



Meghan Furton <mrf222@cornell.edu>

AguaClara: Section Plane to Block Reprise

17 messages

Meghan Furton <mrf222@cornell.edu>

Thu, Sep 24, 2015 at 9:54 AM

To: kean.walmsley@autodesk.com

Cc: David Gold <dfg42@cornell.edu>

Hello Mr. Walmsley,

My name is Meghan Furton and I'm contacting you on behalf of AguaClara at Cornell University. I understand that you've provided our team with a lot of help in the past when creating command-line only solutions for AutoCAD functions. This fall, we are again having difficulty with the file you created for us which is attached below. When we attempt to 'netload' this file from the C drive of the computer onto AutoCAD 2015, we encounter this problem:

"Command: NETLOAD

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\SectionPlaneToBlock.dll' ----> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()"

Is this an issue with the version of AutoCAD we are using? I am not sure what 'sandboxing' is. When I tried to modify the 'acad.exe.config' file by inserting the line

```
' <runtime>
```

```
<loadFromRemoteSources enabled="true"/> '
```

I got an error message and had to reinstall AutoCAD on the computer. Are there other settings in AutoCAD that we need to change to use this file?

Thank you very much for your time and support for AguaClara,

Meghan Furton

2 attachments



SectionPlaneToBlock module load instructions.docx

14K

**SectionPlaneToBlock.zip**

5K

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Thu, Sep 24, 2015 at 10:01 AM

Hi Meghan,

Can you try unblocking the ZIP before you extract the DLL? If you save it to disk and check its properties, you may have an “unblock” button:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

If that isn't it, please do let me know and we'll try something else.

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN +41 32 723 9100

DIRECT +41 32 723 9499

MOBILE +41 79 336 8705

FAX +41 32 723 9397

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Autodesk

Puits-Godet 6

CH-2000 Neuchâtel

Switzerland

www.autodesk.com



From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Thursday, September 24, 2015 3:54 PM
To: Kean Walmsley
Cc: David Gold
Subject: AguaClara: Section Plane to Block Reprise

[Quoted text hidden]

Meghan Furton <mrf222@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: David Gold <dfg42@cornell.edu>

Thu, Sep 24, 2015 at 10:05 AM

Hello Kean,

Yes, we have made sure to unblock the file in the properties box. The error message from AutoCAD did not change. Do you have any other suggestions?

Thanks,

Meghan

[Quoted text hidden]

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Thu, Sep 24, 2015 at 10:27 AM

Hi Meghan,

That's very strange. If it's not a blocking issue, then the only thing I can suggest is to double-check the file location (to make sure the path is correct).

You shouldn't need to change the .config file unless loading the DLL from a network location, and you're loading it from the C: drive.

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Thursday, September 24, 2015 4:06 PM
To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

[Quoted text hidden]

Meghan Furton <mrf222@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: David Gold <dfg42@cornell.edu>

Wed, Sep 30, 2015 at 3:49 PM

Hello Kean,

Thank you so much for your help. We have successfully loaded the ddl. It turned out that out AutoCAD was actually on another network and we had to add a line to the adac.exe.file to enable loading from remote sources.

Now we are facing the same error as the team contacting you last semester. This team was not able to move beyond this error.

First, we create a sectionplane. This part seems to be working correctly. When we attempt to use the SPTB command and hit space or enter, we get the following line:

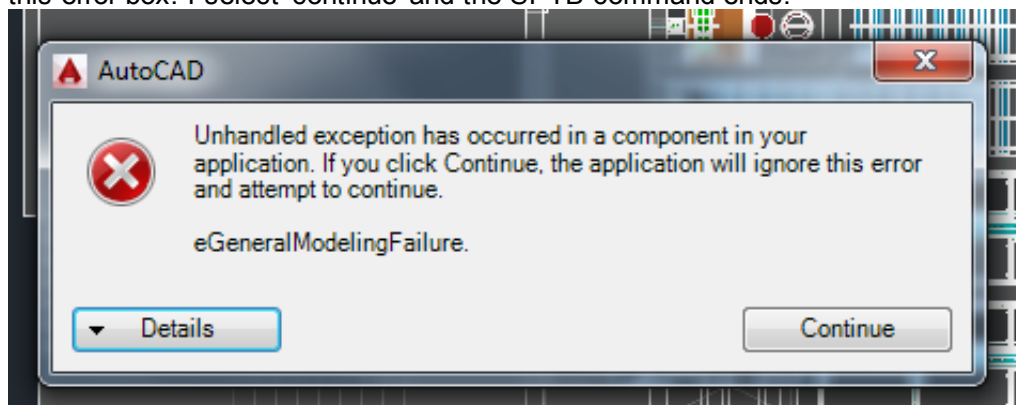
```
> SPTB Select section:
```

When we type in 'Last' into the command line, we get a pop-up box with the error message attached to this email. Here is a list of entries we have also tried:

```
Select section: "L"  
*Invalid selection*  
Expects a point or Last  
Select section: -15,15,0  
Nothing Selected.  
Select section: Last
```

```
> SPTB
```

The point we entered was one corner of our section plane. When we finally type in Last (or l or L or last) we get this error box. I select 'continue' and the SPTB command ends.



Are we not using the function correctly?

Thank you,

Meghan

[Quoted text hidden]

 **SPTBerror.txt**
2K

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Thu, Oct 1, 2015 at 3:48 AM

Hello Meghan,

I'm glad you have the module loading, at least.

Could you please send a DWG file which I can test against? At the very least I should make sure the command fails gracefully for this scenario.

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Wednesday, September 30, 2015 9:50 PM

[Quoted text hidden]

[Quoted text hidden]

Meghan Furton <mrf222@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: David Gold <dfg42@cornell.edu>

Thu, Oct 1, 2015 at 11:13 AM

Hello Kean,

Here is the drawing file we are using, which can be found at this [website](#). We also found that SPTB works great in AutoCAD 2013, and we are able to enter in 'last' and create a block. The script that we are entering into the command line looks something like the text file called 'testSCplease'. The error that we get occurs only in AutoCAD 2015. Is this something that we can fix, or should we just be careful to use only 2015?

Thank you so much for your support,

Best,

Meghan

[Quoted text hidden]

2 attachments **testSCplease.txt**
1K **EtFlocSedFi.dwg**
16070K

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Thu, Oct 1, 2015 at 12:52 PM

Hi Meghan,

I've just tried running the SPTB command on both AutoCAD 2015 and 2016 and it seems to be working well for me.

I used the provided DWG and ran the following excerpt from the provided file:

```
Sectionplane D
```

```
-10.10292,-0.15,-3.16929
```

```
-10.10292,1.66356,-3.16929
```

```
-11.75232,0,0
```

```
SPTB last
```

```
-20,0,0
```

```
1
```

```
1
```

```
0
```

Can you please confirm whether the above set of commands still fail for you (and ideally on multiple systems)?

Thanks,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Thursday, October 01, 2015 5:14 PM

[Quoted text hidden]

[Quoted text hidden]

Meghan Furton <mrf222@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: David Gold <dfg42@cornell.edu>

Tue, Oct 6, 2015 at 6:58 PM

Hello Kean,

We have tried to use the SPTB command on our AutoCAD 2015 software, but so far have been able to use it successfully on AutoCAD 2013. I think it may be a network license issue on our end. I will keep working on this to see if I can find our problem.

One other question we have is whether the SPTB file can be modified to produce section plane blocks with the background lines invisible. It seems like the default setting is to show the lines behind the section plane, and we hope to only show the lines that our plane 'slices' through. When we use the regular SECTIONPLANETOBLOCK command and the pop-up window, there is a section in 'section settings' called 'background lines' with a 'show' setting that we can set to 'no'. Can this be built into the ddl file you have already created for us? Is this default setting something we can change on our versions of AutoCAD outside of the ddl file?

Thank you,

Meghan

[Quoted text hidden]

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Wed, Oct 7, 2015 at 4:33 PM

Hello Meghan,

I'll try to look at this next week. (I'm currently on vacation but will be back in the office on Monday.)

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Wednesday, October 07, 2015 12:59 AM

[Quoted text hidden]

[Quoted text hidden]

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Thu, Oct 22, 2015 at 12:49 PM

Hi Meghan,

Apologies for the delay – it's been a hectic week.

