



Open Source Software for AnIML

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AnIML Tools

- Open Source components (C#, Microsoft .Net) for AnIML
- First Open Source .Net solution available
- Hosted on Sourceforge
- LGPL licensing (can be used in commercial products)

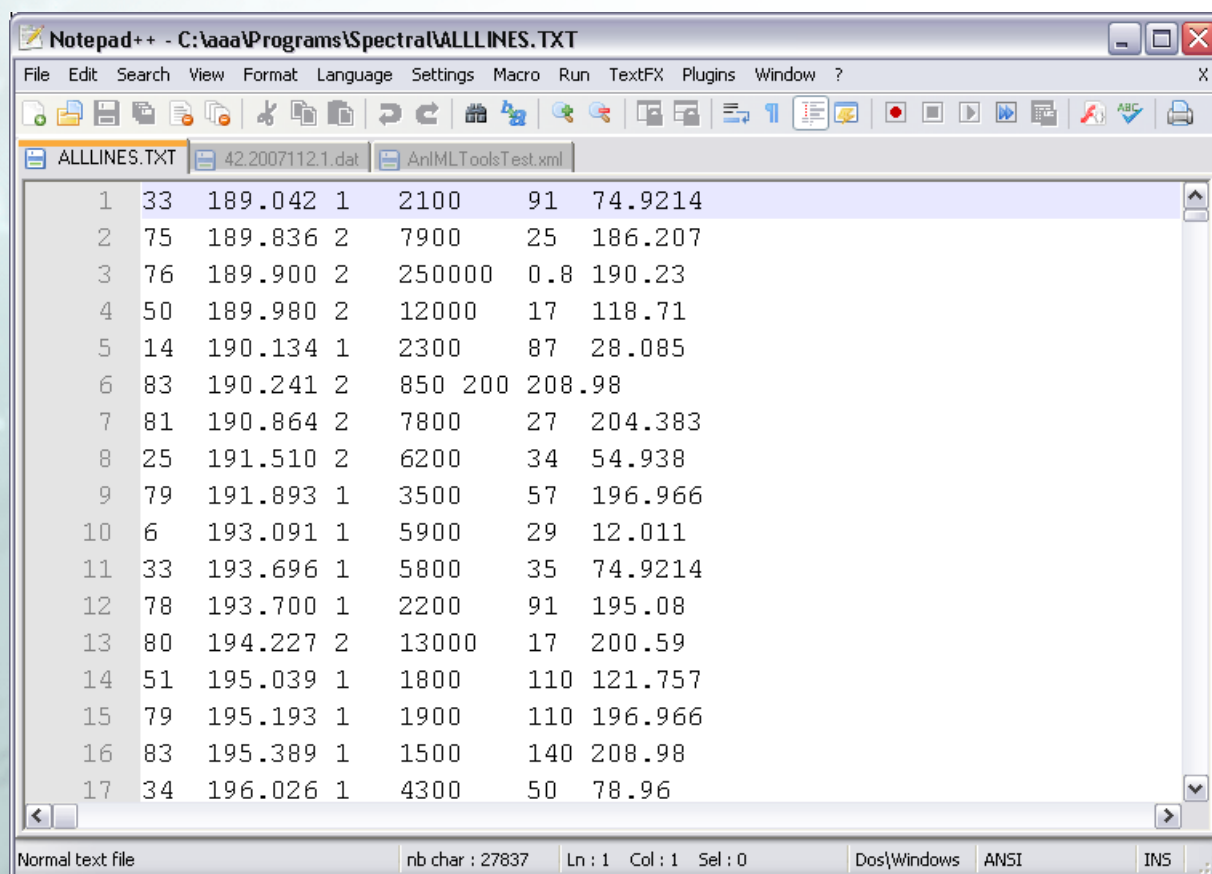
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Why did you start AnIML Tools?

Why Open Source?

