Kick the Fog

http://www.kickthefog.com/talking_skull.htm

After MANY years, I just learned TODAY that this idea was originally conceived by Mike Fox and Ron Tye. So many kudos to those guys for coming up with this in the first place. Below is Kickthefog's version of the "talking skull". This is the process of butchering up a perfectly good Douglas Talking Fur Tree and moving the guts of the tree into a skull. This allows a recording or other sound of your choice to be broadcast through the skull. The eyes of the skull will flash and the mouth will move in perfect synchronization with your recording or your voice if you choose to set it up that way. This is not a really difficult project and yields amazing results when finished. I added the full torso for a full talking skeleton for my coffin in my yard haunt. Very cool. Check it out.

Here's what you need:

Talking Douglas Fir Tree with an AUX Input jack on the back of him. If you do not have an AUX input jack you will not be able to have your skeleton say anything but the built in Christmas songs. A scary thought indeed!

A Skull or full skeleton from The Anatomical Chart Company. The Skull is cheap, it looks good and works well for this project. Click the link above to check out the skull.

Green Fishing Line or other line that is invisible in the dark and will not glow under black light if you are going to shine one on your skull or skeleton.

(4) average sized Wood Screws.

(3) #2 Wood Screws.

(2) Big Rubber Bands

OPTIONAL for the folks who want to go over the top and money isn't an object: Amplifier, Sound Pitch shifter, a few 1/8" - 1/4" adapters, a Y adapter and a bunch of cords to hook it all together.

Carefully destroy your Talking Fir Tree:

Locate the Eyes, Mouth and Movement sensor on your tree. Move all the other branches out of the way so that you can see what the heck you are doing.

Here is a view of everything pulled out of the way so you can see all of the components.

Everything is held together with either Hot Glue or Wire Ties. The Sensor is held on to a branch with hot glue. Wiggle and gently pry the sensor off he branch. (you can see on the right branch where the glue is).

You'll find an Audio Sensor in the tree also. This also is held on with Glue. Wiggle and remove.

The top of the mouth is nothing but branches. Remove them. The second picture shows the top mouth branches removed. The bottom mouth part has a branch ring around it. I removed it as you can see in the third picture but this is really unnecessary as we are removing and trashing the plastic mouth anyway.

When all is said and done, you will have a frame with the guts still attached.

There are a few wire ties that secure the wires to the vertical rail. Cut them off.

Remove the mouth plate from the 2 mouth plate mounts. As you can see I removed all the branches and stuff from the mouth plate but this was not necessary as we are not going to use the mouth plate for anything anyway.

Remove the 2 screws from the base of the tree so that the vertical post may be removed from the trunk of the tree.

Remove the screws that hold the bottom panel of the tree. Carefully remove the panel with all the crap attached to it.

I drilled a hole next to the side panel so that I could get some cutters in there to remove the panel.

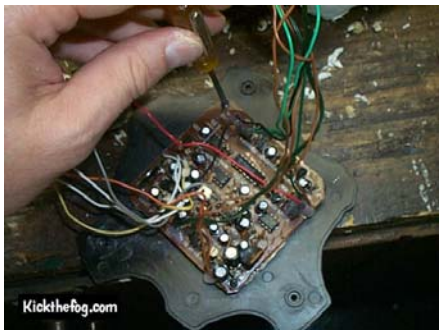
Cut a straight line from the drilled hole towards the bottom part of the panel. Remove panel.

With the panel removed, remove the screws that hold the speaker.

You are left now with an empty tree trunk with just wires running through it. We need to remove the wires from the trunk so we can discard the trunk.

Begin cutting the side of the trunk and work your way towards the hole that the wires run through. Cut all the way down until you cut "into the hole". Now you can remove the wires without disconnecting them.

Here is the trunk after removing wires. You can toss this baby in the trash.



Remove the screws that hold the circuit board to the bottom of the tree.

You should now have the guts of the tree completely separated and ready for your skull.