Could you give the attached DLL a try, to see if it does what you want?

If it works for you – and you still want the ability to optionally show the background lines – then I can look at creating a setting you can toggle.

Best regards,

Kean

From: Kean Walmsley
Sent: Wednesday, October 07, 2015 1:33 PM
To: 'Meghan Furton'
Cc: David Gold
Subject: RE: AguaClara: Section Plane to Block Reprise

Hello Meghan,

I'll try to look at this next week. (I'm currently on vacation but will be back in the office on Monday.)

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Wednesday, October 07, 2015 12:59 AM

[Quoted text hidden]

[Quoted text hidden]

 **Sectioner5.zip**
13K

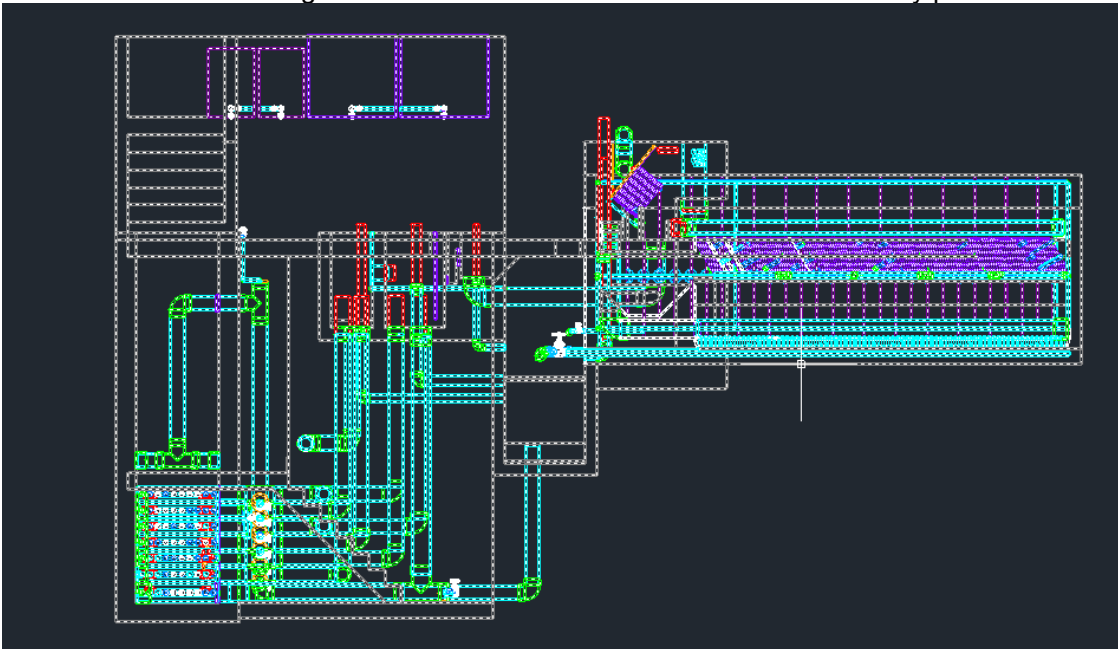
Meghan Furton <mrf222@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: David Gold <dfg42@cornell.edu>

