

Designing Digital Storyboards of Tangerang Folklore through Structural and Semiotic Approaches

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*Shenny Ayunuri Beata Sitinjak, Irpan Ali Rahman, Bayu Prasatya Sumarwoto, Ribka Fransisca, Hasan Daud^{abcde}

¹⁴Faculty of Social Sciences and Humanities, Diploma Program in English (D3), Buddhi Dharma University, Tangerang, Indonesia

²³Faculty of Social Sciences and Humanities, English Literature Department, Buddhi Dharma University, Tangerang Indonesia

⁵Pusat Kajian Tionghoa Benteng, Tangerang, Indonesia

Corresponding Author: shenny.ayunuri@ubd.ac.id

A B S T R A C T

This study aims to analyze the narrative structure and symbolic meanings embedded in Tangerang folklore and to design a digital media prototype for preserving local cultural heritage. A descriptive qualitative approach was employed using the Research and Development (R&D) method based on the ADDIE model, focusing on the analysis and design stages. Data were collected through literature review, field observations, and semi-structured interviews with community leaders and cultural informants in Tangerang. The data were analyzed using Vladimir Propp's narrative structure theory and Roland Barthes' semiotic framework to examine both story patterns and symbolic representations. The findings reveal that Tangerang folklore exhibits recurring narrative structures characterized by conflict, struggle, and symbolic resolution. Semiotic analysis further indicates that symbols such as monuments, irrigation canals, and the figure of the "Lioness" represent local identity, collective solidarity, ecological values, and female heroism. In addition, the study produced a Google Sites-based digital storyboard prototype featuring interactive story navigation, visual illustrations, and cultural content. The prototype demonstrates the potential of digital media as an innovative strategy for preserving and promoting local folklore in the digital era.

Keywords: Folklore, Tangerang, Vladimir Propp, Roland Barthes

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INTRODUCTION

Folklore constitutes an important form of oral literature that preserves cultural identity, moral values, and local wisdom while serving as a medium for transmitting collective knowledge across generations. As part of a community's intangible cultural heritage, folklore reflects historical experiences, social norms, and cultural beliefs that contribute to the preservation of local identity. In Tangerang, traditional folktales such as *Asal Usul Tangerang* and *Singa Betina dari Pabuaran* have long been transmitted orally and continue to embody the region's cultural values and historical memory. However, the rapid advancement of digital technology and the widespread influence of globalization have gradually reduced younger generations' engagement with local folklore, as digital entertainment increasingly dominates their cultural consumption. Consequently, many traditional stories are at risk of being forgotten due to limited documentation and declining public interest. As noted by Hartanto et al. (2022), the existence of Banten folklore has diminished because of inadequate preservation efforts and decreasing appreciation among younger audiences. This situation highlights the urgent need for innovative, technology-based preservation strategies that can revitalize local folklore and ensure its continued relevance in the digital era.

Digitalization has become one of the most important strategies for preserving local culture in the digital era. Digital media allows folklore to be packaged in more interactive, attractive, and accessible forms for younger audiences. Tafonao et al. (2020) emphasize that Generation Z and Alpha are strongly connected to digital technology; therefore, technology-based learning media are more effective in increasing their engagement. Research by Srg (2024) on the digitalization of the Putri Hijau Melayu Deli folktale demonstrates that transforming folklore into digital media can increase younger generations' interest in regional literature. Furthermore, Windyani & Enri (2024) through their research on the digital platform Kisahloka, explain that folklore digitalization can become a strategic medium for preserving national culture. Therefore, the digitalization of Tangerang folklore through interactive applications can become a solution for maintaining local cultural heritage while adapting it to the characteristics of contemporary digital society.

