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DEVELOPMENT AND EXPERT EVALUATION OF A 2D ANIMATED STORY ON THE FINAL FAREWELL OF PROPHET MUHAMMAD (PBUH)

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ABSTRACT

The sirah of the Prophet Muhammad (PBUH) is important in shaping the knowledge, values and appreciation of Islam, but the lack of interest among young people in learning sirah, especially when delivered through text-based methods. This highlights the need for a more engaging and easily understood medium. Hence, this study aims to develop and evaluate the quality of 2D animation titled *The Final Farewell of Prophet Muhammad (PBUH)* as an alternative medium to convey the end of Prophet Muhammad (PBUH)'s life. The study employed ADDIE's methodology which includes analysis, design, development, implementation and evaluation phases. Evaluation of the quality of the 2D animation of the *The Final Farewell of Prophet Muhammad (PBUH)* using a qualitative approach through the expert review. Three experts with over 10 years of academic and/or professional experience were selected objectively based on their specialised expertise in serious games, educational design, creative multimedia and Islamic education. A semi-structured interview was conducted to assess the accuracy of the content, clarity of storytelling, visual design, multimedia elements, religious sensitivity, and overall appropriateness of the animation. The findings of the expert evaluation showed that the developed 2D animation prototype had a positive initial level of acceptance in terms of visual design, smoothness of animation movement, use of color, audio and content suitability. However, some improvements were identified, mainly involving the consistency of character design, the readability of subtitles, the alignment of narrative with animated movement, the labeling of characters and locations, as well as religious sensitivity in the visual representation of the Prophet Muhammad S.A.W. This study provides an initial guide to multimedia developers and educators in producing head animations that not only emphasize multimedia and storytelling aspects but also take into account content accuracy and religious sensitivity. The originality of the study lies in the combination of an ADDIE-based systematic development process with an expert evaluation of a specific event in the head of the Prophet Muhammad S.A.W. before the animation is evaluated by real users.

Keywords: digital storytelling, expert review, Prophet Muhammad (PBUH), Islamic education, 2D animation

INTRODUCTION

The sirah of the Prophet Muhammad (PBUH) is an important resource in Islamic Education because it contains the life history, struggle and personality values of the Prophet (PBUH) which can be used as a guide in the formation of the morals and identity of the younger generation. However, the delivery of the sirah through conventional methods that rely heavily on reading, oral explanations and memorization alone has the potential to make the content considered less interesting and difficult to appreciate. Aman and Zulkifli (2024) explained that there is still a problem of appreciating the life story of the Prophet Muhammad (PBUH) among students, thus showing the need for a more interesting, interactive technology-based learning approach that is in line with the learning style of the current generation.

2D animation has the potential to be an ideal medium to convey Islamic historical events because the combination of visuals, movements, narration, text, music and soundtrack can help explain an event in a more structured and easier to understand manner. The study of Mou (2023) found that the use of animation in learning resulted in a positive attitude towards animation integration as well as aiding student understanding, while Ezezika et al. (2024) asserted that storyline-based animation can improve student engagement, immersive experience, and reflection on learning content. Although the use of animation in Islamic education is growing but it is still at an underexplored level with the use of modern technology to create an engaging, interactive and educational experience for the target users (Ramlan et al., 2025).

In addition, existing animation applications are still not systematically developed and are not specifically structured to support the learning needs of Sirah. Previous studies have also lacked a specific focus on aspects of 2D animation development and evaluation, including challenges related to content accuracy as well as sensitivity in visual representation (Mustamik et al., 2025). Therefore, there is a need to evaluate not only the technical and multimedia aspects of animation development, but also the accuracy of the content as well as the suitability of religious representations through expert evaluation before the animation is tested on real users. Based on these needs, a 2D animation titled *The Last Farewell of the Prophet Muhammad (SAW)* has been developed as an alternative medium to convey the story of the last farewell of the Prophet Muhammad (SAW) in a clearer, more interesting and easier to understand manner, especially among young people aged between 17 to 25.

The objective of this study is to formatively evaluate the quality and suitability of the 2D animation *The Final Farewell of Prophet Muhammad (PBUH)* through expert evaluation, with emphasis on the aspects of multimedia quality, accuracy and suitability of Sirah content, as well as the suitability of visual representations with Islamic elements. This evaluation is carried out as an initial step to identify aspects that need improvement before the animation is evaluated by the target users in the next study.

The novelty of this study does not only lie in the production of 2D animations that focus on specific events in the Sirah of the Prophet Muhammad (SAW), but in the formative evaluation approach that combines aspects of multimedia quality, clarity of Sirah content and sensitivity of Islamic visual representation. This approach is important because the development of religion-based educational animation requires considerations that go beyond mere technical and aesthetic aspects. The accuracy of content delivery, suitability of the representation of religious figures and sensitivity to the Islamic context also need to be systematically evaluated before the animation is introduced to the target user.

