Digitization of Takepan Sasak manuscript based on the OPF flipbook

L M Samsu*, M Saiful, I Fathurrahman and H Bahtiar

Faculty of Engineering, Hamzanwadi University, Lombok, Indonesia

*lmksamu311275@gmail.com

Abstract. This study aims to preserve the Takepan Sasak manuscript, studied and known by the public. This study uses evaluative methods and Kvisoft Flipbook Maker software. The process stages consist of data collection, analysis, digitization, testing and experimentation, and evaluation. The results of this study are in the form of a Sasak Takepan Manuscript flipbook which is expected to be accessed by the public digitally in a 3-dimensional model.

1. Introduction
West Nusa Tenggara has many cultural heritages that must be protected in order to be preserved. One of them is Lombok Island which holds a large collection of manuscripts. In fact, this island is known as a "conservation laboratory" of Old Javanese manuscripts from an Islamic perspective [1]. For example, the Takepan Sasak manuscript which is made and written on dry palm leaves using the reramputan language which is a mixture of several languages such as Sasak, Balinese, Javanese, and Malay which is known as the jejawan script which comes from the Javanese language ancient [2]. Takepan has a historical value that is still kept by the community until now [3] and even become one of the subjects in the local school curriculum [4]. However, many people still do not know these historical objects because they are lost, borrowed, or even traded. Although the number is starting to decrease, over time it will experience degradation due to termites, fungi, and scratches on the writing so that the letters in front of them cannot be read [5].

In today's digital era, the electronic book is an innovation that can be used by the public. The use of this technology is supported by the government in delivering information from conventional to electronic books or e-books [6]. One of the e-books, namely the Flipbook, is a 3-dimensional digital book that has an animated display like a book by combining elements of text, images, videos so that it is interesting [7–9]. Hidayatulloh [10] shows that the use of flipbooks is feasible and very practical. Another study, Divayana et al. [11] states that Kvisof flipbook-based digital book design is very good and keeps the book from being damaged. Therefore, Suryani and Ardianto [12] concluded that the media using flipbooks is one of the smart solutions and alternatives in today's digital era. So that the takepan manuscript can be preserved, studied, and known by the public or the general public. Therefore, there is a need for digitization [13], namely eBooks that make it easy to access the contents of the Lombok Sasak Takepan. So that in this research, the researcher made an electronic book or flipbook through the Kvisoft Flipbook Maker.
2. Literature
Research conducted by Suryani and Ardianto with the journal "Digital Flipbook Empowerment as A Development Means for History Learning Media" concluded that electronic-based books can be understood by students, especially history subjects [12].

According to Divayana et al. in the journal "The Design of Digital Book Content for Assessment and Evaluation Courses by Adopting Superitem Concept Based on Kvisoft Flipbook Maker in the era of Industry 4.0" using Kvisoft Flipbook Maker in making digital books to produce a good appearance and design and keep books from broken [11].

The research conducted by Hidayatulloh entitled "Developing Electrical Circuits Flipbook Using Flipbuilder" uses a Flipbuilder that is integrated with PhET Simulation software called an electric circuit flipbook. Produce an e-book that is attractive and easy to learn and can be accessed easily [10].

Schroeder in his research entitled "The Digital Humanities as Cultural Capital: Implications for Biblical and Religious Studies", digitization is the process of translating information such as books, sound recordings, images or videos, into bits which are the basic units of information in a computer [14].

Meanwhile, according to Bandi et al. in their journals, digitization is the process of converting any form of printed or other documents into a digital presentation [15].

2.1. Manuscript
Philology is a science that studies manuscripts related to the writings of the past with the assumption that the writings contain values that are still relevant to modern life [15].

2.2. Digitization
Information is important, especially in the industrial era 4.0. Utilization of increasingly advanced technological devices, people can take advantage of social media as information without having to meet face to face. Where the information becomes digital previously in analogue format. This process is called digitization because it is a process of changing from an analogue document to an electronic document [13,15].

2.3. OPF flipbook
OPF is an XML-based electronic book format created by electronic book systems. E-books or e-books in this format are used when Kvisoft Flipbook Maker is rendering to create an e-book with realistic 3D Flash effects and stunning page-turning. A flipbook that can be presented in an electronic format is capable of displaying interactive simulations by combining text, images, audio, video, animation, and navigation [16,17].

3. Methods
This study uses an evaluative method. The subject of the research was the Lombok Sasak Takepan manuscript in East Lombok. The first phase of research began with the collection of existing Takepan manuscript data from several sources. After that, the researcher conducted an analysis to determine the software used in the digitizing process. The digitization process uses Kvisoft Flipbook Maker software. To facilitate the manufacture of this digitization system, a research design stage is carried out which aims to describe the process of the system to be built. The following is figure 1. The diagram of the stages of the digitization process in this study consists of:
3.1. **The data collection stage**
This is the initial stage which is to collect data on the takepan manuscript located in Lombok east of sakra village West Nusa Tenggara.

3.2. **Analysis phase**
The system analysis stage is the stage of identifiers and designing the digitization of the Takepan Sasak script and the required needs.

3.3. **Digitalization and system development stage**
The stages of the design process, namely creating a storyboard in the form of text and images, are followed by the development of a design to create an electronic book using Kvisoft Flipbook Maker software.

3.4. **Experiment and testing**
The results that have been tested from the electronic book and see whether the resulting system can match the wishes of the researcher.

3.5. **Evaluation**
The final stage is carried out to correct existing deficiencies by comparing the final result with the previous results, whether this interactive model can be implemented by the community in studying the Takepan Sasak script.

4. **Results and discussion**
In the Figure 2. It is the design result of Kvisoft Flipbook Maker which contains the eBook manuscript of takepan Lombok in *.exe format.
Figure 2. E-book Takepan Sasak Lombok.

The following Figure 3 shows the cover of the Takepan Sasak Lombok e-book in 3D with features such as zoom out, zoom in, print, full screen, and etc.

Figure 3. Cover e-book Takepan Sasak Lombok.

One of the advantages of the Takepan Sasak Lombok eBook is easy access as in Figure 4 because there are navigation buttons such as the first page, previous, play, next, and etc.

Figure 4. One of the contents pages of the e-book Takepan Sasak.

5. Conclusion

The Takepan Sasak Lombok which is made from palm leaves is very easily damaged due to degradation over time so that it cannot be read. The flipbook is an alternative that can preserve local culture, especially Takepan Sasak because it can be accessed digitally and studied by the wider community.
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