Previous folklore studies generally focused separately on semiotic analysis, structuralism, or digital media development. Safiuddin (2019) used Roland Barthes' semiotic approach to analyze symbolic meanings in the folktale Wandiu-Ndiu, while Sultan & Tirtayasa (2025) examined Vladimir Propp's narrative structure in the folktales Batu Kuwung and Situ Bagendit. On the other hand, Wirabhayu & Widhiyanti (2024) developed augmented reality-based digital media for the Roro Jonggrang folktale; however, their research did not integrate structural and semiotic analysis as the foundation of digital media design. Based on these previous studies, there remains a limitation in integrating literary studies, semiotics, and digital application development into one comprehensive research framework. Therefore, the novelty of this study lies in integrating Vladimir Propp's structural theory and Roland Barthes' semiotics into the process of digitalizing Tangerang folklore into an interactive application. This integration allows narrative structures and cultural symbols to be preserved during digital transformation.

This study aims to: (1) analyze the narrative structure of Tangerang folklore based on Vladimir Propp's theory; (2) identify symbolic meanings in Tangerang folklore through Roland Barthes' semiotics; and (3) design a digital-based interactive application as a medium for preserving Tangerang folklore. Vladimir Propp's structural theory is used to identify narrative functions that shape folklore patterns, while Roland Barthes' semiotic theory is used to interpret signs, symbols, connotative meanings, and cultural myths contained within folklore (Jadou & Ghabra, 2021). Through the integration of these two theories, this study is expected to produce a folklore digitalization model that functions not only as entertainment media but also as a means of cultural education and strengthening local identity in Tangerang society.

METHOD

The research was conducted using the analysis and design stages of the ADDIE model, which consists of Analysis, Design, Development, Implementation, and Evaluation. In this study, the research focused on the analysis and design stages, where folktales were collected, reconstructed, and analysed before being adapted into digital storytelling design. The ADDIE model is widely used in educational and cultural media development because it provides a systematic procedure for transforming content into interactive learning materials (Branch, 2010). In folklore-based media development, the analysis stage is essential to ensure that cultural meaning is preserved before the digital adaptation process.

Data

The data of this research consisted of five Tangerang folktales that were identified through literature study, field observation, and interviews with local informants. The selected folktales were: (1) *Legenda Tugu Penanda: Asal Usul Tangerang*, (2) *Asal Usul Kampung Cipondoh*, (3) *Asal Usul Karawaci*, (4) *Cerita dari Keramat Asem: Warisan Aria Santika di Batuceper*, and (5) *Singa Betina dari Pabuaran: Kisah Nyi Mas Melati*. These stories were chosen because they are still known in local communities and are related to place names, historical memory, and

cultural traditions. Folklore research often requires reconstruction because oral narratives may exist in different versions, and the researcher must arrange them into a coherent text while maintaining the original narrative function (Nurbaiti, 2021). Reconstruction is necessary to preserve the structure of oral literature without changing its cultural meaning (Danandjaja, 1994).

Procedures

After the stories were collected, the first stage of analysis used Propp's structural theory. Each folktale was examined to identify narrative functions, spheres of action, and plot schemes based on Propp's morphology of the folktale. Structural analysis helps reveal the pattern of conflict, struggle, and resolution that reflects cultural expectations about social order.

The second stage of analysis used Roland Barthes' semiotic theory to interpret the symbolic meaning of the stories. Barthes proposes that narrative meaning operates through different levels of signification, including denotation, connotation, and myth. In addition, Barthes' five narrative codes—hermeneutic, proairetic, semic, symbolic, and cultural—were used to identify how the folktales construct meaning through actions, oppositions, cultural references, and symbolic objects.

The results of structural and semiotic analysis were then used as the basis for the design stage, where the stories were adapted into storyboard form for digital storytelling. The storyboard was created by mapping Propp's narrative functions into visual sequences and identifying cultural symbols that must be preserved according to Barthes' semiotic interpretation. Storyboarding is an important step in digital narrative design because it ensures that the storyline, visual elements, and cultural meaning remain consistent during the adaptation process. This method allows the integration of literary analysis and digital media development while maintaining the authenticity of folklore.

