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1. 04-17-2010 [#1](#)  
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# Thumbs up Structure!

Hello boys and girls, women and men. I've seen some awful coding a lot, so I thought I'd show you how to create a nice, readable, structure, which you will hopefully be able to read in a year if you open your code again. A lot of people code in a way that I bet they won't have a clue what it is about if they open the code 5 months later.

## Important tip:

The code can look messy when using the code tags in this forum. I suggest you copy-paste it into your notepad/notepad++ if you want to see the structure better.

Let's start with the directories.  
This is a **bad** example of how to write them:

Code:

```
@name Example
@inputs S V:vector VE:vector VT:vector
```

```
@persist E:entity EE:entity O:entity T:entity CV:vector EA:angle TA:angle
```

While this might be faster to write, it is much harder to understand.

Here's a **good** example of code (though personally I write like this, and I think it's really nice structure):

Code:

```
@name Example
##Numbers##
@inputs StartButton
##Vectors##
@inputs [MainVector EntityVector TargetVector]:vector

##Entities##
@persist [MainEntity SecondaryEntity Own Target]:entity
##Vectors##
@persist [Color]:vector ##Why use this for one variable? Well, what if I modify this later on to need more? Good structure is easily modifyable##
##Angles##
@persist [MainAngle TargetAngle]:angle
Now isn't that much easier to read and modify later on?
Let's try some general code!
```

first, an example of **bad** code (Let's assume the coder has learned from the previous example, and use good variable names now):

Code:

```
if (Target){
Target:applyForce((MainVector-Target:vel()*Target:mass()))}
```

or even **worse** (and I've seen this on the forums before...):

Code:

```
if (Target){Target:applyForce((MainVector-Target:vel()*Target:mass()))}
```

Sure, the above code takes less space, but is barely readable.

If someone gave me this code and expected help, I'd point them to this tutorial and ask them to return when they made it readable.

Code like this gives me a headache (and I wrote it assuming they name variables well. Most often, they don't do that... which makes it even worse).

Here's how **I code**, and hope you will too (or at least try when you post it for others to read):

Code:

```
if (Target) ##If there is a target##
{
    ##Apply force code##
    Target:applyForce((MainVector - Target:vel()) * Target:mass())
}
```

Now isn't that a lot easier to read?

Notice the comments. While you may understand it perfectly well, if you want to release the code, I suggest using comments so that others will understand it better.

I for one would often like to modify the code I find on the forums, so good structure and commenting is a very good thing.

Optional part of tutorial, example.

Here's an example of how I actually code when I expect someone else to read/use/modify it:  
Code:

```
@name Blocko
#I have a specific setup when I code. it makes it easier to see everything.
#make your own structure that you feel you're comfortable with.

##Numbers##
@persist SpeedMod SlowMod Dist
##Entities##
@persist [Target E Own]:entity
##Vectors##
@persist [TarPos TarVec]:vector
##Arrays##
@persist [Said]:array
##Tables##
@persist [Commands]:table

##Set model##
@model models/hunter/blocks/cube025x025x025.mdl

if(first())
{
    SpeedMod = 100 ##Change this as you see fit. This is the applyForce speed modifier##
    SlowMod = 1 ##make this higher to make the entity move slower when not attacking##
    Dist = 100 ##how far away from you the entity is when not attacking##
    #interval(10)
    #I prefer:
    runOnTick(1)
    runOnChat(1)
    E = entity()
    Own = owner()
    ##On or off commands##
    Commands["attack",number] = -1
    ##Target of attack Table strings of Commands are only used for targets in this code##
    Commands["attack",string] = 1
}
```

This whole code might not work. I made it while really tired, but it works for this purpose.  
Namely, showing you all how good structure is used ^^.  
This is easily read and understood, and easily modifiable.  
Now, thanks for reading, and I hope you learned something from me now ^^.  
Comment if you think something should be added, or if you disagree and so on. I'm not afraid of some constructive criticism ^^.

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```
##Chat Share this post on
if (chatCk(Own))
{
    Digg
    Dislike
    Save chat message##
    Said = Own:lastSaid():lower():explode(" ")
    ##Check is there is such a command##
    Technorati
    Twitter
    if (Commands[Said[1,string],number] == -1)
    {
        ##Set that command to 1##
        Commands[Said[1,string],number] = 1
        ##Set target##
        Commands[Said[1,string],string] = Said[2,string] ##This is a players name, or part of it##
        Target = findPlayerByName(Commands[Said[1,string],string]) ##Find the player##
        if (Target) ##If players is found##
        {
            hint("Player " + Target:name() + " has been found!",4)
        }
    }
    else
    {
        hint("Player could not be found with the string " + Said[2,string] + ", please try another string...",4)
    }
}

##Set all other commands to -1 again##
##<Commands yet to be made>##
```

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2. 04-17-2010 [#2](#)

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Location

```
    Behind you with a very sharp knife.
    ##These commands are toggle values. This turns it off if it was on##
Posts    elseif (Commands[Said[1,string],number] == 1)
2,487    {
Send a message via Skype Messenger
    Commands[Said[1,string],number] = -1
    Commands[Said[1,string],string] = ""
    Target = noentity()
}
##Chat commands done##
Although I don't like your style of commenting, this will hopefully learn people to code less shitty. Good job [noparse][noparse]
##Physics##
o Share
##Attacking##
Share this post on
if (Commands["attack",number] == 1)
{
    ☐ Digg
    ☐ Del.icio.us
    ☐ Technorati
    ☐ Twitter
    TarPos = Target:pos() + Target:boxCenter() ##makes it find his middle, instead of his feet##
    TarVec = TarPos - E:pos() ##make a directional vector out of it##
    E:applyForce(TarVec * E:mass() * SpeedMod)
```

## Default Re: Structure!

