

## Lekesan: Interdisciplinary Journal of Asia Pasific Arts

Journal homepage <http://jurnal.isi-dps.ac.id/index.php/lekesan>

---

### Wayang (Puppet) Character Transformation Model In Augmented Reality

I Putu Ardiyasa

Department of Cultural Tourism, Department of Dharma Duta, STAHN Mpu Kuturan Singaraja  
Address: Menjangan Island Street, No. 27, Banyuning, Singaraja 81119

*tuardiyasa@gmail.com*

The art of *wayang* that thrives, are dynamic and always adapt to the times need to consider the regeneration of puppet show audiences. The presence of technology has changed the audience's paradigm of verbal performances into visual performances. This *wayang* character transformation model is an offering of AR application-based art products that aim to become a medium for introducing *wayang* art from an early age and in various rooms. This study develops an Augmented Reality application. Data were collected using data collection methods in the form of observation, interviews and simple questionnaires and documentation studies. The results showed that there are two models, namely, the Tri Sandi and the Waterfall model. This modeling found the form of a puppet character recognition application product that contains plot, *tetikesa*, *antawacana* (speech presentation style), discourse, stage and melody.

*Keywords: Wayang Characters, Transformation, Augmented Reality*

---

Peer review 1 - 25 October 2020, accpeted 30 October 2020

## Introduction

The development of *wayang* performance art as a World Cultural Heritage by UNESCO on 7 November 2003, was not in line with the increase in public interest in watching *wayang* performances. Even Joost Smiers (2009: ix) questioned what life is left of local artistic life (traditional arts) in this era of globalization. The artistic life in question is related to the life of *wayang* art, which is in a condition where technology dominates almost all layers of community life, so that it has an impact on the forms of *wayang* performances that prioritize visual technology aspects rather than verbal aspects (discourse value). Meanwhile, in context, according to Hazim Amir (1994: 19) *wayang* shows are a vehicle for character education through the characters of *wayang* characters in *wayang* stories such as characters in the Maha Bharata Epic, and the Ramayana.

The statement from the research above is supported by data collected from the results of a questionnaire that questions about *wayang* and its character among 93 respondents (elementary and junior high school students). The results showed that 43 children answered “know but do not understand”, 27 students answered “know and understand”, and 23 children answered “do not know and do not understand”. This means that more than 50% of respondents tend to only know but do not understand the *wayang* and the characters in the puppet stories. This is confirmed by Mardana in his research explaining that the attention and interest of the people in Bali towards the shadow puppet show seems to have started to recede. In fact, every shadow puppet show in Bali is enjoyed by a small part of the community (Mardana, 2011: 2). To improve the sustainability of the puppet art life, Sukerta sees a variety of creativity and innovation that have been carried out by the puppeteers, one of which is the commodification of the puppet show as a tourist attraction performance (Sukerta: 2011: 37). However, this commodification has an impact on the appearance of artwork (*wayang*) which is influenced by the economic interests of the tourism industry. In other words, Suzane K. Langer stated that every work of art that is expressed / staged is not based on the feelings and emotions that the artist *has*, but feelings and emotions that are known to the artist (Langer, 2006: 100) In other words, the puppet art that is not inwardly presented or with deep character of the artist.

Character problems certainly cannot be separated from the character building media, one of which is the art of *wayang* performance. In the puppet show, Mahabharata and Rama Yana puppet characters are displayed with different characters. The character of a strong character such as the character of Bima, reflects his success in life and vice versa, when Dursasana, or Aswatama has a weak

character, it is difficult to gain trust. This is evidenced by Matthias Fink et al. In his research, coordination is done through mutual trust based on self-commitment by parties working together in a Small and Medium Enterprise (UKM) (Matthias Fink et al., 2008: 436). Other research by Ardiyasa also revealed the same thing that the sustainability of the Papermoon Puppet Theater art organization is influenced by stakeholder trust (Ardiyasa, 2017: 33). Integrity and individual commitment have an effect on good trust between colleagues in the organization as well as stakeholders outside the organization which have an impact on organizational commitment and quality in the production of works of art.

