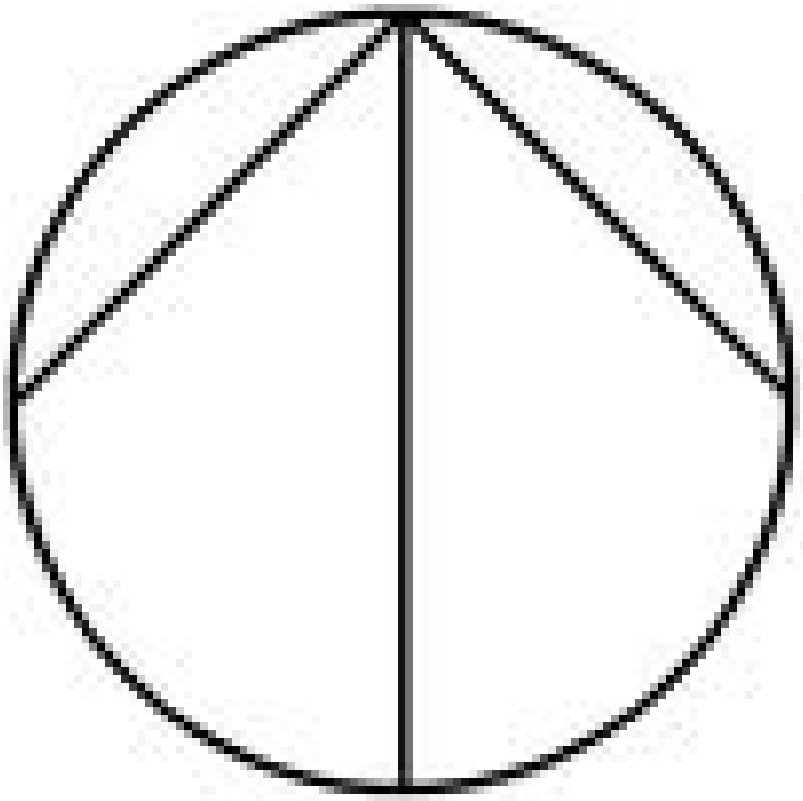
Galatea: Robot Maid v2.0
Instructions



Construction

Materials

First, you will need a 3D printer with two rolls of filament (assuming 1.75mm 1kg rolls), super glue, hot glue, electrical tape, a sanding sponge, a binder clip, a sanding sponge, a specific robot sweeper base, a wig, a maid dress, a bluetooth speaker, a 2-meter (6 foot) USB-to-USB mini cord, a UV wand, and a phone for some features.

Robot Sweeper Base;

You can find it on AliExpress or Wish.com.

You can use another robot vacuum base, but you will need to find your own location to mount the base. The other base should be 30 cm or wider. The motors should be 14 volts or higher. Make sure it doesn't have lidar capabilities.

Speaker

You will need a specific bluetooth speaker. This will allow the robot to speak and play music. You can find it on AliExpress. Make sure to get either the white or black color.

[Bluetooth Mini Speaker Wireless Speaker Colorful LED TF Card USB Subwoofer Portable MP3 Music Sound Column For PC Phone - AliExpress]
It doesn't have to be this exact seller, but make sure you have the right type.

Apparel

My design uses a maid dress that you can find from AliExpress. Get the small size. However, you can put any clothes you want, as long as it's not too heavy

https://www.aliexpress.us/item/3256806208911460.html

Wig

Here's the wig I used. Make sure to get the "Black" color.

Amazon.com: MapofBeauty 16 Inch/40 cm Short Side Bangs Synthetic Fiber Cosplay Layered Wig (Black) : Clothing, Shoes & Jewelry

The hairnet that is included is not used.
You can use a different wig if you want.

UV wand

To have the sterilization feature, you will need a UV-C wand.