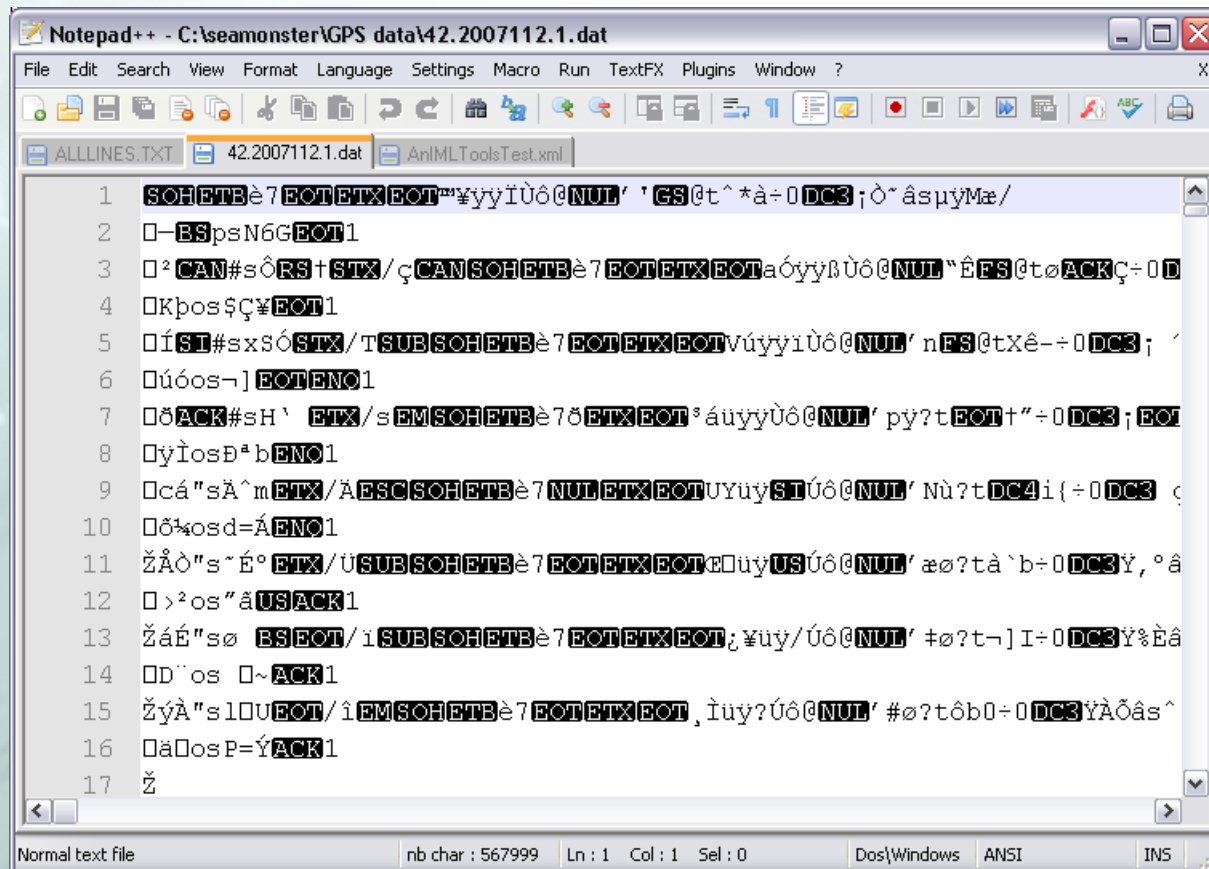
Security?



The screenshot shows a Notepad++ window titled "C:\aaa\Programs\Spectra\ALLLINES.TXT". The window contains a table of 17 rows of numerical data. The status bar at the bottom indicates "Normal text file", "nb char : 27837", "Ln : 1 Col : 1 Sel : 0", "Dos\Windows", "ANSI", and "INS".

1	33	189.042	1	2100	91	74.9214
2	75	189.836	2	7900	25	186.207
3	76	189.900	2	250000	0.8	190.23
4	50	189.980	2	12000	17	118.71
5	14	190.134	1	2300	87	28.085
6	83	190.241	2	850 200	208.98	
7	81	190.864	2	7800	27	204.383
8	25	191.510	2	6200	34	54.938
9	79	191.893	1	3500	57	196.966
10	6	193.091	1	5900	29	12.011
11	33	193.696	1	5800	35	74.9214
12	78	193.700	1	2200	91	195.08
13	80	194.227	2	13000	17	200.59
14	51	195.039	1	1800	110	121.757
15	79	195.193	1	1900	110	196.966
16	83	195.389	1	1500	140	208.98
17	34	196.026	1	4300	50	78.96