The study also shows how expert feedback can be directly translated into prototype design decisions and modifications. Through a formative evaluation process, identified issues related to Islamic visual, narrative, content, and representation are mapped to specific improvement actions. Although this study did not produce a new design framework, the findings provide formative design considerations that can serve as an initial reference in the development and evaluation of such Islamic educational animations.

LITERATURE REVIEW

Teaching the Sirah of Prophet Muhammad (PBUH)

The Sirah of the Prophet Muhammad (PBUH) covers the journey of life, struggle, leadership and personality of the Prophet (PBUH) who is a guide for Muslims. The teaching of sirah is not only aimed at conveying historical facts but also helps students understand and appreciate values such as patience, sacrifice, love, courage and obedience to Allah SWT. Therefore, the content of the sirah needs to be conveyed in a structured and contextual manner so that students can relate historical events to values and lessons that can be practiced in their lives.

However, the delivery of Islamic Education still relies heavily on traditional materials such as textbooks, whiteboards, and teacher-centered teaching methods. Ajmain et al. (2024) found that dependence on conventional methods is one of the challenges that need to be addressed so that Islamic Education pedagogy is more in line with the educational needs of the 21st century. At the same time, Aman and Zulkifli (2024) explain that technology-based learning methods have the potential to deliver Islamic Education content more effectively and interestingly. These findings show that teaching sirah of the Prophet Muhammad S.A.W requires a medium that not only provides information but also helps users understand the sequence of events and appreciate the message conveyed.

2D Animation as a Learning Medium

2D animation is a multimedia medium that combines illustrations, movement, text, soundtrack, music, and sound effects to convey information visually and auditory. The use of these elements can help explain events, concepts and changes over time more clearly than text-only. In the context of sirah, 2D animation can be used to depict the setting, atmosphere, conflict, course of events, and character reactions in an organized manner without burdening the user with too long written descriptions.

Kleftodimos (2024), through a review of 77 studies related to animated videos in education, found that animation has the potential to improve motivation, engagement, and learning performance. Mou (2023) also shows that the use of well-designed animations can produce a positive attitude towards learning and help students' level of understanding. In the context of Islamic Education, the study of Abed Khasawneh and Khasawneh (2024) proves that digital storytelling can support learning achievement and the development of moral thinking. Meanwhile, Al Mushaiqri and Sulistio (2024) show that digital animation can be used to preserve Islamic values, local culture, and religious identity among the younger generation. These two studies show that digital media can not only convey facts but also have the potential to shape consumers' understanding of values and relationships with religious content.

Nevertheless, the effectiveness of animation depends on the design of the content rather than the use of movement or visuals alone. Visual, dialogue and background elements need to be adjusted, while irrelevant information needs to be reduced to avoid excessive cognitive load. The principles of multimedia, coherence, tagging, time matching, and segmentation should also be considered so that users can process content in a more organized manner (Mayer & Fiorella, 2021).

Based on this potential, 2D animation is suitable to be used in the development of *The Final Farewell of Prophet Muhammad (PBUH)* because this medium can present the events of the last farewell of the Prophet Muhammad (PBUH) through a clear visual sequence that is easy to follow. The combination of visual, narrative, and audio can help users identify important events, understand historical context, and appreciate the value contained in the story. The animations developed must maintain the accuracy of the content and use a visual style that is appropriate to the sensitivity and values of Islam.

Digital Storytelling and Emotional Engagement

Digital storytelling refers to the use of multimedia technology to convey stories through a combination of narrative, images, animation, text, music, and voice. This approach emphasizes the structure of the story such as introduction, development of events, conflict, climax and conclusion. A clear narrative structure can help users follow the sequence of events and understand the relationships between characters, actions and the effects that occur. In the development of historical animation, digital storytelling also allows facts to be presented in a form that is closer to the user's experiences and emotions.

Gidor and Abu Bakar (2024) found that the use of digital storytelling in Malaysian education is growing and has been used in the form of student-generated stories as well as digital narratives provided by instructors. While digital storytelling has potential as a pedagogical strategy, its implementation still faces challenges such as lack of digital skills, time constraints, infrastructure and knowledge related to video production. Therefore, an educational animation should be developed based on narrative planning, storyboards and the systematic arrangement of multimedia elements.

In addition to improving understanding, digital storytelling can also create an emotional connection between users and content. Sarıca (2023), through a systematic review of 70 studies, found that digital storytelling can support emotional connection, engagement, self-reflection, sharing of feelings, and the development of empathy. This aspect is especially relevant to *The Final Farewell of Prophet Muhammad (PBUH)* because the story of the last farewell of the Prophet Muhammad (PBUH) contains elements of love, sadness, sacrifice and appreciation for the struggle of the Prophet (PBUH) The use of controlled background music, appropriate voice intonation, storytelling tempo and meaningful visual composition can help to produce an experience that touches emotions without detracting from the accuracy of historical facts.