Amazon.com: UV-C Light Sanitizer Wand - Powerful 253nm UV Light Rechargeable Handheld Ultraviolet Portable for Home, Office, Travel - Total Transparency UVC Test Card Included : Health & Household

You don't need to use this exact one, however any other wand you use needs to have a grip smaller than 41 mm.

Charger

To charge the speaker without having to take off the head, you need a 2-meter (6 foot) USB-to-USB mini cord, with the associated USB charger. You can find one in AliExpress, including glowing ones. Make sure the USB mini plug is not too thick.

Counterweight

For the counterweight, you can use an air purifier, or any other object between 130 grams and 500 grams

https://www.aliexpress.us/item/3256807274473814.html

LED Eyes (skip if using Classic Head)

For the LED Eyes, you will need an LED Name Tag. The color is up to your own preference.

It doesn’t have to be the exact model, however it does have to be exactly 93mm x 30mm x 6mm, as well as bluetooth capabilities for rapid changes.

Printing

Print with 0.8 thick walls, with lines infill.
Print the files at the following densities;
BODY
-Hips: 1%
-Midsection: 1%
-Chest: 1% with supports
-Head LED Eyes: 0% with supports (same for Classic Head)
-Backbone: 20% (x2)

ARMS
-Shoulder Left: 1%
-Shoulder Right: 1%
-Arm Segments: 1% with supports (x4)
-Wrists: 1% (x2)
-Hand: 15% (x2)
-Robot Nut and Bolt Arms 2.0: 5% (x2)
-Insert: 20% (x4)

LEGS
-Hip Cylinder 2.0: 1% (x2)
-Leg Segment 2.0: 1% (x6)
-Knee 2.0: 1% (x2)
-Base 2.0: 1%
-Insert: 20% (x8)

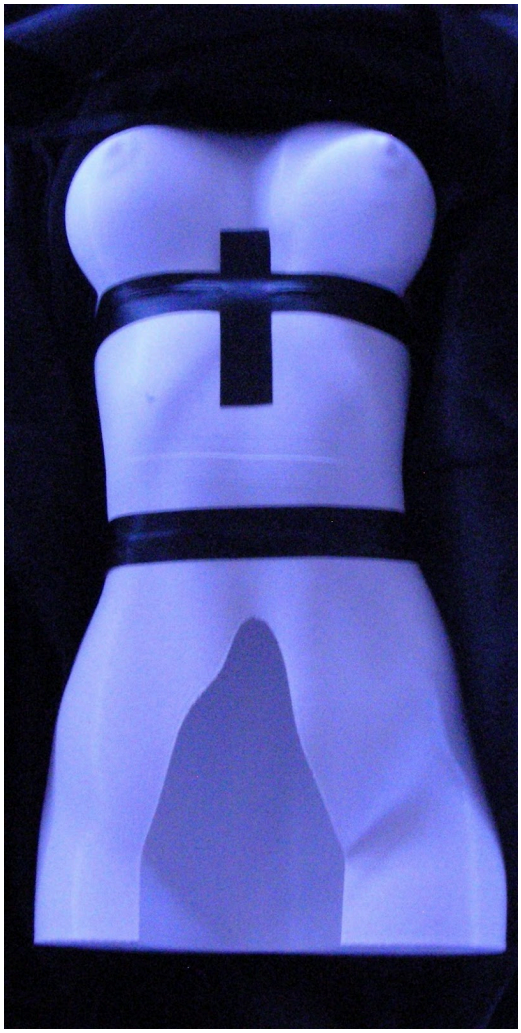
ACCESSORIES
-Plate: 1%
-UV Basket: 15%

Putting it all together

The Body

Take one of the Backbone segments, and sand it. Then apply super glue on it, and insert it in the slot on top of the Hips. Then when the glue is dry, put glue on the other side and put the midsection on top. Then take another Backbone segment, and do the same with the midsection and the Chest.

