

LEARNING THE POY SANG LONG TRADITION THROUGH MIXED MEDIA IN AUGMENTED REALITY (AR)

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Abstract

Poy Sang Long is a tradition with complex processes and details and difficult to understand. To access and learn the complex informations, the mixed media through augmented reality is needed. This is mixed-method research using the concept of augmented reality and Types of media in augmented reality As its framework. The research area is Mae Hong Son Province. The Sample group consisted of 100 people by purposive selection from youths, students, local people, and community leaders. The research tools were the Media Satisfaction surveys, Learning the Poy Sang Long tradition through mixed media through Augmented Reality. The data were analyzed by frequency, percentage, mean and standard deviation.

The results showed that

1) In creating AR applications, each type of media has been blended, including 3D Animation, 2D Motion Graphic, Video, and Figure Models. Users can download the Application to install on their Smartphone with the Android operating system.

2) They were satisfied with AR in the form of mixed media presenting Poy Sang Long tradition at a high level ($\bar{X} = 4.26$ S.D. = 0.68)

Knowledge from this research indicates that using mixed media to create learning materials with Augmented Reality Enhances learning by making it being fun and enjoyable to the users. Various medias encourage better learning than a single one. In addition the research findings can help AR developers applying this research knowledge of Poy Sang Long through mixed media in AR format to other historical presentations.

Keywords: Poy Sang Long, Augmented Reality, Mixed Media

Introduction

Poy Sang Long is a novice ordination tradition that is important to the Tai Yai people, and this is the identity of the Tai Yai people. It is a tradition that every Tai Yai community strictly adheres to from past to present. Classified as the core of the culture-bound to daily life, it has been associated with Buddhism religion for a long time. Each year when the summer There will be a novice ordination for his children, which will have a form and identity that is different from other localities. Poy Sang Long is a beautiful merit-making event. Both the novice and the ordination host known as “Phor Kham, Mae Kham”. In the past, boys were ordained as Sang long, about 7-15 years old and will have the opportunity to study because in the past there was no school like today. When ordained, they will receive a Dharma and Buddhist discipline study. Poy Sang Long is traditionally held for 3 - 7 days, with important ceremonies taking for three days, with the first day being the day of "Rub Sang" it is a ritual that changes the status from a boy to a Sang long, then bring sang long to ask for forgiveness from the sacred and respected elders. The second day is “Wan hae khraw hlu” Or reception day, on the receiving day, there will be a parade of offerings given as alms from the host's house to prepare at the temple. and in the evening, there will be a ceremony “Hong Kwan” (To Wish Good Luck Ceremony). The third day is "Wan Lu" or “Wan Kham Sang” Today there will be a novice ordination ceremony and offerings given as alms which is a change of status from Sang long to “Chao Sang” or “Novice”. (Sriratanaban, T. 2015)

Poy Sang Long, or novice ordination found that the amount of ordination decreased due to the number of births the population and the trend of changing social values and in the past two years, we have had to face the situation of COVID-19 which has affected many dimensions, such as limiting group activities. From surveying the area in Muang District, Mae Hong Son Province, and other districts found that permission for the ceremony is still being carried out but unable to organize activities like before by the consequences, besides the reduced number of ceremonies, it also has a significant impact on tourism because when the Poy Sang Festival is not held make, information dissemination or activities do not appear to be widespread. This is what attracts tourists as well. Both from the television media, and social media that will still be enough to save data in photos and videos, which sometimes may not be enough to convey information or attract tourists, and enhancing the knowledge and understanding of the youth is not as good as they should be Because Poy Sang Long tradition is complicated, must rely on people who live in the area or be the operator to understand the in-depth details. (Rungtawan Uam-in, 2012 and Sanguan Chotisukrat, 1969).

