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## >>>Modelling Techniques and Strategies<<<

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**Modron**  
Forum Monkey

Joined: 14 Aug 2003

Posts: 5470

**Post subject:** >>>Modelling Techniques and Strategies

Posted: Thu Feb 19, 2004 5:14 am

This is an attempt at a general repository for Blender modelling knowledge. The idea is to collect a series of how various people model with Blender, or specific techniques that they would care to share. If you have a technique to share, please create some kind of illustration, or diagram to go along with your explanation. I'm going to make a tutorial on modelling an animal of some sort. Please contribute!

modelling thread> <http://www.elysiun.com/forum/viewtopic.php?t=21382>

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Last edited by Modron on Mon May 03, 2004 11:43 pm, edited 3 times in total

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**Harnak**  
Forum Regular

Joined: 05 Feb 2003

Posts: 31

**Post subject:**

Posted: Thu Feb 19, 2004 10:26 am

Great idea Modron!!

I know something I'd be interested in is how you did that Avatar that is shown whenever you post a message

I'm looking forward to seeing how people approach problems, and I'm expecting to LEARN a ton!

Harnak

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**Arathorn**  
Forum Groupie

Joined: 20 Jul 2003

**Post subject:**

Posted: Thu Feb 19, 2004 10:57 am



Posts: 66

I'm a newbie to Blender as well, but when I start modeling, I first rtry to find a lot of pictures of what I'm t (Im now busy with trains), then I make a square and start extruding from it.

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**Gabio**

Forum Monkey

Joined: 24 Nov 2003

Posts: 513

**Post subject:**

Posted: Thu Feb 19, 2004 5:42 pm

Yes modron! i wanted to do this for a long time.  
Here is one technique I use:

The precise subsurf modelisation.  
Category: high details organic model (high poly count).

Let say you have to medel an organic object.

-Start with a plan or a cube and extrude from it to form the shape of you object, something very rustic, lik low poly.

-Start subsurf on it with 1 subdivision. Move some vertice to add some details, don't subdivide.

-Alt-C the convert to mesh. Move your old model to an other layer for undo purpose.

-On the fresh new mesh restart subsurf with 1 subdivision and model some more details but not too much, can do without dividing some vertice.

-When you cannot add more details just by moving vertice. DO another Alt-C and move the old model to a and restart sudivision to level 1.

-redo this as long as you want precision.

The polycount can increase dramaticaly atfter like 5 conversion. but i never used moe than 4.

That's it for now. Maybe i'll add some correction as time goes on

---

A blender work is never done, it's abandonned.

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**Modron**

Forum Monkey

Joined: 14 Aug 2003

Posts: 5470

**Post subject: MiniTutPt1**

Posted: Thu Feb 19, 2004 7:56 pm

Ok here's part 1 of my mini tut. I am going to model a lizard. I'll start by making the basic shape of the he  
>>Illustrations below<<<

1) Here I took a simple cube, extruded the bottom to give me my lower half, and then off of those halves, upper and lower jaw. I moved the snout vertices around a bit to give me my basic lizard head shape.

2) subsurfaced it

3) subdivided just so I have a few vertices to work with. Of course once I do this, the whole thing becomes square. we'll tweak it later.

4) now I want his lips to have a finer edge, so I make 2 loop cuts, ( loops cut is accessed by 'ctrl R' ) one j

mouth, and one just below. This has the same effect as we got when subdividing, but the edge is closer.

5) now I want his head to be wider, so i go into front view, and do some constrained scaling.

6) now I'm going to pull the back of his head back a little, but I dont want to stretch the edges of his mout another loop cut, just behind his mouth. You'll notice as I go along, I will be gradually spreading out these places where they don't need to be close together.

7) time to extrude out his eyebrow. I select the faces of the eyebrow region, extrude, and scale them down in front view, pull the new vertices to the outside to give him an eyebrow ridge. I will be tweaking these too.

🤨 Now I do the same thing for his cheekbone,...extrude and scale,...and tweak

9) extrude, scale, and tweak, a second time, to get some finer control.

