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PAINTING MACHINE

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CONCLUSION

References

Appendix

A. Gantt chart
B. Project Budget

CHAPTER 1: INTRODUCTION

1.1 Background

The history of painting is a never-ending chain that began with the very first pictures ever made. Each style grows out of the styles that came before it. Every great artist adds to the accomplishments of earlier painters and influences later painters.

We can enjoy a painting for its beauty alone. Its lines, forms, colors, and composition (arrangement of parts) may appeal to our senses and linger in our memories. But enjoyment of art increases as we learn when and why and how it was created.

A painting always describes something. It may describe the artist's impression of a scene or person. It also describes the artist's feelings about the art of painting itself. Suppose, for example, the artist paints a picture of the birth of Venus, the Roman goddess of love—a subject that has been used many times. The viewer may not learn anything new about the subject from the more recent version that could not have been learned from the older one. Why, then, do painters bother to depict the same scene again? The answer is that they want to tell us something new about the way the scene can be painted. In a way, the artist is saying, "I have painted the birth of Venus as no other artist before me has painted it." The artist not only depicts the birth of Venus but also makes a statement about the art of painting itself.

Many factors have influenced the history of painting. Geography, religion, national characteristics, historic events, the development of new materials—all help to shape the artist's vision. Throughout history, painting has mirrored the changing world and our ideas about it. In turn, artists have provided some of the best records of the development of civilization, sometimes revealing more than the written word.

Painting is the practice of applying paint, pigment, colour or other medium to a solid surface called the matrix or support. The medium is commonly applied to the base with a brush, but other implements, such as knives, sponges, and airbrushes, can be used. The final work is also called a painting.

1.2 problems statement

People are exhaust to painting because painting take a long time to complete. People will tired to painting a wall for a long time because the hand and legs will pain for a long time. From that problems, many people should prepare whenever want to paint the wall in their house. Some house have many wall to paint. So they need to prepare everything the power and energy in person to make the painting activities complete. Maybe some people don't know house to paint the wall of house. Its need a skill and experiences to learn before start painting.

Next, painting is wasting a time, people only have free time on Saturday and Sunday. So that's not enough to complete the painting in the house. To complete the all wall house need 3 days to 4 days. So, time is limited for other people to painting a wall in their house. For one wall need 6 hour to complete the painting wall. But, house have many wall and estimate for a long time

To painting the house, we need to prepare the stairs, newspaper, wooden stuff for the high wall and vanishing the wall from dust or thing in the wall. We will tired to go up the stairs for high wall. Its dangerous for some people don't have experience because can fall. We must open the newspaper in the tile to protect the tile from paint colour. The wooden is helping but we cant do continuously because it will pain the hand. From that problems, that is a lot thing we should take note for painting a wall.

1.3 objective

2 To design and fabricate an painting machine.
3 To ease a wall painting work process.
4 To reduce the cost of painting with simple equipment.
5 To reduce the human energy for painting a wall

1.4 scope

This machine has a limit to use:-

1. This machine can painting less 10 feet.
2. This machine is only have two roller brush in one time
3. We need to setting up the machine carefully to make painting more better.
4. This machine need the electric source to start the machine.
5. This machine must have a straight tile to move a machine.

1.5 chapter summary

In this chapter, the studios are explain about its origin of ideas and inspirations. All the objectives were made out of all the problems statements. The objectives for this project along with the importance will be innovative paint machine that be effective and efficient. This project will focusing in the paint machine it can easily manage for painting wall activity.

CHAPTER 2: LITERATURE REVIEW

2.0 introduction

In this chapter, will be shown the types in paint machine that have in the market. We will discuss details about the paint machine.

1.Airless Paint Sprayer

The airless paint sprayer that can be used for both furniture and general home use. The unit features a fully adjustable pressure nozzle that allows you to easily adjust the paint output, providing optimal control for any project.
The high-pressure system is powerful enough that you can use unthinned paints with ease, saving you time on prep work. It's also optimized for ease of use, allowing you to pull directly from the can of paint. The flexible suction tube can be used with either one- or five-gallon containers. With enough juice to support hoses of up to 75 feet in length, you'll be able to paint anything from a three-story house to the walls in your bathroom

2. HVLP Paint Sprayer

The high volume low pressure (HVLP) paint sprayer is the exact opposite of the airless system. HVLP sprayers also atomize their paint, but rather than using lots of pressure to produce a fine mist of spray, the HVLP system minimizes the pressure to produce higher volumes. AS a result, it is not a speedy system—it wasn't made to be one. You probably wouldn't use it to paint a room, but you might use it to apply a paint job to the crown molding, your furniture, or your cabinets. **It's a precision painting tool**.

