



DIY Smart MONITOR STAND

by **Rideable Entertainment** on November 16, 2016

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Author: Rideable Entertainment [My Youtube Channel](#)

Hi there! I recently started to share my DIY projects with instructions and aesthetic videos. If you want to support me, Check me out on Youtube and Soundcloud. <https://www.youtube.com/watch?v=F7EgMYq27Dk> <https://soundcloud.com/rideable-beatz>

Intro: DIY Smart MONITOR STAND

Dear DIY Fans,

For this project, I thought a lot about a project, that could be an ultimate "Dorm Hack". So I wanted to build something, that can be useful for everyone at home, but at the same time is not too hard to rebuild and does not require special and expensive tools.

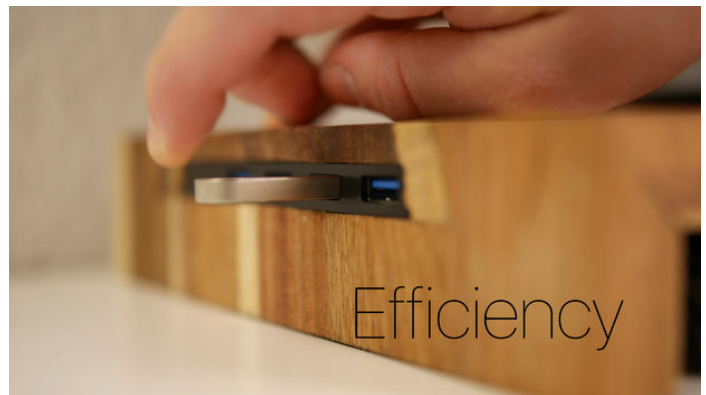
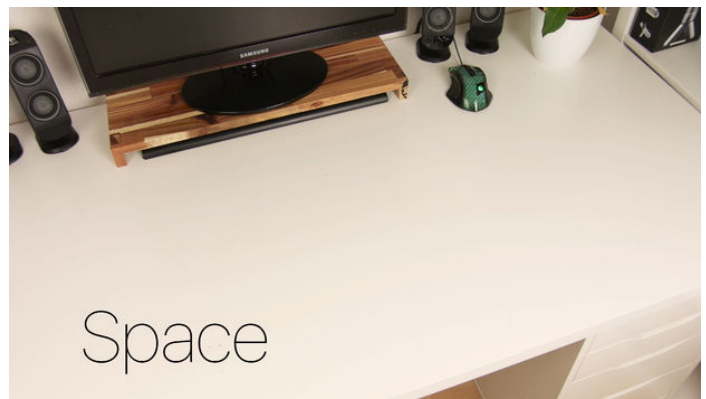
This smart DIY Monitor Stand allows you to store your Keyboard right below your Monitor. It will add some natural touch to your desk and it has a perfectly integrated USB 3 Hub.

In this Instructable I want to give you a specific idea how your monitor stand could look like, and discuss some ideas how you could improve, or even upgrade it for your own personal needs.

I have spent many hours to create an atmospheric [video](#), that will guide you through the main steps of the building process and hopefully will be some inspiration.

If you want to support me, **please vote for me** in the [DORM HACKS CONTEST 2016](#).

Thank you!



Step 1: DIY Video



Step 2: What will you need

The **MATERIALS** are quite inexpensive and should be accessible in every DIY Store.

- one wooden board that is wide enough to cover your Keyboard
- one USB 3 Hub, that is small enough to be integrated into the board
- one USB 3 extension cable to connect your Smart Monitor Stand with your PC

Optionally:

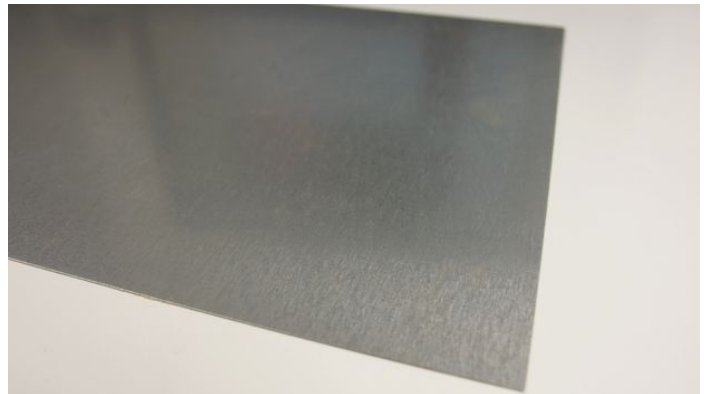
a thin aluminium plate and a few small screws to cover your USB Hub afterwards.