10) I round the snout a bit on the half I intend to keep

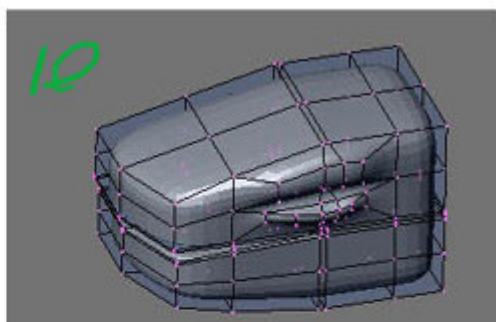
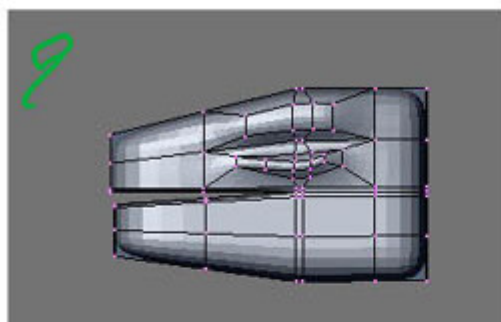
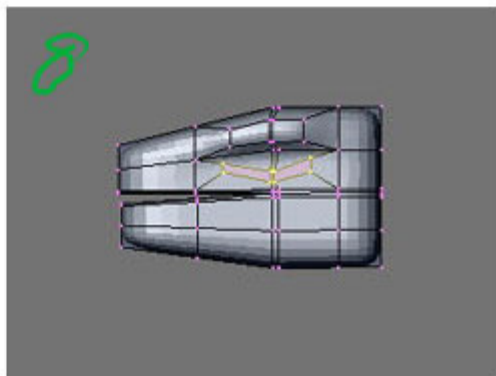
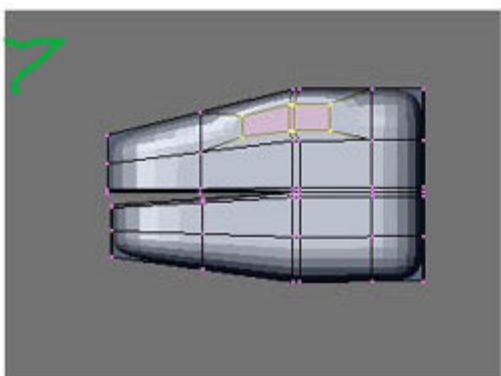
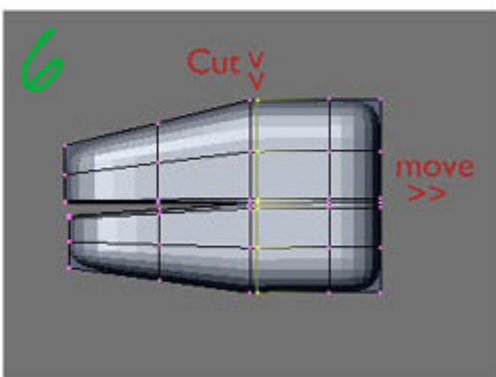
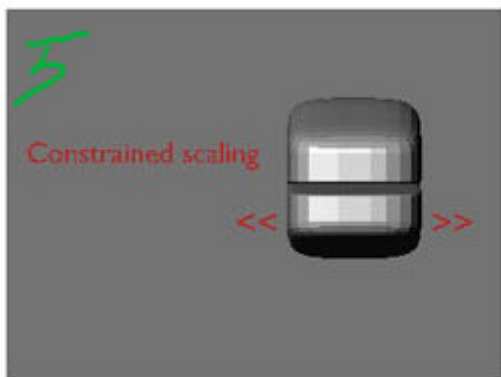
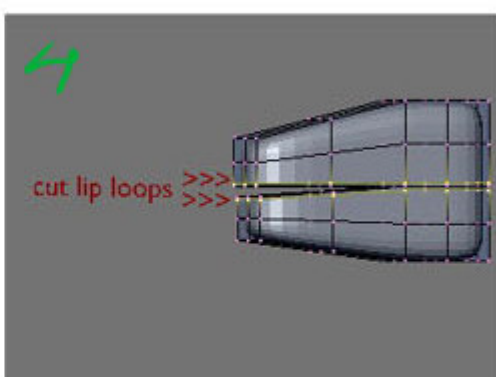
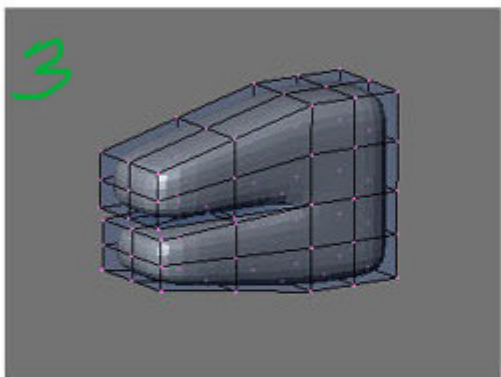
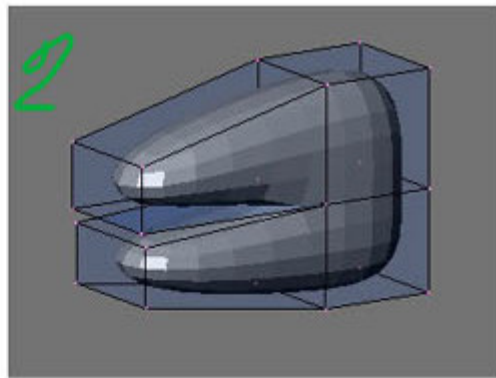
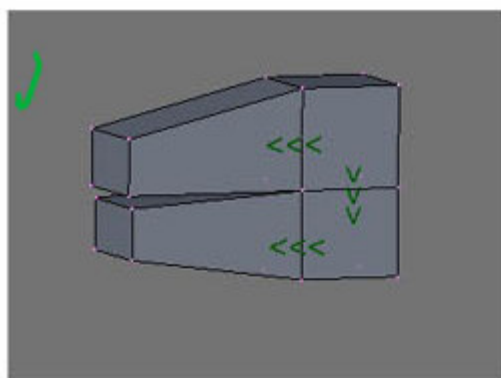
11) Now delete the vertices to one side of the center, select the remaining half, 'shift D' to duplicate, and ' along global axis X.