A decent HVLP paint sprayer will produce a beautiful finish on projects that you really want to make look good. The main issue with these paint sprayers is that they clog a lot. This is actually an issue with any paint sprayer but particularly so in the case of the HVLP. It's a consequence of the low amounts of pressure that it uses. Paint tends to clog up in the tubes and tips rendering it useless until you have the chance to clean it.

2.2 material selection

Satin

This silky, smooth paint finish retains its pearl-like sheen when dry. This finish is also called eggshell.

- Pros: A satin finish reflects more light than matte and stands up well to washing. Use in high-traffic areas such as bathrooms, the kitchen and a kid's room as well as on trim and molding throughout the house.
- Cons: This finish does not hide imperfections in surface or application; any touch-ups will stand out.

Semi-gloss and Gloss

When dry, these paint finishes reflect the most light, providing a bright sheen.

- Pros: Semi-gloss and gloss finishes prove durable and scrubbable, with semi-gloss offering high resistance to moisture. Use in the kitchen and bathrooms as well as on trim and molding throughout the house.
- Cons: These finishes show every single imperfection in surface and application, requiring additional prep work and sanding to create a smooth surface. Touch-ups of this finish also will stand out because of the difference in sheen.

2.4 chapter summary

In this chapter, the studios are explain about the material, methods and selection material for manual painting. This chapter also explain about the detail s to compare with our machine. We should take the consideration to start painting because it difficult thing to do painting be success.

CHAPTER 3: METHODOLOGY

3.1 Introduction

In this chapter, will be shown three material used in automatic paint machine that we should know. We need some of the painting tool and painting material listed to successfully complete the painting project. Depending on the good environment of the painting project, we should consider investing for some item to make the automatic paint machine successfully. The material will be discuss in this chapter.

3.2 material

Choosing the right automated paint machine configuration is important for the productivity, flexibility and cost-effectiveness of your paint line. Each configuration has its advantages and disadvantages. Understanding them is the first step in determining the best paint automation configuration for your application.

Single station

A single station can be semi-automatic, automatic or robotic, and is primarily used for operations that are difficult to accomplish manually. A single station can be simple and low-cost and offer good uptime, but it only automates a small number of operations and often requires additional material handling and manual labour.

Single station

Advantages

- Simple
- Low cost
- High uptime

Disadvantages

- Only automates a small number of operations
- Requires additional manual labour

Continuous machines

Continuous machines operate without stopping and perform by moving with the work piece. Continuous machines lend themselves to very high volumes and are mostly dedicated to a particular part. They are durable and quiet, but are fairly complex, which is reflected in their price.

Continuous machines

Advantages

- Suited to very high volumes
- Durable
- Quiet

Disadvantages

- Complex
- High cost

3.3 method

Stick - Shielded Metal Arc Welding (SMAW)

Commonly referred to as Stick, the shielded metal arc welding is a process that uses an electrode to carry electric current in order to be able to provide most of the weld metal. The electrode used for this method consists of a core wire that is coded influx and the electric arc is created when the tip of the electrode that is the work piece and is withdrawn while still remaining in close contact in order to generate temperatures of about 6500°F.The molten metal is protected from nitrates and oxides in the atmosphere during this process, which means that this process is a suitable one for pipeline welding, construction, heavy equipment repair, and steel erection.

The main advantages of using the shielded metal arc welding technique include the low cost of the equipment that is necessary, as well as its portability. There is no need for shielding gas as in the TIG or MIG welding techniques, which means that you can use this technique outside even during wind or rain. Moreover, this technique also works on dirty and rusty metals so it is a suitable alternative for those projects where you can simply not use the TIG or MIG techniques.

On the other hand, the disadvantages of the shielded metal arc welding technique include the lower consumable efficiency, as the quite a lot of waste is produced by welding in this way, and the high operator skill required. It is actually quite going to take you a bit longer than other methods to master the required skills, taking into account the fact that the method is also rather difficult to use on thin materials.

This method is usually considered obsolete when compared to the MIG anti-ageing methods mostly because it is primarily a manual welding technique. However, the process is sometimes necessary because it is not always possible to use TIG or MIG welding due to the position, type of material, and skill.

This type of welding offers a very low cost solution that does not require much expensive equipment. As a result, the quality of the final weld may not be the best possible, mostly because this technique may allow for shallow penetration, porosity, cracking, and a vulnerability to severe weather.

