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## Introducing rattleCAD – open source frame design software

Posted on [September 12, 2015](#)

Many of you have asked about the sort of details you'll need to give your frame builder. Will a quick description be OK, or do they need a full on CAD drawing to work with? The good news is that the three main players will be happy to do the CAD drawings for you based on your initial dimensions or sketch of what you're after.

They'll usually come up with the initial drawing pretty quickly, but don't be pressured into going with the first thing they come up with! The drawing you sign off on is your contract with the builder; if you don't like the results but it's spot on to the drawing then that's your problem not theirs...

Most of the people you'll read about here have been back at least four or five times, and maybe even more, just to make sure every detail is how they would like it. Don't be shy, remember, you're the 'always right' customer ☐

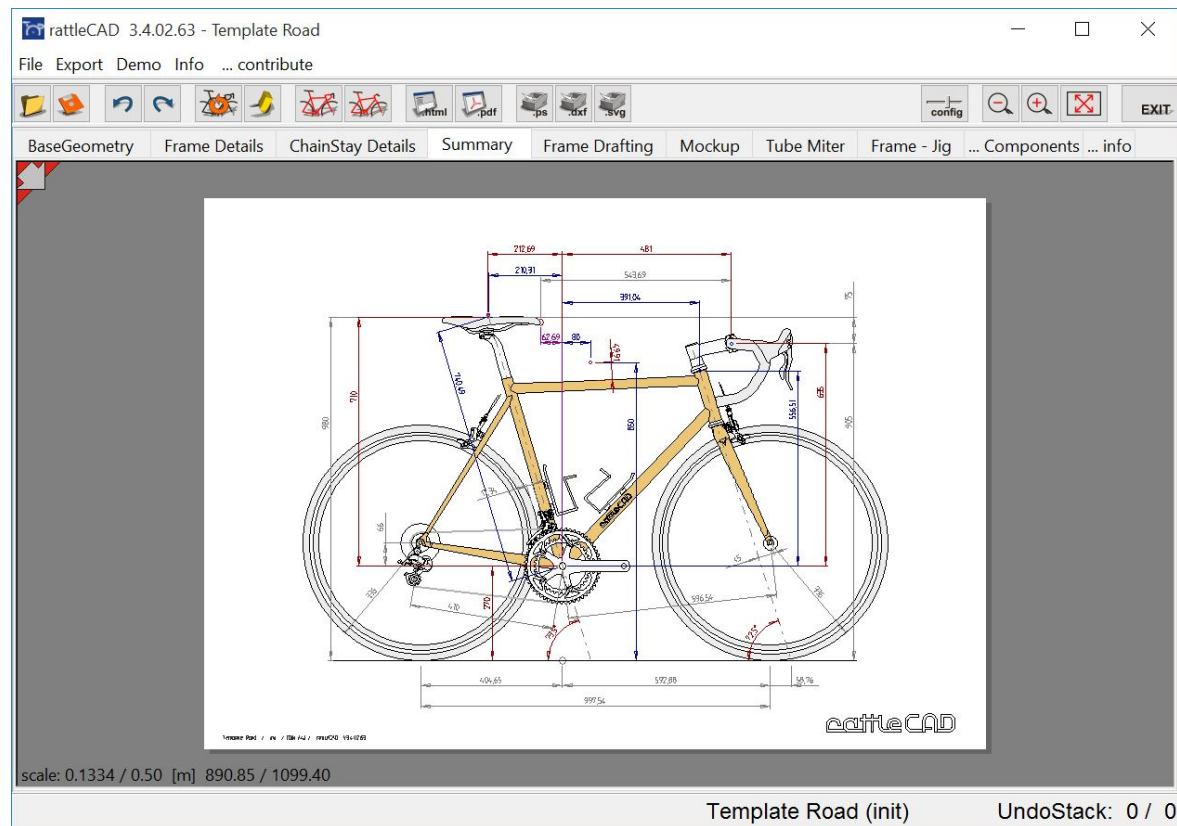
While you don't have to provide your own CAD drawings, sometimes it is fun to get things drawn up properly to see how they might look in the metal. This is where programs like rattleCAD come in handy. Manfred Rosenberger created rattleCAD as an open source (free and written by enthusiasts, much like this blog!) bike frame design package that runs on Windows, Linux and Mac (although Windows is the easiest to get going).

It's not the fastest, most intuitive or most flexible bit of software you'll ever use but the Mechanical

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Engineer in me just can't resist a little play...



The initial rattleCAD screen gives you a road bike template to work with.

The initial rattleCAD screen gives you a road bike template to start you off with but there's also a mountain bike option that you can select from the icon bar. The next stage is where you might need to adjust your thinking, rattleCAD comes from the position of putting the rider dimensions first rather than working directly with the tube lengths.

The config panel is a good place to start getting the sizing correct, it concentrates on the classic fit details such as defining the saddle and handlebar position relative to the bottom bracket. Other tabs in that panel give you quick access to things like headtube length or even checking mudguard clearance!