Once you have positioned the new left half as close as you can get it to where it should be, select all of the the rows you want to join, and click 'remove doubles' in edit buttons. If they don't all weld together, you can influence of the remove doubles, and try it again, or you can select the individual pairs that didn't join, and 'alt M'.

12) Now that I have the whole head, I'd like to make him rounder, using the 'to sphere' button. I select all edit mode, and put the 3D cursor in the middle of his head, a little toward the rear, and click 'to sphere'. I 25% maybe for the ammount. so now he is a little rounder, but as you can see,...

13) ...he is still a bit squarish in some areas, especially on the back of his head, so i do more tweaking, using sphere command selectively on regions,...using Alt S on some vertices for 'scale along normal',...and when thouroughly tweaked one side, I delete/mirror duplicate/join, once again.

14) now he is ready for details, and a body, so that's what I will do in chapter 2. Hope you enjoy!



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Last edited by Modron on Fri Feb 20, 2004 12:15 am, edited 3 times in total

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**roofoo**

Forum Groupie

Joined: 31 Jan 2004

Posts: 95

**Post subject:**

Posted: Thu Feb 19, 2004 11:20 pm

Hey Modron,

Cool tutorial! But I've got a question, on the steps 4 & 6 when you say to make the loop cuts, what needs before you do that? I'm not exactly a newbie to Blender but I'm not too familiar with using that tool yet. (Correct me if I'm wrong, but do I need to do a Shift+R to select a whole row of verts before making the l

Thanks,

Roofoo

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**Modron**

Forum Monkey

Joined: 14 Aug 2003

Posts: 5470

**Post subject:**

Posted: Thu Feb 19, 2004 11:36 pm

No, shift R is loop select, which selects a row of faces. What you want is ctrl R for loop cut, which cuts an e see a select line, so place and click, then, you'll see a blue line that you can move around to select where y goes in that row, then you just click when it's in the right position. Sorry about the lack of definition of the I noticed you can see approximately where I placed the cuts on the lower pic with the rear view.

modelling thread> <http://www.elysiun.com/forum/viewtopic.php?t=21382>

Basic UV mapping> <http://www.elysiun.com/forum/viewtopic.php?t=19378>

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**roofoo**

Forum Groupie

Joined: 31 Jan 2004

Posts: 95

**Post subject:**

Posted: Fri Feb 20, 2004 12:18 am

ok, sorry for the dumb question. 😊 I tried it like you said and got it to work. I didn't know you could do th only knew about the pop-up menu with the K command....anyway, thanks for the help!

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**Modron**

Forum Monkey

Joined: 14 Aug 2003

**Post subject:**

Posted: Fri Feb 20, 2004 12:24 am



Posts: 5470

Hey, no need to feel dumb,...we were all noobs at one time, and I like to think of myself as an eternal noob you got it to work, and feel free to ask more questions if you have them.

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Basic UV mapping> <http://www.elysiun.com/forum/viewtopic.php?t=19378>

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**Modron**

Forum Monkey

Joined: 14 Aug 2003

Posts: 5470

**Post subject:**

Posted: Fri Feb 20, 2004 4:14 am

Ok, the body,....:

1) Before I got to what you see in the pic, I wanted a nice open edge where the back of the head was enclosed so I selected the vertices in the middle of the back of the head, and deleted them, leaving myself with a nice loop. Then, with the vertices of the edge loop selected, I extruded, and pulled the new vertices backwards so the base of the tail would be as you can see from the diagram.

2) I then made a loop cut right in the middle, and because I wanted it to be slightly larger and wider than the loops, I scaled it up slightly, and then did a constrained scaling from front view to make it wider.

3) Now I cut two more loops, and scaled them up slightly, so he has a nice curved shape.

4) Around each of those new loops, I cut two more loops, to give me a few faces from which to extrude the

5) I deleted the middle vertex of the group from which I intended to extrude from, again giving me a nice loop. Then I extruded it outwards to start the leg, and hit smooth a few times. ...A note about when you start with open edge loops like this, and especially when your mesh is subsurfaced, and 'set smooth',...your normals get screwed up, and it can make dark lines and patches on the surface of your mesh. To fix this, select all vertices and hit 'ctrl N', for 'recalculate normals outside'.

6) I rounded the adjoining vertices on the body somewhat, to blend in the leg a bit better,...at various times I have made little tweaks without mentioning it,...a little bit here and there as I go,...