I ADVISE AT THIS POINT TO READ AHEAD BEFORE PROCEEDING! SOME OF THESE STEPS ARE NOT *TOTALLY CLEAR* UNLESS YOU UNDERSTAND THE END RESULT. SAVE YOURSELF SOME TROUBLE AND READ SEVERAL STEPS AHEAD BEFORE GOING NUTS WITH THE DRILL OR ANYTHING ELSE THAT CAN'T BE UN-DONE.

Put the guts aside for the moment and grab your skull. We are going to make the jaw hinged so that the servo motor that came with the fur tree will easily move the skull's mouth.

Side views of a new untouched 4th Skull. Notice the springs that hold the mouth in place. Remove them. I also removed all the tiny screws that are in place also. They won't be needed either, in fact...we are going to use the spring screw holes in a bit so get those screws outa there!

After the springs have been removed (despite my picture shows the springs still there), Mark the center, as best you can at the spot that the jaw bone rests against the rest of the skull while holding it upside down (see pics). I know it's hard to do this and you can't mark the center unless you remove the jaw but do your best to mark the center where the jaw meets the rest of the skull.

You can see my pen mark right next to the tip of the drill bit. I took my best guess as to where the center was and now it's time to drill a hole. Using a fairly good sized drill bit, (3/16", or perhaps a 1/4" wouldn't be too big. (you can always make it bigger later if you have to so start small).

Here you can see my hole drilled into the skull at an approximate center point if you were to measure the area where the jaw bone and skull meet. Make sure you drill your hole all the way through your skull and make sure you can SEE the bit coming out on the inside of the skull. We are going to fish a line through here so it's important that it goes all the way through and that you can find both ends of the hole.

Do the same on the other side. Here is a picture of BOTH my holes drilled into my skull. My thumb and finger are pointing right to them. The other holes you see wee there to begin with. (remember...these are fourth quality skulls...no 2 are the exact same)

1st is a view of one of my drilled holes from the inside of the skull. Now, while holding your jaw in place on the skull, use a drill bit or pen and insert it into the holes from the inside of the skull. Insert it all the way until you hit your jaw bone. Wiggle the bit or pen to make a mark on the jaw bone (see second pic). We are trying to make a mark on the jaw bone from the inside so that we know where to drill a hole into the jaw bone. The bigger hole will allow a pen to be used but is otherwise unnecessary since only fishing line needs to go through the hole. Nobody's gonna see it either way so I opted for the big hole. you choose.

OK, before you drill...THIS IS WHERE YOU SHOULD READ AHEAD. We are now going to drill 2 holes in the jaw (one on each side) BUT... you need 2 small wood screws. Decide whatever screws you are going to use and use a 1 size bigger drill bit than you normally would for that screw. This will be explained better in a sec. Drill your hole at least 1/2" - 3/4" deep.

Cut yourself a piece of clear fishing line about 2 feet long. Use line that does NOT glow under black light if you plan to shine a black light on your skull. If you do plan on using a black light...test your line under black light before you proceed! There is nothing worse than a bunch of "rigging" glowing like crazy to ruin your effect! Insert the line into the hole that you drilled into your jaw as far as it will go.

With the line in the hole, insert your wood screw into the hole also and tighten. This will hold your line in place. Now you see why the hole is to be drilled 1 size bigger than the screw so there is room for the line inside the hole also.

Here you can see the line in the hole, with the screw screwed all the way in flush with the bone. The screw does a great job of holding the line. I practically pulled my fingers off testing mine and it was solid as a rock! The line was not budging!

Do the same thing on both sides of the jaw if you haven't already.

Here you can see I have both lines screwed into my jaw and the other ends of the lines fed into my skull.

Here is a pic of me holding the skull with the lines fed into the skull. I am holding the lines in my hand so now it's time to secure them.