```
}
}
ktccd else
ktccd is offline
Wire Sofaking ktccd's Avatar
    TarPos = Own:forward() * Dist + Own:boxCenter() ##This should make it fly a bit in front of you##
    TarVec = TarPos - E:pos()
    E:applyForce((TarVec - E:vel() * SlowMod) * E:mass()) ##much smother movement. you don't want to die yourself, do you?##
}
Sep 2009
Posts
##By ktccd, AKA Delta##
```

3. 04-17-2010 [#3](#)

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Join Date  
Sep 2009  
Posts  
##By ktccd, AKA Delta##

## Default Re: Structure!

Yay ^^.

Wait, you meant the ##text## instead of # part? IDK, I picked it up somewhere... might've been a habit I just developed by modifying XML code (they have start and end tags for comments ^^). Funny thing is, I never knew anything about XML until yesterday. And I still, rather succesfully, modified the code to work well ^^.

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4. 04-17-2010 [#4](#)

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Posts  
558

Default Re: Structure!

Quote Originally Posted by **ktcd** [View Post](#)  
Code:

```
if (Target){Target:applyForce((MainVector-Target:vel()*Target:mass()))}
```

Sure, the above code takes less space, but is barely readable.  
I don't mind that at all. I use that sort of structure for small things, like:  
Code:

```
if(!Target){Target = owner()}
```





IMHO, to make code readable: (I realise that the if(first()) section is a bit odd, but it's a good example.)  
Code:

```
#tab your code in properly
if(first()){
    #That's a tab, or tabspace there
    if(entity():isWeldedTo()){
        #Tab it in another step
        Prop = entity():isWeldedTo()
        runOnTick(1)
    }#Finished the if/then, so step out 1 tab.
    #This tabbing should also apply to for/do and while/do loops
}

#Use variables to spread code out

Direction = Target:pos()-Prop:pos()
Force = (Direction*10-Prop:vel()*Prop:mass()
Prop:applyForce(Force)
UPDATE: highlight = e2!
#is so much easier than
Prop:applyForce((Target:pos()-Prop:pos()*10-Prop:vel()*Prop:mass())
update : E2 highlight is rly smalllll. wtf
```

Last edited by Squeakyneb; 04-17-2010 at 05:03 AM.

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Quote Originally Posted by **Bull** [View Post](#)  
I'm annoyed at having to use my keyboard when coding. Can someone please make voice-recognition so I can just talk?

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5. 04-17-2010 [#5](#)

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Sep 2009

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751

Default Re: Structure!

I know >\_<

Before the forum update, highlight=e2 was so awesome... now it's unuseable.

Also, I wouldn't mind it for small codes, but it *does* make it harder to read and is slightly more annoying to modify. This is about good structure, bad structure is not *always* unbearable ^^.

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6. 04-18-2010 [#6](#)

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Feb 2008

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958

Default Re: Structure!





##comment## could be a viable syntax for inline comments...

Protip though, if you have lots of comments used for marking off sections of related code, especially if you have multiple levels of headings, indent the sections. It gives the code visible cohesion.

Also:

Code:

```
Target = Target ? : owner()
```

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7. 04-18-2010 [#7](#)





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Default Re: Structure!

Good tip there ^^ . Make the section-comments more like headlines or something. Make them stand out more (thus more readable).

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8. 04-18-2010 [#8](#)

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127.0.0.1  
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376

## Default Re: Structure!

awesome. finally someone writes something like this. maybe we will stop seeing spaghetti code around in the massive numbers like it has been.

i have always written in this style due to my heavy experience in pure C.

Code:

```
if(Borg!=0)
{
    Shoot=1
}
else
{
    Shoot=0
}
```

it may make your code "longer", but it is much neater and easier to debug for yourself.

also. i usually declare the commonly used variables in my code at the very top like this

Code:

```
@name See?
@inputs
@outputs
@persist
runOnTick(1)
#Common Variables
E=entity()
EP=E:pos()
EA=E:angles()
O=owner()
OP=O:pos()
OA=O:angles()
and yeah, i admit using the "bad" way of coding for only one thing.
Code:
```

```
if(duped()){selfDestructAll()}
```

Last edited by dracotonisamond; 04-18-2010 at 02:30 PM.

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Quote Originally Posted by **JatGoodwin in wiremod IRC**

<JatGoodwin> ITSBTH, the point of rainmeter is to impress the lamers with your leet computer

<JatGoodwin> software equivalent of putting lights in your computer

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9. 04-18-2010 [#9](#)

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Default Re: Structure!

Heh, I'd actually write that as:

Code:

Shoot = Borg

Does the same thing too. But as for the structure of your code you get an A ^^.

Easy to add debug, modify and follow.

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10. 04-18-2010 [#10](#)

[dracotonisamond](#)

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Default Re: Structure!

yes, but if Borg was greater than 1, say if it was the amount of targets, it would always be one.

but it was just merely showing the syntax, the code was more or less pseudo code.

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