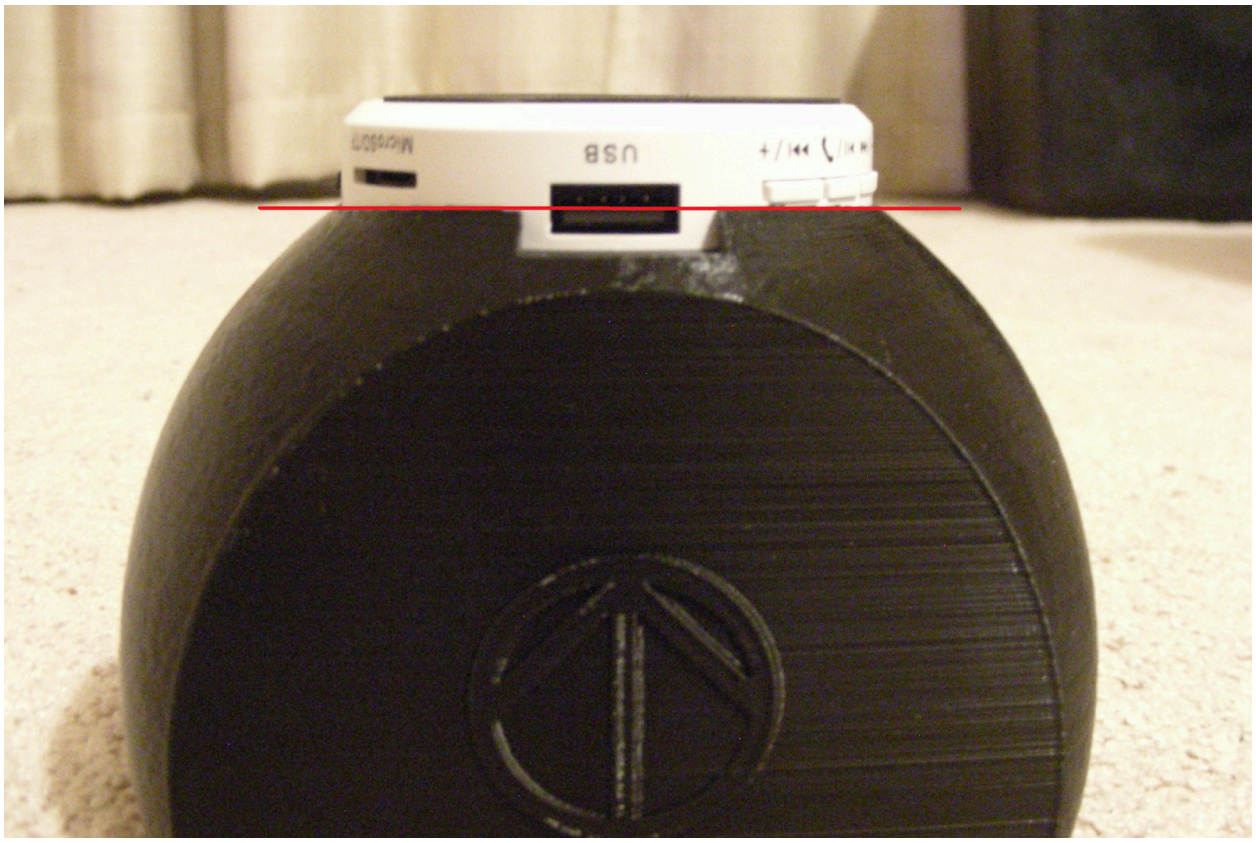
Afterwards, use electrical tape to hold the sections together. Then sand the neck cylinder on top of the Chest, and attach the Head. Put in the speaker, facing downwards, until the switch lines up with the edge. Then wrap 4 layers of electrical tape on the neck plug.



Speaker

Take the speaker, and remove the “cracked” outer sheath by gripping it and twisting it off. Put it in the head, with the USB slot aligned with the slot in the back of the head. Then hot glue it in place, making sure it is still in place.

Unsheathed speaker. This serves as the AI core.



