

# INTERACTIVE BOOK DESIGN FOR UIS KARO TRADITIONAL FABRIC

Thierry Bangun<sup>1\*</sup>, Ananda Risya Triani<sup>2</sup>

<sup>1,2</sup>*Visual Communication Design, Creative Industries School, Telkom University,*  
<sup>1</sup>*thianirel@gmail.com,* <sup>2</sup>*anandatriani@gmail.com*

---

**Abstract:** Indonesia is known to have a lot of cultural diversity, such as the traditional woven fabrics widespread within ethnicities in Indonesia. One is the Uis Gara of the Karonese in North Sumatra Province. However, the existence of Uis Karo is increasingly threatened because in ceremonial situations, many Karonese prefer to replace it with the more popular Batik and Songket. Indonesian society as well, are strange to the Uis Karo in general. To solve these problems, the author intends to design an interactive book to introduce the variety of Uis Karo and its derivatives in the scope of creative industries. In this study, the author made observation to workshop locations, documentation for handweaving process and its derivative products, literature studies related to multimedia design and variety of Uis Karo, and interviews with expert sources. The comparison matrix is used to juxtapose several visual objects worth being referenced. The author employs several theories in graphic design, interactive multimedia, photography and videography. The final output is a web-based interactive digital book that helps to increase public awareness and empathy toward the overall state of Uis Karo and its derivatives, with the help of multi-sensory communications such as still text, images, videos, animations, and sounds.

**Keywords:** *Uis Karo, Handwoven Fabrics, Interactive Book*

---

## 1. INTRODUCTION

Uis Karo also known as 'Uis Nipes' (Thin Fabric) and 'Uis Gara' (Red Fabric) holds significant importance in the continuity of Karonese indigenous culture who settled in North Sumatra. The Uis is constantly used in traditional rituals. However, in some sort of traditional occasions, many people prefer to replace the Uis Karo with the nationwide-popular Batik and Songket. This is worsened by the fact that many Karo people who began to forget Uis as its own culture, especially those who settle outside their indigenous area.

The ignorance among Karonese communities is further deteriorated by blind juxtaposition from other tribes against this woven fabric. Uis is no strange to generalization made by Batak people who call it Ulos, whereas, both patterns and motifs are philosophically different. Indonesian society also do not recognize Uis, since when asked about the typical woven fabric of North Sumatra, mostly will just answer by Ulos.

In an effort to maintain the existence of Uis Karo, the author found that the number of potential development that can be applied. For example, by developing a variety of Uis in its original woven fabric motifs and by designing a derivative product in the form of contemporary fashion and accessories.

Attempts from craftsmen and designers to modernize Uis Karo happens to coincide with the phenomenon in the current fashion industry which now seek to revive traditional woven fabrics. With the proliferation of Indonesian people who begin to appreciate traditional things higher, Uis Karo has the potential to be one of the identities representing Indonesia in the international fashion, known for its tribal and epic styles.

Although more developed, however, the existence of Uis Karo and derived fashion products is still not recognized publicly, especially for those who work in the fashion-related industry in Indonesia and foreign tourists who commonly buy typical Indonesian cultural souvenirs.

To increase the audience recognition, an effective and efficient promotional media design is required. The author has chosen to develop media in the form of digital interactive book by web format, known for its ability to present a multi-sensory communication as it displays multiple elements such as text, graphics, video, sound, and animation at a time, and can be accessed without geographical and time limitations.

The Uis Karo interactive book will be targeting Y Generation – people that age between 18-38 years old with high technology-savvy demeanor - as the primary audience. This generation used to react actively to any current trends that is happening in the public, including fashion one. The Y generation is also accustomed to using the Internet and information technology devices as a source of information, interaction and creativity, therefore, meet all the requirement as a primary target audience for the multi-sensory communications.

## **2. THEORETICAL BACKGROUND**

In designing interactive digital books, various theories related to visual communication design and multimedia are employed as a foundation. First of all, due to the fact that the authors designed a book as the output media in this study, it is important to know what the definition of media. According to Arsyad (2002: 4), media is an intermediate form used by humans to disseminate ideas or opinions to the receiver they want to choose.

Given the multimedia nature of interactive books, the author further takes a definition from Gayeski (1993), which defines multimedia as a set of computer-based media which are integrated as a communication system whose role is to build, store, disseminate and receive information that can be captured by the various senses. Sutopo (2003: 8), outlines several types of objects contained in interactive multimedia, i.e. texts, images, animation, sound, video, and interactive links.

