

## Research Article

# Using Virtual Reality Video Development as Educational and Tourist Promotional Media

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**Abstract.**

Maintaining tourism during a pandemic is a very tough challenge. Policy restrictions limit access and mobility by the government area until state regulations are lifted. The impact on sector tourist experiences are significant, because there is no activity in many destination tours. Indonesia and Thailand have similar destination tour cultures and heritage character histories, i.e. artifacts detailing the legacy and glory of Buddha. The Jago temple and the Grand Palace in Thailand are interesting educational tours to learn about past civilizations. The appreciation activity for common artifacts that is conducted with a method visit to the location must be replaced with another way. Excellent and sophisticated metaverse technology can be utilized to present ambience and a natural feel of the location. The purpose of this study is to produce helpful virtual reality video products to educate the public about the artifacts in temple Jago in Malang and the Grand Palace artifacts in Thailand as an alternative educational media tour. The method was developed by implementing the ADDIE model. The purpose of this study is as following: (1) produce access in visual forms and shape the atmosphere of destination tours, (2) create access information especially on the culture of products and artifacts, (3) design educational media in website/video/multimedia format or in any other possible format to replace the atmosphere of visit travel, (4) produce deep media video forms or photographs to become products that can raise audience interaction, (5) produce the validity of related data with product artifacts in Jago temple culture and the Grand Palace of Thailand.

**Keywords:** artifact Grand Palace, Candi Jago artifact, VR temple

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## 1. Introduction

Tourism during a pandemic own very tough challenge . Policy restrictions access and mobility by the government area until state regulations to be constraints yet \_ could resolved . Sector tourist experience impact significant . Not there is activity *tourism* in many destination tour . Indonesia and Thailand have destination tour culture and heritage a history of character same , ie artifacts legacy of glory Hindu buddha . Jago Temple and Grand Palaceyang being in Thailand is tour education history Interesting past civilizations \_ \_ for learned .

Activity appreciation common artifacts \_ conducted with method visit to location must replaced with another way . Excellence and sophistication metaverse technology can utilized for presenting *ambience* and natural feel of the location modified artifact \_ in shape virtual reality technology . Purpose study this is produce helpful virtual reality video products give education to Public about artifacts temple Jago in Malang and the Grand Palace Artifacts be in Thailand as alternative educational media tour .

covid 19 outbreak in Indonesia has revolutionize all aspect life , incl sector tourism . Whole activity no again semi online but full online. If in the past the stimulator educational process became subject in learning and audience is objects , during the Covid-19 pandemic both of them pushed for could Becomes subject learner with You're welcome take advantage of internal media resolve problem learning [1]. Activity experiencing tourism \_ impact significant must own method for Keep going could contribute to the realm education .

Sector problems \_ tourism during a pandemic including : (1) difficulties access visual form and atmosphere destination tour in shape real (2) difficulty access information especially on products artifacts culture ; (3) not yet found educational media in *website* /video /multimedia format or in any other possible format replace atmosphere visit travel ; (4) deep medium video form or photo no Becomes product that can raises audience interaction ; (5) related valid data with product artifacts current culture \_ circulating still need validated .

Basic understanding procedures and principles in appreciate work culture must raises feeling want to knowledge and deep interest . \_ Needed capable technology \_ give solution from problem above . \_ Technology simulation as if currently be on location tour culture artifacts urgent for presented although user be in

each other's house . understanding about relief, size , shape , and atmosphere location artifacts interesting if could presented in metaverse form . Presenting atmosphere and atmosphere study as if on site real the need tools and teaching materials that are complete and relevant , as well as Becomes one unity in the tourism education process .

VR technology is not will stand up alone , needed other fittings as supporters achievement education culture this . As guidelines or Temple tourism *guidelines* require supporting media that can integrated with VR system that can accessed by the public broad . Theory the will served in e-paper/ brochure / digital infographic forms that make it easy in access information [1] .

VR media and its supporters this made corresponding characteristics users who have proficient operate *smartphones*. Segment user product ie generation young , [2] explained that the average activity data generation z , namely : (1) using technology 10 hours 19 minutes per day . (2) 1 million application has created and was utilized . (3) 1 billion user active on the internet per day , (4) do search data on the internet more of 5.1 billion searches per day . (5) generation z is type visual learning , try and see process result , want educator as facilitator , learn started with "how" , and very easy get information . Murad et al. put forward that generation z more like study through *experience ( learning by doing)*, *clear goals and fast feedback* : wanting must know especially formerly goals and benefits study before start learn , *tutor like a friend*: more like educator who can position as friend or even educator who is friend colleagues , study multidisciplinary knowledge , use technology and *fast information* in learning , *coworking space* : learning with collaboration for get profit financial in a manner direct . Revolution Industry 4.0 is influential significant in the world of education . Presence application technology Becomes must corresponding demands of the times. *Critical thinking* must get used to in every Theory learning through study live from cases and experiences educator nor real friends and go along own experience in settlement problem .