The **TOOLS** are again pretty basic and I think many people will already got at home

- a jig saw for rough cuts
- a small saw for precise wood working
- a chisel to carve out inner sections of your board

Optionally:

a common cordless Screwdriver



Step 3: Rough Shape

Saw your Board down to the required length and width. The dimensions of your Keyboard indicate the required total length. Make sure, that you leave some space for your fingers on both sides, to be able to pull out your keyboard. And decide the total height of your laptopstand. I recommend to create it as flat as your Keyboard allows it, but keep in mind, that you will need a 2-3 mm more for the aluminum plate screwed on the bottom.



Step 4: Carving out some Space

Now lay your USB 3 Hub on the required position and mark the outer shape.

You will now have to carve out the space for the USB Hub. You will have to work with a chisel, which requires a some skills (otherwise check out Step 10 "Alternatives and Upgrades")

First create a 1-2 mm deep vertical cut with the Chisel all around the edges and then start to pound out one 1-2 mm thick pieces of wood. Always make sure, that your horizontal cut is just as deep as your vertical cut was before, to get a smooth result.

Carving out Wood with a chisel is much easier than you would expect it to be. If you have absolutely no experience, practice a little bit with some remaining rest wood.

Make sure your USB Hub fits perfectly into your board and create a line for the Hubs cable, by drilling a horizontal hole into your board and sawing out the top Layer of wood.





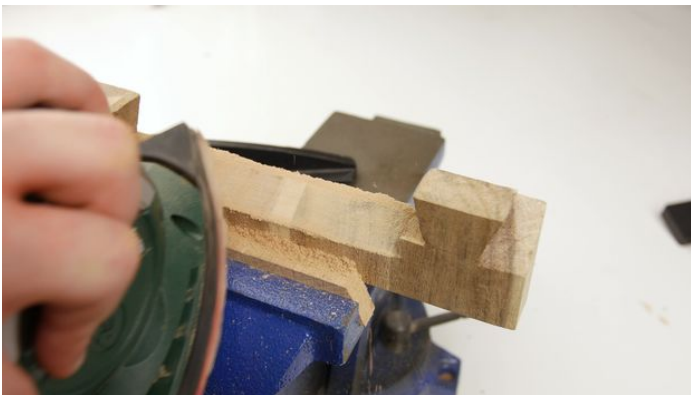
Step 5: USB Hub EXCHANGEABLE or NOT ?

Its kinda hard to get your USB Hub perfectly integrated into your board, while at the same time being able to exchange it, if it is broken.

One thing, I want you to keep in mind: These USB Hubs are electrical devices, which means they will break with time. So maybe in a year or two it will break and all your effort in making this a "smart" Monitor stand is wasted.

So smooth out the edges on both board parts to be able to slide the Hub in and out.

I will cost some extra time, but keep in mind, that you will be able to have fun with a working product much longer.