The objects then get arranged in an order called user interface, which acts as a communication mechanism between the user and the system. According Rosnelly (2012: 15), User Interface duty is to receive information from the user and then convert it into a form that is understood by the system, and then receive information from the system and display it in a humane form.

The user interface is laid out sequentially according to grid system principles. Ambrose and Harris (2011: 50) says grid system is useful to help the page to achieve a proportional and consistent look, both horizontally and vertically.

According to Shneiderman et. al. (2010), there are 'Eight Golden Rules' in designing the user interface, namely: Consistency, Shortcuts, Informative feedback, Dialogue, Error handling, Permitting reversal of actions, Supporting internal locus of control, and reducing short-term memory load.

As to designing video within the interactive book content, the author uses the nine principles of the image shot composition as publicly known in the professional videographer industry, as proposed by Naratama (2006: 73), namely: Extreme Long Shot, Very Long shot, Long shot, Medium Long shot, Medium shot, Middle Close Up, Close Up, Big Close Up, and Extreme Close Up.

In determining user behavior model interactive book, the authors relied on the AISAS model (Attention, Interest, Search, Action, and Share). According to Sugiyama & Andree (2011: 78), the AISAS is a consumer behavior model developed to adapt to the circulation of non-linear information. Due to its non-linear attribute, any steps among Search, Action, and Share could be bypassed or repeated.

### 3. THE RESEARCH METHOD

This study used qualitative methods by conduction several data collection techniques such as observation of the hand-weaving process and the manufacture of products in the craft workshop, documentation of the craft techniques and finished products; literatures concerning the Uis Karo woven fabric, both printed and online; and interviews with craftsmen, fashion designers, and academics with specialized knowledge in the woven fabric industry.

### 4. RESULT AND DISCUSSION

#### 4.1 Target Audience Data

##### 1. Segmentation

Table 1. Target Audience Data

|             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Geographic  | Primary   | Indonesia nationwide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|             | Secondary | Global                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Demographic | Primary   | <p>Age range: 18-38, (Y generation born between 1977-1997).</p> <p>Sex: Male and Female.</p> <p>Language: Bahasa Indonesia</p> <p>Education level: <i>Well-educated</i>, ranked from Diploma to beyond.</p> <p>Socio-economic level: A and AB, which generally have more appreciation towards art and has the ability to buy Uis Karo handwoven fabric priced between Rp300.000 to Rp1.000.000.</p> <p>Occupation: Fashion designer and entrepreneur, fashion media journalist, stylists, fashion blogger, traditional fabric collectors, and fashion students.</p> |
|             | Secondary | <p>Age range: 18-38, (Y generation born between 1977-1997).</p> <p>Sex: Male and Female.</p> <p>Language: English</p> <p>Education level: <i>Well-educated</i>, ranked from Diploma to beyond.</p>                                                                                                                                                                                                                                                                                                                                                                  |

|               |  |                                                                                                                                                                                                                      |
|---------------|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |  | Socio-economic level: A and AB, which generally have more appreciation towards art and has the ability to buy Uis Karo handwoven fabric priced between Rp300.000 to Rp1.000.000.<br><br>Occupation: all professions. |
| Psychographic |  | Adventurous, actively accessing informations on the Internet, enjoys tribal cultures around the world, and likes collecting traditional fabrics.                                                                     |

## 2. Targeting

The Uis Karo Traditional Fabric Interactive Book targets those who work in the Indonesian fashion industry, such as: fashion designer and entrepreneur, fashion media journalist, stylists, fashion blogger, traditional fabric collectors, and fashion students. Meanwhile, the book will also target foreign tourists.

## 3. Positioning

The interactive book is positioned as a digital-based promotional media that can be accessed by the targets above who used to access the internet through mobile devices and computers. This media will be placed on a dedicated website, in collaboration with the Department of Culture and Tourism of Karo District, North Sumatra.

## 4.2 Related Products Analysis

As a reference in designing the interactive book, the authors juxtapose three similar works in a comparison matrix. As of the indicators, the authors employs several factors according to theoretical background, such as content (theme, purpose, segments); user interface (navigation, usability, layout (visual, typography, grid system, color)); and interactive multimedia (video, audio, animation, interactive links).

