



3D Animation Making Crafts Monel Jepara

Tri Listyorini^{1*}, Muhamad Khotibul Umam², Aditya Akbar Riadi³

^{1,2,3} Informatics Engineering, Engineering Faculty, Universitas Muria Kudus, Indonesia

Abstract. Monel Craft is a handicraft that is inherited from generation to generation by the people of Jepara. Monel accessories produced can be in the form of bracelets, necklaces, earrings, rings, and many other accessories. For its manufacturer using a drill, hacksaw, and smoothing machine. Monel marketing is still limited around the city of Jepara.

Purpose: This research aims to introduce Monel more broadly with a 3D multimedia approach. So, there is an idea of what Monel is. In general, Monel has a shiny shape and is corrosion-resistant. The price is relative and can be ordered according to our wishes.

Methods: The method used in this research is the method of multimedia development.

Result: This research produces a 3D animation that is packaged attractively, so that it represents Monel craftsmen to introduce it to the whole community.

Novelty: This research combines the multimedia method with the work of local wisdom from the city of Jepara, namely Monel. This research, entitled "Monel Craft 3D Animation", can increase knowledge about how to make it. And can be a medium of education and preservation of cultural arts in Jepara.

Keywords: Craft, Accessories, Corrosion, Education

Received August 2021 / **Revised** November 2021 / **Accepted** April 2022

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INTRODUCTION

Developments in information technology are now developing rapidly and rapidly, and some developments make it easier for humans to do something. The world of education can make learning easier and more enjoyable with innovations in learning, such as using educational animated films in learning. Animated films have progressed, and several animations [1], [2] have entered the wide layer and provide positive messages to the connoisseurs of the animation. There are also some educational animations aimed at children to be more interesting and make children learn happily, for example, alphabet learning animations, Arabic letters, Javanese script, and others.

Monel is an art craft with many variants in the form of accessories, both for humans and can be applied to objects or buildings. Some Monel accessories are widely used for humans: bracelets, necklaces, rings, earrings, and many others. While Monel is used for building, accessories can be in the form of a mosque dome, air vents in buildings, icons on the gate, and others [3]–[6]. With the development of animation at this time and the many diversity of Indonesian culture that has been passed down from generation to generation, especially in Monel Crafts, the writer has an idea to make an animation that discusses how to make Monel Crafts. The title taken is "3D Animation Making Crafts Jepara Monel". With this animation, it is hoped to foster a sense of love for Indonesia's cultural heritage and add insight to Monel's Handicraft Art in the village of Kriyan Kalinyamatan Jepara.

Based on the background described, the difference from previous research is that this research was built using the multimedia development method. Previous research used 2-dimensional animation for children's educational animation. This study uses 3-dimensional animation to blend local wisdom [7] culture in Jepara, namely Monel crafts. This research can be formulated several problems as follows: a) How to create 3D [8], [9] animation using Blender application. b) How is the process of making Monel handicraft products in Kriyan Jepara Village.

* Corresponding author.

Email addresses: trilistyorini@umk.ac.id (Listyorini), umamkh3@gmail.com (Umam),

aditya.akbar@umk.ac.id (Riadi)

DOI: [10.15294/sji.v9i1.31686](https://doi.org/10.15294/sji.v9i1.31686)

This research on 3D Animation [10] in the Making of Monel Crafts aims to introduce the art of craft in the form of 3D animation and to know and describe the process of making Monel handicraft products. This research will use multimedia development method, with 3D application using Blender and story board as the design. The results will be tested by Multimedia experts, so that animations are obtained in accordance with the theory of multimedia authoring.

METHODS

The method used in media development consists of 6 (six) stages, namely: concept (concept), design (design), material collection (material collecting), manufacture (assembly), testing (testing), distribution (distribution). [8], [11]–[13] Images of multimedia development can be seen in Figure 1.

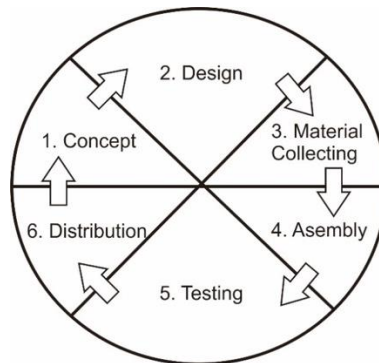


Figure 1. Multimedia Development Method [14]

Data Collection Methods

Research methodology is a process that will be carried out in solving existing problems, where data is needed to support a research. The method used as a reference in making "3D Animation Making Jepara Monel Crafts" is Observation, Interview, and Literature Study [15], [16].

