HTTP POSTs to endpoints from the WEB backend graph API
- 3) WEB backend crawls application page objects, reads metadata, and connects with related objects that have been authenticated

The following is a picture of the use or application of the API in the Nusantara Dance and Song Application, shown in Figure 3.1:

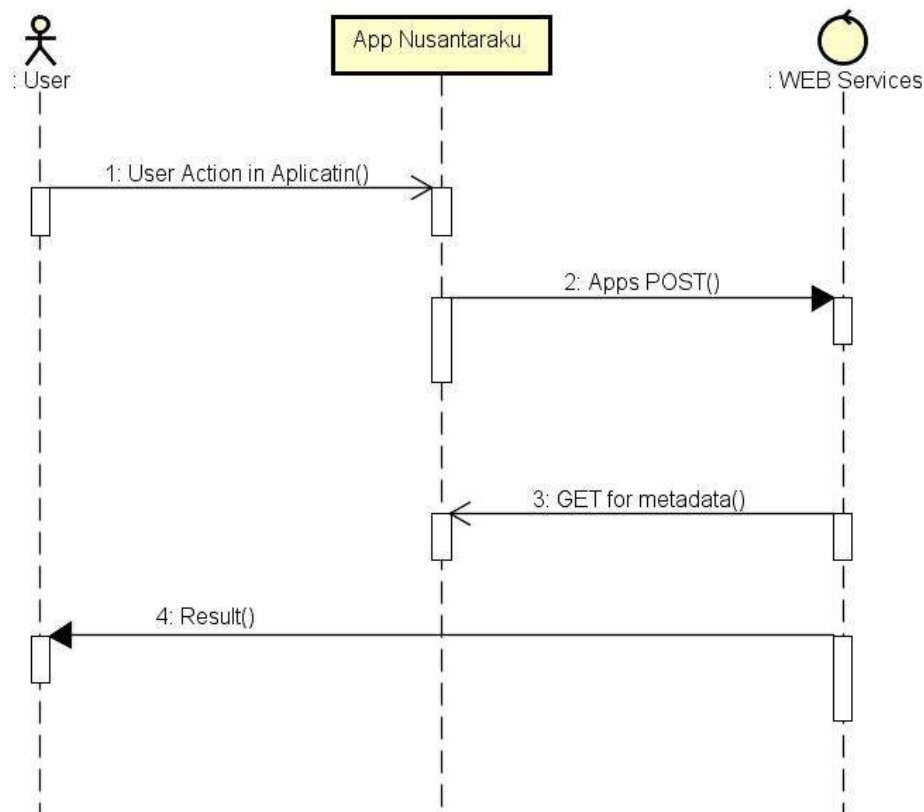


Figure 3.1. API mechanism in the WEB Service

B. Design System

The design in the application of regional songs and dances is as follows:

1) Application Front Page Design

Home This application is used to open the main menu of the application. Home Page Design This application can be seen in Figure 3.2 below:

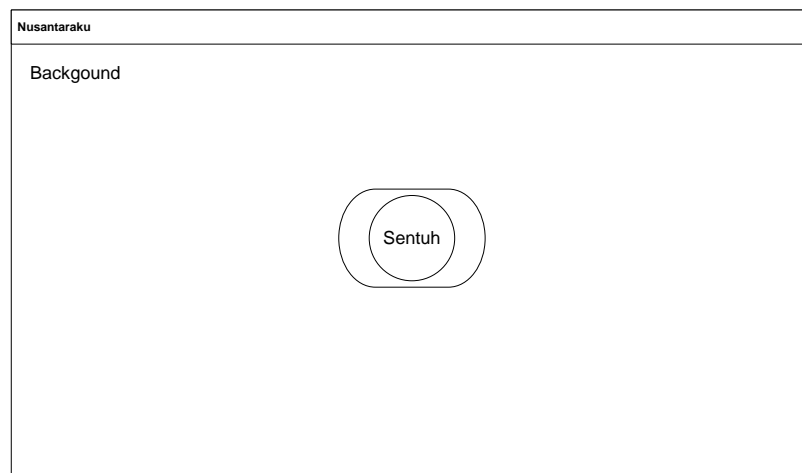


Figure 3.2 Application Front Page Design

2) Main Menu Page Design

Main Menu Page This application is used to open a list of songs and regional dances. Main Menu Page This application can be seen in Figure 3.3 below:

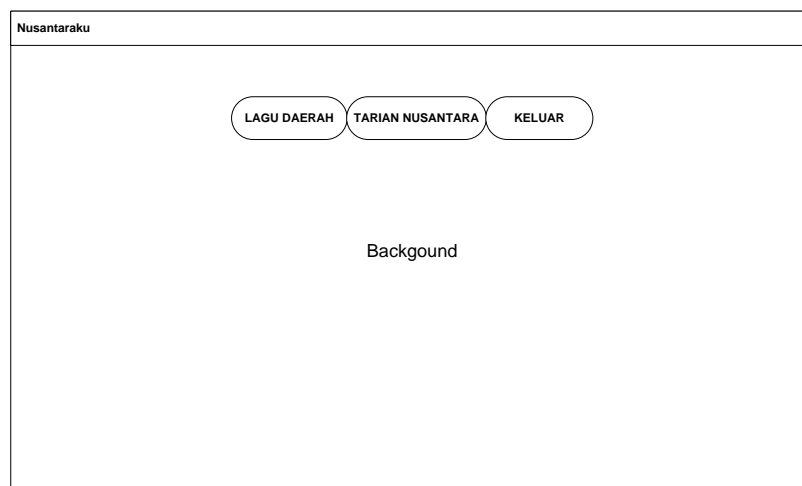


Figure 3.3 Main Menu Page Design

3) Regional Song List List Design

The Regional Song List page is used to display lyrics and folk songs in the multimedia application of regional songs and dances. The Regional Song List page can be seen in Figure 3.4 below:

| Nusantaraku |
|--------------------------------|
| DAFTAR LAGU-LAGU DAERAH |
| INDONESIA |
| Provinsi Aceh |
| Provinsi DKI Jakarta |
| Provinsi Banten |
| Provinsi Jawa Barat |
| Provinsi Jawa Tengah |
| Provinsi Jawa Timur |
| Provinsi Jambi |

Figure 3.4 Regional Song List Page Design

4) Regional Dance List Page Design

This Regional Dance List page is used to display the history and videos of regional dances in the multimedia application of regional songs and dances. The dance page for this area can be seen in Figure 3.5 below:

| Nusantaraku |
|--------------------------------|
| DAFTAR TARIAN NUSANTARA |
| INDONESIA |
| Provinsi Aceh |
| Provinsi DKI Jakarta |
| Provinsi Banten |
| Provinsi Jawa Barat |
| Provinsi Jawa Tengah |
| Provinsi Jawa Timur |
| Provinsi Jambi |

Figure 3.5 Regional Dance List Page Design

5) View Song Area Design Pages

The Regional Song View page is used to display song lyrics and can play regional songs on the regional song and dance multimedia application. The View Regional Song page can be seen in Figure 3.6 below:

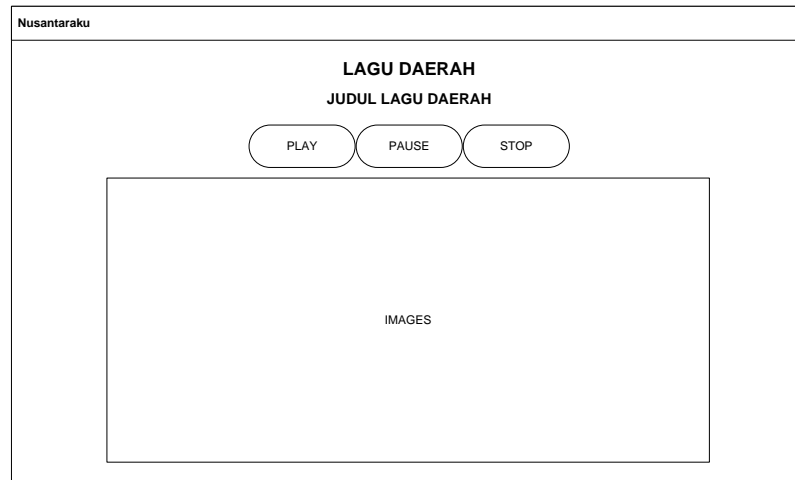


Figure 3.6 Page Design View Regional Songs

6) Regional Dance View Page Design

This Regional Dance View page is used to display dance history and can see videos of regional dances on the multimedia application of regional songs and dances. Page View Dances This area can be seen in Figure 3.7 below:

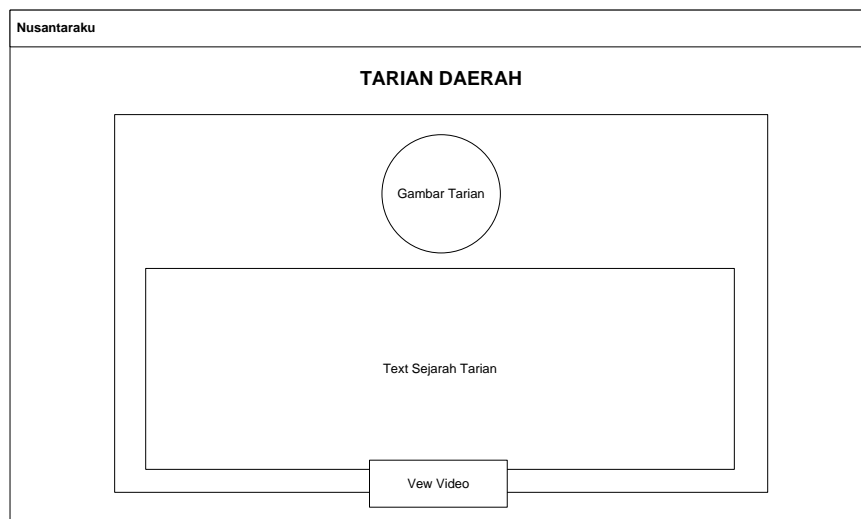


Figure 3.7 Page Design of Regional Dance View


```
setContentView(R.layout.activity_main);  
  
public interface ApiService {  
    @GATE("tampil_video.php")  
    Call<boolean> request_show_all_berita();  
}  
}
```

2) Coding Result

a) Main Menu Page Interface

The following is a display image of the Main Menu Page Interface on the regional song and dance multimedia application:



Figure 3.8 Menu Page Interface

b) Dance and Song Video Interface

The following is a display image of the Main Menu Page Interface on the regional song and dance multimedia application:



Figure 3.9 Dance and Song Video Interface

D. Evaluation

White Box Video Dance Regional Testing is performed on the logic contained in the source code, here is the source code of the program.

Table 3.1 Testing White Box View of Regional Dance Videos

| No | Source Code |
|----|---|
| 1 | public class Tarian_Daerah extends Activity implements OnClickListener { public void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.tarian_aceh); View aa = findViewById (R.id.b1); aa.setOnClickListener(this); } |
| 2 | public void onClick(View v) { |
| 3 | switch (v.getId()){ |
| 4 | case R.id.b1: |
| 5 | Intent aa = new Intent (Tarian_aceh.this, Video_aceh.class); startActivity(aa); |
| 6 | break; |
| 7 | }}} |

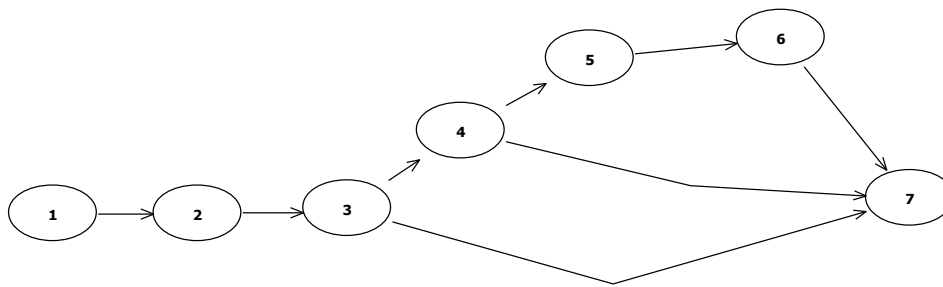


Figure 3.10 Testing White Box View of Regional Dance Videos

Cyclomatic Complexity is used to find the number of Paths in a flow chart, with the following formula:

$$\begin{aligned}
 V(G) &= E - N + 2 & V(G) &= P + 1 \\
 &= 8 - 7 + 2 & &= 2 + 1 \\
 &= 3 & &= 3
 \end{aligned}$$

From the flowgraph above, it is known:

- Node (N) = 7 Node
- Edge (E) = 8 Edge
- Predicate (P) = 2 Predicate

In editing the admin account there are 3 scenarios, namely:

- 1) Path 1 = 1-2-3-4-5-6-7
- 2) Path 2 = 1-2-3-4-7
- 3) Path 3 = 1-2-3-7

4. CONCLUSION

Based on the research that has been carried out, there are several conclusions as follows:

1. The design of the local Dance and Song application system using this UCD method, can provide a design that is much more interesting.
2. By designing a simple API in integration makes the mobility of data changes much faster.
3. Answering shortcomings or problems contained in the previous application by integrating the YouTube channel in the video playback so that parents need supervision if the access is early childhood.
4. Lighten storage capacity by using Client Server.

ACKNOWLEDGEMENTS

Research as a prerequisite for tri dharma higher education, and provide training to the public how important the culture of Indonesia is to be maintained so that it does not run out of time. The value of education, as outlined in multimedia, can be absorbed quickly for the nation's children, especially those who are still classified at an early age.

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