With your jaw securely resting in place, tie your lines together inside the skull as tightly as you can get them. The idea here is to have your skull jaw bone mounted on the proper place on the skull with no slack but since it's only held with fishing line... it can swing freely at it's pivot point. If you want to get really crazy, you can sand the jaw bone to be more round to make it move even more smoothly.

This step should only be necessary if you got a really bad skull or you marked and/or drilled your center holes wrong. I didn't sand a damn thing and it works great. :)

Let's prepare your servo for installation.

Here is an earlier picture I took. Ignore the trunk which has already been thrown out at this point. Notice the mouth. I removed the screws that hold the plastic mouth to the arms of the servo. Throw the mouth away.

There is a glob of green glue that holds the arms in place. I removed the green glue and removed BOTH arms (see pics) **YOU MAY, OR MAY NOT WANT TO DO THIS STEP!!!! ONE ARM MAY BE ABLE TO BE LEFT ON!! SEE NEXT FEW STEPS BEFORE PROCEEDING...**

We are going to mount your servo in the skull next. As you can see I removed the glue and BOTH arms and mounted my servo. I later remounted and re-glued ONE arm to the servo.

If you can mount the servo without having to re-glue one of the arms on...more power to ya. I wasn't thinking ahead the first time around but now think leaving the arm on would have been possible.

Anyway... I mounted the servo in the rear of the skull at an angle so that ONE of the arms will fit nicely in the center of the hole in the bottom of the skull and stick out the bottom. The other arm WILL NOT BE MOUNTED. Make sure that you mount the servo correctly. When actuated... the servos arm should move from the front of the skull to the back. Fire it up and make sure that this is the case before screwing it in tight.

As you can see... I did a care free job of finding the proper screw for the job. My screw sticks out a half mile out the back of my skull!! I was going to replace it later (hardware was closed) but I found that it is impossible to see while he's lying in my coffin so... who cares. Oh yeah... Don't worry about the servo sticking out of the lower part of the skull (picture 2). Since the top of the skull is hollow also... there will be room for it.

This is the desired end result. Pic1 is of the mounted servo with the arm on the servo sticking out the hole. Pic 2 (ignore the springs, pictures taken out of order) shows the bottom view of the mounted servo arm. Picture 3 shows my second servo mounting hole drilled. In goes the screw and off to the next step!

OK... earlier picture here... remember the holes that were left when removing the spring? We need to run some fishing line through those as well.

Run about a 2 foot piece of fishing line (heck it's cheap) through the spring hole in the jaw.

Run both ends up from the jaw into the second (top) spring hole (see picture in step 38) and into the inside of the skull. Tie the 2 pieces together on the inside of the skull leaving a loop inside the skull and cut off the excess.

Using a rubber band, (I used big ones) Loop the rubber band through the fishing line loop. Now stretch the rubber band until there is adequate tension on the jaw. Mark that spot inside the skull and place a screw. Now attach the rubber bad to the screw so that there is constant tension on the rubber band. DON'T WORRY TOO MUCH ABOUT THIS NOW SINCE ADJUSTMENT OF THE TENSION WILL BE NECESSARY IN A FEW MINUTES.

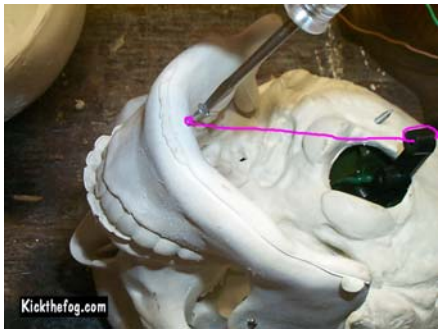
Do the same for the other side.

This is a view of the completed jaw tension setup. This is where you have to experiment a bit. I played around with the rubber bands by tying and untying knots in them to increase and decrease the tension. Adjust them so that the jaw stays closed BUT so that only light pressure is required to open the jaw. THIS IS CRITICAL as the servo doesn't have a lot of gusto.