7) From front view, I continued extruding the leg out, rotating the loop as I went, right down to where I wanted the bottom of the foot to be. I then enclosed the bottom of the foot, by extruding, scaling the extruded vertices, extruding again, and then hitting 'alt M' to weld the selected vertices together at the center.

🤪 Now I selected a face on the outward facing side of the leg, and from top view extruded it out into a toe, and then merged it with neighboring faces, until I had three toes.

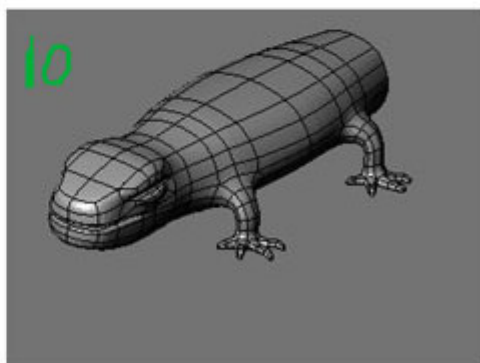
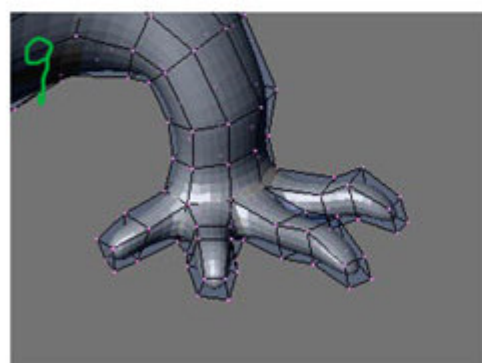
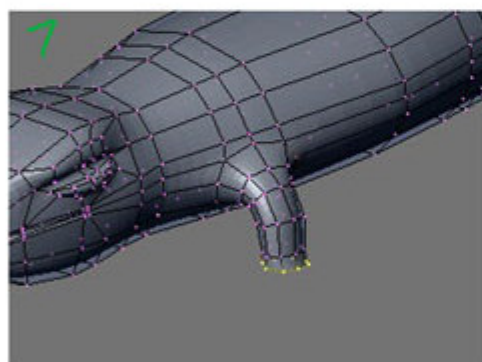
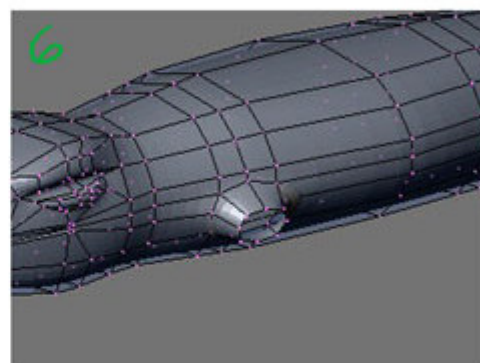
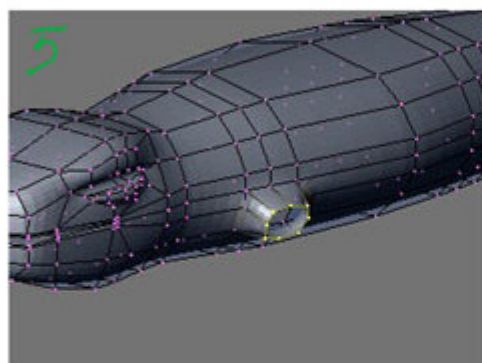
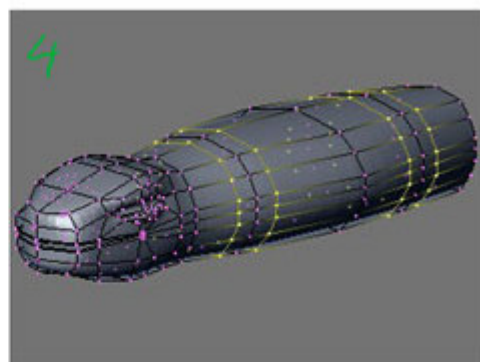
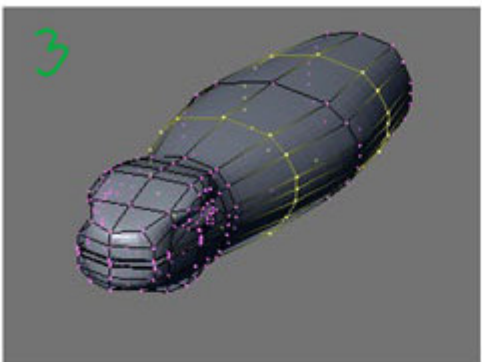
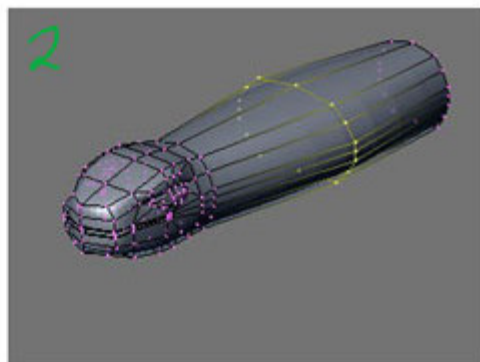
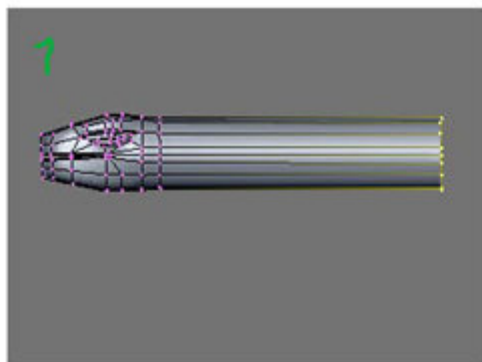
9) I gave him a thumb the same way, and did some scaling and tweaking to get his toes to look right. I also added a loop at his ankle, and scaled it inward slightly.