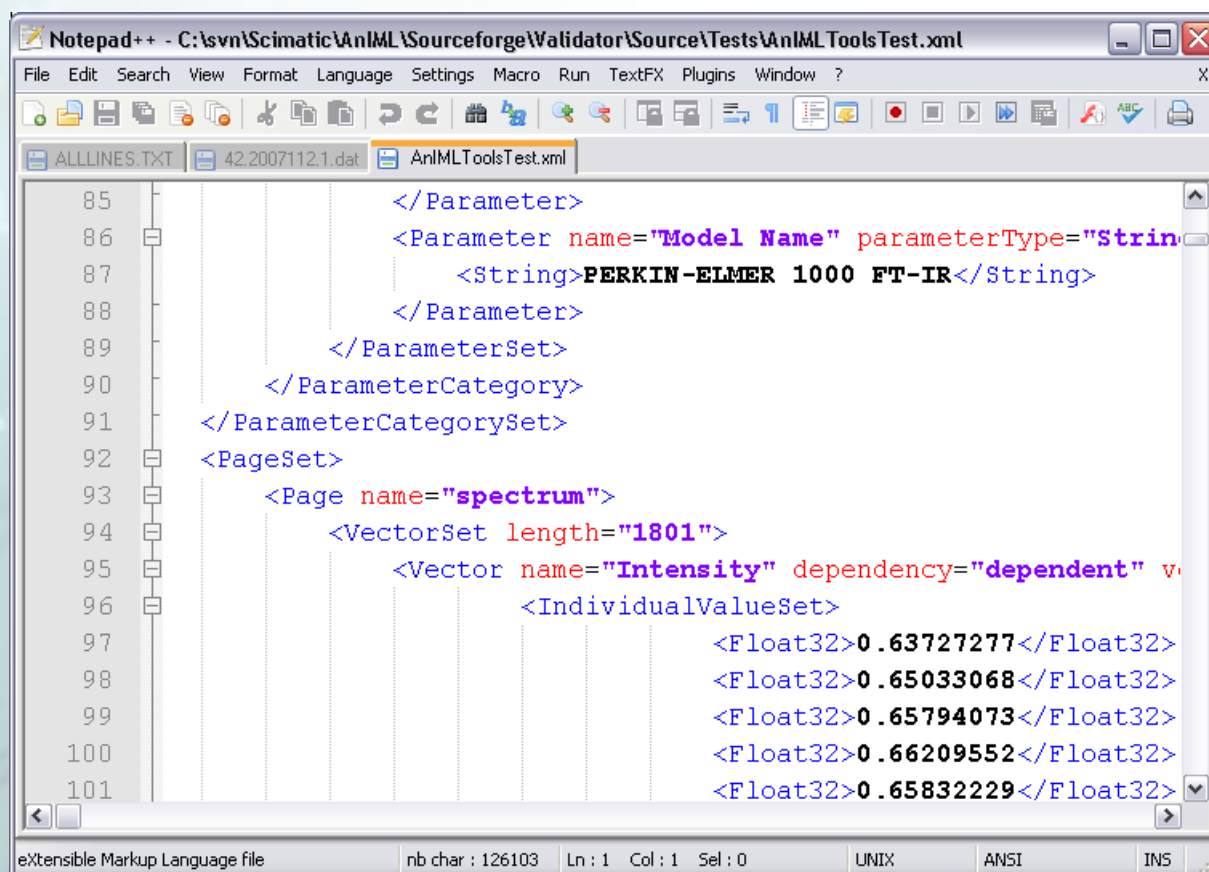
Parse this in 20 Years



```
Notepad++ - C:\seamonster\GPS data\42.2007112.1.dat
File Edit Search View Format Language Settings Macro Run TextFX Plugins Window ?
ALLLINES.TXT 42.2007112.1.dat AnIMLToolsTest.xml
1  SOHETBè7EOTEETX EOT"¥yyiÙó@NUL' 'GS@t^*à=0DC3;ò~âsmÿMæ/
2  □-BSpsN6GEOT1
3  □²CAN#sôRS+STX/çCANSOHETBè7EOTEETX EOTaóyyßÙó@NUL`ÊES@tøACKÇ=0D
4  □Kpos$Ç¥EOT1
5  □í#sxsóSTX/TSUBSOHETBè7EOTEETX EOTvúyyiÙó@NUL' nES@tXê--0DC3;
6  □úóos~]EOTEN01
7  □óACK#sH`ETX/sEMSOHETBè7óETX EOT³áuyyÙó@NUL' pÿ?tEOT+"=0DC3;EOI
8  □ÿÿosÐªbENO1
9  □cá"sÄ^mETX/ÄESCSOHETBè7NUL ETEETX EOTUyuySTÍÚó@NUL' Nù?tDC4i{+0DC3 c
10 □ó%osd=ÁENO1
11 ŽÅò"s~É°ETX/ÜSUBSOHETBè7EOTEETX EOT EÜÿUSÚó@NUL' æø?tà`b+0DC3ÿ,°â
12 □>²os"ãUSACK1
13 Žáb"sø BSEOT/iSUBSOHETBè7EOTEETX EOT;ÿuy/Úó@NUL' #ø?t~]I+0DC3ÿ%Èâ
14 □D`os □~ACK1
15 ŽýÀ"sI□UEOT/iEMSOHETBè7EOTEETX EOT,ÿuy?Úó@NUL' #ø?tøb0+0DC3ÿÀðâs^
16 □ã□osP=ÝACK1
17 Ž
```