Based on the visual problems of *wayang* and human characters mentioned above, this research will look for an integration model of character values / character traits that are transformed into Augmented Reality (AR) media, and their impact on increasing the attractiveness of watching puppet shows. To support the character education that is being pursued by the government in an effort to shape moral, intelligent and rational Indonesian people, this technology-based transformation model research can be a relevant offer, considering that AR will make the audience more focused and interested in *wayang* through a visual touch that appears to be real. As explained by Jhon Dewey in his book Art As Experience, there has been a change in the expression of works of art, from Verbal to Visual. Artwork, which initially emphasized verbal language, is now emerging as a theater performance art that emphasizes visual language (Dewey, 1958). In other words, Dewey's opinion can be seen in puppet art works that have explored a lot of visuals in color.

As a researcher and a puppet performer, the writer of this paper is interested in experiencing the sensations generated by the AR dimension as a new way to describe the types of *wayang* audience responses that can be generated by AR animation and the audience's response to digitized *wayang* characters. Through this model, the concept of interactivity from technology to the domain of acting (characters) will emerge. The concept of interactivity in the context of the *wayang* character transformation is when those who watch interact constantly with objects in the AR dimension. The transformation of the *wayang* characters into AR will make those who watch it get a sensation, this can also generate responses that make them (the audience) interact and play the puppet characters. The *wayang* characters to be transformed are limited to the scope of the Panca Pandavas (the five Pandavas) characters, namely Yudistira, Bima, Arjuna, Nakula and Shadewa. The five of them are characters who have different traits, even without realizing that the Panca Pandavas characters often appear in themselves. Meanwhile, respondents or

resource persons were determined to be students and teachers at the Elementary School Education level. An understanding of this value is expected to be able to be transmitted to children and young people who live in the 4.0 era, an era that is full of rapid development of technological advances. Thus, it is very important for researchers to continue to empower existing technological advances to strengthen ancestral cultural heritage. The research problems consisted of things, namely 1) how to model the transformation of *wayang* characters in augmented reality? ; 2) how is the transformation of *wayang* characters in augmented reality?; The researcher limits the scope of research to the Panca Pandavas puppet characters as a complex character and can represent the characters in the puppet. This transformation model uses aesthetic theory to determine the wholeness of the entity, essence and appearance. In addition, it is assisted by the Triadic Interplay model which is a model for the transformation of *Pedalangan* Literature (*Kekawin, itihasa, Purana, Geguritan, etc.*) into *wayang* performances that is developed by Sedana (2019).

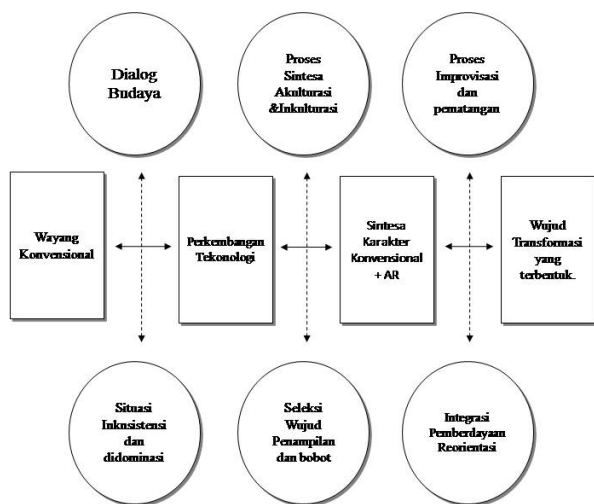


Chart 1: Conceptual Framework for the Transformation of *Wayang* Characters in the AR.

## Research Methods

This research was conducted using a qualitative method to explore and understand the meaning that perceived by a number of individuals or groups of people as coming from social or humanity problems (Cresswel, 2016: 4-5). The meaning understood in this study is an understanding of the problem of the visual transformation model of Bimasena puppet characters in AR. This research process involved important efforts, such as asking questions and specific data collection procedures from participants, analyzing data inductively from specific themes to general themes and interpreting

the meaning of the data. The approach used is a specific case study discussing a case in real life, in a contemporary context or setting.

This research was conducted in Kuum Village, Marga sub-district, Tabanan, Bali Province. The location of this research is a strategic place as a place for the establishment of Digital Lontar Nusantara that engaged in technology, especially applications. The formal object is the *Wayang* Character Transformation, while the material object is Augmented Reality (AR). The selection is determined based on the consideration of the research issues described in the introduction. Puppet characters are still a living medium of speech, but are currently less and less attractive.

Selection of sources is determined based on (1) clear knowledge of *wayang* characters (key informants); (2) Active involvement in all puppetry and AR activities or someone who plays an important role in building and motivating, both building the character of an individual (expert resource person).