10) I gave him a back leg, the same way as I made his front leg.

11) Now, just as I did while making his head, I deleted the half of him that I hadn't made legs for, duplicated the remaining half, did M for mirror along X axis, and after positioning the new half, welding them together into part 1 )

Ok,...so, next, I'll do the tail, and some details,...until then blend on, garth!





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**Modron**

Forum Monkey


Joined: 14 Aug 2003

Posts: 5470

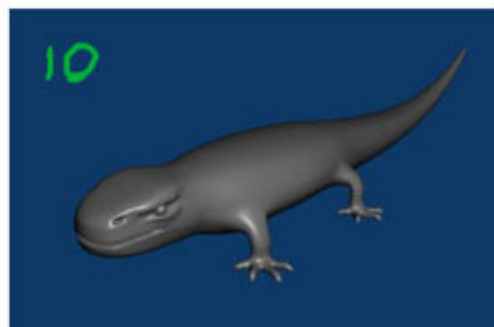
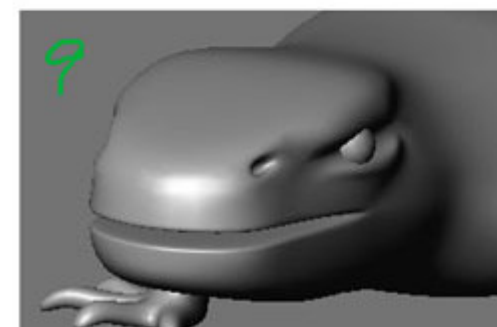
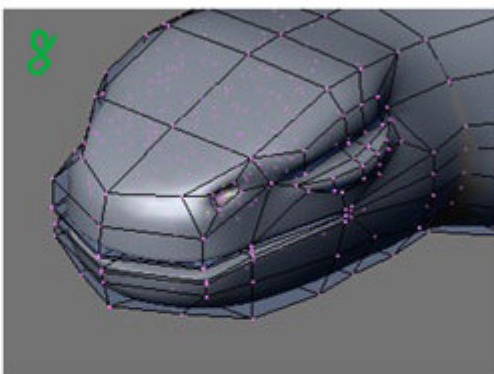
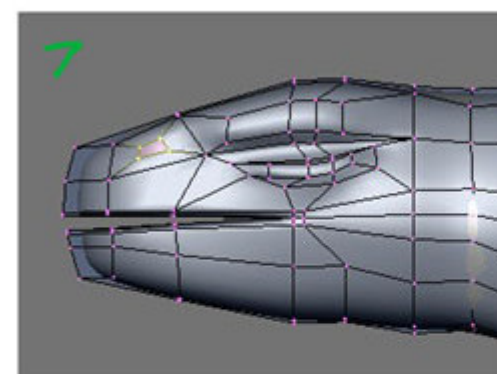
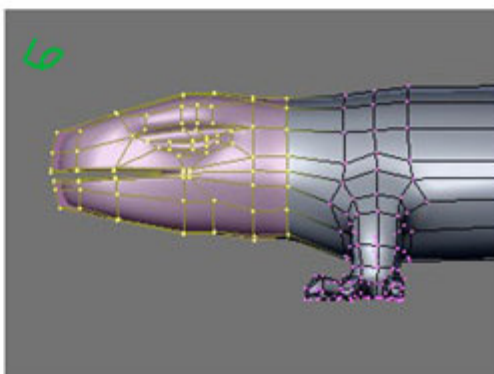
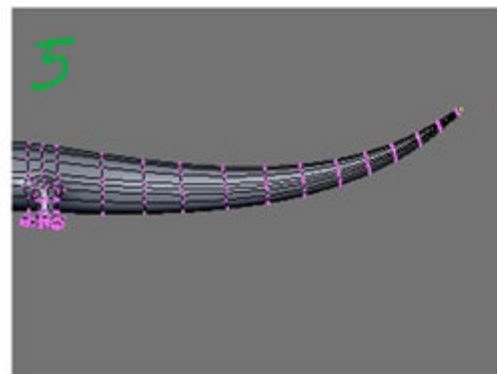
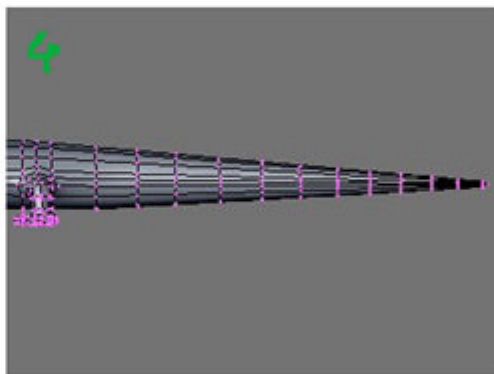
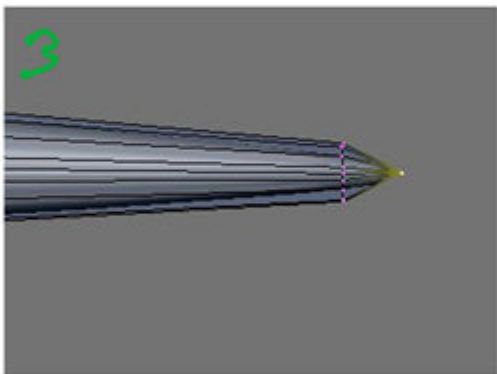
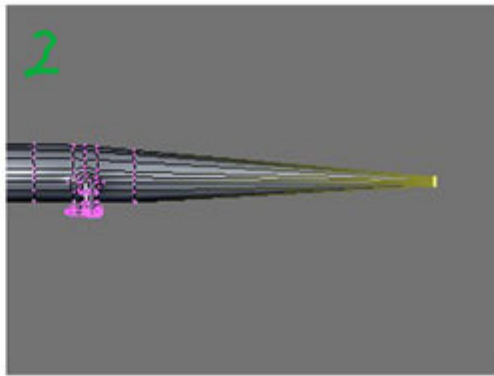
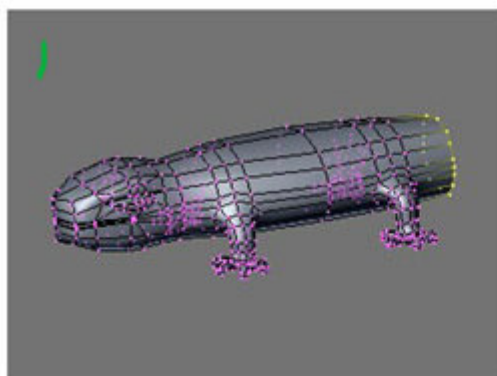
**Post subject:**