Overall, the combination of digital storytelling and 2D animation provides a potential approach to make headlines content more engaging, easy to understand, and meaningful. This approach not only helps users to know what is happening but also encourages them to appreciate the message and values of Islam conveyed through *The Final Farewell of Prophet Muhammad (PBUH)* animation.

Comparative Study of Islamic Educational Animation and Digital Storytelling

To identify the gaps in the study more clearly, several recent studies related to the use of animation in Sirah learning have been compared from the aspects of animation focus, evaluation approach and design considerations. The comparative analysis is presented in Table 1. This comparison aims to assess the extent to which previous studies pay attention to the aspects of multimedia quality, accuracy of Sirah content and sensitivity of Islamic representation in animation development.

Table 1
Comparative Analysis of Existing Islamic Education 2D Animation

Study	Animation Focus	Ratings / Design	Weaknesses / Gaps
Mokhtar et al. (2023)	Geo-Sirah with animated storytelling and geographical elements.	ADDIE; evaluate acceptance and usability.	Focus on the acceptance of the system but lack of attention to the sensitivity of Islamic representation and the principles of animation design.
Sumariati et al. (2024)	Animation of the story of the Prophet Muhammad SAW for moral and religious values.	Children's observations, interviews, and responses.	Assessing the impact of education. The technical aspects of animation and visual sensitivity are not specifically described.
Fernando & Sakti (2025)	Sirah Nabawiyah's 2D animation uses motion graphics.	Focus on creative processes and animation earning techniques.	There is no clear formative assessment of the accuracy of the Sirah and the sensitivity of religious representation.
Rahayu et al. (2025)	Animated video of the leadership of the Prophet PBUH in Medina.	ADDIE; validation of media, content and student responses.	The design criteria are still general. The sensitivity of Islamic representation is not made into a specific dimension.
Mauliza et al. (2026)	Animated videos and interactive games of Sirah Nabawiyah.	ADDIE; expert validation and child assessment.	Combining animation and games. Islamic animation design considerations are not specifically formulated.

The comparison shows that animation has been used in various forms to support Sirah learning, including animated storytelling, 2D videos, motion graphics, and interactive digital media. Mokhtar et al. (2023) developed Geo-Sirah by combining animated storytelling and geographical elements, while Sumariati et al. (2024) used animated stories of the Prophet Muhammad PBUH to support the formation of moral and religious values. Fernando and Sakti (2025) focused on the use of motion graphics in 2D animation of Sirah Nabawiyah, while Rahayu et al. (2025) developed an animated video related to the leadership of the Prophet PBUH in Medina. A recent study by Mauliza et al. (2026) also integrated animated videos and interactive games to introduce Sirah Nabawiyah to children.

In addition to the study of the development and use of Sirah animation, Ismail et al. (2024) through a literature review on Islamic animation content asserted that animation has potential as a medium of delivery of Islamic educational content, including the story of the Sirah of the Prophet PBUH. However, the study focuses more on the content and value of education in general without specifically elaborating on the design considerations required for Sirah animation. From the point of view of visual representation sensitivity, Nuryafitri et al. (2026) show that elements such as light, sound, point of view and character reactions can be used to convey events related to the Prophet Muhammad PBUH without depicting him directly. These findings reinforce the importance of considering the sensitivity of Islamic representation as one of the key considerations in the development of Sirah animation, in addition to technical and multimedia aspects.

While these studies have shown the potential of animation as a medium for the delivery of Sirah content, most of them have placed more emphasis on aspects of user acceptance, learning outcomes, media eligibility or the development process in general. Attention to design considerations specific to Sirah animations, such as content accuracy, narrative clarity, visual consistency and sensitivity of Islamic representations, is still under-elaborated. Therefore, there is a need to evaluate Sirah animation not only from a technical and multimedia point of view, but also from the aspect of content accuracy as well as

suitability of religious representations through expert formative evaluation before the animation is tested on the target users.

Therefore, *The Final Farewell of Prophet Muhammad (PBUH)* was developed to fill that gap using 2D animation that combines historical narration, visuals, background sounds, music and sound effects to convey the story of the last farewell of the Prophet Muhammad (PBUH) in a more interesting and understandable way. This animation emphasizes the accuracy of the content, the chronological arrangement of events, the suitability of multimedia elements and religious sensitivity. This approach is expected to help young people not only understand historical facts, but also appreciate the love, sacrifice and last message of the Prophet (PBUH) to Muslims.

METHODOLOGY

This study used a developmental research approach to produce and evaluate a 2D animation titled *The Final Farewell of Prophet Muhammad (PBUH)*. The animation development process is carried out based on the ADDIE model which includes five phases, namely Analysis, Design, Development, Implementation and Evaluation. The ADDIE model was chosen because it provides a systematic and orderly development process, as well as allowing improvements to be made at each phase based on the feedback received (Branch, 2009).