Table 2. Comparison Matrix Analysis

|                |                                                                                                                                                                  |                                                                                                        |                                                                                                          |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|                |                                                                               |                    |                     |
|                | Harrods Magazine:<br>March 2016                                                                                                                                  | Visual Interaktif Kompas:<br>Baduy Kembali                                                             | Pesona Batik Solo                                                                                        |
| <b>Content</b> |                                                                                                                                                                  |                                                                                                        |                                                                                                          |
| • Theme        | A fashion magazine with lifestyle topics. It represents fashion collection, accessories, treatment products, lavish food and beverages, and exclusive souvenirs. | A journalism story rubric featuring the Baduy tribe who lives in Pandeglang district, Banten Province. | Interactive flash application featuring history, variety, and tourism information related to Batik Solo. |

|                       |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Purpose             | To inspired reader to follow the current trend in mode and buy the advertised products.                                                                                                                                                                            | To illuminate the readers about the history and the origin of Baduy tribe by employing multiple interactive multimedia elements in a webpage.                                                                                                                                                                                                                  | To inform those who want to learn the origins of Batik Solo, craft methods, and its motifs, as well as guiding them to visit the Batik Solo collection site.                                                                                                                                                                                                                         |
| • Segments            | <b>Geographic:</b> Great Britain (English)<br><b>Demographic:</b> Y Generation (18-38 years old) living in urban location.<br><b>Psikographic:</b> Crave for fashions, actively accessing information through the internet.<br><b>Socioeconomic level:</b> Top (A) | <b>Geographic:</b> Indonesia (Bahasa Indonesia)<br><b>Demographic:</b> Y Generation (18-38 years old) living in urban and suburban location.<br><b>Psikographic:</b> Crave for Indonesian traditional cultures, adventurous, actively accessing information through the internet.<br><b>Socioeconomic level:</b> Top (A), Mid-range (B), Lower Mid-range (C1). | <b>Geografis:</b> Indonesia dan Global (Bahasa Indonesia and English)<br><b>Demographic:</b> Y Generation (18-38 years old) living in urban and suburban location.<br><b>Psikographic:</b> Crave for Indonesian traditional cultures, adventurous, actively accessing information through the internet.<br><b>Socioeconomic level:</b> Top (A), Mid-range (B), Lower Mid-range (C1). |
| <b>User Interface</b> |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                      |
| • Navigation          | A drop-down menu is placed at top left corner. Every pages has its title arranged sequentially and can be clicked in the menu.                                                                                                                                     | A drop-down menu is placed at top right corner to navigate through every crosshead in the webpage.                                                                                                                                                                                                                                                             | Employs Left (<) and Right (>) button to jump between pages, and a infographic map to do a quick navigate to each page which is marked with a number. The Lobby (opener) page is marked with "L."                                                                                                                                                                                    |
| • Usability           | Easily understood, because the content is laid out vertically like a conventional book/magazine. The magazine can be accessed through PC by visiting the URL address. Those with handheld devices can download a application to help read the content optimally.   | Easily understood as the content is read vertically. Users only need to load the page once for the entire content has made fit within a webpage. The magazine can be accessed either from PCs or mobile devices by visiting the URL without the necessity of downloading applications.                                                                         | Easy to use as the flash application arranges the content to be read vertically. Certain parts can be accessed by moving horizontally with the help of the Left and Right buttons. This book comes in .exe format, thus must be downloaded in advance to subsequently get installed on a Windows device.                                                                             |
| <b>• Layout</b>       |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                      |
| • Visual              | Displaying fashion product photography, lifestyle, and high-class tourist destination with various themes in backgrounds.                                                                                                                                          | Displaying life of Baduy people in a natural background, as well as caricatures of pop arts to describe the history and culture of the Baduy tribe.                                                                                                                                                                                                            | Featuring stylized realistic caricature illustration combined with Batik product and tourist sites photography to further elaborate the information in a particular page.                                                                                                                                                                                                            |
| • Typo-graphy         | Titles and paragraphs employ Serif. Footnores employs Sans Serif.                                                                                                                                                                                                  | Titles employ Sans Serif and Serif. Paragraphs employ Sans Serif.                                                                                                                                                                                                                                                                                              | Titles employ Script. Paragraphs employ Sans Serif.                                                                                                                                                                                                                                                                                                                                  |
| • Grid System         | Column system with indefinite length of contents.                                                                                                                                                                                                                  | Column system with indefinite length of contents.                                                                                                                                                                                                                                                                                                              | Modular system with pictures and illustrations loosely placed around every page.                                                                                                                                                                                                                                                                                                     |
| • Color               | Black to white (monochrome) color palette dominates the                                                                                                                                                                                                            | Black and white dominate the entire webpage to express neutrality to the likes of                                                                                                                                                                                                                                                                              | Brown dominates every page to give an earthy and comfortable impression,                                                                                                                                                                                                                                                                                                             |