Normal text file nb char : 567999 Ln : 1 Col : 1 Sel : 0 Dos|Windows ANSI INS

Wait, that looks like data!



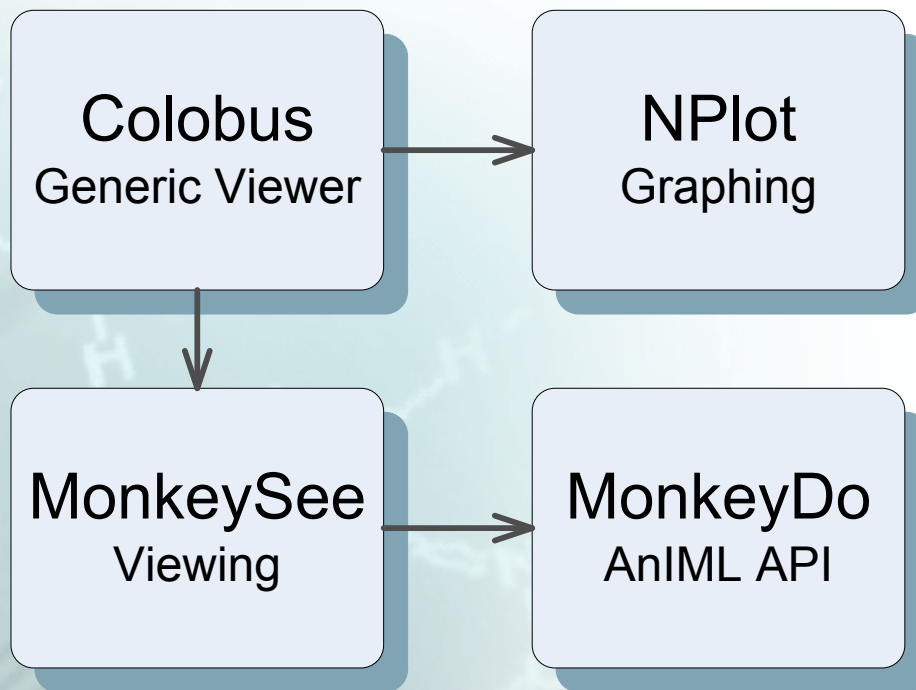
```
85         </Parameter>
86         <Parameter name="Model Name" parameterType="String"
87             <String>PERKIN-ELMER 1000 FT-IR</String>
88         </Parameter>
89     </ParameterSet>
90 </ParameterCategory>
91 </ParameterCategorySet>
92 <PageSet>
93     <Page name="spectrum">
94         <VectorSet length="1801">
95             <Vector name="Intensity" dependency="dependent" w
96                 <IndividualValueSet>
97                     <Float32>0.63727277</Float32>
98                     <Float32>0.65033068</Float32>
99                     <Float32>0.65794073</Float32>
100                    <Float32>0.66209552</Float32>
101                    <Float32>0.65832229</Float32>
```

eXtensible Markup Language file nb char : 126103 Ln : 1 Col : 1 Sel : 0 UNIX ANSI INS