The study focuses on the development of a 2D animated prototype and formative evaluations by experts. Expert evaluation is carried out in the evaluation phase to determine the accuracy of the content, clarity of storytelling, suitability of multimedia design and technical quality of animation. A summative evaluation involving real users will be carried out in the next study to assess the acceptance, understanding and experience of users of the improved animations. The same approach has been used in the development of video-based media, namely the production of scripts and storyboards in the design phase, the production process in the development phase as well as the evaluation of product usability in the evaluation phase (Harja et al., 2025).

Analysis Phase

The analysis phase is carried out to identify problems, user needs, target group characteristics and content that needs to be delivered through animation. A literature review was conducted to understand the issue of young people's lack of interest in sirah learning which is conveyed through conventional methods. The analysis also pays attention to the need for a medium that is more engaging, clear and easy to understand.

The animation target group was identified as young people who required visual and structured presentation of the sirah. In this phase, the researchers also determined the objective of the animation, which is to convey the story of the last farewell of the Prophet Muhammad (PBUH) in a clear, interesting and easy to understand manner. Sources related to Islamic history and events are consulted to ensure the accuracy of the facts, sequence of events and messages conveyed. Religious sensitivity, including the way characters, events and atmospheres are represented, are also considered in determining the visual approach of animation

Design Phase

The design phase involves planning the content structure and the presentation of animations. Based on the results of the analysis, the synopsis, storyline, script, character design, setting and storyboard are developed. The script includes dialogue, narration, character movements, visual descriptions, background music, and sound effects for each scene. Storyboards are used to depict visual composition, point of view,

camera movement, scene duration and transitions between scenes. The production of scripts and storyboards before the production process is important to ensure that the message is conveyed systematically and facilitate the coordination of visual and audio elements (Harja et al., 2025).

In this phase, the visual style, color scheme, typography, narrative tempo and chronological order of events are also determined. Each multimedia element is designed to support the content and emotions of the story without interfering with the user's understanding. The design of this animated prototype is also guided by several principles of multimedia learning introduced by Mayer (2021), the principles of Multimedia, Coherence, Signalling, Temporal Contiguity and Segmenting. These principles are used as a guide in determining how visual, audio, text and narrative structure elements are arranged to support the delivery of Sirah content in a clearer and more orderly manner. Table 2 shows the relationship between the selected multimedia learning principles and the design decisions implemented in the prototype.

Table 2
Multimedia Learning Principles and Design Decisions

Principles of Multimedia Learning	Implementation in Prototype
Multimedia Principle	Sirah's narrative is conveyed through a combination of audio, text and animated visuals.
Coherence Principle	Visual elements that are not related to the main content are minimized to avoid distractions.
Signalling Principle	Subtitles and visual cues are used to emphasize important information.
Temporal Contiguity Principle	The narrative is aligned with the relevant visuals or scenes so that audio and visual information are presented simultaneously.
Segmenting Principle	The narrative is divided into several scenes according to the sequence of events of Sirah to facilitate storytelling.

The application of these multimedia learning principles is not used in isolation but is combined with consideration of the accuracy of the Sirah content and the sensitivity of Islamic representations. This combination of multimedia principles and religious considerations forms the basis for the formative design considerations proposed in this study. Expert assessment instruments are also developed in this phase. The evaluation items are organized based on several key aspects, namely the accuracy of the content, the clarity of the storyline, the visual design, the quality of the animation, the use of audio, the technical aspects and the overall suitability of the animation.

Development Phase

In the process of developing animated content, the book MUHAMMAD (Lings, 2021) is used as the main reference source to ensure the accuracy of facts, sequence of events, characters and narrative delivery related to the last farewell event of the Prophet Muhammad (SAW). The content obtained from these sources is used as the basis in the formation of storylines, script writing and the arrangement of animated scenes. The use of authoritative reference sources is important to ensure that the content of Sirah presented through animation is not only interesting from a multimedia point of view but also maintains historical accuracy and suitability of religious content.

Furthermore, the development phase involves producing animations based on scripts and storyboards that have been provided. This process begins with the production of visual assets such as characters, objects,

environments, and graphic elements. The assets are then animated according to the movement and sequence of the predetermined scenes. Background voice recording and dialogue are done based on a finalized script. Background music and sound effects are added to reinforce the atmosphere and emotions of the story. However, audio usage is controlled so as not to interfere with the background or distract from the main content. The post-production process involves visual and audio alignment, scene editing, color correction, adding text as well as exporting animations in appropriate video formats.

The initial prototype of the animation was examined by the research and development team to identify errors such as visual inaccuracy, poor movement, audio incompatibility, language errors and continuity problems between scenes. Initial improvements are made before the animation is submitted to a panel of experts for formal evaluation.