## 2. Method Development

Method study this focused in build infrastructure based on Digital Games, Simulations, and Learning (DGSL) with payload main 360o virtual reality market. related with Thing this , the relevant procedure for used is the development model ADDIE Model [2] .

The ADDIE model selection has reason to channel coherent and instructional development ( Kurnia , Lati, Fauziah , & Trihanton , nd). ADDIE Models has opportunity for researcher in do revision at each year when study submitted multi years ( Salsabila & Setyaningrum , 2019). Method study ADDIE Model development also has purpose special to possible results \_ be measured in a manner quantitative and qualitative .

Here 's the development model travel media *virtual reality video platform* later education \_ plan will integrated *hybrid* market between Indonesian and Thai institutions consisting on stages , outputs , indicators achievements and tasks team proposer in period time one year period funding.

ation product study development of *virtual reality* videos artifacts Indonesian and Thai temples that can used for promotional media transactions tour education could seen in the following roadmap :

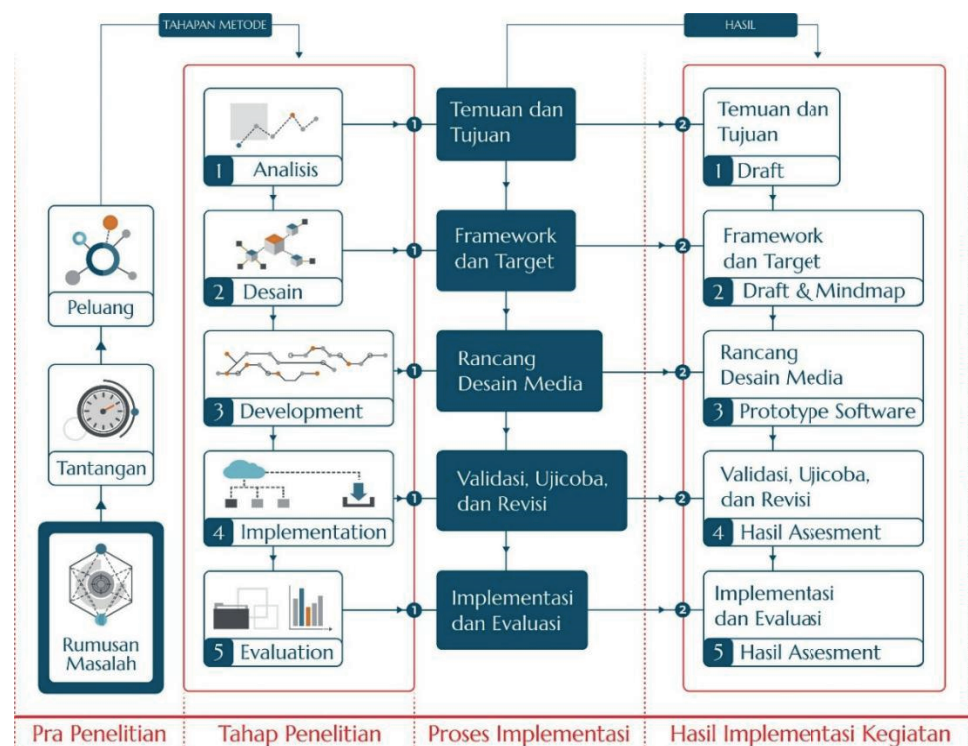


Figure 1: ADDIE Development Flow Model.

Details explan

### 3. Results and Discussion

Activity this implemented with method *Analysis* ( Analysis ), *Design* (Design), *Development* ( Development ), *Implementation* ( Implementation ), and *Evaluation* ( Evaluation ).

The ADDIE model is one of the design models system demonstrating learning \_ stages base system easy learning \_ for done . Development process need several times of testing team expert , subject study in a manner individual , scale limited nor scale area ( field ) and revision To use improvement product end so that although procedure development shortened but inside \_ already includes the testing and revision process so that developed product \_ has fulfil criteria good product , tested \_ in a manner empirical or not there is mistakes again . Deep ADDIE models designing system instructional use approach system . Essence from approach system is share the planning process learning to a number of step , for arrange steps to in sequences logical , then use the output of every step as input in step next [3] .