To ensure data validity, the study used theoretical triangulation by comparing structural analysis, semiotic interpretation, and cultural references from previous research. Triangulation is commonly used in qualitative research to increase the credibility of interpretation by using multiple theoretical perspectives (Denzin & Lincoln, 2005). Through this method, the researcher was able to confirm that the five folktales contain consistent narrative structures, symbolic meanings, and cultural values related to collective memory in Tangerang society.

FINDINGS AND DISCUSSION

Narrative Structure of Tangerang Folklore

This study successfully documented five Tangerang folktales, namely *Legenda Tugu Penanda: Asal Usul Tangerang*, *Asal Usul Kampung Cipondoh*, *Asal Usul Karawaci*, *Cerita dari Keramat Asem: Warisan Aria Santika di Batuceper*, and *Singa Betina dari Pabuaran: Kisah Nyi Mas Melati*. These five stories were collected through literature review, field observations, and interviews with local communities who continue to preserve the stories through oral tradition. The findings reveal that most Tangerang folktales have not been systematically documented and survive primarily through intergenerational oral storytelling traditions. This condition reinforces the urgency of digitalization as an effort to preserve local culture amid the rapid development of digital technology and changing media consumption patterns among younger generations.

Based on Vladimir Propp's structural analysis, the five folktales share relatively similar narrative patterns. The stories generally begin with threats to the community, such as colonial oppression, natural disasters, or violations of sacred norms. These conflicts are then addressed through the struggles of individuals or communities until resolution and symbolic legitimacy are achieved. This structure demonstrates that Tangerang folklore emphasizes communal solidarity as the core of its narratives.

Table 1. Propp's Narrative Structure Analysis

No.	Folklore	Dominant Propp' Functions	Form of Conflict	Form of Resolution
1	<i>Legenda Tugu Tangerang</i>	Lack - Struggle - Victory - Closure	Territorial claims by the VOC	Construction of a monument as a symbol of legitimacy
2	<i>Asal Usul Cipondoh</i>	Violation - Punishment - Restoration	Violation of the sacred tree taboo	Restoration of natural balance
3	<i>Asal Usul Karawaci</i>	Lack - Donor Sequence - Resolution	Flood and swamp threats	Water management and collective cooperation
4	<i>Cerita dari Keramat Asem: Warisan Aria Santika di Batuceper</i>	Lack - Struggle - Martyrdom	Colonialism and food crisis	Sacralization of Aria Santika
5	<i>Singa Betina dari Pabuaran: Kisah Nyi Mas Melati</i>	Mediation - Struggle - Victory	Colonial oppression	Glorification of a female hero

These findings are consistent with Propp's argument in (Al-Emad & Sawai, 2020; Mariah et al., 2025; Trisari, 2021) that narrative functions in folklore follow universal patterns that systematically shape story structures. In the context of Tangerang folklore, these universal patterns undergo local adaptation through an emphasis on communal solidarity rather than individual heroism. External threats consistently serve as the primary trigger of conflict, while resolutions are achieved through community cooperation, local knowledge, and symbolic legitimization such as monuments, sacred sites, or regional naming. Therefore, the narrative structure of Tangerang folklore functions not only as entertainment but also as a medium for constructing the collective identity of the community.

Symbolic Meanings of Tangerang Folklore

Roland Barthes' semiotic analysis reveals that Tangerang folklore contains cultural symbols representing the social values of the community. In *Asal Usul Cipondoh*, the pondo tree symbolizes ecological ethics and the sacred relationship between humans and nature. In *Legenda Tugu Tangerang*, the monument functions as a symbol of territorial legitimacy and community identity. Meanwhile, in *Singa Betina dari Pabuaran: Kisah Nyi Mas Melati*, the character *Nyi Mas Melati* symbolizes female bravery and social justice.