3.4 material selection

2.4.1 ALUMINIUM RECTANGULER HOLLOW.

Aluminium rectangular hollow really made with straight square corners inside and outside, with no weld seam. Sizes listed showing Radius have a rounded internal or external corner for greater strength in structural applications. This a the based structures that we use.

2.4.2 ROLLER

Brush rolls (or brush rolls) are wood, plastic, or metal cylinders with bristles that are rotated at high speed to extract dirt from carpets. They are also sometimes called an agitator (Hoover), roller brush, distributor (Eureka) bar. The Hoover Company was the inventor of the beater bar, which is a strip of plastic or rubber mounted on the brush roll in addition to a row of bristles. Most manufacturers now use two rows of bristles instead of one row of bristles and a beater bar.

2.4.3 ELECTRIC MOTOR

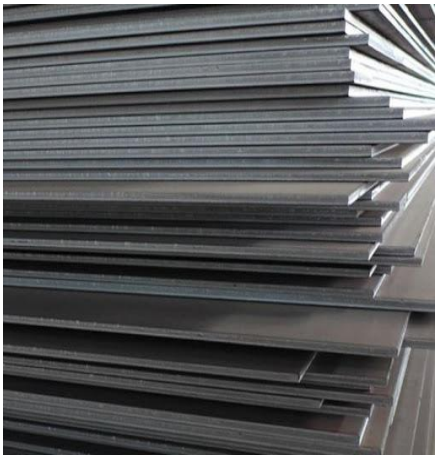
Electric motor is the electro-mechanical machine which converts the electrical energy into mechanical energy. In other words, the devices which produce rotational force is known as the motor. The working principle of the electric motor mainly depends on the interaction of magnetic and electric field. The electric motor is mainly classified into two types. They are the AC motor and the DC motor. The AC motor takes alternative current as an input, whereas the DC motor takes direct current.

2.4.4 CHAIN CONVEYOR

Chain conveyor systems are rugged, durable conveyors used to transport products along a production line. They are suited to many items that wouldn't typically convey on a roller conveyor. Therefore, typical uses are to move pallets, racks, industrial containers and any products with a sturdy lower surface. Chain conveyor systems can be found in numerous industrial and commercial environments, including warehouses, automotive plants and distribution centres. A chain conveyor is powered by a continuous chain and they are primarily utilized to transport heavy loads. Our chain conveyor systems are typically a double strand configuration with the load positioned on the chains, however multiple strand configurations are available. Because chain conveyors are generally very easy to install they usually require minimal

maintenance, and integrates easily in systems with CDLR and transfers. Sometimes they are referred to as a pallet conveyor due to their wide use in transporting wood or steel pallets. In addition, multiple chain options allow for flexibility in applications as well as environments. Ultimation is one of the leading chain conveyor manufacturers and can design and engineer custom conveyors, as well as providing fast-ship “off the shelf” chains conveyor designs.

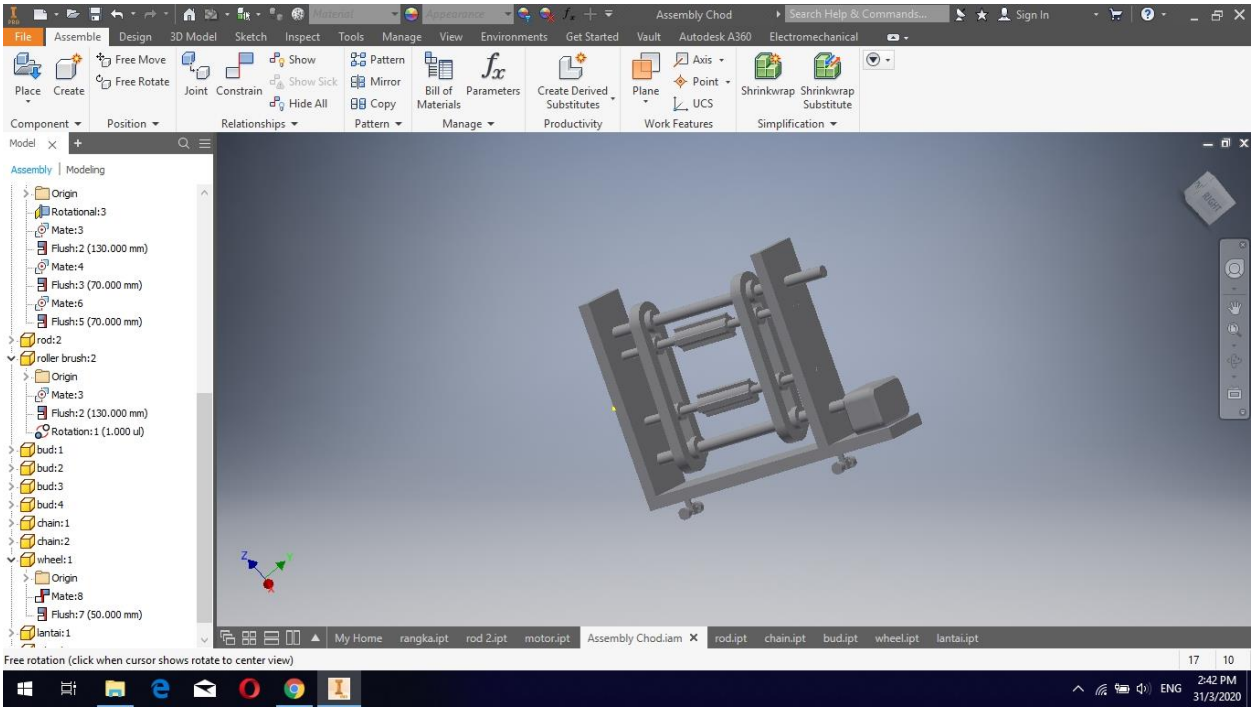
2.4.5 CONVEYOR SPROCKET.