Type	Name	Description
Key Resource Person	I Wayan Nar-dayana	Puppeteer
	I Ketut Kodi	Puppeteer
	Gusti Putu Sudarta	Puppeteer
Expert Resource Person	I Wayan Wija	Puppeteer
	I Kadek Oklan	Digital application developer Lontar Nusantara

Table 1: List of Research Resources

In the data triangulation stage, the researcher used various types of data sources ( be it books, journals, internet sources) and evidence of different situations. If the data is consistent, then this process can increase the validity of the research data.

The data analysis technique used was borrowed from Cresswell (2006: 260-261), namely content analysis. The data analysis steps consist of four stages, namely Data Organization, Reduction, Summary of the Code, and Presentation of the Data. Measurements are made by matching data from expert, key sources and several supporters (practitioner artists and academics), so that later it can determine whether this relationship really occurs.

## Discussion

### Transformation of *Wayang* Character in Augmented Reality.

Development models used in making AR wayang applications are divided into two types, namely the Tri-sandi model and the waterfall model.

#### The Tri Sandi Model

Tri Sandi model is a model for the transformation of Pedalangan Literature (Kekawin, itihasa, Purana, Geguritan, etc.) into *wayang* performances that is developed by Sedana (2019). This model is visualized in the form of an equilateral triangle in which a puppeteer in a small circle has three ciphers, namely, strong *wacana*, *tetikesan* and *angga* in transforming literature as shown below. The researcher used this trisandi model to carry out the process of transforming *wayang* characters in AR through the process of (1) Character Deepening Selection, (2) *Angga* (choosing form / style), (3) Determining *Wacana* (story) as illustrated in the chart 1.

Triadic Interplay (*Trisandi*): a Model of Transforming Literature into Wayang Theatre (Sedana, 2002: 33)



Chart 1. Tri Sandi: A Model of Transformation of Literature into Wayang Performances (Source: Sedana, 2019: 14)

Description:

*Wacana* : The process of the puppeteer in choosing the desired story or plot.

*Tetikesan* : Understanding the mastermind of the character's character through personal stories and visual movements of the characters.

*Angga* : Selection of genre or form that is considered relevant by the puppeteer.

#### **Tetikesan (Character Deepening)**

The first stage of this model is character selection. The character of Panca Pandavas was chosen because according to I Wayan Wija (in an interview at his residence, May 20, 2020) it was explained that "Pandavas are a reflection of the whole character of a human being, why is that? Because it reflects the human body. Yudistira for the Spirit, Bima for the Energy / Muscle, Arjuna for the *Manah* / Mind, Nakula Shadewa for the members of the body". Furthermore, Ketut Kodi (in an interview on August 16, 2020) stated that the Pandavas character is a manifestation of Tri Guna (Satyam, Rajas and

Tamas) whose implementation is balanced. Guna Rajas is controlled by Guna Tamas, Guna Tamas is controlled by Guna Satyam, and Guna Satyam is controlled by Guna Rajas. Like in the Bima Ruci play, where Bhagawan Drona sent Bima to seek the Knowledge of Perfection, even though Bima knew that his orders were not true and would cause harm to himself, Bima was still devoted to his teacher, so that at the end of the story, Bima met Dewa Ruci as his true teacher (see picture 1). The literature study in the Adiparwa Book (1958) and the Inseklopedia Wayang (1999) reinforces the data that the Pandavas character is very complex and becomes an indicator of the ideal character. This context is described in the form of a story when Drupadi was born and took an oath that he would marry a man who was *dharma*, honest, strong / tough, handsome, brave, knowledgeable and compassionate. (Senawangi, 1999: 209). So that in Swarga Rohana Parwa it can be proven that only the Pandavas could enter this stage, even though on the way only Yudistira was able to reach the very first *swarga* while his brother and wife died one by one.



Figure 1 Tetikesan Bima (Researcher's Documentation 2020)

#### **Angga (Selection of Forms / Genres)**

Selection of forms or genres of Balinese style Pandavas characters to be transformed into AR media. The presentation structure still uses a conventional pattern, namely the opening (*kayonan* dance, *parwa penyacah*), content (*peparuman*, rank and conflict) and closing (resolution). The movement pattern is likened to a traditional *wayang* movement pattern (adapting to the character), such as *pejalan*, *piles*, *seledet*, *ngebah*, *nayog*, *nyembah*, and *nuding*. In appearance, it did not completely change the original form of the Panca Pandavas puppet, only the translation of the language from Kawi to Indonesian. In addition, this transformation does not use a screen or white screen, because the AR concept by using a flat space around the user (audience) will be the background of the show.