Implementation Phase

The implementation phase involves the preparation and deployment of the complete prototype of *The Final Farewell of Prophet Muhammad (PBUH)* in a predetermined evaluation environment. In this phase, the animation is exported in the appropriate video format and tested on the device used to ensure that the content can play well without technical problems. Screening procedures, evaluation periods, instructions to evaluators and methods of distribution of instruments are also provided during this phase. The complete prototype is then presented to a panel of experts for viewing before they complete the formative assessment instrument. This implementation phase serves as a technical and procedural preparation to ensure that the evaluation process can be carried out in an orderly and consistent manner.

Evaluation Phase

The evaluation phase includes formative assessment and summative assessment. In the current study, formative assessments were carried out through expert assessments using structured interview techniques. Three experts were selected using a sampling based on expertise directly related to the scope of animation evaluation. The experts involved each have expertise in the fields of serious games, creative multimedia and Islamic education, with more than 10 years of academic and/or professional experience in their respective fields. The selection of experts from different fields allows the prototypes to be evaluated from complementary perspectives, particularly in terms of multimedia design and quality, delivery of educational content as well as the accuracy and appropriateness of Islamic content representation.

Each expert was asked to watch a full prototype of the animation of *The Final Farewell of Prophet Muhammad (PBUH)* before the interview session was conducted. The interviews were aimed at obtaining expert views on the accuracy of the content, the clarity of the storytelling, the suitability of visual elements, the use of audio, the smoothness of animations and the technical quality of the product. The same set of questions is applied to all experts to ensure that the evaluation process is carried out consistently.The feedback obtained is used to identify strengths, weaknesses, and aspects that need to be improved before the animation is tested against real users. Improvements were made based on expert recommendations, related to factual accuracy, sequence of events, storytelling tempo, visual design, audio coordination and religious sensitivity.

The summative assessment will involve real users from the target group and will be carried out in the next study. The assessment aims to assess user acceptance, understanding, engagement and experience of the improved animation. Therefore, the current study only reported the findings of formative assessments through structured interviews with experts. Data obtained through expert interviews were analysed using a thematic analysis approach. The analysis process began with repeated reading of expert feedback to gain a comprehensive understanding of the data. Then, statements related to strengths, weaknesses and

suggestions for improvement were identified and given initial codes. Codes that had the same meaning or focus were then grouped into broader categories. Based on the similarities and relationships between the categories, three main themes were identified, namely (i) multimedia quality and visual presentation, (ii) clarity of Sirah's content and narrative, and (iii) appropriateness and sensitivity of Islamic representations.

To improve the reliability of the findings, the feedback from the three experts was compared to identify recurring issues, consistent views and relevant differences of opinion. The themes formed were then revised with reference to the original interview data to ensure that the interpretations made remained in line with the expert feedback. In addition, each theme was matched with the design modifications implemented on the prototype, thus providing a clear analytical trail from the interview data to the design decision.

THE PROPOSED PROTOTYPE: THE FINAL FAREWELL OF PROPHET MUHAMMAD (PBUH)

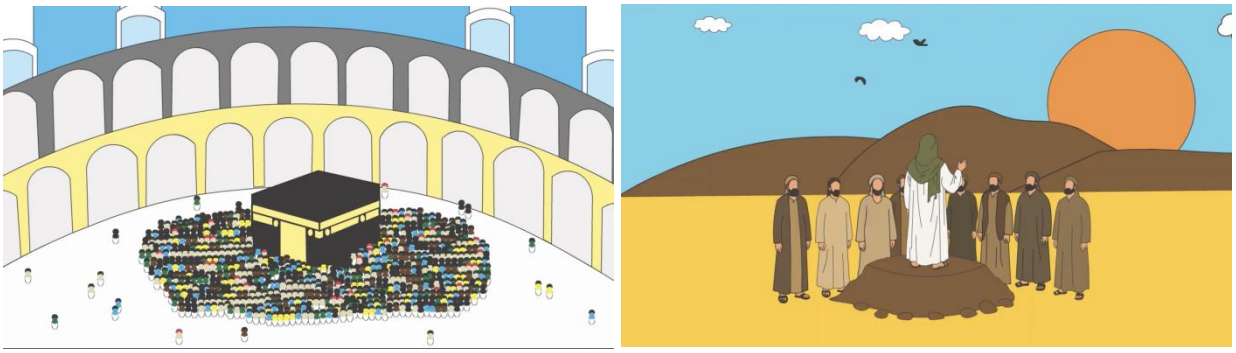
The digital storytelling project entitled *The Final Farewell of Prophet Muhammad (PBUH)* was developed in the form of a 2D animated video that portrays the final farewell of Prophet Muhammad (PBUH) The animation content is arranged chronologically to help the audience follow the story from the introduction of the event to the closing part. Each scene incorporates characters, settings, objects, and graphic elements designed to fit the context of the storytelling. A simple visual approach is used to keep the audience's attention focused on the main event and message they want to convey. Figure 1 shows between the screenshot of the introductory scene that introduce the title of the animated storytelling.