Wed, Oct 28, 2015 at 3:45 PM

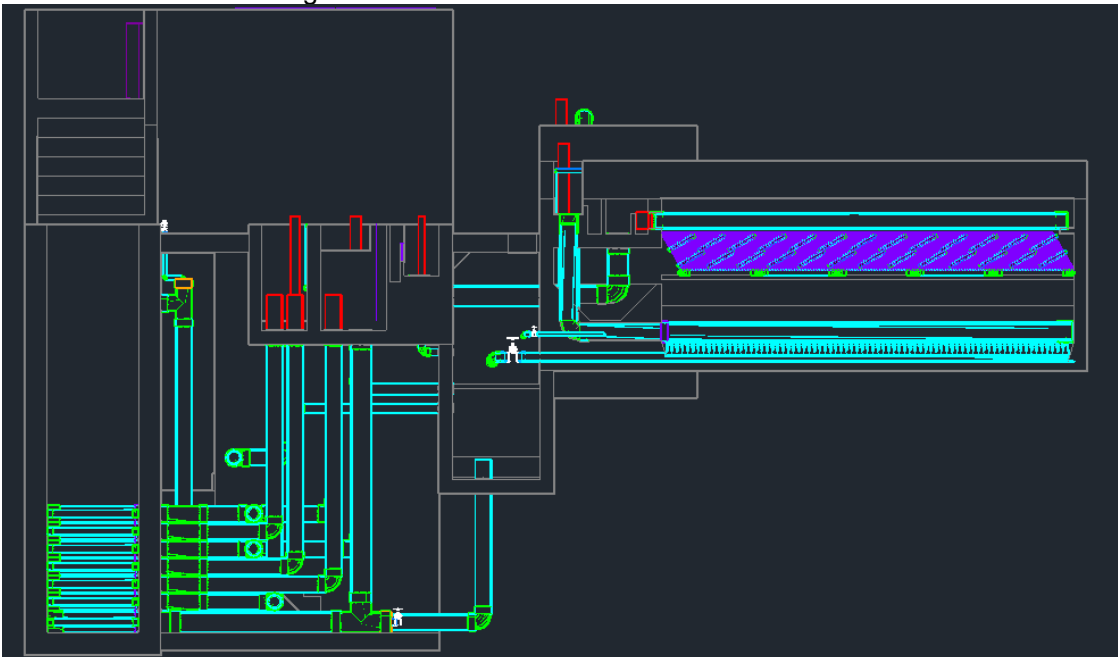
Hello Kean,

Thank you for this new file. It works when we use it here. For some reason, though, all of the background and hidden lines are still visible. I apologize for not communicating this well. A few examples are below:

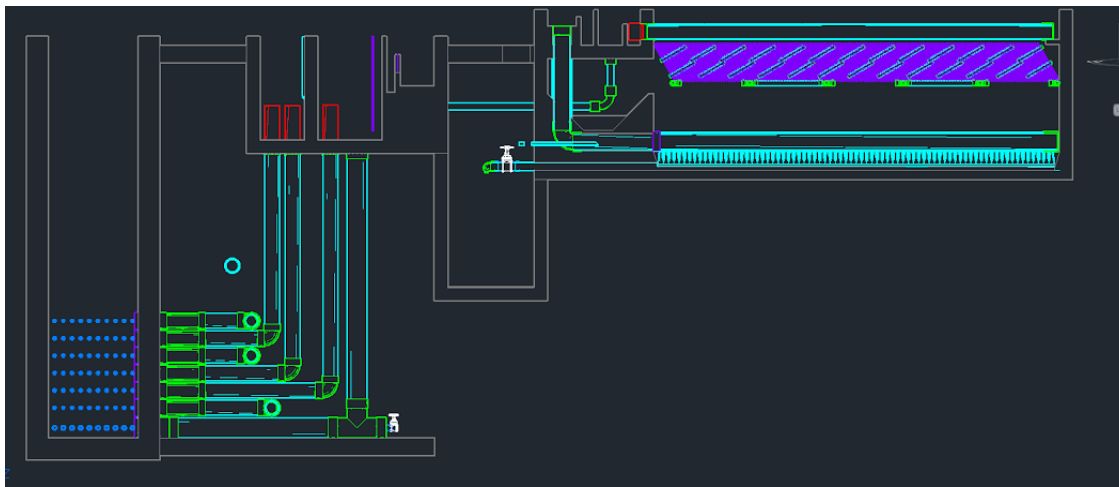
1. This cut includes background and hidden lines. It is what we can currently produce.



2. This cut contains background lines but no hidden lines.



3. This cut contains no hidden lines or background lines.



Would it be possible to have a toggle for the hidden lines and background lines?

Thank you,

Meghan

[Quoted text hidden]

Kean Walmsley <kean.walmsley@autodesk.com>

To: Meghan Furton <mrf222@cornell.edu>

Cc: David Gold <dfg42@cornell.edu>

Thu, Oct 29, 2015 at 10:46 AM

Hi Meghan,

No need to apologise – these issues are sometimes tricky to communicate.