The ADDIE development model consists of of the five stages which include analysis ( *analysis* ), design ( *design* ), development ( *development* ), implementation ( *implementation* ) and evaluation ( *evaluation* ). A defining process what will \_ studied by participants educate . Before determine what to \_ studied , us need do a number of activities , among others is do *needs assessment* ( analysis needs ), identify problem ( need ), and do analysis task ( *task analysis* ). analysis step consists on two stage , that is analysis work or *performance analysis* and analysis need or *needs analysis* [2] .

### 3.1. Identify phenomenon problem travel digital product Indonesia-Thailand temple in a way holistic and detailed

Condition pandemic with limitations on space make traveler switch on the internet for access information . Condition this compel everyone for \_ switch to technology and proficient in use it , conditions transition this similar as characteristics urban *future* man with characteristics , 1) *Learn from Experimentation* , ie study through experiment from experience themselves and others, 2) *Prefer visual learning* . Because he's used to it with technology in life them , generations this feel cozy in a media - filled environment , surrounded by variety type such digital tools computers , LCD projectors, PDAs, iPods, MP4s and iPhones. Life in this multimedia environment , they are want to show self they with computer interactive like games and movies both it 's at home as well as at school . 3) *Like to work in groups* . They like work team with friend peers with use collaborative as *Google Apps* . 4) *Have short attention spans and multi-task well* . 5)

Edutainment. The word " *Edutainment* " is joint from two words: education ( education ) and entertainment ( entertainment ), which refers to entertainment that educates or

fun education ( Raudenbush et al., 1992). With characteristics as it , give information more difficult for transfer knowledge if they work alone or no collaborate especially no switch to shape method using \_

existing technology \_ more sophisticated . They must adapt with his life with technology because Public no want to back off to back . because \_ That's an educational strategy will meaning if educator more accustomed and educated with technology and collaboration ( Hidayatullah et al., 2018). Bringing in figure is also one \_ alternative solution presenting learning dynamic impact on improvement \_ motivation , interest and results learn ( Siswo Bi Martanto , 2010). In this VR video media would be very possible shades tour presented virtually , tourists could present in the material presented at a time give motivation learning.Virtual Reality or usually abbreviated \_ being VR is a lots of technology used in the world of games and considered be one \_ real experience \_ for its users .

### 3.2. Do field observations \_ related room mappings virtual lab

activity observation in the field held on July 20 2022 at Candi Jago for know how location as well as position from temple good . Besides that for know right time and good \_ moment taking pictures /videos ( morning , noon or evening). As well as doing deal together as well as discuss with Security temple Champion related when deal will take picture will interview and next steps . Coordination normatively related \_ tightly with interprocess \_ party or environment in their respective activities , the success of each party is greatly supported one with other so from that in every organization key success in reach step purpose is a proper coordination . \_\_\_ Stage legality is gift documents and evidence legality agreement from government to somebody or perpetrator business / activity certain corresponding with provision regulation legislation. Results activity this refers in letter permission from Hall Preservation Reserve Culture Province East Java .

### 3.3. Stages in Media development

Temple Virtual Land development in Thailand done with virtual mode. The goal is for people who have obstacles physique , age , and obstacles other later permanent could feel experience exploring every Temple corner in Thailand without in a manner live up building original temple . There are five main windows that will Becomes focus

used when develop all game assets using Unity consist from Window Scene, Project, Hierarchy, Inspector, and Game. kindly general , following is explanation from each window:

1. Scene: The window used for build our game . Inside \_ We can view and manage the objects inside a scene.
2. Project: The window that contains the whole assets used \_ for make our game project can consists from files, scripts, textures, 3D models, audio clips, and others that are also stored inside hard drive computer us .
3. Hierarchy: The window that contains game objects or our collection of game objects use in scenes . Game object order can We move position and can We group become parent and child.
4. Inspector: The window that displays context or description from objects or medium asset \_ We select . this windows can displays property or component information of a game object or asset.
5. Games: This window used for look appearance when game is running . In parts above , there is the play, pause, and set frame by frame buttons will is displayed in the Game window.
6. Toolbar: The toolbar contains helpful button \_ We arrange various components inside \_ game .