Figure 1
Introduction Screen of the 2D Animated Application



From the aspect of multimedia presentation, this prototype combines elements of animation, text, narrative, dialogue, background music and sound effects. Narration is used to explain context as well as connect transitions between scenes, while dialogue helps convey emotions and interactions between characters. Background music and sound effects are used in a controlled manner to build the atmosphere, strengthen emotions and increase the audience's appreciation of the storyline. Character movements, changes in expressions, scene transitions and the use of different points of view are also used to make the delivery of the story more dynamic and easier to understand. Some examples of the use of visual elements, character movements and scene compositions in animation are shown in Figure 2.

Figure 2
Selected Scenes from The Final Farewell of Prophet Muhammad (PBUH)



This prototype also pays attention to the accuracy of the content and the sensitivity of religion in the delivery of the sirah story. Visual representations are carefully planned to avoid inappropriate portrayals of the Prophet Muhammad (PBUH), while messages are conveyed through narration, dialogue, and other character reactions. The final part of the animation emphasizes the value of love, sacrifice and appreciation for the struggle of the Prophet (PBUH). Overall, the prototype serves as a complete initial version of the product to undergo formative evaluation by experts before improvements are made and summative evaluations with real users are carried out in future studies.

RESULT AND DISCUSSION

The findings of the study were obtained through structured interviews with three experts referred to as Expert A, Expert B and Expert C. Each expert evaluated the 2D animation prototype of *The Final Farewell of Prophet Muhammad (PBUH)* based on its strengths, weaknesses and suggestions for improvement. The feedback is analysed and categorized into several key aspects, namely visual design, animation movement, audio, storytelling, and information delivery. Table 3 shows the demographics of each expert involved in this study.

Table 3
Experts' Demographic

Expert	Position	Expertise	Years of Experience
A	Associate Professor	Edutainment, Serious Games, and Instructional Multimedia	Over 10 years
B	Associate Professor	Creative Multimedia and Educational Multimedia	Over 10 years
C	Islamic studies expert	Islamic Education	Over 5 years

Strengths of the 2D Animation Prototype

Overall, all three experts gave positive feedback to the 2D animated prototype. Expert A claimed the background design and the use of color combination are good, the sound effects are suitable, and the animation movements look smooth. Expert B also described the animation as engaging and having smooth movements, while the character design and use of colors were positively rated. These findings show that basic elements of animation such as background, color, movement, and audio have succeeded in producing audiovisual presentations that have the potential to capture the audience's attention. This is in line with Kleftodimos (2024), who reports that educational animated videos have the potential to support motivation, engagement, and learning performance when visual and audio elements are designed

in a planned manner. Mou (2023) also found that dynamic visualization features in animation can increase learning enjoyment and help users understand the content presented.

In terms of content, Expert C stated that the storyline was good as it was developed based on the book of Muhammad, which was considered a suitable source for the project. The expert also noted that the character designs were appropriate to the historical period depicted in the Sirah. This evaluation shows that the prototype not only emphasizes visual appeal but also considers the suitability of the source and historical context. In storytelling-based animation, the alignment between the content, characters, and context of the story is important to help users form a more meaningful connection with the message being conveyed. Ezezika et al. (2024) explain that storyline-based animation can create a more immersive experience when narratives, characters, and situations are presented clearly and relevant to the learning context.

Weaknesses and Suggestions for Improvement

Although the prototype received positive evaluations, some design flaws were identified. Expert A states that character design is inconsistent because there is more than one design style in the animation. The expert also found that some of the subtitles were less clear due to the color of the text that did not have enough contrast with the background. Therefore, the color of the subtitles is suggested to use white or black based on the background color. Expert A also suggested that the design of all characters should be standardized to ensure visual continuity throughout the animation. Design consistency is important because unintentional changes in character styles can disrupt the continuity of the storytelling and cause the viewer's attention to shift away from the main content.

Subtitles and labelling aspects were also given attention by Expert B. The expert suggested a few additional suggestions such as the name of the place to be displayed, the important content of the narrative to be included in the form of text, and the name of the character to be shown when the character is introduced in the relevant scene. These suggestions can serve as visual cues that help viewers identify key information. According to the principle of marking, the use of relevant titles, keywords, labels and visual cues can guide the user's attention to an important part of multimedia material (van Gog, 2021). The study of Malakul and Park (2023) also shows that subtitles in educational videos can help users understand the content, improve focus, and match the information heard with the text displayed.

The clarity of subtitles depends not only on their content, but also on the level of readability. The subtitle color improvements suggested by Expert A are relevant because the text needs to have a clear visual difference from the background. As an accessibility guide, WCAG 2.2 sets a minimum contrast ratio of 4.5:1 for plain text and insists that subtitles should not obstruct important visual information in video (World Wide Web Consortium [W3C], 2023). Therefore, the selection of subtitle colors should be made based on each scene setting instead of using one equal color for the entire animation.