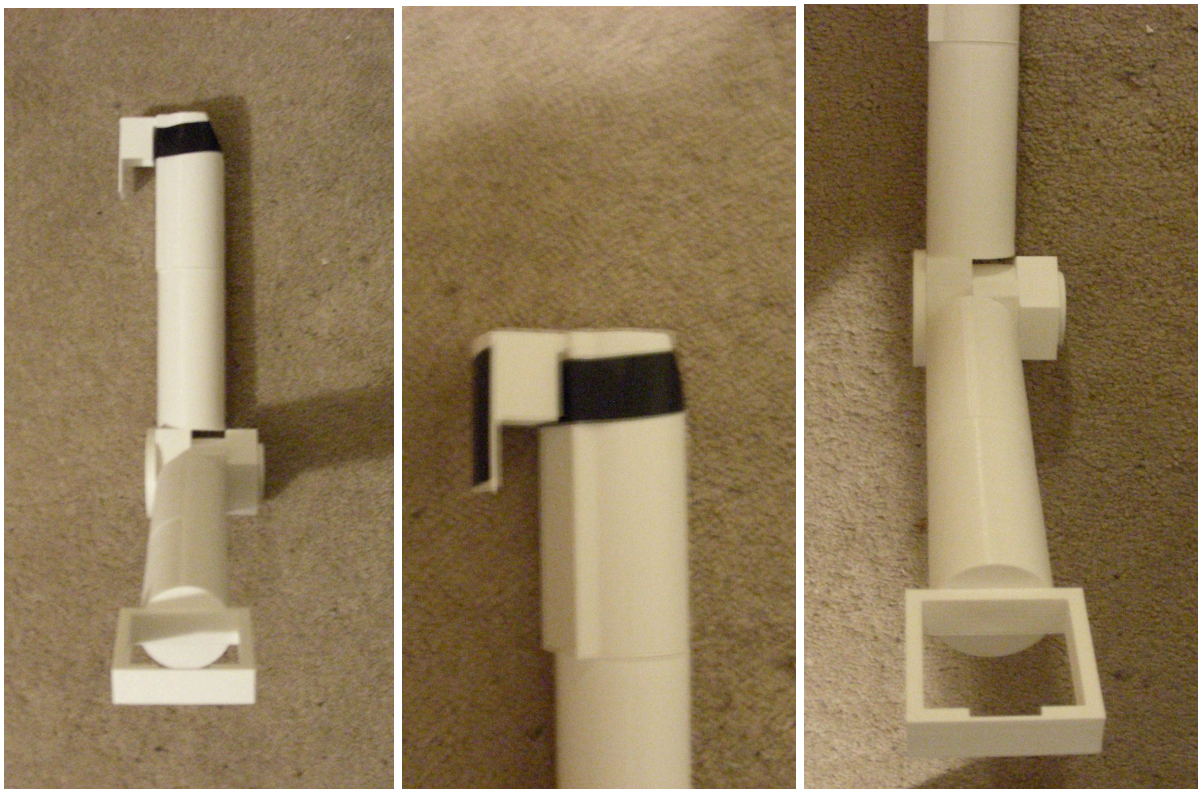
Speaker placed in test model. The red line is where you should align the USB port to the slot, using the rectangular protrusion inside the slot.

The Arms (do the same technique for both sides)

Take one of the inserts, and sand the sides. Then insert it in the hole opposite the side with the square plug, using the notches to get it exactly halfway. Then apply superglue to the end of the shoulder segment, as well on the insert. Attach an arm segment with the bolt hole on the side of the plug, on the side facing where the body should be. Use the same technique with another Arm Segment and a Wrist Segment.

After you have those two pieces, then sand and push the bolt through both the shoulder half and the lower half, with the bolt head facing where the body should be. Then use the Nut to hold the arm in place. Lastly, attach the Hand to the end of the wrist, with the top of the print facing up.

Put a layer of electrical tape on the outer side of the arm plug, and in between the arm and the plug, around the arm.