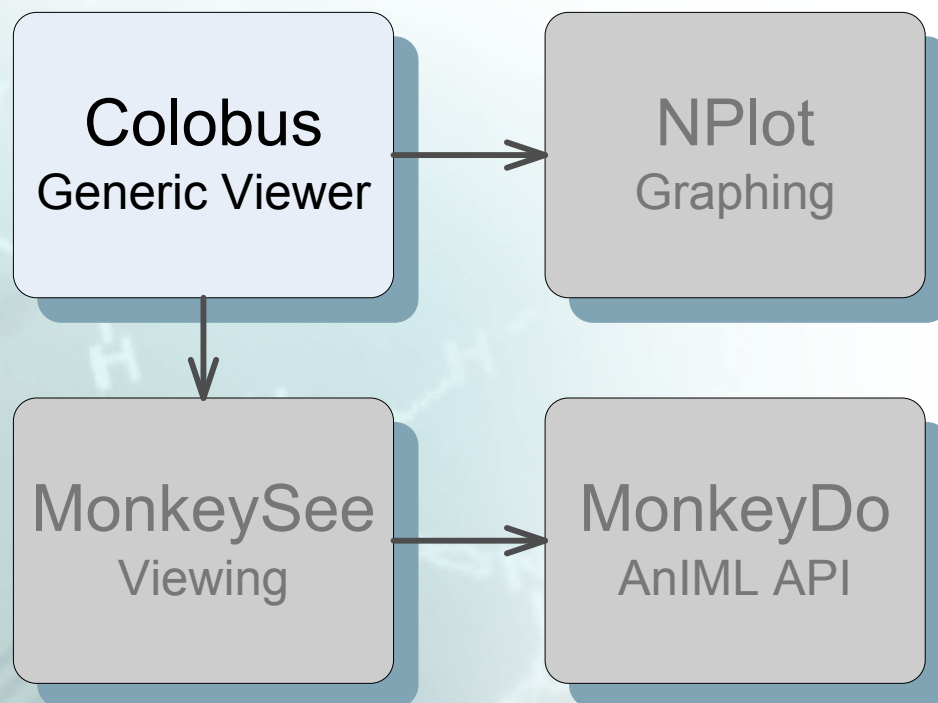
Why Open Source?

- We develop software (we learn by doing)
- We are a solutions company (not a products company)
- Modern day advertising (see what we can do with AnIML)
- Doing our part to promote the AnIML standard