Additionally, Expert A found that the narrator's voice needed to be synchronized with the animation movements. The expert also suggested that the narration be given a clearer focus, for example on the advice or sermon delivered by the Prophet Muhammad (PBUH) during Hajj Wada'. Expert B also identified some animated movements that still need improvement and suggested adding a credit scene at the end of the video. The coordination between narrative and visual movement aligns with the principle of time matching, which explains that users process multimedia materials better when relevant words, narratives, and visuals are presented at the same time (Fiorella & Mayer, 2021).

The aspect of religious sensitivity is an important issue identified by Expert C. The expert explained that the face of certain characters needs to be protected to prevent the audience from considering the character as a depiction of the Prophet Muhammad (PBUH) The expert also stressed that face designs that can cause misunderstandings should not be used. As a solution, experts suggest that the character's face be

protected, more characters are included in the scene to reduce confusion about the identity of the main character, and background variations are added to strengthen the storytelling. These findings show that the accuracy of representation and religious sensitivity should be given priority, especially when the animation lifts events from the sirah of the Prophet Muhammad (PBUH).

Improvement After Expert Evaluation

Based on expert feedback, some improvements have been made to the prototype. First, the faces of the characters that can be considered as representations of the Prophet Muhammad (PBUH) have been protected using the effect of white light. This improvement is aimed at preventing the audience from forming a certain image of Prophet Muhammad'sface. While the changes may seem minor from a technical point of view, they are important in ensuring that the animation respects religious sensitivities and does not result in misleading visual interpretations.

Second, the colour of the subtitles has been changed based on the background colour to make the text clearer and easier to read. Additional scenes are also included, while the animated movements are coordinated with the narrator's voice. These improvements strengthen the connection between the visual and auditory channels. When a narrative describes an action at the time it is displayed, the viewer has a better chance of connecting verbal information with relevant visuals, in line with the principle of time matching in multimedia learning (Fiorella & Mayer, 2021).

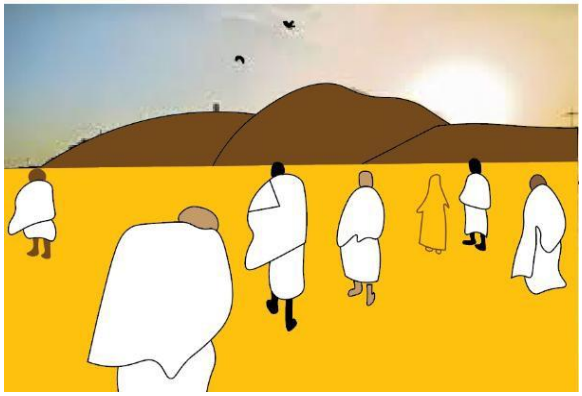
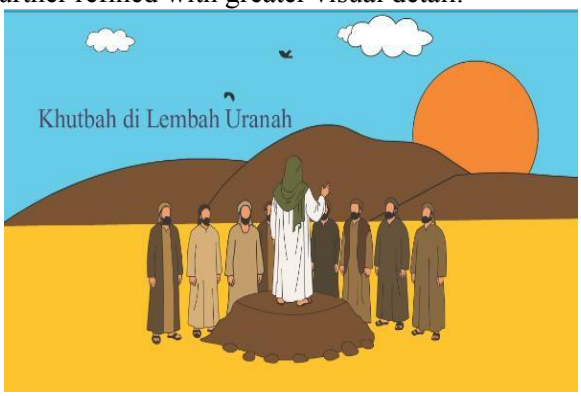
Third, the character design has been standardized using a more consistent and detailed style. The character's name is also displayed when the character is mentioned, while the character's movements are adapted to the actions described by the narrator. Character and place name labelling can act as visual markers that direct the viewer's attention to important information and reduce confusion about the character's identity and the location of the event (van Gog, 2021). Table 4 summarises the improvements made to the 2D animation digital storytelling project entitled *The Final Farewell of Prophet Muhammad (PBUH)*.

Table 4

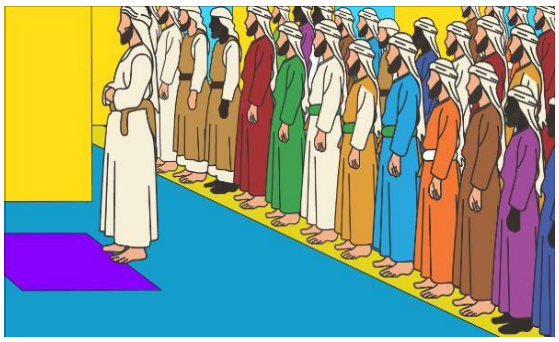
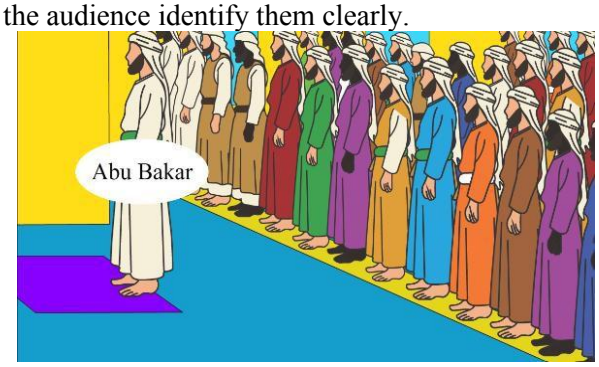
Summary of Improvement