Step 6: Create a wooden Joint

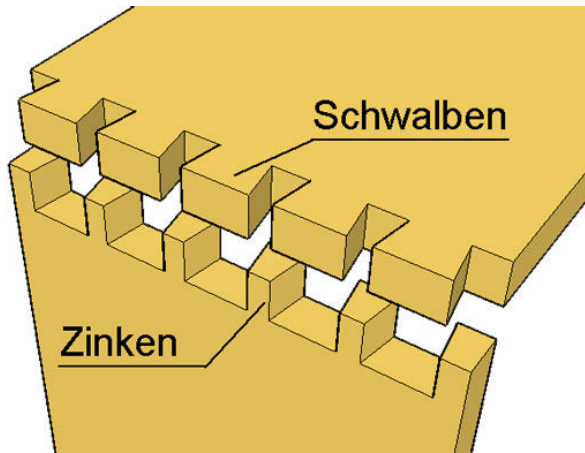
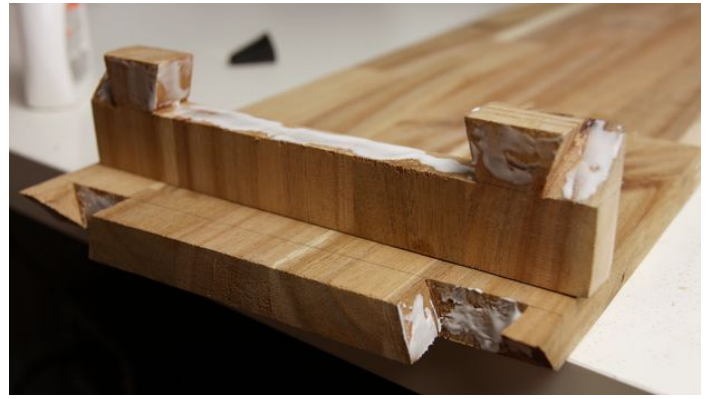
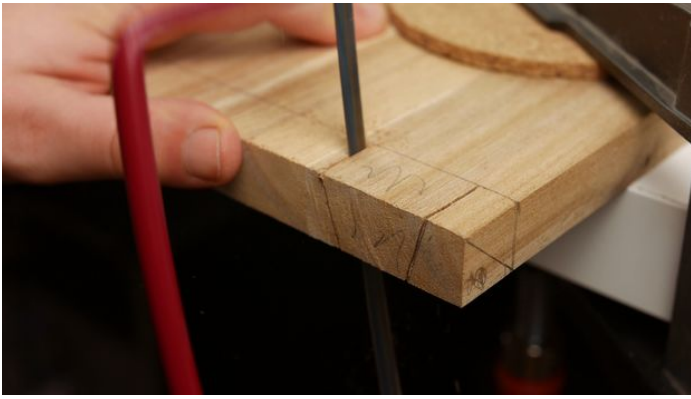
Start by drawing down the desired pattern of the wooden joint and mark the peaces, you want to saw off. Have a look at the pictures to get some ideas how your pattern of a wooden joint could look like. Take a thin saw to saw out the individual parts. It is very important to work as precise as possible because rough mistakes will be noticeable afterwards (smaller gaps can be filled with a mix of wood dust and wood glue).

When you have sawed and carved out the pattern of both sides stick them together to check, where you have to make some more adjustments.

As soon as you are satisfied glue and clamp it together for a few hours to dry out.

Now mix some wood dust with wood glue and fill every tiny gap of your wooden joint.

Give it a few hours to dry out, before you sand it finally completely down until you got a nice flat surface.



Step 7: Give it something personal

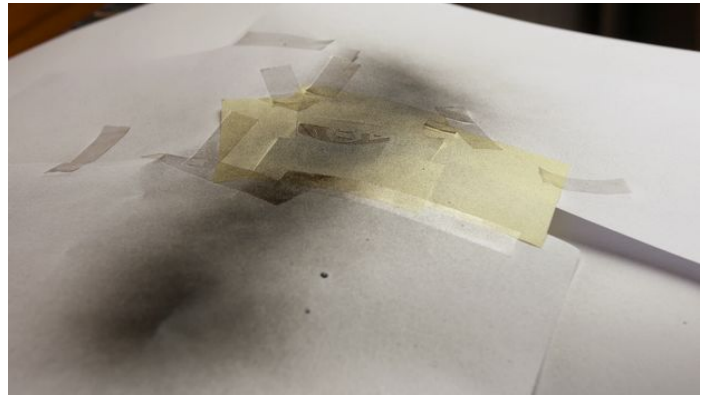
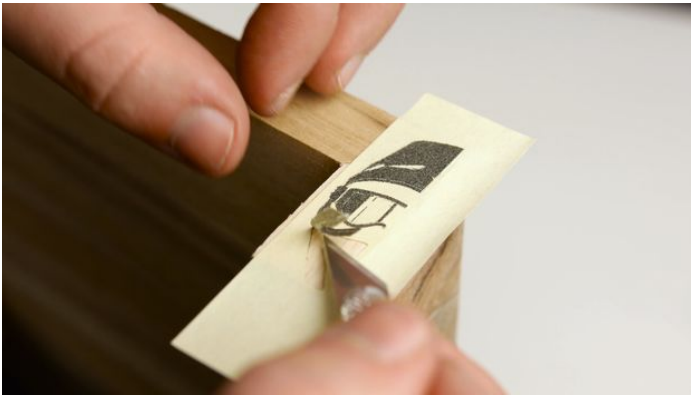
As soon as I know a project is going to work out satisfying in function and design, I like to put my logo on it. It will give your projects your own visual seal of quality.