Posted: Fri Feb 20, 2004 7:58 pm

It's alive!

- 1) Select the open edge loop at the base of what will be the tail
- 2) Extrude out, and scale the new vertices down
- 3) Extrude out again, and hit 'alt M' to weld them together into one vertice.
- 4) Use ctrl R to cut several new edge loops along the length of the tail
- 5) Hit the 'O' key to toggle into proportional editing mode, and select the vertice at the end of the tail. hit 'E' and you will see a dotted circle surrounding the selected vertice. Now hit the '+' key on your number pad keys several times, to scale up the influence of the proportional editing tool, until the circle encompasses the entire tail from side view, pull the vertice upwards, to give the tail a nice bend,...but wait, it's not bending right. click anyway, and hit the 'R' key for 'rotate'. give the vertice some counter clockwise rotation. Ahh that's better, 6....
- 6) Hit O again, to toggle off the proportional editing tool. I decided the head was too big, so now I select all vertices, and scale them down. Also, I did some more tweaking to the jaw, and snout.
- 7) I will add nostrils, the same way we added the cheekbones, basically. First I select the face on which I want to be on, hit E for 'extrude', and before I even mess with it, I click it in place. So, now when I scale it down, it stays on the same plane as the original face that I extruded from. So, scale it down,....
-  Now make another extrusion, but don't move it, or scale it down just yet,...just click it in place, and go. Now pull it inwards a bit, and there you have your nostril. Repeat the procedure on the other side. Try to make it the same size as the first one.
- 9) A couple of icospheres for eyeballs...
- 10) Hello Mr. Lizard!