Expert Feedback (Before)	Improvement (After)
Theme 1: Representation of the Prophet Muhammad (SAW)	
The visual representation of the Prophet Muhammad (PBUH) should be avoided from displaying identifiable facial features and should be presented more sensitively.	The character's face was concealed by a circular white light to prevent the audience from forming any visual impression of Prophet Muhammad's (PBUH) facial appearance, as the animation was intended only as a symbolic representation based on the narrative description.
	
Theme 2: Subtitle readability	
Subtitle colors are difficult to read on some background of certain scenes.	The subtitle colour was adjusted according to the background colour to improve readability and visual presentation in the 2D animation.
	
Theme 3: Visual and narrative alignment	
Some information conveyed through narrative is not supported by appropriate visuals or scenes.	Additional scenes and animation sequences were synchronised with the narrator's voice to improve the coherence and flow of the 2D animation.
	

Theme 4: Consistency of character design

Some characters were found to be less detailed and inconsistent in terms of design between scenes.	The character design was standardised to ensure consistency throughout the animation and was further refined with greater visual detail.
	

Theme 5: Character identification

Some characters are difficult to identify when they are first introduced in the storyline.	Whenever a character was mentioned, the character's name was displayed on screen to help the audience identify them clearly.
	

Formative Design Considerations for Sensitive Educational Islamic Animation

Based on the synthesis of the findings of the expert assessment and the modifications made to the prototype, this study identifies several formative design considerations that can be used as an initial guide in the development of Islamic educational animations that are sensitive to the religious context. These considerations are not proposed as design principles that have been thoroughly validated, but rather are formulated from the issues, suggestions and improvements identified throughout the formative evaluation process. Overall, six key considerations were identified as summarized in Table 5, namely multimedia clarity, Sirah narrative clarity, content accuracy, sensitivity of Islamic representation, visual consistency as well as clarity of character and event identification.

Table 5
Formative Design Considerations

Dimensions	Design Considerations
Multimedia Clarity	Visuals, narrative, subtitles and movements need to be coordinated to ensure a clear and uninterrupted narrative delivery.
Clarity of Sirah's Narrative	The scenes, characters and development of events need to be presented in an orderly manner so that the content of Sirah is easy to follow.
Content Accuracy	The facts, events and characters in the Sirah should be checked to ensure that the content does not contradict the sources or religious context.
The Sensitivity of Islamic Representation	The representation of religious figures and elements must consider the limitations and visual sensitivities in the Islamic context.
Visual Consistency	Character design, visual style, and scene identity need to be maintained consistently throughout the animation.
Character and Event Identification	Visual cues such as name tags or specific markers can be used when needed to avoid confusion.

CONCLUSION

This study successfully developed a 2D animation prototype of *The Final Farewell of Prophet Muhammad (PBUH)* as a digital storytelling medium to convey the story of the last farewell of the Prophet Muhammad (PBUH). Formative evaluation through structured interviews with experts showed that the prototype had strengths in terms of background design, use of colors, sound effects, smoothness of animation movements and suitability of character design with the setting of the sirah era. However, the experts also identified several aspects that need to be improved, including the consistency of the character design, the readability of the subtitles, the coordination between the narrative and the movement of the animation, the labelling of the characters as well as the sensitivity in depicting the Prophet Muhammad (PBUH).

Based on the feedback, several improvements have been implemented, including protecting the face of certain characters with white light effects, adjusting the color of the subtitles according to the background, aligning the animation with the narrator's voice, standardizing the character design and displaying the character's name when introduced. Overall, expert evaluations show that these animations are suitable for use as a medium for delivering heads after improvements have been made. However, the findings of this study are only based on formative assessments by experts.

However, the findings of this study cannot be interpreted as evidence of the effectiveness of the animation as a learning medium as the current study does not involve actual students or target users. Instead, this study is a formative assessment that provides preliminary evidence based on expert views on the quality and suitability of the prototype. After improvements have been made based on expert feedback, the prototype is considered to have reached an appropriate level to proceed to a user-based assessment to assess aspects of usability, engagement, learning experience and potential effectiveness in the context of Sirah learning. Therefore, a summative assessment involving real users should be conducted in future studies to assess the level of acceptance, understanding, engagement and experience of users of *The Final Farewell of Prophet Muhammad (PBUH)* animation.

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AUTHOR CONTRIBUTIONS

All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by all authors.

CONFLICT OF INTEREST

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

DATA AVAILABILITY

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Informed consent was obtained from all individual participants included in the study.

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