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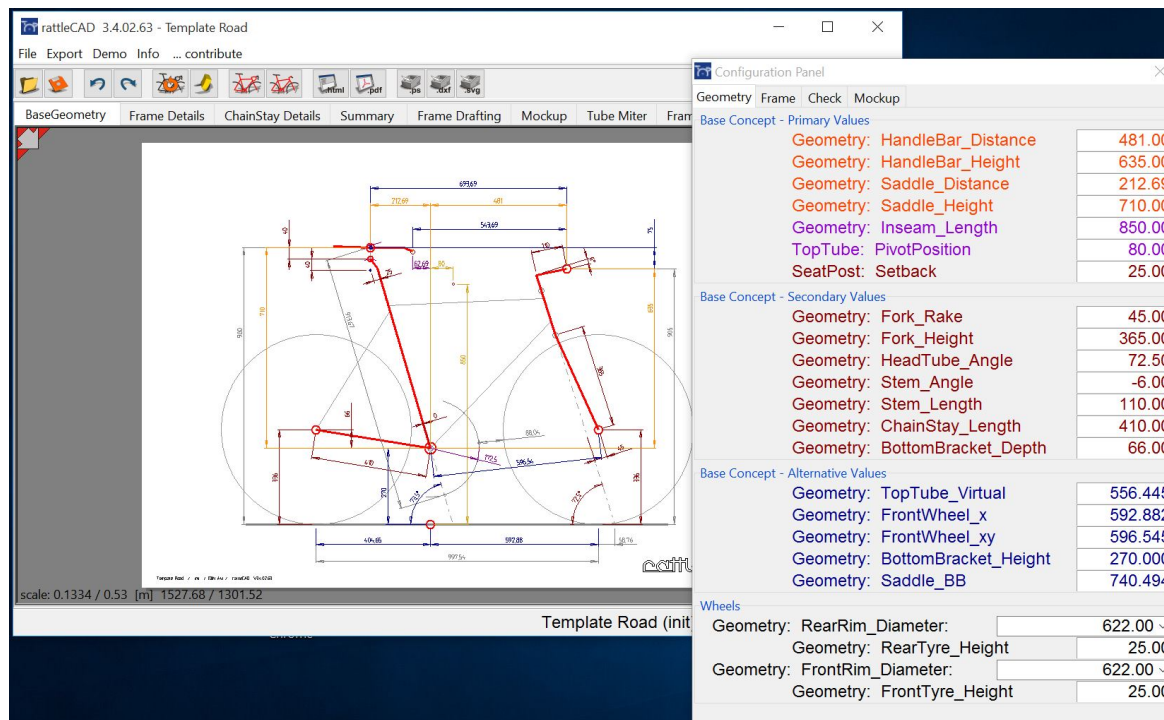
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The Configuration Panel is a great place to start shaping your frame.

While it's more road bike orientated you can still use it for mountain bikes so long as you remember to switch your thinking towards rider fit rather than frame tube lengths, or you can just fiddle around with it until you get the dimensions you want!

If you've not used a CAD package before you might be in for a bit of a steep learning curve but I was able to knock up this 650B+ version of Love You Long Time fairly rapidly:

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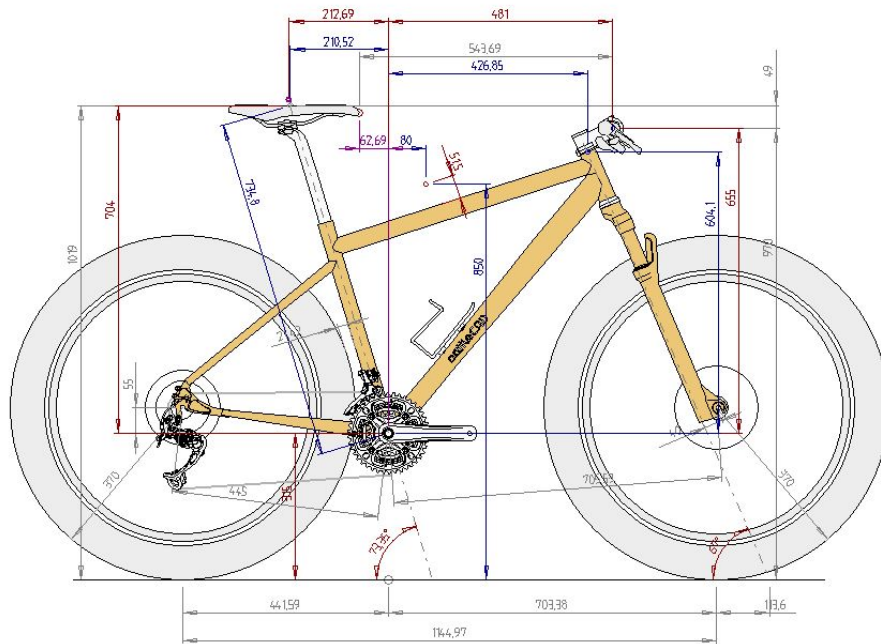
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Template Road / 2016.09.02 - 12.27.08 / IDN A4 / rattleCAD V3.0.0263

rattleCAD

What Love You Long Time might look like as a 650B+

There are a few options to add things like handlebars, cranks and derailleurs so you can get a better idea of what the bike might look like but there's not a huge range of options to choose from.

Remember too that this is very much a design package for the amateur frame builder, to the extent of being able to get details for tube mitres and how to setup your frame jig. It's based around someone wanting to build a standard 'double diamond' frame so don't expect to go very off-piste with your designs!

Because of the way it's written you might need to have a bit of a fiddle to get it working correctly, as a simple executable file for Windows I had to allow it to run as an Administrator otherwise it couldn't save files properly. You'll need to be patient too as it pauses for thought quite a bit even on a decent spec machine.

You're probably wondering about the name, right? Manfred is from Austria where the local slang

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for bicycle, radl, sounds a lot like 'rattle', it's as simple as that...

Overall though, hats off to Manfred for making a handy and very detailed piece of software, have a bit of a play and see how you get on. If you like it or use it in your designs then do consider bunging him a few quid via his donation page <http://rattlecad.sourceforge.net/donate.html> to show your appreciation.

You can download RattleCAD over here where you'll also find more details about using the packae including support links <http://rattlecad.sourceforge.net/index.html>

Have you been inspired to have your own frame made in the Far East? Do drop me a line via the Contacts page and tell me all about it, thanks!

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