Figure 2 Scenes of *Peparuman* with a background of rice fields as a visualization of prosperity of the Indra Prasta's kingdom (Researcher's Documentation, 2020)

### Wacana (play / story)

This stage is the process of determining a story in the context of contemporary phenomena that is relevant to the context that occurs. The researcher chooses a story from the Mahabharata play source specifically in the story of the Pandavas building the Indra Prasta section. In this story, the Pandavas were in a difficult time building a kingdom in the forest inhabited by Yudistira Genie. However, because of the supernatural powers of the Pandavas and the Dharma Wangsa agreement with the Genie, finally the country of Indra Prasta was founded. The character of Panca Pandavas is relevant for exploring the noble or ethical values of the Indonesian people regarding the value of mutual cooperation and unity by imitating the struggle of the Pandavas who work together with the gods, and the monsters (the Genie). This is what is called the harmony of *bhur bwaah and swah* (lower, middle and upper realms).

### Waterfall method

The waterfall method was built by Winston W. Royce in the 1970s to describe the practice of software products. The waterfall model document, written by Winston W. Royce, consists of five main stages, namely, 1) analysis, 2) design, 3) implementation, 4) testing, and 5) maintenance. These five stages are visualized like a multilevel waterfall, where the builder of a design must go through stages from top to bottom. Even today, according to several surveys, the waterfall model is used by most of the software engineering world. (Davidson, "Survey: Agile interest high, but waterfall still used by many." Search Software Quality June 25, 2020). The model waterfall consists of five phases, namely analysis, design, implementation, testing and maintenance [9]. Each phase in the waterfall model can be seen in Chart 2.

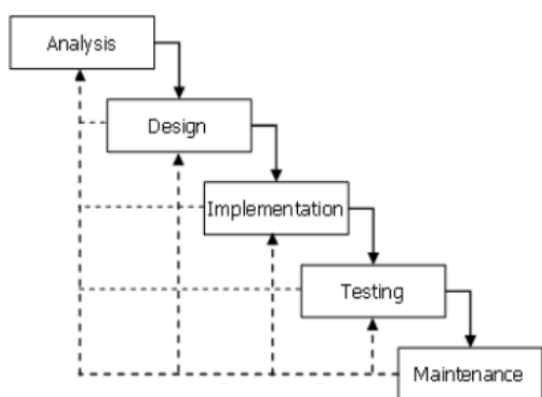


Chart 2: Phases in the Waterfall Model

### Analysis of Problems and Needs

This stage is the first and most important step of the waterfall model. This involves gathering information regarding the final solution of the user's needs and understanding. Analysis involves a clear definition of the

objectives, expectations of the project and the problem the final product is expected to solve. "Analysis includes understanding the business context and constraints, product functions, performance levels and the external system it must match". Requirements elicitation is the process of gathering information from stakeholders from the system. Some of the techniques used for elicitation are customer interviews, prototyping, use cases and brainstorming.

### Design

This step begins using the information captured in the SRS. It can be considered as providing a solution to a problem in scope using the available resources. This stage consists of how the software will be built, in other words planning the software solution. The stakeholders involved in this application are the system designers. Software design may include system design and component design. The design phase involves defining AR hardware and software, defining performance and security parameters, designing data storage space and constraints, selecting programming ideas and languages, and demonstrating strategies for dealing with issues, resource management and interface connectivity. The output of this stage is one or more AR *Wayang* application software that serves as input for the next stage.

### Implementation

At this stage, the developer will implement the design into an application and create animations that contain tailored content to user needs. The developer or application builder applies all the ideas in the design. The work is done in collaboration between the builder (animator), the puppeteer (content creator) and the composer who creates the music. This collaboration will produce an "SIDHI Apps Wayang" application.

### Testing

In this phase, both individual components and integrated solutions to see that it is a specification of the application requirements are made. Testers are stakeholders involved in the model phase (resource persons). Test cases were written to evaluate whether the system fully or partially meets system requirements. Testing can be categorized into system testing (to see how the system reacts when all modules are integrated) and acceptance testing (done with or by the name of the customer to see if all customer needs are satisfied). The flaws found at this stage are given as feedback to the developers which in turn fix the problem. This is the stage where the product that is developed is documented.