There are always going to be discrepancies between the output of the custom SPTB command and the built-in SECTIONPLANETOBLOCK: I had to work around the fact that certain operations aren't exposed through the API I'm using... while it may be possible to close the gap with the built-in command, it won't be straightforward to do.

I've attached an email discussion from a couple of years ago with other (former?) members of the AguaClara team: hopefully it gives a bit of context related to the history of the tool and how it came to be developed.

So my question is really around priorities: I could probably find a way to implement what you're asking for, but with significant time investment from my side. How important is this capability to the project?

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, October 28, 2015 8:45 PM

[Quoted text hidden]

[Quoted text hidden]

----- Forwarded message -----

From: Songlin Guo <sg888@cornell.edu>

To: Kean Walmsley <kean.walmsley@autodesk.com>

Cc: Julia Morris <jem384@cornell.edu>, Runpeng Yu <ry93@cornell.edu>

Date: Fri, 22 Nov 2013 18:27:46 +0000

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We have figured it out. Thank you anyway and wish you have a good weekend.

Sincerely,
Songlin

On Fri, Nov 22, 2013 at 1:08 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

Sorry for the late response. I think our problem is when we turned off every layers after the Section Cut generated, there was still something left there, and we don't know where is that from. I'm wondering if you could help us with that extra thing there, we appreciate a lot.

Best regards,
Songlin

On Thu, Nov 14, 2013 at 2:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I'll see what I can do. If I'd had this feedback earlier in the year we might have worked on a command-line version of SECTIONPLANETOBLOCK for the next release: reimplementing it externally as I've done is really a workaround (and quite a painful one to get working consistently, at that).

Also, I can't promise when I'll get time to look into this – I'm on the road pretty much until the end of the year.

Best regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]

Sent: Wednesday, November 13, 2013 9:03 PM

To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

The geometry in the section block is important to us, since it is our goal to have those section cuts, to show details of those geometry. We will be so appreciate if you could help us with this. Thank you!

Sincerely,

Songlin Guo

On Tue, Nov 12, 2013 at 12:33 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Yes – the way the command works is somewhat different to the built-in implementation, unfortunately, so there are likely to be discrepancies. It may be possible to get some of the same geometry as you've seen in the standard command, but some of it will take a lot more work.

When I talked about this originally with Anthony, I was led to believe that it was acceptable to have some differences. Before I spend time looking into this, how critical is not having this geometry in the section block, from your perspective?

Regards,

Kean

From: Songlin Guo [<mailto:sg888@cornell.edu>]

Sent: Monday, November 11, 2013 10:20 PM

To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We are facing another problem with SPTB now. I attached two section cut, and one of them was using

build-in command "SectionPlaneToBlock" and the other was using "SPTB". The thing is the "SPTB" generated a solid color of concrete wall in the graph. I also attached the command code here. Sorry for bothering you so many times.

Best,

Songlin

On Mon, Nov 11, 2013 at 3:13 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Great! :-)

Best regards,

Kean

Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

It works perfectly! Thank you.

Best,

Songlin

On Mon, Nov 11, 2013 at 9:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

The SPTB command is currently doing some work to create a block definition and then launching the INSERT command to do the rest of the work (including asking the user for the insertion point, scale factors & rotation). I'd previously done this as you get a nicer interactive experience: you see the block at the cursor location as you place it. But as you're automating the placement, this is pretty much redundant for your use-case.

I've adjusted the logic to ask for this information up-front in the SPTB command, and then pass it through to the INSERT command at the end.

If this adjusted approach doesn't work – and I've enabled a bit more info at the command-line, so we can see what's failing more easily – we can always just create the block reference in the drawing directly, so let me know how you get on. Also, if you always use standard scale factors and rotations then we could also streamline the approach further.

Updated file attached – please remember to unblock the ZIP before NETLOADing it.

Best regards,

Kean

P.S. I believe there's a redundant call to the SELECT command in your automation script: as the command isn't using "noun-verb" mode for the section selection, there's no point doing "Select L" before calling SPTB.