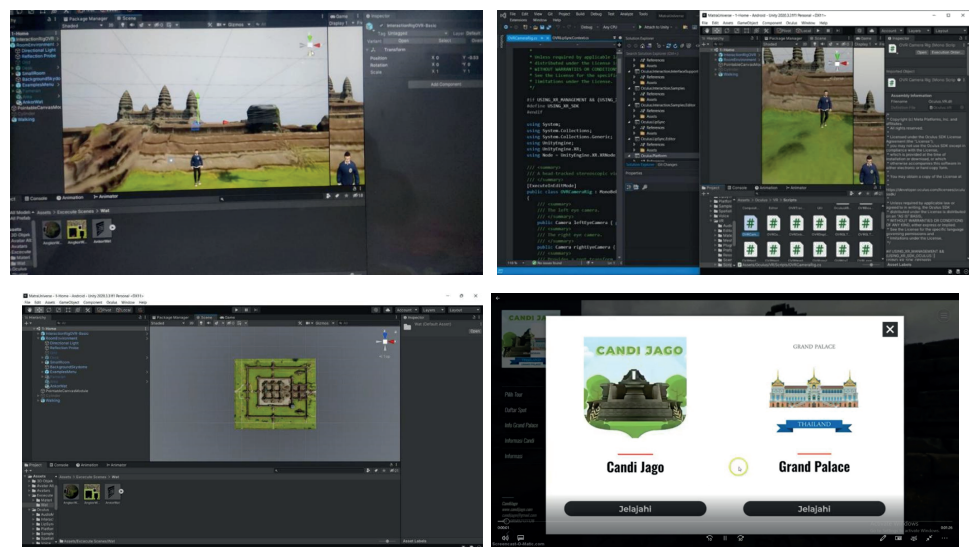


Figure 2: Post Implementation 1 - Development of Temple Virtual Land in Thailand.



For plan follow carry on in study this will proceed with the stages the development of this VR media next will validated by material validator and design validator . If not fulfil criteria so will revised back . Stages end is stages implementation (implementation). At stage this will VR media trials were held as promotional media tour education [4] .

The target is 2023 external Scientific : Year second , product Science and Social Culture form right create Riches Intellectual (IP) Artifacts Art Building architecture Indonesian-Thailand temple , Scientific article published in the journal International reputable , and books guide about Characteristics art building architecture Indonesian-Thailand temple (ISBN). Product Study For Partners: Dissemination of virtual reality media promotional video trials tour education for tourists and the Indonesia-Thailand campus along with device learning To use support MBKM International [5] .

The target is 2024 is an Institutional Partner Overseas: Institutional partners abroad together \_ institutions in Indonesia can increase effort promotion tour education artemism temple Indonesia-Thailand through hybrid market, on an equal basis attention visits up, and on a regular basis income generating policy can obtained through institutions related between existing countries \_ virtual space. College: Getting for results investment from whole generated income \_ every year.

## 4. Conclusion

covid 19 outbreak in Indonesia has revolutionize all aspect life , incl sector tourism . Whole activity no again semi online but full online. Policy restrictions access and mobility by the government area until state regulations to be constraints yet \_ could resolved . Sector tourist experience impact significant . Not there is many tourism activities destination tour . Indonesia and Thailand have destination tour culture and heritage character history \_ same , ie artifacts legacy of glory Hindu buddha . Jago Temple and Ang Kor Wat in Thailand are tour education history Interesting past civilizations \_ \_ for learned .

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Purpose study this is produce helpful virtual reality video products give education to Public about artifacts temple Jago in Malang and the Ang Kor Wat Artifact in Thailand as alternative educational media tour .

Activity this implemented with method *Analysis* ( Analysis ), *Design* (Design), *Development* ( Development ), *Implementation* ( Implementation ), and *Evaluation* ( Evaluation ). The ADDIE model is one of the design models system demonstrating learning \_ stages base system easy learner \_ for done .

In Thing analysis alone succeed Get problem data travel digital product Indonesian-Thailand temples as promotional media tour education for traveler or student in a manner quantitative , get quantitative data virtual laboratory size visual mapping as well get analysis need in a manner quantitative from partners and analysis data. with do interview with source person related about analysis need

Stage second form The Design Stage obtains a software development draft and flowchart software work as well get channel work and schedule research . Researchers at stage it also creates 2D assets shaped workflow , wireframe, and visual mapping of media layout

Stage third form Step *Development* , at stage this is a virtual reality video development process : 360o virtual reality environment assets , integrated virtual land development stage 2: with adaptive video content for tourists and students / students as well as Validation media and materials expert ,

Stages fourth that is *Implementation* on stage this all that has developed packed such shape corresponding with role or function so that it can implemented . At stage this design and methods that have been developed implemented in real situations \_ namely in the community . During implementation , model/ method design that has been developed applied to real conditions . \_ Theory be delivered corresponding with models/ methods newly developed . \_ After application method then conducted evaluation beginning for give bait back to the application of the model/ method next .

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