Technology plays an essential role in the daily use of human beings. It is a variable that helps to step into another world. A world that can bring the space at the edge of the horizon to be in front of you in the blink of an eye, AR is the technology that the imaginary world brings to the real world and virtual reality together and in addition, AR or Augmented Reality technology can be applied in various fields. It can be diverse from the application of AR to learning cultural traditions. Students can learn things even if they are not in class. Can create experiences that enable learners to use their abilities and a variety of skills because AR can model complex, incomprehensible knowledge into concrete models. and make it easier for the audience to understand. (inc.com, 2020)

In this research, Learning the Poy Sang Long tradition through mixed media in Augmented Reality was developed to apply to traditional learning. It is an approach to learning and truly opens the door to a whole new world. However, there are currently some limitations in the use of this technology. But if in the future, Teachers are now fully utilizing AR technology for teaching activities. Children's learning in the classroom will keep pace with today's ever-changing world. And the most significant benefit will fall on the learner itself.

Implementing Augmented Reality technology to study Poy Sang Long tradition by choosing mixed media to accompany the learning of complex traditions, which will help those who are interested or tourists understandable even if it is not in the actual event, it is also a continuation of Poy Sang Long's traditional arts and culture of the Tai Yai people in Mae Hong Son Province. And this research is considered to create a prototype AR Mixed media so that developers can use this structure to develop for learning media in complex cultures.

Objectives of the research

- 1) To develop media that show the identity of the Tai Yai ethnic group in Mae Hong Son province through the Poy Sang Long tradition using Augmented Reality technology.
- 2) To study the evaluation of using Augmented Reality (AR) for Poy Sang Long Buddhist Ordination, Tai Yai Identity in Mae Hong Son province.

Review Literature

1. Augmented reality is defined as "an enhanced version of reality created by the use of technology to add digital information on an image of something." AR is used in apps for smartphones and tablets. AR apps use your phone's camera to show you a view of the real world in front of you, then put a layer of information, including text and/or images, on top of

that view. Apps can use AR for fun, such as the game Pokémon GO, or for information, such as the app Layer. The Layer app can show you interesting information about places you visit, using augmented reality. (Ptc.com, 2021)

AR is a new technology that will enhance learning for learners and viewers who are interested in learning information conveniently and quickly can be used through Smart Phone because everyone already has by installing the program and using it through the Marker and can access information anywhere, anytime in terms of media access, in this research, The researchers used a form of Marker called Superimposition-based AR (ptc.com, 2021). Which is a form of reading the value from an object. The advantage of this type of marker is that it can read content from shapes such as model figures and display data instantly, combined with a marker-based AR (Heimgartner, J. 2016) that uses still images for video rendering and other motion and animations.

2. The Importance of AR and Education In this era where information can be obtained immediately by a simple search on the internet the method of teaching and screening facts is no longer popular. Instead of dividing learning into theory and practice. Currently, education is transmitted holistically. This includes various formats of a wide range of multimedia content to maintain shorter attention spans of Gen Z learners. By using Augmented Reality in the classroom, great learning and teaching experiences can be offered by replacing the traditional classroom with an interactive and engaging environment. The global market for AR in this study is estimated at \$760.4 million in 2020, expected to reach \$41.8 billion by 2027, growing at a CAGR of 77.2% between 2020 and 2027. The report was published by inc.com (2020). Augmented reality technologies in education provide visualization of learning materials and enable teachers to present interactive learning through a variety of multimedia lessons. While helping students visualize visual information in a real-world environment presented through digital devices such as projectors and interactive whiteboards.

It can be seen that the application of AR in the classroom allows teachers to offer engaging and innovative learning and teaching experiences while maintaining the value of content used in teaching and learning. By interactive learning (Interactive) and seeing the virtual world merged with the natural world, The learning model through AR technology can be developed and replace the traditional classroom very well. Users are self-exploring through knowledge sets created from AR technology.

3. Types of media in augmented reality: media has the ability to put together a presentation of a variety of media by using a computer as the primary device and using a

multimedia presentation software program. (Kidanan Malithong. 2005: 194-196; Linda. 1995: 4-6) when talking about multimedia in augmented reality, it is about information. Content formats that display results in various forms such as text, graphic, full-motion video, animation, sound, etc. If we separate the main categories that are important in the multimedia graphics of Augmented Reality, it can be broken down into four main categories: 1. Graphic 2. Animation & motion 3. Video 4. Mixed media

AR is a technology that supports augmented reality vision by overlaying the image with the appearance of graphics replace in the natural environment, which is now commonly used for teaching and learning, giving information because it can make learning easier to understand, faster, and reduce complex processes the media that is used in learning AR is divided into 1. Graphic 2. Animation & motion 3. Video 4. Mixed media, the researcher sees the importance of using all four forms of media because it supports learning for learners more fun than using only one type of media. Thus, resulting in research of Learning Through Mixed Media in AR.

