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Subject: [NeuLAND] New Neuland Digitizer  
Posted by [Jan Mayer](#) on Thu, 13 Aug 2015 11:48:40 GMT  
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Hello everyone,

I have extracted the logic of the digitization process from land/R3BLandDigitizer into a separate "digitizing engine", used by neuland/R3BNeulandDigitizer.

<https://subversion.gsi.de/trac/fairroot/browser/r3broot/trunk/neuland/digitizing/DigitizingEngine.h>

The previous code was quite convoluted, but it turned out that it actually did not do "that much" with many LoC. I hope the smaller, more object oriented pieces are easier to understand.

The output should be about the same, however some of the "constants" that were previously set depending on the physical setup or the beam energy might need some reevaluation, e.g.:

<https://subversion.gsi.de/trac/fairroot/browser/r3broot/trunk/neuland/digitizing/DigitizingEngine.cxx#L22>

In addition, the code remaining under Exec() in R3BNeulandDigitizer (xyz positions) needs some additional love & care.

I would like to invite everyone to have a look at the code, especially the few parts where actual physics is involved (e.g. parts with '@mheil:').

Any questions or comments is appreciated.

Jan

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Subject: Re: [NeuLAND] New Neuland Digitizer  
Posted by [Michael Heil](#) on Mon, 17 Aug 2015 06:06:19 GMT  
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Dear Jan,

thank you for cleaning up the code and digging into that mess. However, I am pretty sure that the functionality of the old code was not so bad since we have tested it against LAND data.

Instead of going line by line through the new code, I suggest that you take one of the old simulation examples and compare the output of the new and old code (with same Parameter Settings). In case you find difference we should trace them back and see whether it was an error in the old code or due to different coding in the new one.

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Subject: Re: [NeuLAND] New Neuland Digitizer  
Posted by [Dmytro Kresan](#) on Mon, 17 Aug 2015 12:30:05 GMT  
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Hello Jan,

Current version is not compiling on OS X. The reason: Macintosh file system is not case-sensitive, so rootcint can not distinguish between file R3BNeulandDigitizer.h from land directory and your new R3BNeulandDigitizer.h from neuland directory (you have them both in INCLUDE\_DIRECTORIES in CMakeLists.txt).

Solution: please remove land/R3BNeuLandDigitizer.\* from the repository. The code was not touched for 5 years and implementation shows that it actually does nothing.

Best regards,  
Dima

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Subject: Re: [NeuLAND] New Neuland Digitizer  
Posted by [Jan Mayer](#) on Mon, 17 Aug 2015 13:10:11 GMT  
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I have removed land/R3BNeuLandDigitizer.\* as requested. It only contained some histogram filling anyway.  
There is a lot more stuff with questionable purpose in the land/ directory, but I hesitate cleaning it up more without knowing if it is still required.

Jan

PS: There is some diff noise in the commit due to whitespace. Maybe trailing whitespace removal could be made mandatory?

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Subject: Re: [NeuLAND] New Neuland Digitizer  
Posted by [Dmytro Kresan](#) on Tue, 18 Aug 2015 08:07:22 GMT  
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We will clean the land directory step-by-step.

Together with migration to git, we will also introduce a coding style, with possibility of automated formatting.

Please also consider following warning in R3BNeulandDigitizer.cxx:

<https://cdash.gsi.de/viewBuildError.php?type=1&buildid=60535>

Best regards,  
Dima

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Subject: Re: [NeuLAND] New Neuland Digitizer  
Posted by [Jan Mayer](#) on Tue, 25 Aug 2015 08:48:54 GMT  
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I fixed the warning. Note that on my system, it only appeared after manually adding -Wformat-security. If I traced it back correctly, the Fatal method is actually the one from ROOT, not the one from FairLogger as I first thought. The fix is easy and revolves around the ancient code in TError.cxx.

We might see this warning again in other classes, depending on compiler warning flags.

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