Table 2. Barthes' Semiotic Analysis

No	Symbol	Story	Denotative Meaning	Connotative Meaning
1	Monument	<i>Legenda Tugu Tangerang</i>	Territorial marker	Legitimacy of power and local identity
2	Pondo Tree	<i>Asal Usul Cipondoh</i>	Sacred tree	Ecological ethics and customary prohibitions
3	Dikes and Canals	<i>Asal Usul Karawaci</i>	Water infrastructure	Local knowledge and solidarity
4	Sacred Grave	<i>Cerita dari Keramat Asem: Warisan Aria Santika di Batuceper</i>	Pilgrimage site	Collective memory and respect for heroic figures
5	Lion	<i>Singa Betina dari Pabuaran: Kisah Nyi Mas Melati</i>	Character title	Symbol of female heroism

Barthes, as cited in (Jannah & Haryati, 2025), explains that symbols in folklore texts function not only as narrative elements but also as constructions of cultural myths and ideology within society. The findings of this study demonstrate that cultural symbols in Tangerang folklore reinforce social values such as solidarity, ecological ethics, heroism, and local identity. For example, the pondo tree is not merely a story element but also represents the harmonious relationship between humans and nature. Likewise, the symbol of the "Lioness" presents an ideological construction of female courage within the social context of Tangerang society. Therefore, Barthes' semiotics helps uncover the deeper layers of cultural meaning embedded within folklore narratives.

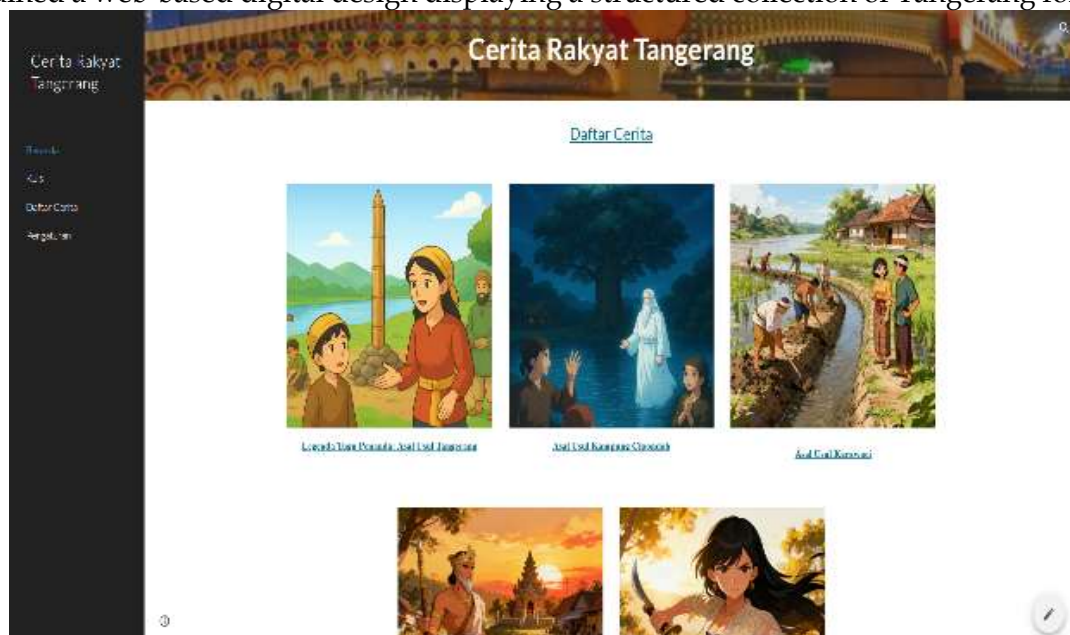
The Tangerang Folklore Design

The findings show that the digitalization of folklore was carried out through the stages of storyboard design and interactive application prototyping. The storyboard was developed based on Propp's narrative functions to preserve the storyline structure, while the cultural symbols identified through Barthes' semiotic analysis were maintained in the visual and audio elements. This approach aims to ensure that digitalization does not merely transfer stories into digital media, but also preserves the cultural values embedded within them.