I did this in a pretty simple way:

I printed my logo on the sticky side of a simple post-it. Then I used a scalpel to cut out the parts I wanted to be colored, and then painted it with some coats of matt black spray paint.

When you have a logo, which is small like it is in this project, it is very important to have really thin layers of Spray paint. If a layer is too thick, the moisture will accumulate and soak the thin paper template, which results in unclear and blurred results.

Try to have very thin colour layers and a few minutes for the surface to dry, before continuing with the next coat of Paint.



Step 8: Oiling (Most satisfying Step)

Finally it's time for finishing.

Wood oil will reveal the natural wooden pattern, give the wood a natural resin smell and will seal the it. I used common furniture oil, which you can get pretty inexpensive on amazon.

QUICK GUIDE:

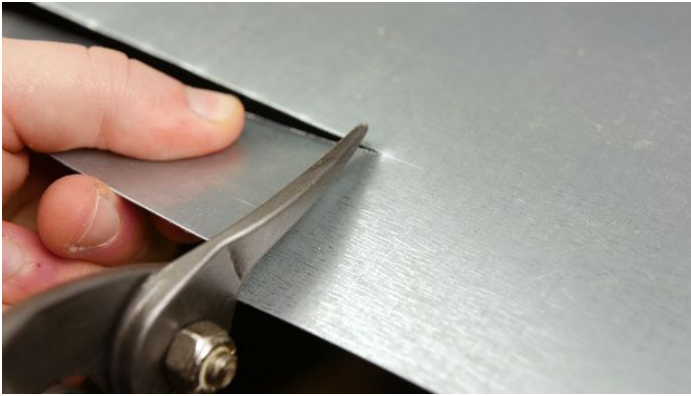
1. Make sure everything is sanded down perfectly. Every scratch, tiny holes or any other mistakes will be more noticeable after oiling. So a fine sanding is necessary to get a descent result.
2. Use a towel to cover every part of the wood with a thick layer of wood oil.
3. Give the wood some time to soak the oil (10-15 minutes).
4. Then take the towel and whipe it dry, that their are no remaining oil moisture on the surface.
5. Give the wood 24 hours to completely dry out, before you bring it into service.



Step 9: Cover the USB Hub

Cut out a piece of the aluminum plate, lay it down in place and mark, where you want the screws to be. Then predrill the screw holes on the plate, to allow the screws to sink in as deep as possible.

The aluminium plate will function as a cooling surface for the USB Hub. If you got some at home, you could add some thermal paste in between.



Step 10: Alternatives and Upgrades

In this part I want to point out, that everyone can build a Smart Monitor Stand despite crafting skills or budget.

You saw me in the video spending much time to integrate the USB Hub into the board and creating a flawless joint at the corners.

And of course you could go so much **simpler**. I made an alternative Monitor Stand (cf. picture above), which is basically a board, with four pieces of wood screwed down in the edges. You have to work much less precise, because you can just screw feet in and out, to prevent it from shaking around.

Additionally you could now screw an USB Port on one side of the bottom and you are done.

It definitely will not look as good but functionally, it totally gets the job done. A Desk is a place, where many of us spend hours every day. So it's definitely worth, to make it as good looking as possible.

A nice way to **Upgrade** your Smart Stand could be an USB powerd LED Strip fixed on the backside of the stand. The necessary USB hub isn't far away :)





Step 11: Thank You

Thank you for reading my Post. I hope I could inspire you for this little DIY project. If you got any ideas to improve it, please leave a comment. If we get some nice things together I will add them into this post.

If you want to support me and future projects, please subscribe to my Youtube channel, check out my earlier project about "DIY Bullet Headphones" and give me some feedback in the comments.

Please send me a picture if you could successfully rebuild a DIY Smart Monitor Stand.

NOTHING IS BETTER THAN HOMEMADE!



Related Instructables



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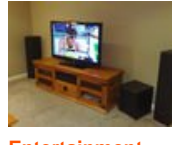
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