Galatea's Left Arm / The right Shoulder Segment / The Elbow, Wrist, and Hand

The Legs (do the same technique for both sides)

Take two of the Leg Segments, and sand the upper 1/2 of the surface until it’s smooth. Also sand the pegs on the Hip Cylinders. Then, with the smooth part facing outward, connect the pieces using the inserts. Follow this order:

Segment-Segment-Knee-Segment-Hip Cylinder

Make sure the legs are firmly connected. You should use 8 inserts in total.

The Base

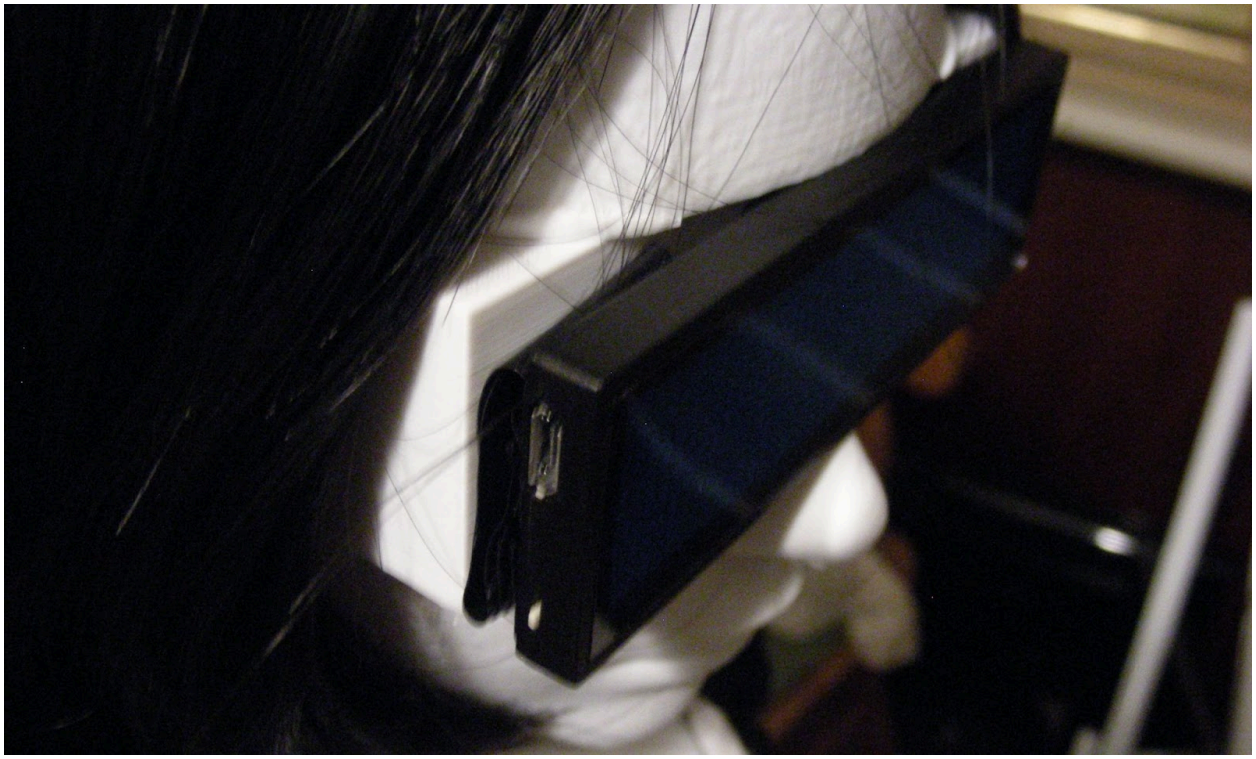
Using a ruler, measure out 70 mm from the back edge of the robot, and mark it down. Use features on the front to center the base. Then, using a liberal amount of hot glue, attach the base to the vacuum, taking extra care to make sure the base is centered and facing forward.