Research conceptual framework

Accessing complex information in a manner related to cultural traditions through learning with technology. The study, Learning the Poy Sang Long tradition through mixed media in Augmented Reality (AR), combines a variety of media with interactive learning to stimulate awareness among learners, as illustrated in the conceptual framework through a Review of literature and data collection, Data and design analysis and measurement and Final Design as the following figure 1.

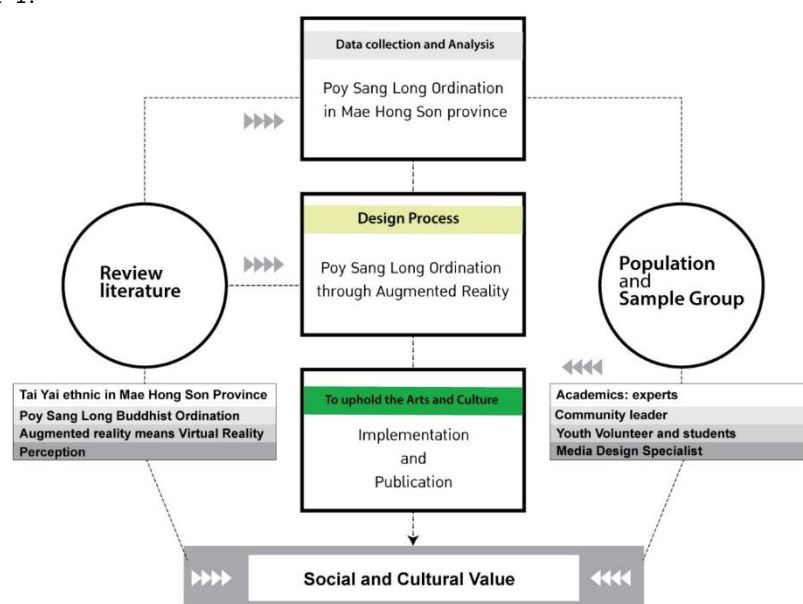


Figure 1 shows Research conceptual Frameworks

Research Methodology

This research is mixed-method research. The research area is Mae Hong Son Province. The research process is divided into three steps as follows:

Phase 1: Review Literature and data collection - purposively focusing on the identity of the Tai Yai ethnic group through the Poy Sang Long ceremony in Mae Hong Son province and the development of AR technology, a design theory that emphasizes the perception of interactive media. The researcher collected data from the study in the textbooks to find information on the history of the Tai Yai ethnic group, The data was collected from interviews with knowledgeable villagers, wisdom teachers, community leaders, and people in Mae Hong Son province.

Phase 2: Data and design Analysis - During the pre-operation stages, various techniques were used: 1) data analysis and content analysis and 2) triangulation analysis. This was to synthesize all the information from phase 1 to generate key concepts for AR media design. Analysis of findings from previous steps to define AR media concept and character design. At this stage, modeling and presentation prerequisites were planned for further evaluation of applications.

Phase 3: Measurement and Final Design - Experts assessed the quality of AR media and the feasibility of being tested on a sample of youth volunteers in Mae Hong Son province by measuring media satisfaction and presenting the results as a mean. Final edits in AR media based on expert proposals and sample groups before the actual use.

The measurements from the sample group were youth, students, local people, community leaders, a sample of 100 people using a Propulsive Sampling. by selecting from people with stakeholders, local youth, and the local people descended from the Tai Yai race who have participated in the tradition or has been continually socially transmitted including community leaders who are knowledgeable and understand the ritual process of Poy Sang Long tradition very well. The research instruments were 1) the media satisfaction measure, Learning the Poy Sang Long tradition through mixed media in Augmented Reality, which consisted of 3 parts: Part 1, general information of the respondents, Part 2 information on satisfaction with using the media, part 3, the benefits and further suggestions. Collecting information by visiting the area in Mae Hong Son Province To measure media satisfaction Learning the Poy Sang Long tradition through mixed media in Augmented Reality By allowing audiences to try the AR application to learn Poy Sang Long tradition. Data collection period from January to February.