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Sunday, November 10, 2013 8:56 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the text that they are inputting into the AutoCAD drawing attached. An error seems to occur after "last" is inputted after the SPTB command. We noticed that there is a lag in the run time and maybe this could be the reason why an error occurs when trying to input the block coordinates. The SPTB command does work however if you input SPTB then "last" and then wait for the command to run and then input the coordinates, but the fact that it won't run automatically is a problem for us and we were wondering if you had any insight on how we could fix this.

Thanks!

Julia

.ms

-group c * y

all

-layer s 0

-layer f *

-layer m Sedimentation Cross Section

c t 0,255,255

Sedimentation Cross Section

Sectionplane D

-2.78283,0,0

-2.78283,3.5004,0

0,3.5004,0

laythw

Select L

SPTB last

55.2076,6.55393,0

1

1

0

On Tue, Nov 5, 2013 at 2:52 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I can't think of a reason, off the top of my head.

If you could document some steps I can use to reproduce the problem from my side, perhaps then I'll be able to say what's happening.

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Monday, November 04, 2013 9:51 PM
To: Kean Walmsley
Cc: Julia Morris; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

On Mon, Nov 4, 2013 at 3:50 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

We are facing another problem after we enter the SPTB command. We notice it takes a while to run the SPTB command, and the code coming after that will not run correctly if we run the whole thing at one time. But if we wait for SPTB running completely, and run the second part of code after that, it will work. I attached notepad code here. Would you know why this is happening?

Thank you,

Songlin

On Tue, Oct 8, 2013 at 1:25 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

That's great! :-)

Please do let me know how it works for you, and if any tweaks are needed to be usable.

Best regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, October 07, 2013 10:03 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Thanks Kean! Unblocking the zip file before loading worked! The DLL now loads and the SPTB command works

Thanks again!

Julia

On Sun, Oct 6, 2013 at 2:54 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Actually, before that... please try right-clicking the DLL, to see if you have the unblock option. That would save you from having to modify the acad.exe.config file:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

Regards,

Kean

From: Kean Walmsley
Sent: Sunday, October 06, 2013 8:31 PM
To: 'Julia Morris'

Cc: Songlin Guo; Runpeng Yu
Subject: RE: Automated SectionPlaneToBlock Module

Hi Julia,

Thanks – that’s very helpful. Could you please try to apply the change to acad.exe.config suggested here?

http://through-the-interface.typepad.com/through_the_interface/2011/07/loading-blocked-and-network-hosted-assemblies-with-net-4.html

Please let me know how you get on,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Sunday, October 06, 2013 8:14 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the error message I get when I try to load the DLL and I get an Unknown Command when I try to enter the SPTB command

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' ---> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, StackCrawlMark& stackMark, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()

Thanks,

Julia

On Fri, Oct 4, 2013 at 9:41 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Thanks – this helps confirm the version you’re using, at least.

When you say the app doesn’t work, can you please describe the behavior in more detail?

For instance, does the NETLOAD print any message when you try to load the DLL? Does entering SPTB at the command-line after the load attempt just result in an “Unknown Command”?

Thanks & regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Friday, October 04, 2013 1:20 AM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Sorry for the late response. We've tried loading this on a few different computers on campus and have not been able to do so.

Here are the results of the commands you told me to type in:

"G.55.0.0 (UNICODE)" (read only)

"393-16565185" (read only)

Best,

Julia

On Mon, Sep 30, 2013 at 3:29 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

It would certainly be good to get to the bottom of this loading issue. If you could confirm a few things by typing them in at the command-line and letting me know what's displayed:

_vernum

_pkser

If these don't happen to provide enough information, it may be worth setting up a desktop-sharing session.

Also, is this behaviour consistent across multiple machines?

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Monday, September 30, 2013 9:25 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

We are working with 2013 right now

On Mon, Sep 30, 2013 at 3:21 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

It was frankly always a mystery why the app would not load in the Academic version (unless the version you're using happens to be AutoCAD LT rather than full AutoCAD). I don't know of a reason it would work in that way.

Which version of AutoCAD are you now working with (e.g. 2013, 2014), by the way?