### Maintenance

#### Installation

This step involves setting up a system or product for installation and use at the customer's site. A number of revisions are usually marked and submitted to facilitate

changes at a later stage.

#### Maintenance

This is the final stage of the waterfall model and occurs after the installation of the product system. This stage involves making modifications to the system or individual components to change attributes or improve system performance. Modifications that arise due to changes in demand triggered by customers or deficiencies discovered when using the system in *real time*.

### The Transformation Form of Wayang Characters in Augmented Reality

In the aesthetic theory put forward by a classical aestheticist, namely, Agustinus, it is made clear that the concept of aesthetics in works of art must have a form. A work of art becomes beautiful and pleasing when the structure or proportion in the form that the work wants to depict matches the proportions in the work. Because art wants to describe a certain form, while the form is structured in each scene (In Suryajaya, 2016: 146). In addition, Aristotle mentions six components that make up theater arts, namely: plot, representation, diction, thought, stage and melody (in Suryajaya, 2016: 56). Meanwhile, the transformation of the *wayang* characters in AR also has composing components, namely the plot, *Tetikesan*, *Antawacana*, Rhetoric, Stage and Melody, because the result of this transformation is in the form of research on the development of puppet shows based on the Panca Pandavas character. .

#### 1. Plot

The events in the *wayang* character transformation are designed and woven in a structured manner by moving the story through exposition, conflict, complexity, climax and ending with resolution. In this study, a transformation of *wayang* characters into AR with a *wayang* performance model was carried out. The story used comes from the Mahabharata Epic in the Pandavas part of building the Indraprasta Kingdom (Sabha Parwa) and when Meditating Arjuna (Wana Parwa). This story tells of the descendants of the Kuru dynasty, the son of Sri Maharaja Pandu, who was expelled from the kingdom where the Pandavas were born, grew and studied. However, due to the very fierce family complications between the Pandavas and the Kauravas as a result of the incitement of King Gandara, Sakuni, the Pandavas had to leave their kingdom and build a new kingdom. The tragic story structure of the great Mahabharata epic resembles the form of a plot about a good person who turns good luck to bad. However, to make it look more tragic, the plot builds up, first a change in fate (not good people become bad, not because of moral changes), but because of mistakes that could have been avoided, namely when Yudhisthira lost playing dice. The two changes in fate were not based on the knowledge of good people (Pandavas) but precisely because of their

ignorance and the petty intellect of their opponents. That is, tragedy arises from the error of ignorance. Tragedy in scenes like this, the researcher saw it as the peak moment of tragedy that evokes catharsis or what is often referred to as purifying emotions in the audience. This purification of emotions will only take place when the puppet show succeeds in bringing compassion. Furthermore, the second story is when Arjuna meditated. The story line of the first story to the second story is not continuous so it is called as the loose plot. Due to the far distance between Sabha Parwa and Wana Parwa. However, the researcher saw plot cohesiveness as an action that builds a story. After the Pandavas built the Indraprasta kingdom with the help of Dewa Indra and Yudistira Genie, at this stage it was necessary to strengthen the body and spirit. One of the ways this is done is by doing *tapa yoga meditation* to request revelation from the gods.

The researcher found three important actions in the story of Meditating Arjuna, in this second scene, namely (1) releasing emotions, (2) moral-spiritual purification, and (3) emotional education.

#### 1. Releasing of Emotions

All the emotions that were in Arjuna's soul had to be completely released, the soul had to be emptied.

#### 2. Moral-spiritual purification

Arjuna was disturbed by various wild beasts, beautiful and enchanting nymphs, but he did not shake his asceticism. But when the danger that threatens him comes from Momo Simuka in the form of a Pig destroying Indra Kila's mountain, then Arjuna is ready to face the obstacle, killing the pig. This tragedy demonstrated Arjuna's moral-spiritual purification.

#### 3. Emotional education

The fruit of Arjuna's persistence was the education of his soul's emotions which influenced the Pandavas' power to build the Indraprasta kingdom. Including influencing Arjuna's success in defeating the Niwata Kewaca (Enemy of the Gods); thanks to a gift from Hyang Bhatara Siwa, namely the Pasopati Astra weapon.