Observation

Observation is the process of observing and recording things that are considered related to the object being studied to get the results of the process in a directed manner, including recording and observing the materials or tools used in making Monel crafts in detail.

Interview

Interview is research with questions and answers between craft makers and researchers. With the question and answer can facilitate researchers in research on these objects.

Literature Study

Literature study is research by reading and taking the essence of journals, proceedings, books, magazines, or other media related to research

Multimedia Development Method

The use of the MDLC method produces results in research with the following steps:

Concept

This stage produces the formulation of the concept, namely:

- a. The purpose of this 3D animation-based Monel craft animation is a multimedia-based interactive [17] media to introduce Monel to the wider community. Benefits of this animation to facilitate the introduction of culture and the work of location wisdom from the City of Jepara.
- b. Users of this Monel craft 3D animation are for all ages, both children and adults.
- c. Description of Monel craft 3D animation, based on multimedia [18]. Animation can be operated on computers, cell phones, television.

Design

In this stage, the design made using the 3D [15] animation interface design method. Using storyboard design for the storyboard of this introduction to Monel craft 3D animation. Storyboard is a short story about an animation that will be made on research. Short stories in the form of narration and simple images.

In general, the storyboard is used as a design in making animation, so the storyline in the animation is clearly the storyline. Storyboard is the initial process that is needed in making animation [19].

Next is the storyboard of the 3D Animation of Making Jepara Monel Crafts in Figure 2.

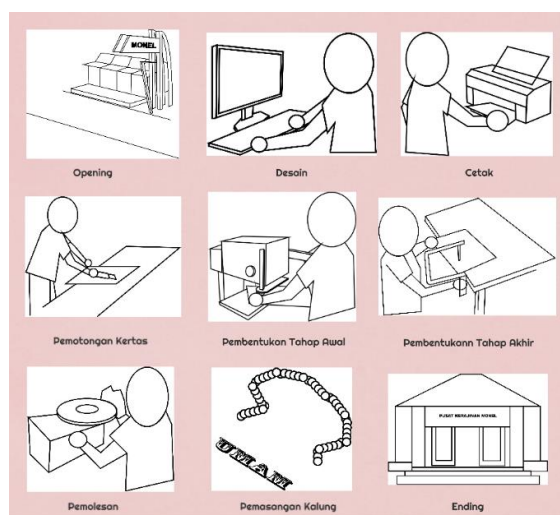


Figure 2. The storyboard drawn using Corel Draw

On the initial appearance of the animation, there is a gate that reads Monel, which means that we are in the Monel Arts Craft Industrial Area in Kriyan Village, Kalinyamatan District, Jepara Regency. The design process uses a digital device in the form of a laptop or computer with Microsoft Word and Corel Draw installed. Designs can be made according to customer orders, be it in the form of a name or other unique forms. After the design process is complete, it will be printed using a printer. The cutting process is intended to facilitate the attachment of paper on Monel plates and facilitate the formation of the next stage. The initial stage is the process of perforating the Monel plate on certain parts to facilitate the sawing of the next process.

The initial stage is the process of perforating the Monel plate on certain parts to facilitate the sawing of the next process. The polishing process is a process after the Monel plate has finished according to the design. The polishing process aims to smooth so as not to injure the wearer of accessories and make the Monel plate shinier. The process of mounting a Monel plate on a necklace chain can be used as an accessory. In Ending animation, a shop sells Monel necklaces and has been marketed in a shop window in the form of a pendant necklace.

Material Collecting

At this stage, materials related to the development of 3D animation for Monel crafts were obtained from interviews with Monel craftsmen in the village of Kriyan Jepara and stakeholders in the area. Literature by reading books, journals and looking for other sources from the internet. As for multimedia-related material, the author gets material from books, journals, and the internet for multimedia-related material. According [20], the materials for making applications that collected is an image or a picture like a picture which will be used as a background or documents in 3D animation, the sound will used as an intro.