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN [+41 32 723 9100](tel:+41327239100)

DIRECT [+41 32 723 9499](tel:+41327239499)

MOBILE [+41 79 336 8705](tel:+41793368705)

FAX [+41 32 723 9397](tel:+41327239397)

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Autodesk

Puits-Godet 6

Case postale 35

CH-2002 Neuchâtel

Switzerland

www.autodesk.com



From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, September 30, 2013 9:10 PM
To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Automated SectionPlaneToBlock Module

Hi Kean,

Last semester you developed an add in to automate the sectionplanetoblock command with Anthony Andrews for the AguaClara program at Cornell. This semester we are working to getting this module working in our design code but we have had trouble loading it into AutoCAD. Anthony mentioned to me that he could only get the module to load on the free Educational version and wasn't able to get it to load on the Academic version which we use to output our designs. Would you know why this is happening?

Thanks,

Julia

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

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Environmental Engineering

[772-766-3245](tel:772-766-3245)

 **noname.eml**
97K

Meghan Furton <mrf222@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: David Gold <dfg42@cornell.edu>

Mon, Nov 30, 2015 at 4:19 PM

Hello Kean,

Thank you very much for your support.

If you have any time, I'd really appreciate if you could look at these test scripts that we are using to figure out how SPTB works. For all of these scripts, I first 'netload' the 'Sectioner.ddl' file you created for us.

What I've discovered is that I can't use the SPTB command more than two times. This is shown in the 'overload' test. The 'works' tests both show two blocks created as expected. In the 'erased' file, I tried erasing the blocks and then using SPTB again, but still this did not work for me.

I am using AutoCAD 2013 and the error that I get is that the command line says 'SPTB' and the program freezes. Does this happen when you paste these text files into your command line?

Thank you,

Meghan

[Quoted text hidden]

[Quoted text hidden]

----- Forwarded message -----

From: Songlin Guo <sg888@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: Julia Morris <jem384@cornell.edu>, Runpeng Yu <ry93@cornell.edu>
Date: Fri, 22 Nov 2013 18:27:46 +0000
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We have figured it out. Thank you anyway and wish you have a good weekend.

Sincerely,
Songlin

On Fri, Nov 22, 2013 at 1:08 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

Sorry for the late response. I think our problem is when we turned off every layers after the Section Cut generated, there was still something left there, and we don't know where is that from. I'm wondering if you could help us with that extra thing there, we appreciate a lot.

Best regards,
Songlin

On Thu, Nov 14, 2013 at 2:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I'll see what I can do. If I'd had this feedback earlier in the year we might have worked on a command-line version of SECTIONPLANETOBLOCK for the next release: reimplementing it externally as I've done is really a workaround (and quite a painful one to get working consistently, at that).

Also, I can't promise when I'll get time to look into this – I'm on the road pretty much until the end of the year.

Best regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Wednesday, November 13, 2013 9:03 PM
To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

The geometry in the section block is important to us, since it is our goal to have those section cuts, to show details of those geometry. We will be so appreciate if you could help us with this. Thank you!

Sincerely,

Songlin Guo

On Tue, Nov 12, 2013 at 12:33 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Yes – the way the command works is somewhat different to the built-in implementation, unfortunately, so there are likely to be discrepancies. It may be possible to get some of the same geometry as you've seen in the standard command, but some of it will take a lot more work.

When I talked about this originally with Anthony, I was led to believe that it was acceptable to have some differences. Before I spend time looking into this, how critical is not having this geometry in the section block, from your perspective?

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Monday, November 11, 2013 10:20 PM

To: Kean Walmsley
Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We are facing another problem with SPTB now. I attached two section cut, and one of them was using build-in command "SectionPlaneToBlock" and the other was using "SPTB". The thing is the "SPTB" generated a solid color of concrete wall in the graph. I also attached he command code here. Sorry for bothering you so many times.

Best,

Songlin

On Mon, Nov 11, 2013 at 3:13 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Great! :-)

Best regards,

Kean

Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

It works perfectly! Thank you.

Best,

Songlin

On Mon, Nov 11, 2013 at 9:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

The SPTB command is currently doing some work to create a block definition and then launching the INSERT command to do the rest of the work (including asking the user for the insertion point, scale factors & rotation). I'd previously done this as you get a nicer interactive experience: you see the block at the cursor location as you place it. But as you're automating the placement, this is pretty much redundant for your use-case.

I've adjusted the logic to ask for this information up-front in the SPTB command, and then pass it through to the INSERT command at the end.