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I



**TorQ**

Forum Guru

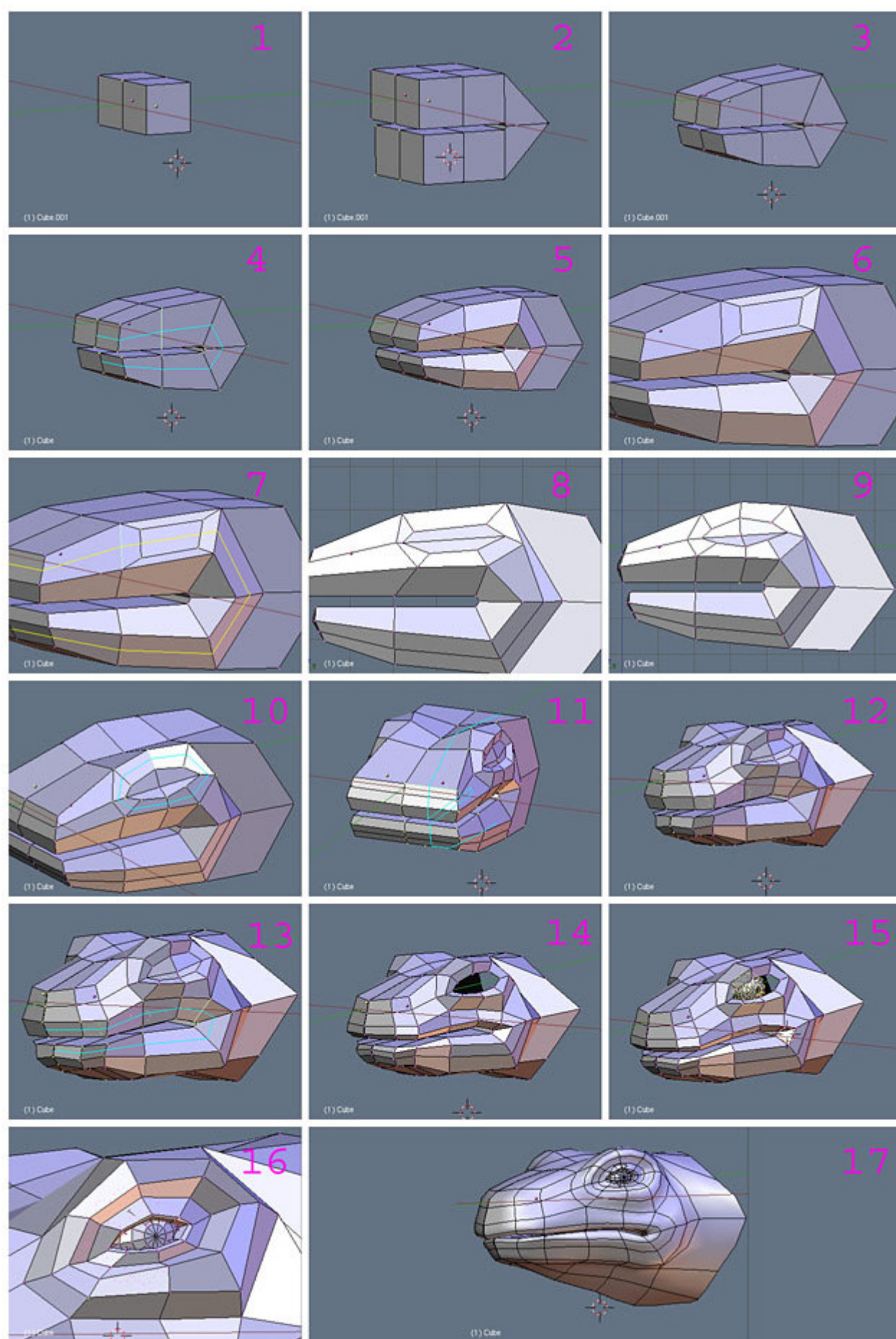
Joined: 08 Jul 2002

Posts: 439

**Post subject:**

 Posted: Sat Feb 21, 2004 12:42 am

I like what you are up to Modron. One thing that I am concerned over is the thought that people will be provided with information that might not be so much wrong as liable to lead newbies down the wrong path. In a long thread promises to become, people might miss some of the best information... I'm not entirely sure on how to avoid that they are still a concern. As for my part I would like to suggest a revision for your lizard.



As you can see, the one thing that I am doing is introducing "proper" poly loops right from the beginning. !

is something that needs to be drilled into everyone's heads. The sooner you get you polys flowing the right better!

Step 1) Make a box and create a mirrored instance. Delete the faces that touch between the two boxes.

Step 2) Extrude the backside of the box out five times into a "U" shape. )At this point we are already creat become the mouth loop.)

Step 3) Shape the profile a bit.

Step 4) Use the Loop Cut Tool (CNTL+R) to cut in the boarder of the mouth loop. Be sure to try out the ne function when doing this. I used a smooth percentage of over 100.

How-to Use the Loop Cut Smooth option: The smooth option in the Loop Cut tool is really cool. I don't thin known how to use it but its easy. Press CTRL+R to start Loop Cut. Next select the loop that you want to cu Before you make your final click as to where you want the cut press the S KEY to turn on Smooth. Now clic want the cut and it will ask the percentage of smooth you want. Test this out on a mesh that has some cur an idea of what it does. Try different amounts of smooth.

Step 5) Select the back of the head and extrude it back.

Step 6) Extrude the poly and scale it down to begin the creation of the main eye loops.

Step 7) Use the Loop Cut Tool to devide the eye loop in two.