|                               |                                                                                                                                                                |                                                                                                                                            |                                                                                                                                                                                       |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | display to give an elegant and modern impression.                                                                                                              | traditional Baduy outfits.                                                                                                                 | other than the fact than brown is the foundation color of the Batik itself.                                                                                                           |
| <b>Interactive Multimedia</b> |                                                                                                                                                                |                                                                                                                                            |                                                                                                                                                                                       |
| • Video                       | Advertisement video plays automatically when the particular page is opened, whereas the fashion modelling videos open only when a user clicks the Play button. | Videos regarding the Baduy people activities and interviews with local dignitaries will only be played when a user clicks the Play button. | No video.                                                                                                                                                                             |
| • Audio                       | The music plays automatically when a video is played.                                                                                                          | The music plays automatically when a video is played.                                                                                      | The traditional Gamelan Jawa music will be played automatically when a page opens. User can mute the sound by clicking the volume icon on the settings bar at the bottom of the page. |
| • Animation                   | No animation.                                                                                                                                                  | No animation.                                                                                                                              | In the "10 steps in making a Batik Solo fabrics" section, the caricature animates to help demonstrate the process visually.                                                           |
| • Interactive Links           | Links to open the webpage is placed under the drop-down menu.                                                                                                  | Links to open every chapter is placed under the drop-down menu. Moving to the left, there are Facebook and Twitter share buttons.          | Links to open every page is arranged in an infographic map menu.                                                                                                                      |

According to the analysis, it can be concluded that it is more ideal if the page menu is placed at the top of the screen, containing links to each of the page. Interactive book itself optimally should be responsive according to various size of devices such as computers, tablets, and mobile phones. The content can be enriched by putting multiple graphic elements such as photography, illustration, and animation. In order to facilitate the reader's eye, the text in the title should use Sans Serif while the paragraph using Serif. The layout grid ideally employs the modular style since it allows the author to determine the content placement freely. Video footage is useful to describe the product and should be accompanied with music and narration. Any unrecorded contents will be explained by designing an animated video.

### 4.3 Discussion

In designing the interactive book, the author employs several concepts, namely message, creative, visual, media, and design concepts as explained below:

#### a. Message Concept

Introducing the Uis Karo as a signature handwoven fabric of North Sumatra province, inviting target audience (professionals in the textile and fashion industry) and foreign tourists to buy Uis Karo products and its derivatives, as well as utilizing motif Uis Karo as a source of inspiration in their design.

#### b. Creative Concept

To strategically attract the attention of the target market by applying the values embodied in the slogan that had been made previously, namely 'The Beauty of Karoland'. The creative approach in this interactive book prioritize the elements of a traditional Karo.

c. Visual Concepts

1. Interactive book logo illustration is designed in vector. The Logogram took the inspiration from the Tapak Raja Sulaiman (King Solomon's Footprint), a sacred traditional ornaments found in the Karonese culture. On the content, photography and caricature vectors are used alongside the distinctive ornamental Karonese patterns that act as a supporting element in the user interface.
2. The logo layout arranged vertically, next to the logotype. Meanwhile, the content layout is placed according to the modular grid principles, thus allowing for a free arrangement.
3. There are several colors in use: red, the most dominant color in a variety of fabrics Uis Karo which represents bravery, strength, and sacrifice; yellow, the second dominant color which describes bright and happy nature; blue, third dominant color with an impression of calm and integrity; and black, the supporting color in giving an impression of strength and expertise.
4. As of the typography, the logotype uses Doedel (Custom script), the titles use Raleway (Sans Serif), and the paragraphs use Merriweather (Serif).

d. Media Concept

The digital interactive book is designed in HTML5 format and placed in a dedicated website which can be accessed by using any kind of device through a web browser. HTML5 format is chosen due to its lightweight and flexible nature allowing the content to fit regardless of operating systems. Additionally, by employing HTML5, the author can stack a variety of content elements such as text, images, video, and moving images in an unrestrained manner.

#### 4.4 Design Results

The interactive book begin with customary greeting and a user guide with related icons. The content contains several information regarding the Uis Karo and the Karo people themselves, explained with still images, animation video, and recorded video.