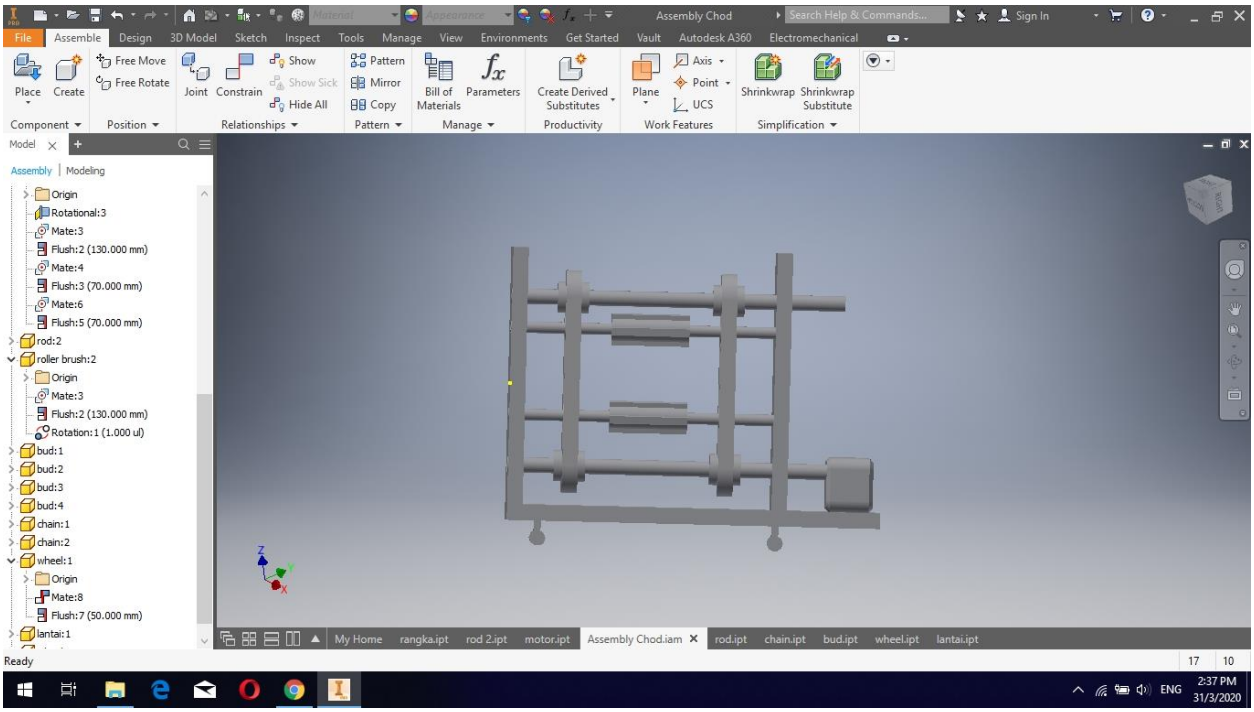


2.4.6 IRON BOARD.

2.4.7 THE WHEELS

PRODUCT DESIGN.





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APPENDIX.