Design

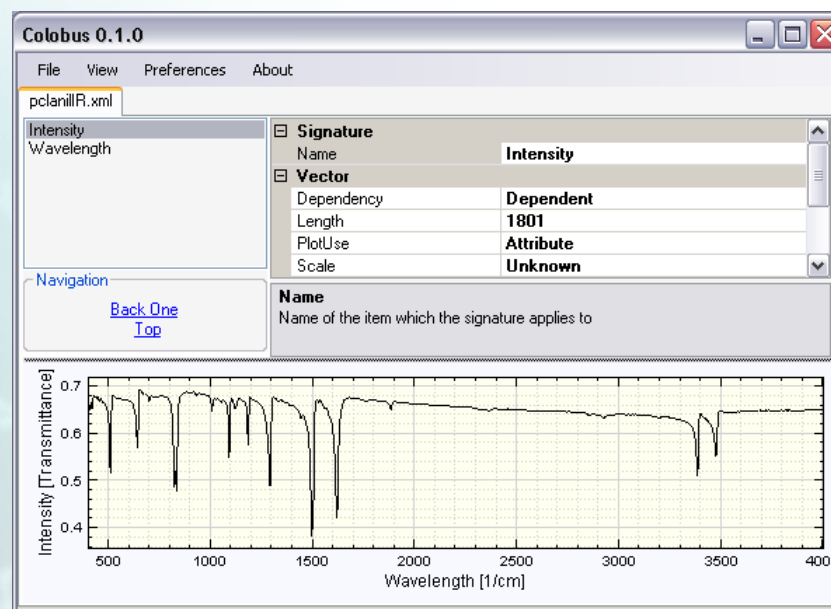


Colobus - Generic Viewer

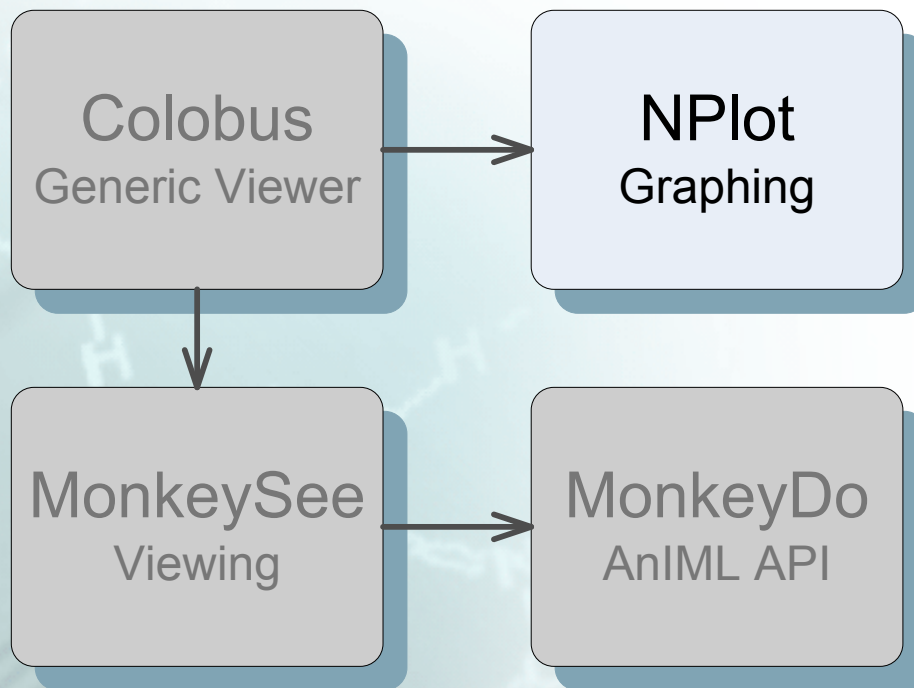


Colobus

- Generic viewer of AnIML files
- Provides method to view multiple AnIML files
- We use this to test our library