Some folks would choose rather to install a better, stronger servo but that would require OTHER GUTS which costs, of course, more money. I think it's more fun and easier to utilize what you already paid for with the fur tree. Also, I think you'll find the adjustment is easier than one might think. It only took me 5 minutes or so to get it just right. You should be able to easily move the mouth but it should still close on it's own.

Now, find a small screw that will fit nicely in the bottom of the jaw. (see pic 1). Select an appropriate drill bit and drill a hole for your screw in the bottom of the jaw.

Insert a 1' length of fishing line into the hole then insert your screw into the jaw. We are attaching a line to the lower jaw in the exact same way we did for the jaw sides in steps 26-29. (see those steps for clarification)



Now that you have your line secured in the bottom jaw with your screw, tie the other end to the servo arm (see pink stripe). Make sure there is no slack in the line. Line should be snug since when the servo arm moves it will pull your jaw open. When the servo arm relaxes, the rubber band tension we set up earlier in steps 41-43 will close the jaw. You see what I mean now about having the perfect tension?

Test him! If the tension is correct, the servo will pull the jaw open. If it's too tight the jaw will not open. If the tension is not high enough, the jaw will open and stay open. Adjust till jaw opens and closes correctly. To do this you can plug in the tree and let him belt out his Christmas Songs. It's pretty damn funny to see a skull sing Christmas songs so I suggest firing him up at this point. If not for testing, at least fire him up for a good laugh.

OK, lets trash the tree further. Pic 1 shows the eyes intact as they come with the tree. Remove the eye cover from one eye. (Pic 2). As you can see in the second picture, the green eye power wire runs through a hole with green Christmas bulbs at the end to light the eyes. We need to free up these wires so we can ditch the entire plastic eye assembly. We want to use the Christmas bulbs alone.

I used a pair of tin snips (pic 1) to cut the socket so I could slide the wire free without breaking or disconnecting the wire.

Pull the wire through your newly cut opening and you'll be free of that big ol plastic mess. DO THE SAME FOR THE OTHER EYE if you haven't already.

You can do the same for the servo that controlled the eye lids. You won't be using this servo or the plastic lids so I cut away all the plastic I could leaving the wires intact so not to disturb the inner working of the "guts". Now you can throw away the eye socket plastic, the eye lid plastic and all the other plastic crap we don't need. The reason we do this is because when we're done, we will be putting all the guts inside the head so we need to get rid of the bulky plastic we aren't going to use anyway. We will just be using the wiring and the bulbs.

Now you can drill out the eyes to make room for your Christmas bulbs. Drill out both eyes to make room for your bulbs. These bulbs will not only act as your eyes but will light the entire eye socket. A killer effect in the dark.

Put both bulbs in your skull and secure them in the socket however you like. I drilled mine just perfect so that the bulbs fit snugly in the holes. I screwed up one of my holes by drilling to big so I wrapped the bulb with electrical tape once and then the bulb fit snugly. DO NOT glue the bulbs in place because **A**: the bulb may burn out and need replacing, and **B**: you may want to put red or some other color bulbs in his eyes. I like the green personally, but red would be cool as well.

Is this cool or what!? See what I mean about the entire eye socket glowing. Awesome in the dark. Scared the poor little kiddies to death! They earned their candy at my place last Halloween!

You'll need to drill a hole in the rear of your skull so that you can feed your 2 wires (Power and AUX sound) out the back. The power wire is ready to go. Just run it through your hole before closing the skull up. Use your 1/8" aux plug wire they included with the tree for your sound. Make sure this included 1/8" plug is plugged into the "AUX" jack on your tree. Your skull will sing Christmas tunes as long as there is nothing plugged into the AUX jack so don't forget this! Run that 1/8" plug out through the same rear hole with your power wire.

OK, so we're wrapping up here. You should have your eyes mounted with all the guts ready to go into the skull. Remember we got rid of all unnecessary plastic? This is why... time to stuff the guts into the head!