Table 3. Examples of Folklore Digitalization in an Interactive Application

No	Story Stage	Digital Visual	Cultural Element
1	Character introduction	Illustration of an old village	Traditional houses and the Cisadane River
2	Customary prohibition	Audio of parental advice	Tangerang oral traditions
3	Conflict	Flood/war animation	Community solidarity
4	Battle	Interactive mini-game	Symbol of bravery
5	Ending	Naming of regions or characters	Local collective memory

At the initial implementation stage, the application was designed using a simple digital platform such as Google Sites to facilitate user access. This stage focused on storyboard design, navigation structure, user interface design, and the integration of visual elements as the foundation for developing an interactive application. The application design utilized Google Sites as an initial prototype medium because it is easily accessible, simple to use, and allows the integration of text, images, hyperlinks, and other visual media. At this stage, the application had not yet reached the development of a fully interactive system; instead, it remained a web-based digital design displaying a structured collection of Tangerang folklore.



Picture 1 Website Homepage Display

Based on the design results, the main page of the application displays the title "Tangerang Folklore" with a navigation menu on the left sidebar consisting of Home, Quiz, Story List, and Settings menus. The main section presents a collection of folktales in the form of visual illustrations and story titles that users can select. The stories successfully included in the application design are *Legenda Tugu Penanda: Asal Usul Tangerang*, *Asal Usul Kampung Cipondoh*, *Asal Usul Karawaci*, *Cerita dari Keramat Asem: Warisan Aria Santika di Batuceper*, and *Singa Betina dari Pabuaran: Kisah Nyi Mas Melati*. The use of visual illustrations aims to attract users' attention while also strengthening the representation of cultural symbols analyzed through Barthes' semiotics.

The storyboard design within the application was structured based on Propp's narrative structure so that the storyline continues to follow narrative stages such as conflict, struggle, and resolution. Each story was designed to have its own page containing narrative text, visual illustrations, and local cultural elements. For example, in *Legenda Tugu Penanda: Asal Usul Tangerang*, an illustration of the monument is presented as a symbol of territorial legitimacy, while in *Asal Usul Karawaci*, community activities in managing water canals are visualized as symbols of solidarity and local knowledge. Therefore, the design process not only transfers folklore into digital media but also preserves the symbolic cultural meanings embedded within the stories.



[Legenda Tugu Penanda: Asal Usul Tangerang](#)



[Asal Usul Karawaci](#)

Picture 2 Local Cultural Symbol and Elements

In addition to visual aspects, the design stage also considered the user experience. The use of a simple layout, colorful illustrations, and easily accessible navigation was designed to match the characteristics of Generation Z and Alpha, who are more familiar with visual-interactive digital media. Although it remains an initial prototype, the application design demonstrates that folklore digitalization can be carried out through an approach that adapts to technological developments without eliminating local cultural identity. These findings are consistent with (O'Brien & Toms, 2008), who state that user engagement in digital media is influenced by interactivity, visual aesthetics, and emotional experiences while using an application.

Therefore, the results of this design stage demonstrate that Google Sites can be utilized as an initial medium for the digitalization of Tangerang folklore. The resulting application design has successfully integrated Propp's narrative structure and Barthes' cultural symbols into a more engaging and accessible digital visual form. Although the research has not yet reached the development and implementation stages of a fully interactive application, this design stage has demonstrated the significant potential of folklore digitalization as a medium for preserving local culture through digital technology.

CONCLUSIONS

This study demonstrates that Tangerang folklore preserves local cultural identity by transmitting moral, social, and historical values despite declining intergenerational transmission in the digital era. Digitalization offers a strategic means of making these stories more accessible and relevant to Generation Z and Alpha. Using Vladimir Propp's structural theory, the study identifies recurring narrative patterns centered on conflict, struggle, and resolution that emphasize communal solidarity. Roland Barthes' semiotic analysis further reveals that cultural symbols, including monuments, the pondo tree, dikes, and the Lioness figure, represent territorial legitimacy, ecological ethics, social solidarity, and female heroism. Together, these findings show that folklore functions as both cultural entertainment and a

medium for preserving collective memory. The study also developed a Google Sites-based digital folklore prototype within the design phase of the ADDIE model, demonstrating the potential of digital media to preserve narrative structures and symbolic meanings while promoting cultural identity among younger generations.:::

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