The quantitative data were analyzed by statistics. Part 1 Demographic data of the samples were analyzed by using descriptive statistics, i.e., frequency, percentage. Part 2 media satisfaction data. Analyzed by using descriptive statistics such as Mean and Standard Deviation. Part 3 Recommendations. and the benefits obtained from the use of media Learning the Poy Sang Long tradition through mixed media in Augmented Reality It is qualitative data analysis. Use research papers, analyze and synthesize data. then write a descriptive description.

Research results

1. Develop media that show the identity of the Tai Yai ethnic group in Mae Hong Son province through the Poy Sang Long tradition using Augmented Reality Technology.

Studying the content of theoretical papers in which the researcher collects information from various sources and collecting data from textbooks, research papers, academic articles, and interviews to find historical details of the Tai Yai tribe, including the legend of Poy Sang Long tradition as follows the concept of ordination ceremony of the Tai Yai ethnicity Mae Hong Son province concluded that ordination is an important tradition of the Tai Yai. Most popular monks are ordained from the age of 7-12 years, usually, in March, April, and May of every year, and the work is scheduled for 3-7 days. This ordination ceremony in Tai Yai language is called “Poy Sang Long”. Poy Sang Long is a ceremony to celebrate the ordination of a novice in Buddhism of Thai people of Tai Yai lineage found in Mae Hong Son province and in some districts of Chiang Mai province. “Sang” means a novice, Long or “Along” (Rungtawan Uam-in, 2012 and Sanguan Chotisukrat, 1969). Such beliefs and faiths have been passed down and become legends based on the history of Buddhism. In collecting data from told by the Tai Yai community leaders in Pai District, Mae Hong Son province, and the abbot of Wat Jong Klang, Muang District, Mae Hong Son province, they obtained relevant and consistent information.

The developed AR to present Poy Sang Long tradition the process is summarized as follows. From collecting and analyzing data, augmented reality technology presents ethnic Tai Yai identity through the Poy Sang Long ceremony. Mae Hong Son province can be used via Android-powered smartphones as a learning medium for users to study Poy Sang Long legends, rituals, and various details; summarizing the structure of AR media and content is as follows.

1.1 Platform Poy Sang LongAR can be used with any Smartphone or Tablet running the Android operating system. The smartphone is a device that can be carried anywhere. Flexible Fast wireless data connection there is a camera for capturing images or symbols to pass information to the data processor. It makes users convenient because most of them already have smartphones.

1.2 In general, the system will use symbolic images installed at information points when interested persons or tourists bring their smartphones and turn on the camera to capture a picture of the symbol. Then a three-dimensional object will appear, along with an animation talking about the Poy Sang Long tradition ceremony. Along with background music, it can also display videos and animations. Users can interact with the Poy Sang Long AR Platform by selecting an image on the touch screen; the data is shown as an auxiliary scene and can be seen through the smartphone screen. The information displayed as a 3D object or video depends on the content and symbols scanned in the guidebook

1.3 Development of application design Starting from the preparation of the plan, 2D Motion presents the legend, 3D Animation presents ceremonies, Video presents the Poy Sang Long tradition in Mae Hong Son and the process of ordination ceremony details And Model figures to be souvenirs and information about the costume through the use of AR to present Poy Sang Long tradition, then combine the data with Vuforia and display it via smartphone

1.4 The final is to create a Poy Sang long AR application by bringing each media type together in the Unity 3D application. The data within the application consists of the Poy Sang Long AR application linking access to the formal data. Poy Sang Long Legend The video presents various details associated with the marker that has been prepared. The AR application is designed for Poy Sang Long tradition. It presents a variety of rituals, legends, and details, along with sound effects for different situations and changing background music. The presence of information in the right place, especially the diverse stories presented. Stimulates learning as well.

