

Paradigm App Exchange - free exchange of petrophysical and well log analysis tools

Subsurface software company Paradigm has launched 'App Exchange', an online service for free exchange of special petrophysical or well log analysis tools or 'apps' developed by users

Subsurface software company Paradigm has developed 'App Exchange', a new online service at app.pdgm.com, where you can upload and download your own tools which can do something special with Paradigm's software.

The service is initially developed for Paradigm's "Geolog", but will be extended to other Paradigm products depending on the level of interest, because most of Paradigm's software offers some level of customisation potential.

For example, the App Exchange has some user driven apps to quality control and repair certain types of logs, tools to predict permeability using 'genetic algorithms' and tools to calculate the brittleness of rocks based on elastic properties or their mineralogical composition.

There are tools to calculate a bed boundary flag and eliminate incorrect data, and a tool to calculate porosity saturation, "handling problems that can occur in an interpretation due to variable grain density of the reservoir."

Most of the tools are better ways to understand well logs. Three are also tools to analyse core photographs.

Other apps include tools to share 'Ternary Diagrams' which are used to show the phase behaviour of a mixture of 3 substances (such as gas, oil and air), which can then be correlated with rock behaviour.

Or it could be used to share knowledge about what happens at 'bed boundaries' in a subsurface model, where one type of rock changes to another one. Having a clear knowledge of bed boundaries could be useful in trying to establish the top of reservoirs.

Most of the people who build these tools would consider themselves more "petrophysicists than 'programmers'", says Urvish Vashi, technology marketing executive, Paradigm.

To build the tools needs some knowledge of scripting (how to put a sequence of instructions together).

Data analysed in Geolog can then be brought into Paradigm's "SKUA-GoCad" subsurface modelling software, where it can be brought together with other well and seismic data.

Sharing apps

The service grew out of Paradigm's user group meetings, where it was common to see

customers opening their laptops and showing other users the apps they have written, Mr Vashi says.

The system is on a no-fee basis, on the basis that it benefits everybody if tools and knowledge are more widely shared. "We are evaluating how viable this sort of approach can be."

"We have given the power of customisation to customers. "We want to expose the benefits to more of our customers," he says.

"Our earliest feedback from users is very positive, we hope the library will become unmanageably large," he says.

The business model of openly sharing software is something arguably very new to the oil and gas industry, although of course software programmers have been sharing their work freely for decades as 'open source'.

Many companies including Google and Facebook are also making use of open source methods, Mr Vashi says.

Software can be kept proprietary if it gives you a competitive advantage, but otherwise you can take advantage of the network effect, he says.