If you are using a different robot base, put the base near the rear of the robot, at a distance of (7/30) times the robot diameter. With the standard base, that would be 70 mm from the rear, as shown in the picture. (images on next page)

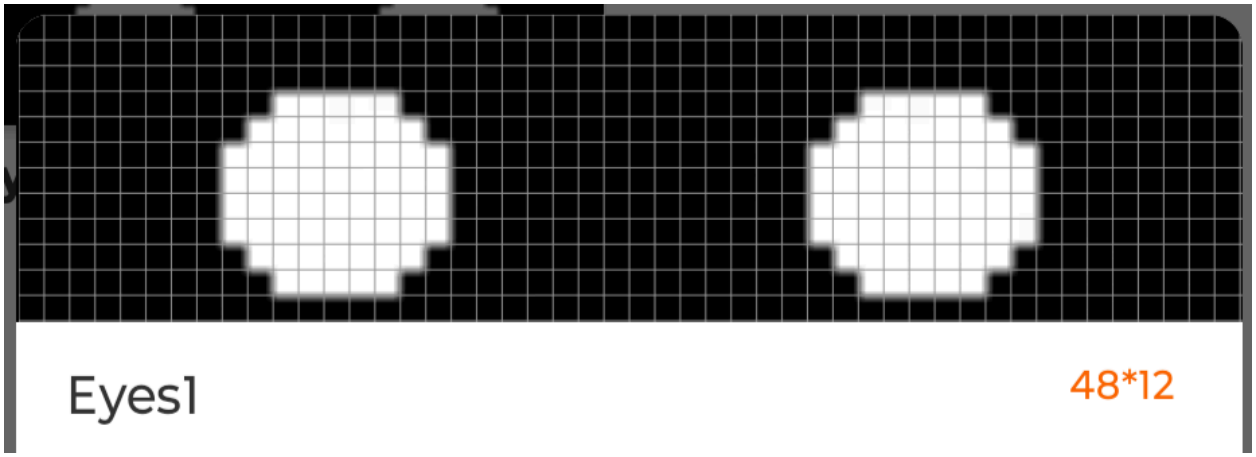
Then, put a strip of duct tape with a folded bit on the end for a tab. This will make sure the lid stays shut. Then put the air purifier (or another counterweight) on the back right against the base with a couple drops of hot glue. Make sure the plug is facing outward.