#### 2. Tetikesan (ethos or characterization)

Pandavas consist of five characters that Drupadi wants as her husband. Kodi (in an interview on August 15, 2020) explained that there are five Pandava characters explicitly, Yudistira who is gentle, Bima who is tough and honest, Arjuna who is Magical, Nakula who is smart, Shadewa who is wise. But the character of the five Pandavas can also be seen implicitly. The Pandavas character implicitly is Tri Guna (*satyam, Rajas and tamas*). When viewed from Adi Parwa to Shanti Parwa, it can be drawn a circulation line of cooperation between these five brothers.



Figure 5.1 Character of Panca Pandavas  
(Researcher's documentation, 2020)

In the context of developing this research, it can also be seen in the part of the development of the Indraprasta kingdom which was built from the collaboration of the pandavas and the intervention of Bhataras Indra. Yudistira, who always upholds the dharma, is counterbalanced by the brave Bima. Bima's courage is controlled by Arjuna's supernatural powers, Nakula's Intelligence and Shadewa's Wisdom.

The five characters are transformed without changing their original form, but carried out as a stage change from the screen media into the AR application, where the puppets can be seen as right in front of the user, and can interact directly. The presentation of the Pandavas characters is in line with intellectual clarification efforts that can be experienced by the audience or users. As in the Pandavas character who must *mulat sarira* (do self-introspection) after leaving the kingdom, the climax is in the transformation of the audience's ignorance to awareness through compassion and care touching the mind. A sense of inner care for the response to this situation can also produce insight in the audience. Insight is what creates inner calm. Through this representation, the works presented function psychologically and contribute to the resolution of inner tensions.

### 3. *Antawacana* (Speech Presentation Method)

*Antawacana* or speech presentation method is the aesthetic appearance of *wayang* in speaking as a result of the overall form and structure in the previous section, presented to audiences, connoisseurs, observers of puppet art. According to Hadiprayitno (2004: 74) the presentation of speech as an art of speaking is directly related to direct packaging and how to present it to the public. In the context of this research, the puppeteer plays an important role in playing its function as a speaker who has. Ardiyasa in the results of previous studies described three ways of presenting speech in puppet art, namely (1) Dialogue, (2) Narrative, (3) Developing Speech (Ardiyasa, 2015: 93-132). After analyzing the results of this *wayang* character transformation, the researcher found two aspects described above, namely dialogue and narrative.

### Dialogue

The puppet show positions dialogue as one of the most widely used forms of speech by the puppeteers. In this transformation, even the whole way of presenting the speech uses the dialogue expressed by the puppet characters in the scene, namely the Pandavas. The dialogue used by the Pandavas figures is in Indonesian. The choice of Indonesian in character dialogue was made because the segmentation of this product in the future focuses on children. From the results of the analysis carried out, an example of the dialogue used in the scene can be found, as follows:

Yudistira : Arjuna, I sent you to do meditation on Mount Indrakila.

Arjuna : Why should I be the one, brother? Why isn't Bima going there? He is stronger than me.

Yudhistira : No, because you are the one sent by the gods, because you are the one who most deserves the gift of the gods.

Arjuna : If that's the reason, I'll immediately go brother. Please pray for me.

This dialogue was used after the Pandavas built the Indraprasta kingdom. Arjuna and Yudistira agreed on Arjuna's holy journey to Mount Indrakila to meditate. The dialogue used is very simple; it's just that in the dialogue a conflict is presented that builds a dramatic scene. The conflict about Arjuna questioned why he was appointed, so that Arjuna had an implicit rejection.

### Narration

Exposure of an event is called narrative, or in the Big Dictionary of Bahasa Indonesia, narrative is a story of an event, narrative or theme of an art work. In this study, literary works in the form of plays are presented with the dynamics desired according to the stories used in the performance. The content of this narrative relates to the characters and the main events or main points of the story being told, as in the narrative quote below. " *Om Reprise kale sanginganie premana swastiang paripurna natan kecaubang dening pangila ila. Manggalaning sembah... katur ring paduka bhataras yang mami, lamakana... natan kekenen sodsos upadrwa rijeng inganika. Ageliss...* "

This narrative form is the conventional narrative in Balinese traditional puppet shows as a request for the safety of the puppeteers before presenting the puppet

stories. After that it was continued by describing the formation of the story by *Sanghyang Tigas Wisesa* (Guru Reka, Saraswati and Kawiswara) using the Kawi language. In this transformation, Indonesian was used, as in the narrative below.