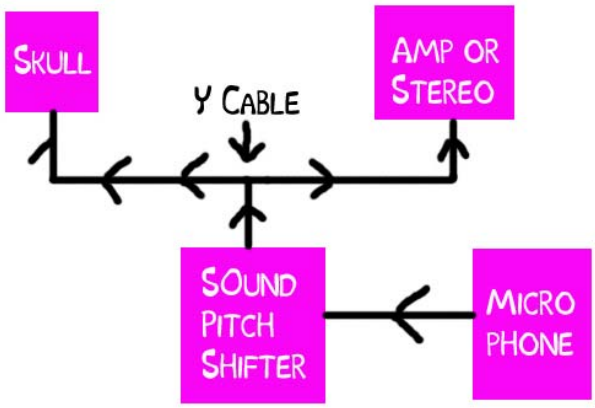
IMPORTANT!!!! I can't believe I don't have a picture of this but I don't so we'll make due. The next few steps are to stuff the guts into the head. I found out the hard way that after you stuff the guts into the head, the guts can interfere with your properly tensioned jaw. SO... I used a THIN but STIFF piece of sheet metal. Using my tin snips, I cut the a piece so that it fit snugly inside the skull OVER top of my rubber band setup. Actually the screws used for tension were a perfect resting place for my sheet metal. I cut it so that it sits in the skull snugly from left to right and sits directly on the top of the screws that i placed for my rubber band tension setup in steps 41-43. With the sheet metal in place, You can stuff the guts in in a pretty care free fashion and you will not be interfering with your perfect tension you set up in step 43.

(picture taken before sheet metal) OK, This may take some doing. I put the circuit board in a static proof bag so I didn't damage it with a static discharge while stuffing it in. I know it looks like there is no way in hell it will all fit but the top of that head holds a lot of free space. It will fit and it is not that difficult to make it fit either.

OK. You now have your guts in the skull, the lid on and your power and AUX wires coming out the back. You're done with the skull completely. CONGRATS!!!

If you have a tape or CD with some scary voice on it, Simply plug your 1/8" aux wire into a tape recorder or CD players headphone jack and adjust the volume until your skull reacts well. If the sound is too low or off, obviously it isn't going to do a damn thing. If it is too loud, the skull's mouth will open wildly or perhaps never close. Play with it a bit and you'll easily find the right volume level.

YOU ARE DONE! ENJOY YOUR NEW SKULL! If you want to go way beyond, you can continue...



I chose to disconnect the internal speaker completely and use an external amplifier with a sound pitch shifter in conjunction with a microphone so I could make the skull say whatever I wanted whenever I wanted. This is fairly expensive if you don't already have the equipment. My diagram shows how I connected a microphone that I could speak into, which then connects to a pitch shifter to make me sound evil, which then is split by a radio shack "Y" adapter cable so that one cord goes to the amplifier or stereo and one goes to the skull. I like the amplifier and pitch shifter idea because then you can control the volume and sound of the skull and can easily go REALLY LOUD if desired. If you don't already have this equipment it can add up fast! $$$$$$ You can use any stereo but a Microphone and a pitch shifter can be serious bucks. I am a musician so I already had all of this. If you REALLY want to go this route, buy a cheap microphone and a cheap Sound processor at your local music store that sells instruments. I think ALESIS MIDIVERB 4's are around $130.00 bucks now. Or check Ebay for an older unit like the original ALESIS Quadraverb. Whatever you buy, MAKE SURE IT DOES PITCH SHIFTING. This is what will make you sound scary. Then you can get the necessary cables as well as the 1/8" - 1/4" inch and Y adapters you will need to hook it all together

Unless you are already skilled at a setup like in step 61, then I would advise using the simpler setup. It would be easy and cheap to find some cool "wav file" voices and burn them on CD. You could burn say 30 scary sayings to a CD with say a 1 minute silent track in between so your skull would speak every minute. You could even put the CD on repeat (most cd players have this) and he would go all night!

Well, There you have it. My version of the Talking Fur Skull, I mean the Douglass Skull Tree, I mean... Well you know.