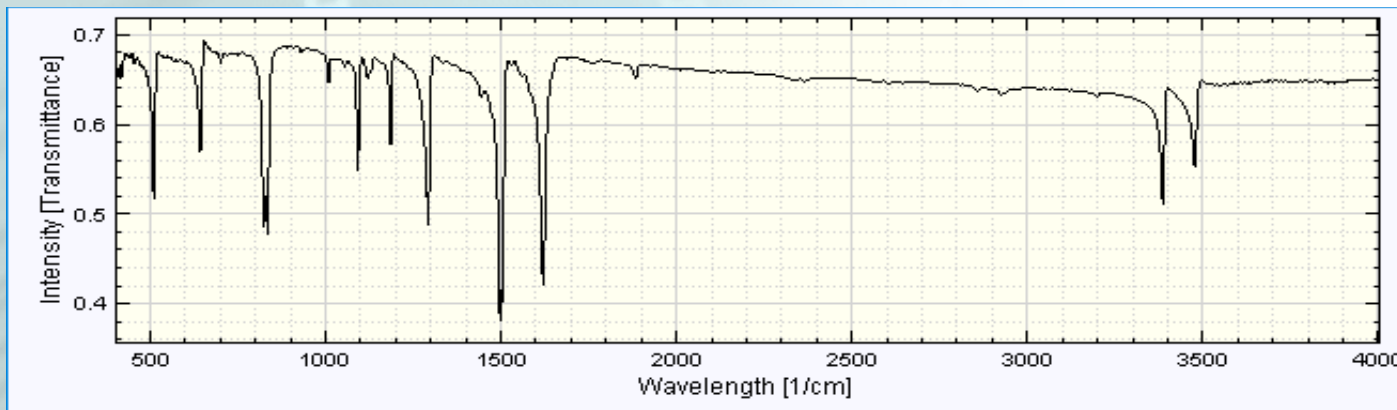


NPlot - Graphing

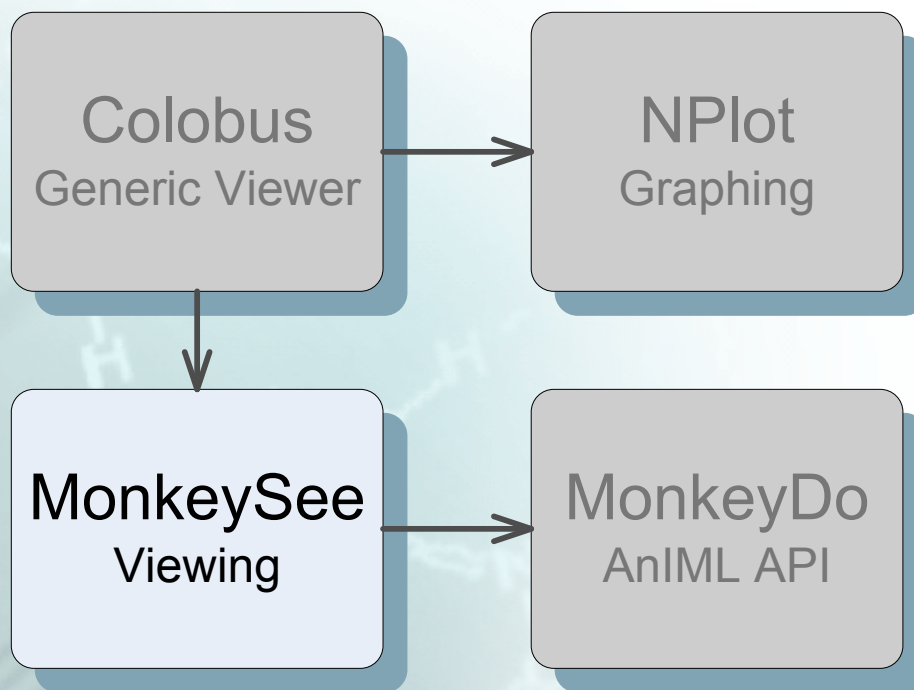


NPlot

- Popular Open source charting library (~1100 downloads/month)
- Why we choose NPlot:
 - We know NPlot (I'm a project administrator)
 - Used in client and in-house projects



MonkeySee - Data Viewer

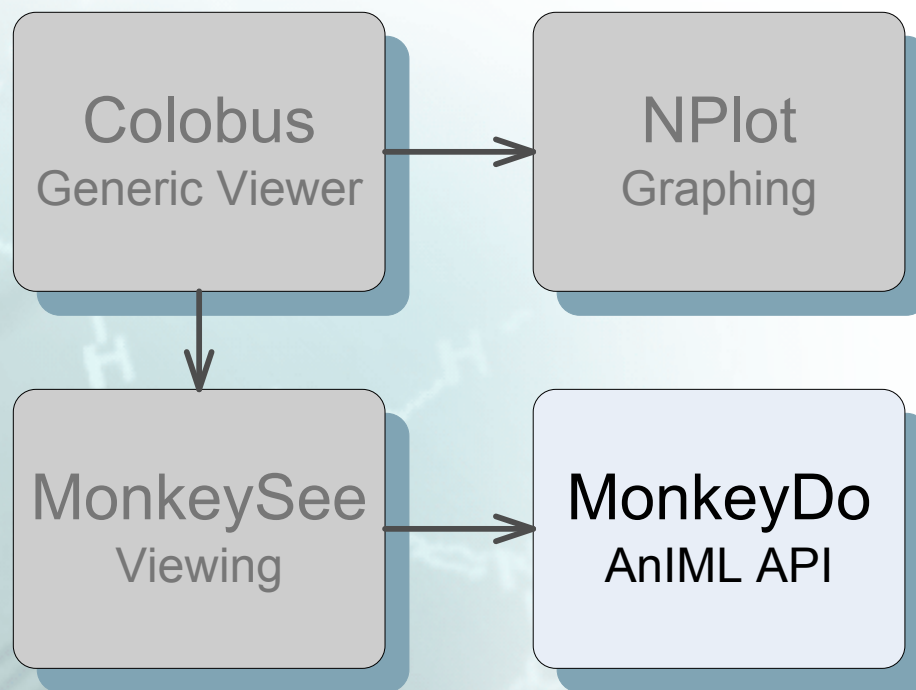


MonkeySee

- Component for viewing the contents of AnIML files
- C# windows component (can be dropped into your Winforms project)