“Once upon a time, in the dwa era of the Yuga there lived a great epic, Maha Barata. An epic that tells the war between the Pandavas and the Kauravas. When the puppeteer makes a story, sounds, thoughts and actions as a manifestation of that of Guru Reka, Saraswati and Kawi Swara. Cutting off the epic of maha bhārata, when Yudistira, Bima, Arjuna, Nakula and Shadewa succeeded in making the Indraprasta kingdom”.

In the narrative above, the puppeteer describes the characters in the story and the series of short stories. This type of narrative is called a structural narrative, where a collection of sentences is mostly used at the beginning of the performance or at the beginning of the play. This type of structural narrative is called *Penyacah parwa*, which is a puppeteer narrative to explain puppet stories. However, *penyacah parwa* in traditional performances must use Kawi language, while in this development environment, two languages (Kawi and Balinese) are used to facilitate users who do not understand Kawi to understand the storyline.

#### 4. Isen-Isen Satwa (Discourse)

Borrowing the Triadic Interplay concept offered by Sedana (2019), *isen-isen satwa* are classified as speech or discourse. The mastermind’s ability to transform puppetry literature (literary work) into a discourse related to efforts to criticize or convey messages. *isen-isen satwa* are presented in a dialogue format that leads serious, sad, angry emotions, and / or invites laughter (funny). The puppeteer can select or use the entire format in the dialog. In the Balinese traditional puppet show, *isen-isen satwa* are conveyed explicitly by clowns (Tualen Merdah, Delem and Sangut). Because the figures of the *para ratu* (Noblemen) (kings, royal members, and brahmins) use the Kawi language, so they are limited in their delivery of messages.

The transformation of the *wayang* characters into AR media presents *isen-isen satwa* through the figures, namely Pandavas in the form of character affirmation and strengthening of the character building process. For example, in the scene of Meditating Arjuna, one can see Arjuna’s character who is brave against all odds. After successfully passing the obstacle Arjuna was given a *Pasopati* weapon. In the formation of early childhood characters, characters like Arjuna is really needed. Thus *isen-isen satwa* in this Transformation work can be seen implicitly.

This work demonstrates that the puppeteer attempts to convey messages implicitly through setting and characterizing. Works that attempt to address the issue of character development based on *wayang* stories. Researchers found the persistence of a Bima who was willing to accept that the Pandavas family had to leave Astina, even though if Bima wanted, none of the Korawas could prevent him from reclaiming Astina Pura. In addition, Yudhistira’s attitude which was based on darma was able to calm his brothers. I Wayan Wija and I Ketut Kodi (interviewed on 29 April and 15 August 2020) have the same opinion that Yudistira is a spirit (in sincerity) that moves energy (Bima), mind (Arjuna) and Nakula, and body (Shadewa).

#### 5. Stage

The stage is the part of the floor that is higher than the surroundings; higher buildings (Tim Reality, 2008: 488). Meanwhile, Ardiyasa said that the stage in puppet art is a place to place elements of *wayang* performances (Ardiyasa: 2020: 46). Referring to Ardiyasa’s explanation and Tim Reality, the researcher analyzed the stage as one of the elements that embodies a work of art. The results of the analysis showed that the stage used is flat media of at least 1-2 meters. The stage is determined by the user’s presence and the user’s will. If the user is in the temple, the user can choose the stage in the temple area. If you are at home, users can choose a table, bed or home page as the stage. As can be seen in the image below



Figure 5.1 AR Camera Features Showing the Stage (Researcher’s documentation, 2020)

The concept of a stage like this is very flexible, because it does not require large space and is easy to find. With the marker system that has been made in the application system, users can view puppet shows on the phone screen and can zoom in or out (scale) the stage display on the smartphone screen.



## 6. Atmosphere

Accompanying music and *cepala* are a medium to form an atmosphere and strengthen the atmosphere. Music is made according to the circumstances of the scene (Ardiyasa, 2020: 45). War scenes require a tense atmosphere, meeting scenes require calm situation, conflict requires a tense atmosphere. Therefore, the embodiment of this atmosphere requires music. Meanwhile, the *cepala* (a small object that is held between the thumbs and the toes of the puppeteer) provides scene accentuation, signaling the next scene. However, in this study, there were no elements of *cepala*. The researcher found musical accompaniment elements in each scene. The music uses midi music with a mixture of ethnic and modern instruments. It does not use traditional gamelan elements. The existence of a music pattern like this does not interfere with the manifestation of the atmosphere in the scene. All messages in a scene can be visualized with music.