Step 8 ) Shape the eye loop.

Step 9) Cut the Eye loop in half again but vertically this time. Shape.

Step 10) Add another loop to the eye loop using the Loop Cut with smooth.

Step 11) Cut the face to add more detail.

Step 12) Shape.

Step 13) Cut in another loop in the mouth area.

Step 14) Delete the polys from the center of the eye.

Step 15) Add a sphere for the eye.

Step 16) Shape the eye socket to fit the eye and extrude and loop cut to get the socket to look the way yo

Step 17) Extrude the interior of the mouth. Add loops as needed, shape, and finish.

Let me know what you think.

TorQ

---

model?texture?animate?yeah,I do that.

Last edited by TorQ on Thu Feb 26, 2004 8:22 pm, edited 2 times in total

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I

**Modron**

Forum Monkey

Joined: 14 Aug 2003

Posts: 5470

**Post subject:**

Posted: Sat Feb 21, 2004 1:15 am

Hey Torq, that is awesome. Thanks for that, man. Your methods are certainly more sound than my own, but just couldn't leave the lizard be,...lol...



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I

**roofoo**

Forum Groupie

Joined: 31 Jan 2004

Posts: 95

**Post subject:**

Posted: Sat Feb 21, 2004 3:25 am

Modron, & TORq, I just want to say both those tuts are awesome, they taught me a lot!! So the idea is basically loops around the detail areas, such as the eye, or mouth, from the start?

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I

**Timah**

Forum Newbie

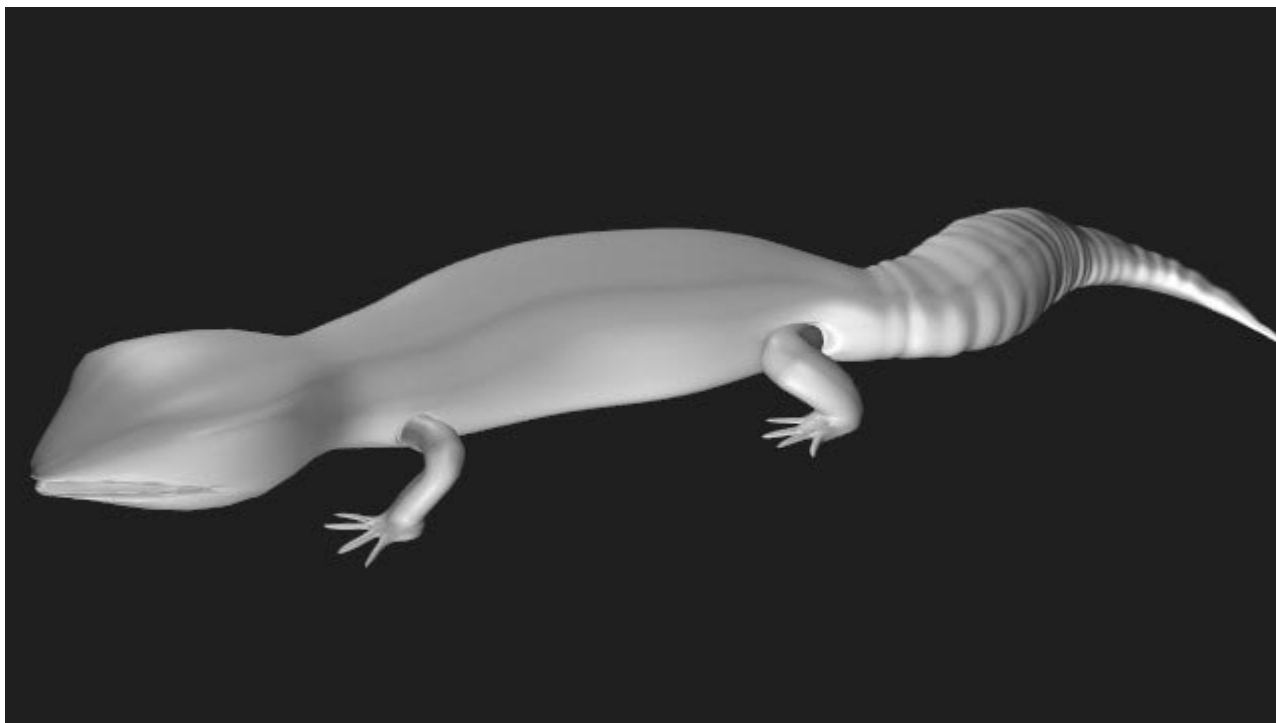
Joined: 14 Aug 2002

**Post subject:**

Posted: Sat Feb 21, 2004 3:39 am

Posts: 23

wow, that's weird, I've been modelling a lizard recently too and I stumbled upon this thread. I'll post a quick what mine's coming out like. I went with quite a high polygon count mostly because I didn't know any better, it's coming out fine. It's very rough so far, I'm working from reference images and trying to get it pretty as eventually.

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