Gant chart.

project Activity	weeks 1	2	3	4	5	6	7	8	9	10	11	12	13	14
Briefing and Project Planning														
Project Design														
Material Selection														
Materials Purchase														
Method Selection														
Fabrication														
Test Run														
Analysis Data														
Report Writing														
Video and Slide making														
PITEX preparations														
PITEX presentation														

NO.	Equipment / Material	Estimated Cost (RM)
1.	PAPAN KAYU NUT	RM30 RM6.50
2.	SPROCKET PLAT PANJANG	RM60 RM10
3.	ROLLER BRUSH CHAIN	RM30 RM20
4.	WHEELS	RM 25
5.	WASHER	RM5.50
	TOTAL	RM187

CHAPTER 4

FINDINGS AND ANALYSIS

4.1 INTRODUCTION

This chapter combine the data and analysis of the painting machine to makesure this machine that gave more advantages. This data and analysis are very important for this project to achieve the objectives and scopes of the project. This data indicates the sucessful results of the material testing. After gatting all data, we analyze every single possible to make it perfect.

Test run.

The test run that we have implement consist of 2 ways. The first is that once all the component have been assembled, we test the strength of the material of the material and to see if is mounted in the correct position, and assembled by scrutiny so that it can perform the movement perfectly. We also test the strength and resilience to ensure safety is paramount. So a study form our research that each component installed has high durability when machine is running. We tried to turn it on for a long period of time, to see if it works well or not. And as result it runs well but the brush speed should not be too high as tee machine will vibrate. To avoid that, we improve to set the maximum speed of motors at the moderate to ensure that it does not endanger the people around is something dangerous happens

For the second test run, we test the result and quality of the paint brush whether it worked well or not. The roller brush is installed in the correct and good condition but there is a slight problem with the paint that has been painted on the wall is quite poor. After that, we try to fix it to make it more better. We try repeatedly to make it work. The way to succeed is to ensure that position of the machine is in correct and precise position to make painting process more perfect.

Advantages.

The advantages we get is this machine can be operated easily. This machine is not too complicated l, it is easy to understand how to use it, whether old or youngg. Moreover, the creation of this machine is the next step in the painting process. These machine can be improved such as automatic wheels controlling, computer control technology. The advantages seen on this machine help the painting process to be faster. It can be ensured with more advanced technology if incorporated into the machine.

CHAPTER 5

DISCUSSION , CONCLUSION AND UPGRADE PLAN

5.1 INTRODUCTION

This chapter explain about discussion, conclusion and upgrade plan all together for the project. From the data from the test run of project. The analysis have been done. The discussion from all the result of test run and analysis will be explain in this chapter. Then, the conclusion will be made base on the discussion and upgrade plan that have been made.

5.2 DISCUSSION

Based on the data we collected, we agree to the fact that have been conducted, there are many things we need to improve and upgrade our machines from any problems that arise. The use of wooden frame is good but it will no last longer.. this is because the wood will be damaged quickly if exposed to water and will be brittle if left too long. So the use of iron frame is best choice because it has high durability and can be exposed to water and paint, the machine will also be easy to wash if the iron frame is used in tbe event of any spill.

The paint brush used on our machine is also quite small and short.if it paint brush is larger and wider it can be resuce rhe rotation of painting in the wall and cause the brush to hit the wall will quickly flatten and dry. Wide paint brushes can be customized on their own or ordered in-store. The use of paint brushes should also be used optimally because although it can be easily changed, we want to reduce waste. If the brush is already applied. It should not be used repeatedly because later it will damage the quality of the in the wall. Therefore, we must use the brush sparingly and more carefully.

These wheels can be upgraded with the use of wheels controlled using computer software. Automatically it becomes more flexible. The use of remote control is also a good way because if the machine want tp move, it can br moved easily without being pushed or pulled. These weels

can also be placed absorbers to absorb a shock and forces on this mchine.this can be an innovation to this machine for the future.

Last but not least, the design on machine can be mpre innovative. For examples, if the machine uses hydraulics, the design has changed and the mchanisme has also change. Simple design and user friendly if its easy to carry. Machine that we build also concerned about safety. Safety is a priority so the design should be covered with iron or aluminium board so that doesnt no open. eje

5.3 CONCLUSION

Based on this through out project, the painting machines gives a lot of benefits to the human. Painting maching are a step towards initiating new innovations to the public. It provides many benefit that can be taken in the future. It will also be able to produce a new technology in wall painting activities. Maybel in the future it can be an icon in our country to developed. Perhaps this could be the beginning of a new idea and could be innocayed in the next generation.

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