Model		Form
Non Physical		Physical
Tri Sandi	Waterfall	Plot
		<i>Tetikesan</i>
		<i>Antawacana</i>
		Discourse
		Stage
		Atmosphere

**Table 1:** Model and Transformation Form of puppet character into the AR media.

## Conclusion

The form of *wayang* character transformation into Augmented Reality is divided into two, namely physical form and non-physical form. Physical form includes the Sidhi PLUS application which contains *wayang* characters in character descriptions and AR *Wayang*. This application has a front view, camera scan and user interaction view. Meanwhile, the non-physical form includes the structure that builds the show (plot), the characterization that fills each plot in the scene (*tetikesan*). In addition, the puppeteer has a way of presenting speech through dialogue and narrative which is strengthened by the *isen-isen satwa* or discourse that transforms literature into communicated speech or messages. The performance apparatus as another important aspect is stage and melody. The stage is a space to present, and the melody is an atmosphere enhancer with instrument and / or vocal music.

The *wayang* character transformation model in AR uses the tri sandi model and the waterfall model. Tri Sandi's

model includes a *wacana* (speech) in which there is a plot, *tetikesan* (action) in which there are characters and *angga* (body) in which there is a form or style. These three aspects are the mastermind skills in transforming puppet literature into performances and visualizing it into the form of AR expression media. While the waterfall model consists of structured stages starting from needs analysis, product designs creation, implementation into form, testing, and evaluation / maintenance. These five stages form the transformation of the *wayang* characters into AR media. The result is an application as a media for socializing religious and educational values.

## References

### Book

Dewey's, Jhon. 1958. *Art As Experience*. New York: Capricorn Books

Djelantik, AAM, 1990. *Introduction to Basic Aesthetic Science Volume I: Instrumental Aesthetics*. Denpasar: STSI Denpasar

Hadiprayitno, Kasidi. 2004. *Aesthetic Theory: for Puppetry Arts*. Yogyakarta: Research Institute of the Indonesian Art Institute, Yogyakarta.

Senawangi. 1999. *Iseklopaedia of Indonesian Wayang*. Vols 1-8. Jakarta: Senawangi

Suryajaya, Martin. 2016. *Aesthetic History*. Jakarta: Cable Gang

### Translated Book

Creswell, John. 2016. *Research Design: Qualitative, Quantitative and Mixed Method Approaches*. Yogyakarta: Student Library.

Langer, Suzanne K. 2006. *Problematic of Art*. FX translation. Widyaryanto. SUSAN AMBU PRESS

Smiers, Joost. 2009. *Art Under Pressure: Fighting for Cultural Diversity in the Age of Globalization*. Yogyakarta: Insist.

### Journal Article

Ardiyasa, IP "Interpersonal Trust: Organizational Sustainability of Papermoon Puppet Theater." *JOURNAL OF ARTS GOVERNANCE* 2.1 (2016): 31-38.

(2020). The Philosophical Meanings of the Elements of Balinese *Wayang Lemah* Performance. *Genta Hredaya*, 3(2).

Sedana, I. Nyoman. "Triadic Interplay: A Model of Transforming Literature into Wayang Theater." *SARE*:

*Southeast Asian Review of English* 56.1 (2019): 11-25.

Mardana, I Wayan. 2011. "Wayang Journal: The Rhetoric of Nardayana Mastermind's Variety, Wayang Kulit (shadow puppet) Cenk Blonk Performance: a study on the Kumbakarna Lina play". Denpasar: ISI Denpasar.

Sukerta, I Nyoman. 2011. "Wayang Journal: The Rhetoric of Nardayana Mastermind's Variety, Wayang Kulit Cenk Blonk Performance: a study on the Kumbakarna Lina play". Denpasar: ISI Denpasar.

Thesis

Ardiyasa's, I. Putu. 2015. *Irawan Rabi's Dramatic Structure and Rhetoric in Wayang Kulit Parwa by Puppeteer I Dewa Rai Mesi*. Undergraduate Thesis, Indonesian Art Institute Denpasar.

### **Acknowledgments**

I am very grateful to the STAHN Mpu Kuturan Singaraja campus for funding this research. I would like to thank all the resource persons, Mr. I Ketut Kodi, I Wayan Wijaya, Gusti Putu Sudarta, Made Ochlan Permana Putra who sincerely provided information. Discussion partners to find AR as a media who suits the needs, namely Lova and Darya. For my small family and my child who was just born in this world. I dedicate this article to you.