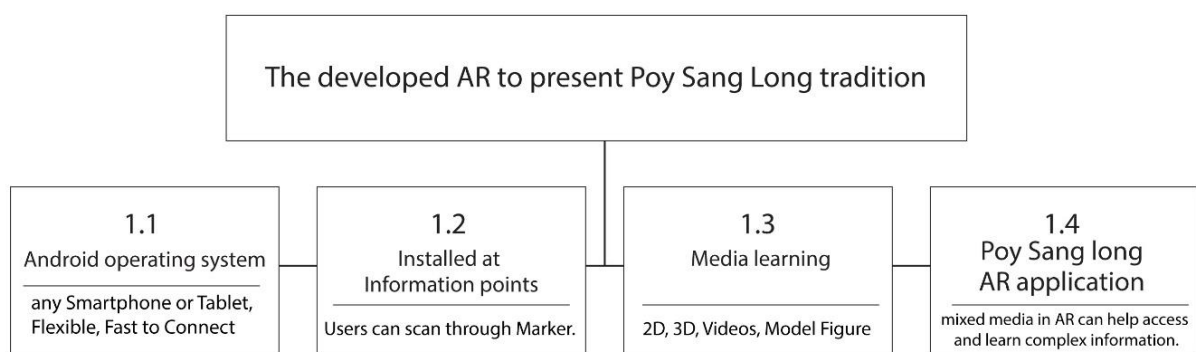


Figure 2 The developed AR to present Poy Sang Long tradition

2. Study the evaluation of using Augmented Reality (AR) for Poy Sang Long Buddhist Ordination, Tai Yai Identity in Mae Hong Son province.

From the research objectives, it can be concluded that developing augmented reality technology to present stories, legends, and beliefs inherited from Poy Sang Long tradition. The results showed the use of AR by presenting mixed media consisting of 2D Motion presenting legends, 3D Animation presenting important ceremonies, Video presenting the atmosphere of Poy Sang Long tradition in Mae Hong Son province. and the details of the ordination ceremony and model figure to be used as souvenirs and information about the costumes through the use of AR to present the Poy Sang Long tradition of the Tai Yai ethnicity Mae Hong Son province. All media can be used anywhere. It makes it easier to access complex content and creates an exciting learning history for people of all ages. Due to the use of various media presented, developing a learning model for Poy Sang Long tradition by using platform mixed media in augmented reality will benefit researchers who can apply the research results to give legends, traditions, and other historical stories and very significantly, this research will help promote the conservation of traditions and spread rare cultural traditions. Make it accessible to interested audiences anywhere, anytime. In media experiments, users had a high level of cognitive performance. Able to learn objectively and understand the content of the media. In addition, users have a high level of intellectual achievement. Can know objectively and understand the range of the press. In addition, the use of AR techniques can also be a positive reinforcement in interactive learning with users who want to learn information by themselves and can also be easily accessed with Smart Phone.

The research tools were the satisfaction questionnaire on using AR media in Poy Sang Long Tai Yai tradition, Mae Hong Son province, consisting of 3 parts: Part 1: Personal data of the respondents; Part 2: Media use satisfaction. AR Poy Sang Long Tai Yai tradition Mae Hong Son province, Part 3: Benefits from using AR media Poy Sang Long Tai Yai tradition Mae Hong Son province Online questionnaires were collected and survey site visits were conducted with a purposive sampling: students, community members, and the community leaders. In Mae Hong Son province, a total of 100 people were used to analyze the data and process the questionnaire with a statistical program. The results of using AR media Poy Sang Long tradition Mae Hong Son province The results showed that satisfaction in using AR media in Poy Sang Long Tai Yai tradition, Mae Hong Son province from a questionnaire by a sample group, namely college students, experts, and people in the community, they were satisfied with AR in the form of mixed media presenting Poy Sang Long tradition. At a high level ($\bar{x} = 4.26$ S.D. = 0.68),

assessing the quality of Poy Sang Long presentation media through AR. They can understand their local traditions. It creates pride in local culture and traditions. In addition, this media helps preserve and carry on the cultural identity of the Tai Yai ethnic group of Mae Hong Son province to be passed on to the next generation.