There are two recorded videos titled "Uis Karo Handweaving Process" and "How to Wear Uis Karo as Fashion Accessories", alongside one animated video titled "The Legend of Karo People." Image repository is used to explain the historical background.



Figure 1. Overall Interactive Book Design



Figure 2. Historical Background on "History of Uis Karo" Page



Figure 3. Excerpts from "Uis Karo Handweaving Process" and "How to Wear Uis Karo as Fashion Accessories" Recorded Videos

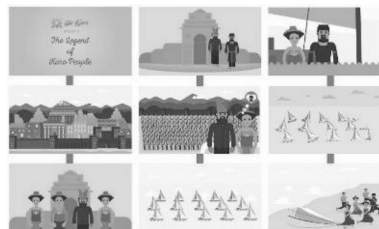


Figure 4. Excerpts from "The Legend of Karo People" Animation Video

## 5. CONCLUSION

- In designing digital-based interactive books, HTML5 is the most ideal format since it is lighter and has the ability to adjust to a variety of screen sizes.
- Application of interactive elements such as video, audio, image gallery, and the animation will enrich the interactive book, and help distinguish its digital nature from conventional ones.
- The layout between pages should form the sense of togetherness and continuity to ease the readers' memory. In the beginning they will need to get informed of special situations they will encounter when accessing the interactive book.
- A mixture of traditional and modern elements can be achieved by combining the traditional color identity (red, yellow, and blue in this case) and monochrome color. In addition, the related traditional elements and patterns can be added to the interface to amplify the impression.
- Multi-sensory communications in the interactive book has successfully tackled many issues found in the first place, such as the inability to communicate borderlessly and virtually, thanks to the help of internet-based format that employs all of interactive elements seamlessly.

## ACKNOWLEDGEMENTS

The authors would like to thank Mr. Sahat Tarigan for his help in administering the research documentation in his workshop, and Ms. Tantri Arihta and Averiana Barus in accommodating the authors to observe their works and making necessary inputs. The authors would also like to express their gratitude to Mrs. Citra Puspitasari, S.Ds., M.Ds. for giving valuable advice related to fashion industries from academical perspective.

## REFERENCES

Ambrose, G., and Harris, P., 2011. *The Fundamentals of Graphic Design*. 2<sup>nd</sup> Edition. Lausanne: AVA Academia.

Arsyad, A., 2002. *Media Pembelajaran*. Jakarta: Rajawali Pers

Gayeski, D M., 1993. *Multimedia for Learning: Development, Application, Evaluation*. New Jersey: Education Technology Publications

Naratama., 2006. *Menjadi Sutradara Televisi dengan Single dan Multi Camera*. Jakarta: Grasindo

Rosnelly, R., 2012. *Sistem Pakar: Konsep dan Teori*. Yogyakarta: Penerbit Andi

Shneiderman, B., Plaisant, C., Cohen, M., and Jacobs, S., 2010. *Designing the User Interface*. London: Pearson

Sugiyama, K., and Andree, Tim, 2011. *The Dentsu Way*. New York: McGraw-Hill

Sutopo, A H., 2003. *Multimedia Interaktif Dengan Flash*. Yogyakarta: Graha Ilmu

Arihta, T., 2014. Eksplorasi Visual Kain Tradisional Uis Gara Pada Produk Siap Pakai Wanita. *ITB Undergraduate Journal of Visual Art and Design*, [e – journals] 2 (1). Available at: <<http://jurnal-s1.fsr.itb.ac.id/index.php/craft/article/viewFile/217/194>> [Accessed 1 February 2016, 09.30]

Masters, J., 2016. Very Valentino: Celebrating This Season's Decorative Diversity [Harrods Magazine]. London: Harrods Publications. Available at <<http://magazine.harrods.com/#!/issue/101450/article/99196>> [Accessed 13 October 2016, 14.40]

Yudono, J., 2016. Baduy Kembali: Perjalanan Suku Baduy Di Tengah Perubahan Zaman [Visual Interaktif Kompas]. Jakarta: Kompas.com. Available at <<http://vik.kompas.com/baduykembali>> [Accessed 13 October 2016, 14.51]

Mahakita, T., 2013. Aplikasi Batik Solo [Pesona BatikSolo]. Yogyakarta: Publikasi Mercu Buana. Available at <<http://pesonabatiksolo.blogspot.co.id/2013/07/13-version.html>> [Accessed 13 October 2016, 15:30]