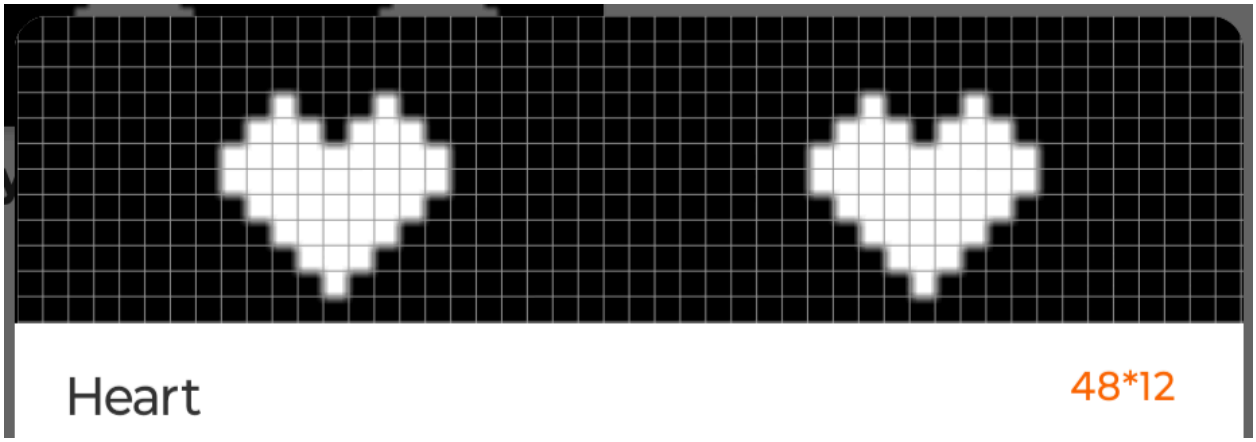
LED Eyes

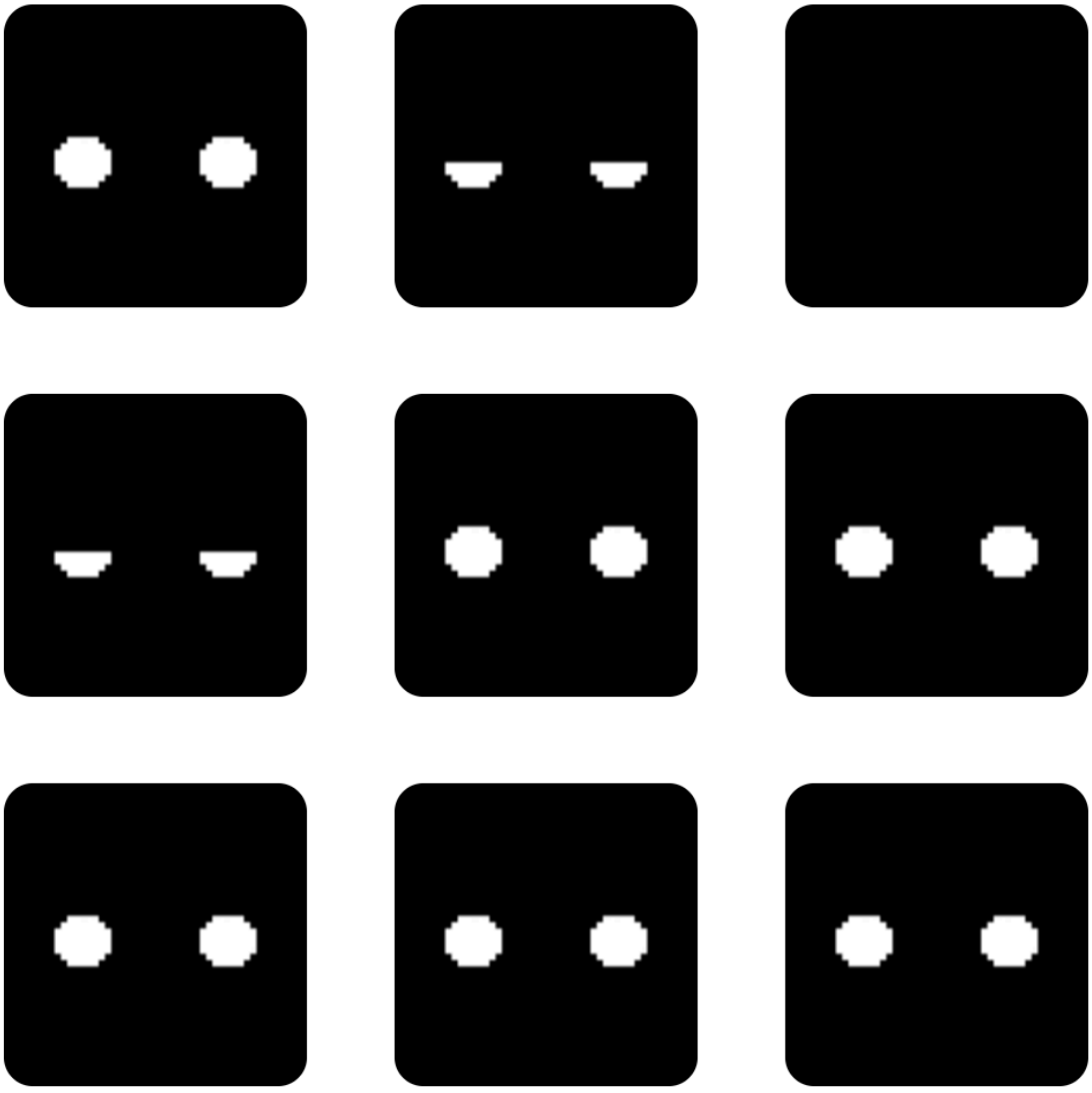
To put in the LED Eyes, first take the magnets off and any stickers. Then use electrical tape folded in on itself to attach it on both sides.