Intensity Wavelength	Name	Intensity
	<input checked="" type="checkbox"/> Vector	
	Dependency	Dependent
	Length	1801
	PlotUse	Attribute
	Scale	Unknown
	Type	Float32
Navigation Back One Level Top Level	Length	Number of data points each vector contains

MonkeyDo - AnIML API

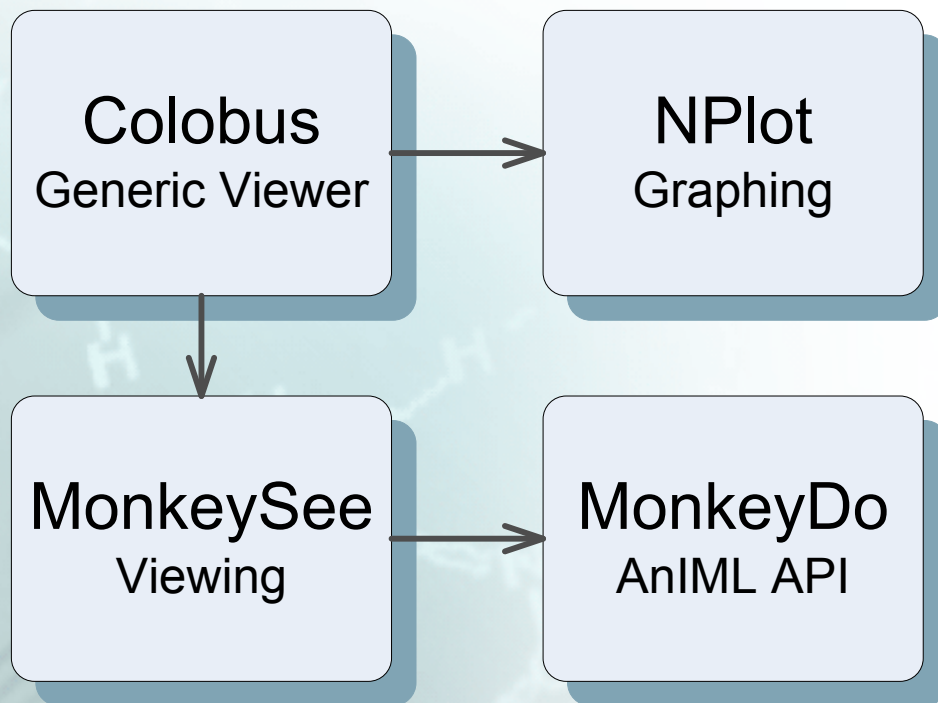


MonkeyDo

- DLL which contains the logic to read (eventually write) AnIML files
- Load AnIML files
- Access samples, Experiments, Audit Trail easily
- No dependencies on any other of the AnIML Tools components

Demo

Design Review



Current Features (0.1.0)

- Supports the loading and parsing of the data specified by the core schema
 - Sample Sets
 - Experiment Step Sets
 - Audit Trail
- AnIML visualization – contents of files viewable via MonkeySee
- Graphing – data is graphed in the NPlot component
- Exporting – Data can be easily moved to another application (i.e. Excel)

Development Roadmap

First Release (1.0)

- Support for technique schemas
- Validation – Integrate NIST validation work (Java)

Next Version (2.0)

- Update the MonkeyDo component to allow the writing of AnIML files
 - Timestamps
 - Digital signatures

Future Plans

- Embeddable version of the MonkeyDo component (moving AnIML into the instrument)

Getting Involved

AnIML

- Domain experts for analytical techniques (NMR, Mass spec)

AnIML Tools

- Software developers – C# knowledge with time to donate?
- Feedback – Is this software useful for your company?

Links

AnIML Project	animl.sourceforge.net
AnIML Tools	www.animltools.com
NPlot	www.nplot.com
JSpecView	jspecview.sourceforge.net
Scimatic Software	www.scimatic.com

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