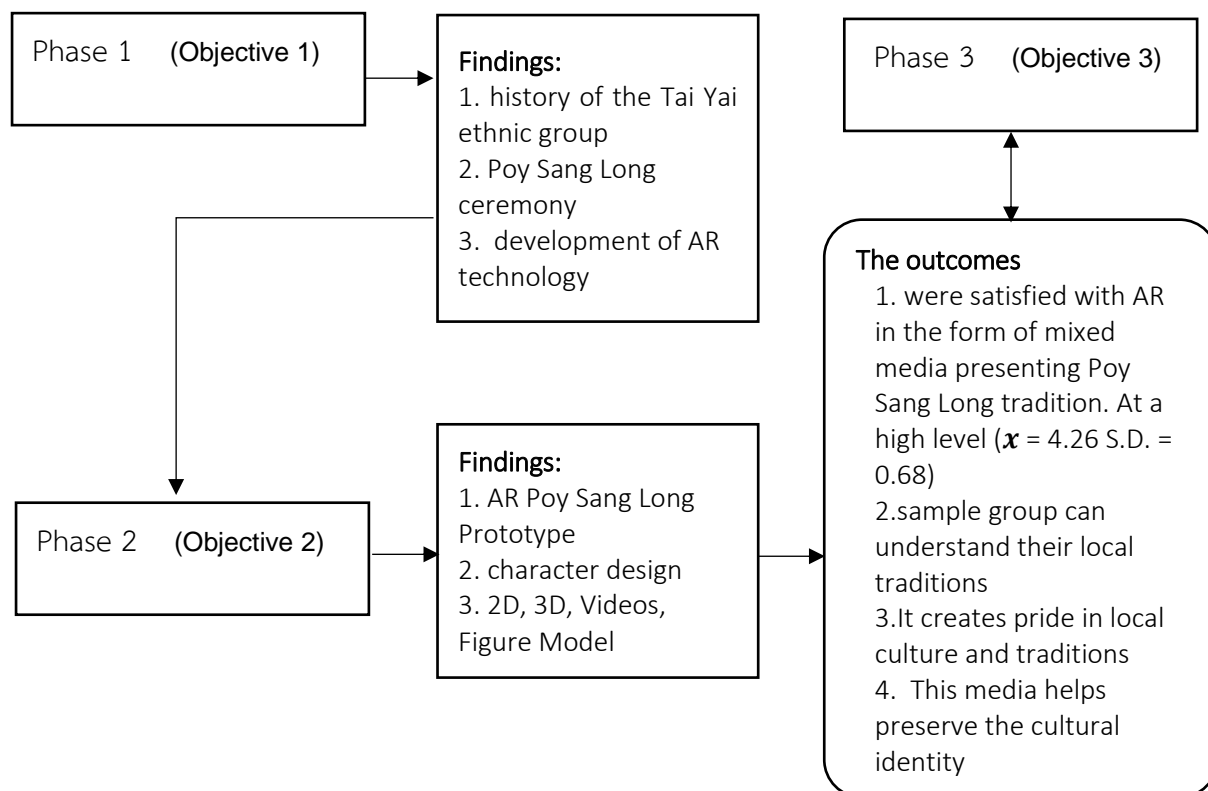


Figure 3 The Findings and the outcomes of AR Poy Sang Long

Discussion of research results

This research found that, after develop media that show the identity of the Tai Yai ethnic group in Mae Hong Son province through the Poy Sang Long tradition using Augmented Reality technology. Develop as a media Learning the Poy Sang Long tradition through mixed media in Augmented Reality the researcher uses Marker AR, which uses still images for video display and use for other motion and animations and the use of superimposition-based AR markers that read content from shapes such as Model Figures. The researchers created all four types namely Sang long model figure, novice model figure, male and female Tai Yai model figure to learn about the costumes for the ritual. Results obtained from the media Learning the Poy Sang Long tradition through mixed media in Augmented Reality It made it possible for

users to learn the complex Poy Sang Long traditions quickly, fun, and easy to understand. Consistent with the findings of Adi Ferliyanto Waruwu (2015), using AR technology to create The DewataAR app publishes travel information and gives tourists a new experience. To visit tourist attractions, especially temples, this AR development provides information in the form of mixed media, featuring 3D visualizations, 3D animation, and video. Researchers have used Marker-based AR to be effective in their application in DewataAR. The display of tourism object is more attractive because the images are from the brochure which is made as a marker and not fiduciary marker.