To make the eye design, follow these patterns. Of course, you can make your own patterns. (more designs on next page)







-There are more solid eye frames not in the picture
-The animation speed is as quick as it can go

AI

The AI used is Backyard AI. You can find it by searching up “@greertech” on Backyard AI. You can also use a different AI character, or even a different AI site. However, this may not work with all the AI features mentioned later.

To use the AI, just connect your phone or computer to the bluetooth speaker. You can either use the phone call feature, or use speech to text.

Final Assembly

Put the maid uniform on the body. Use a binder clip to hold the excess material in the back. You can discard the apron and other accessories, you only need the dress and a single band (headband optional). Use one of the bands as a belt. Then, put on the wig

Put the arms in the sockets. You can adjust them with the nut, making sure not to over-tighten.

Sand down the sides of the calves, near the bottom where they will be in contact with the base. Then place the legs in the respective sockets in the base, ensuring they have the right orientation. Then place the body on the hip cylinders carefully.

Congratulations, your Maid Robot v2.0 is now completed. Enjoy!
To transport or clean out the vacuum, just remove the body.
When driving it with the body on top, only use manual mode. When driving it, make sure not to do any quick movements to make sure it doesn’t tip. Practice driving it to get the “feel” of it.

Gallery

Functions and Uses

Sweeping

Vacuuming

Mopping

Sterilization

Put a UV wand in the UV basket, and turn on the UV wand.

Air Purification

If you have an air purifier as the counterweight, you can purify the air while Galatea is inactive.

Holding Light Objects

The robot can hold light objects on the plate. However, it can tip easily, so only place light objects on it, such as keys, an empty shot glass, pen, spy camera, portable motion detector, etc.

Get Information

Ask Galatea a question. You can ask her for personal advice.

Have A Conversation

Talk with Galatea. She has a bubbly and helpful personality.

Friend

Galatea is your new friend!

Lover

…or maybe even more…

Smart Home Controller

If you have a smart home set-up with your phone, you can place it in the robot and speak to it like a person, so it feels more natural.

Entertainment

Impress your friends with an advanced robot kit, or have it stand still and let Galatea entertain others.

Play Music

You can also play music with the bluetooth speaker, or make Galatea sing!

Hear Poetry

Ask Galatea to write a poem about a subject.

Creative Inspiration

Ask Galatea for creative inspiration.

FM Radio

Plug a long USB cable into the speaker, and use the FM radio mode on the speaker.

Emergency Charger

Plug in a USB charger into the speaker and charge your device. The speaker needs to be turned on in order to charge.

Safety

-Make sure small pets and children aren’t on the floor when the robot is moving around.
-Make sure not to place objects on the plate that make the robot tip and spill the object.
-Don’t put an object on the plate while it’s moving
-Use only manual mode when the body is on top
-Disassemble the robot when transporting it.
-Disassemble the robot before cleaning the internal dustbin or any other internal components.
-Galatea v2.0 is not a toy.
-Use common sense!

LEGAL DISCLAIMER

I AM NOT RESPONSIBLE FOR ANY INJURY, PSYCHOLOGICAL DAMAGE, AND/OR DEATH CAUSED BY THE CONSTRUCTION AND/OR USAGE OF THE DEVICE DESCRIBED IN THIS MANUAL.

I AM NOT RESPONSIBLE FOR ANY CRIME COMMITTED BY THE CONSTRUCTION, POSSESSION, OR USAGE OF THE DEVICE DESCRIBED IN THIS MANUAL.