To build an application, it takes need hardware and software. Hardware that used is a set of computers with Specifications: Intel Inside Core i5 Processor, Memory 4 GB, Drawpad, Mouse, and Monitor 14.0". For software that required is Windows 10 Home Premium as Operating System, Blender, Make Human, Adobe Illustrator used to create and process image designs and animations [21].

RESULT AND DISCUSSION

Assembly (Making)

At this stage, making animation using Blender software, for design using Make Human software. Process Monel crafts animation based on the design process as follows.

The characters in animation are examples of people who make Monel crafts. In this character, made as attractive as possible, you can indulge in animation connoisseurs, both children and adults.

The characters in the Monel craft animation are created using the make human software and are processed into the Blender software. The character selection for a Monel craftsman is a man, which can be seen in Figure 3.



Figure 3. The process of making characters using the make human software

The gate shown is a sign that in Kriyan Village Kalinyamatan Jepara is the Monel craft center. For manufacturing using Blender software. In making the gate, an object in the form of a cube is needed and formed using the action edit mode to form as closely as possible on the original object. Making the gate can be seen in Figure 4.



Figure 4. The process of making a gate using a blender software

After making the gate, can make a house as a complement in the opening. Homebuilding can be made using an action cube on the Blender software. If it is finished, then stay in a duplicate of his house to form a housing estate. Making a house can be seen in Figure 5.

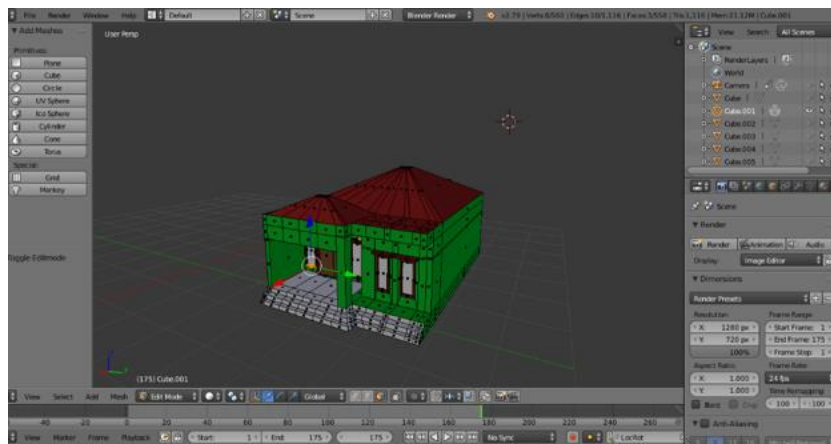


Figure 5. The process of making a house using a blender software

The next step is to make the sidewalks and roads so that they look more similar in real life. Making sidewalks can use an action cube and roads using an action plane. For manufacturing can be seen in Figure 6.



Figure 6. The process of making sidewalks and roads using blender software

If all objects are finished, all they need to do is combine them into 1 and can process the image rendering to be processed into animation. The rendering results can be seen in Figure 7.



Figure 7. The rendering process of the blender software

Merging animation is done using Camtasia Studio software. The merging of animation is done using the process of making in the storyboard can be seen in Figure 8.



Figure 8. The process of merging animations using Camtasia studio

Testing

The testing stage is carried out after the assembly stage is complete by running the animation to see if there are errors that are found. At this stage, testing is carried out using black box testing. This black box method is a program testing based on the program's function. This black box testing method aims to find malfunctions in the program. Black box testing focuses on the functional requirements of the software. This test allows the system analysis to obtain input conditions that meet all the application's functional requirements. The test results can be obtained from the last test scenario that is done repeatedly.

Distribution

The distribution stage is where the animation is stored in a storage medium, like hard drives and CDs that have previously been used as autoplay files. This is the final stage where the media (in CD form) is ready to be operated or copied for publication. This Monel craft 3D animation was created using the Blender application, where project files are saved as *.blend. After the application is completed, the application is rendered into an *.avi file, so that the application can be run easily on computers, mobile phones or televisions.

CONCLUSION

We have provide animated presentations, different from some videos that are real and not explained in detail in the process from the beginning to the end. The 3D animation video was made by designing a storyboard, modeling characters, and modeling places and objects using blender software. Then, we render animated videos made using the blender application, edit animation videos using Camtasia Studio, and produce animated videos. The research entitled 3D Animation Making Monel Crafts can be used as an educational medium in the form of animation for the general public who want to learn how to make Monel crafts.

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