The evaluation of using Augmented Reality (AR) for Poy Sang Long Buddhist Ordination, Tai Yai Identity in Mae Hong Son province. It was found that the satisfaction of using the media Learning the Poy Sang Long tradition through mixed media in Augmented Reality Overall, it's at a high level. There is feedback from users about using various media to promote learning, including the 2D motion to present the legend of Poy Sang Long tradition, 3D animation to simulate the ordination ceremony, Video to present an overview of the tradition, model figure to present different body equipment for the ceremony, causing awareness by various types of media. They are resulting in stimulating interest in learning complex information as well. It is also accessible to all genders and ages, consistent with Suwichai Phunsa (2018), conducted research on The Development of Augmented Reality for Creative Learning Martial Art of Thai Boxing, which uses 3D animation media to present information about 30 Muay Thai poses. The overall user satisfaction with the media, the opinions on augmented reality media perceptions were found to have the overall opinions at a high level. It makes it known that the presentation of 3D media combined with AR stimulates the interest to enjoy and would like to learn until the end of the lesson. This research technique is to combine the real world with 3D animation.

The new body of knowledge

The researcher has studied the concepts, theories, and related research on the topic. Learning the Poy Sang Long tradition through mixed media, Augmented Reality, synthesized into a body of knowledge as follows:

1. Ritual

The details of the Poy Sang Long ritual can be divided into 3 parts: preparation for the ceremony, the ceremonial period after the ceremony, and the thank-you ceremony. The details are as follows. During the ceremonial period, the event is usually held for 3-7 days. The important ceremonies will be held for 3 days, with the first day being the reception day (Rab

Sang). It is a ritual that changes the status from a boy to a Sang Long and then brings forgiveness to the sacred and respected elders. The second day is Wan Lae – Kao Lu's kitchen or reception day. On this day there will be a procession of Thai food from the host Sang Long's house to prepare it at the temple and in the evening, there will be a "Hong Kwan" ceremony (Tai Yai blessing ceremony). The third day is Wan Lu or Kham Sang. Today there will be a novice ordination ceremony and offering Thai food offerings which is a change of status from Sang Long to being a Sang or novice

2. Augmented Reality Mixed Media

According to the experimental design, each media type can be subdivided into four classes, namely 3D Animation, 2D Motion Graphic, and Figure Model, by taking the Poy Sang Long tradition from surveying activities occurring in Mae Hong Son province. It can be summarized into the following structure, As shown in Figure 2 as follows:

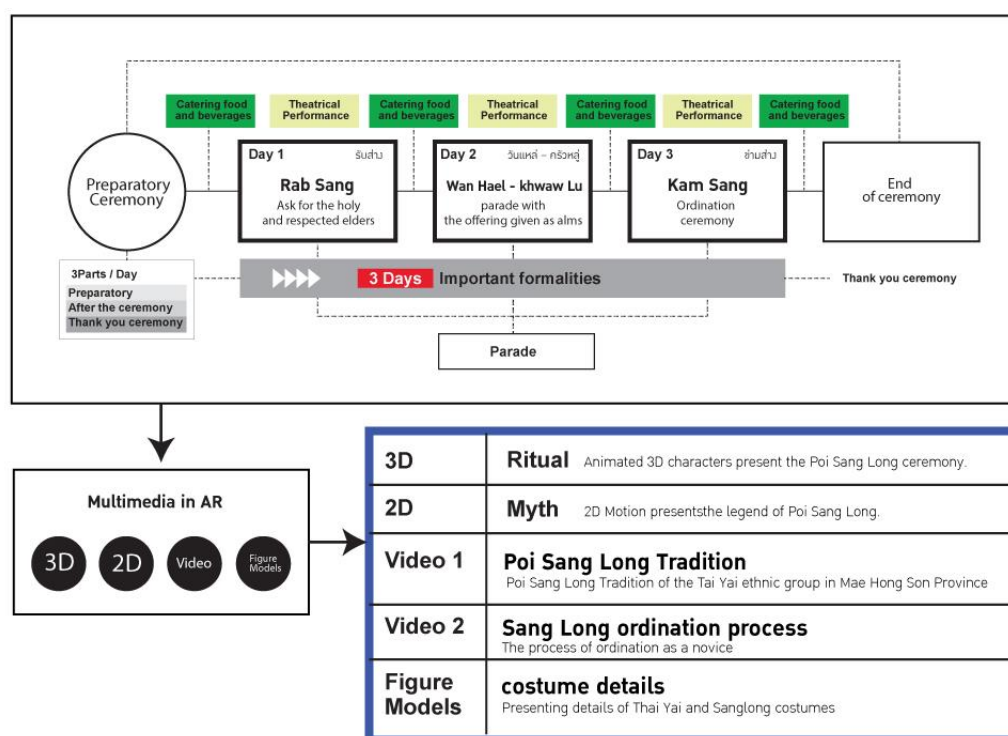


Figure 4 Knowledge structure of research

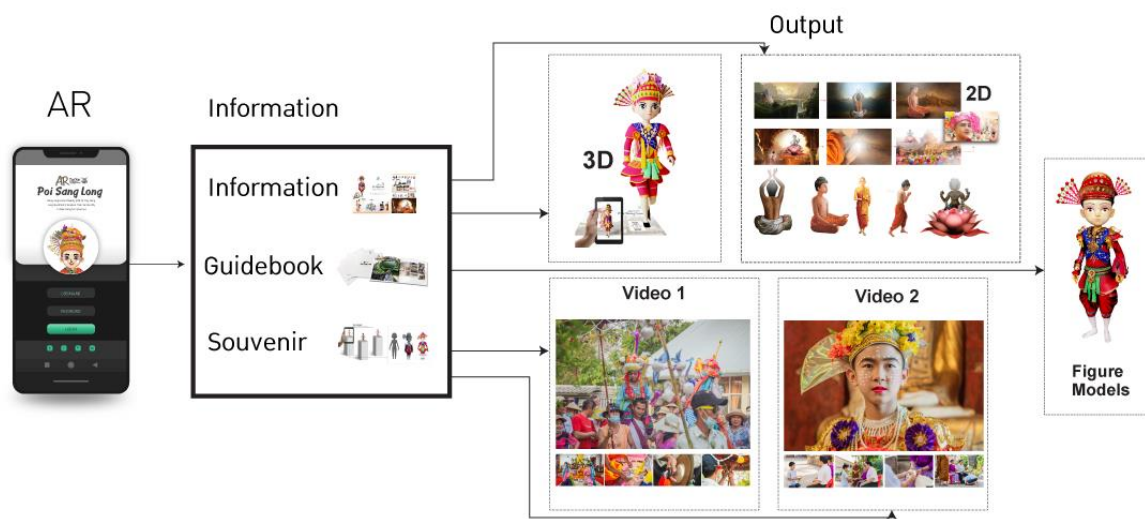


Figure 5 Learning the Poy Sang Long tradition through mixed media in Augmented Reality

The audience or students will understand the Poy Sang Long tradition because the content in AR mixed media format makes it interesting. And promote learning, and AR developers can apply their research knowledge in the Mix Media Poy Sang Long format to use other historical presentations.

Suggestions and Recommendations

Refer the finding of the AR application is designed for Poy Sang Long tradition. It presents a variety of rituals, legends, and details, along with sound effects for different situations and changing background music. The presence of information in the right place, especially the diverse stories presented. Stimulates learning as well.

Firstly, because the application has a relatively large file size, causing delays while using it, a suggestion for further research is to study the technological factors influencing AR. The audience needs to access information easily, quickly, and effortlessly, uncomplicated.

Secondly, the recommendation, this research's limited audience communication tools affected the interactive presentation with operating system limitations in the communication tools. Including the speed of the Internet system that affects the data download.

Thirdly, the sudden epidemic situation causes the operation to be inconsistent with the research plan, and visiting research areas may cause harm to researchers and sample groups, recommendations in the COVID-19 situation, both in data collection and site visits for

media preparation Researchers should be able to maintain working distances and strictly abide by the rules of the governing body for each area.

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