If this adjusted approach doesn't work – and I've enabled a bit more info at the command-line, so we can see what's failing more easily – we can always just create the block reference in the drawing directly, so let me know how you get on. Also, if you always use standard scale factors and rotations then we could also streamline the approach further.

Updated file attached – please remember to unblock the ZIP before NETLOADing it.

Best regards,

Kean

P.S. I believe there's a redundant call to the SELECT command in your automation script: as the command isn't using "noun-verb" mode for the section selection, there's no point doing "Select L" before calling SPTB.

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Sunday, November 10, 2013 8:56 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the text that they are inputting into the AutoCAD drawing attached. An error seems to occur after "last" is inputted after the SPTB command. We noticed that there is a lag in the run time and maybe this could be the reason why an error occurs when trying to input the block coordinates. The SPTB command does work however if you input SPTB then "last" and then wait for the command to run and then input the coordinates, but the fact that it won't run automatically is a problem for us and we were wondering if you had any insight on how we could fix this.

Thanks!

Julia

```
.ms
-group c * y
all
-layer s 0

-layer f *

-layer m Sedimentation Cross Section
c t 0,255,255
Sedimentation Cross Section

Sectionplane D
-2.78283,0,0
-2.78283,3.5004,0

0,3.5004,0
laythw
Select L

SPTB last
55.2076,6.55393,0
```

1

1

0

On Tue, Nov 5, 2013 at 2:52 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I can't think of a reason, off the top of my head.

If you could document some steps I can use to reproduce the problem from my side, perhaps then I'll be able to say what's happening.

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]

Sent: Monday, November 04, 2013 9:51 PM

To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

On Mon, Nov 4, 2013 at 3:50 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

We are facing another problem after we enter the SPTB command. We notice it takes a while to run the SPTB command, and the code coming after that will not run correctly if we run the whole thing at one time. But if we wait for SPTB running completely, and run the second part of code after that, it will work. I attached notepad code here. Would you know why this is happening?

Thank you,

Songlin

On Tue, Oct 8, 2013 at 1:25 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

That's great! :-)

Please do let me know how it works for you, and if any tweaks are needed to be usable.

Best regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Monday, October 07, 2013 10:03 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Thanks Kean! Unblocking the zip file before loading worked! The DLL now loads and the SPTB command works

Thanks again!

Julia

On Sun, Oct 6, 2013 at 2:54 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Actually, before that... please try right-clicking the DLL, to see if you have the unblock option. That would save you from having to modify the acad.exe.config file:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

Regards,

Kean

From: Kean Walmsley
Sent: Sunday, October 06, 2013 8:31 PM
To: 'Julia Morris'

Cc: Songlin Guo; Runpeng Yu

Subject: RE: Automated SectionPlaneToBlock Module

Hi Julia,

Thanks – that's very helpful. Could you please try to apply the change to acad.exe.config suggested here?

http://through-the-interface.typepad.com/through_the_interface/2011/07/loading-blocked-and-network-hosted-assemblies-with-net-4.html

Please let me know how you get on,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Sunday, October 06, 2013 8:14 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the error message I get when I try to load the DLL and I get an Unknown Command when I try to enter the SPTB command

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly

'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' --->

System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, StackCrawlMark& stackMark, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()

Thanks,

Julia

On Fri, Oct 4, 2013 at 9:41 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Thanks – this helps confirm the version you’re using, at least.

When you say the app doesn’t work, can you please describe the behavior in more detail?

For instance, does the NETLOAD print any message when you try to load the DLL? Does entering SPTB at the command-line after the load attempt just result in an “Unknown Command”?

Thanks & regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Friday, October 04, 2013 1:20 AM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Sorry for the late response. We've tried loading this on a few different computers on campus and have not been able to do so.

Here are the results of the commands you told me to type in:

"G.55.0.0 (UNICODE)" (read only)

"393-16565185" (read only)

Best,

Julia

On Mon, Sep 30, 2013 at 3:29 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

It would certainly be good to get to the bottom of this loading issue. If you could confirm a few things by typing them in at the command-line and letting me know what's displayed:

`_vernum`

`_pkser`

If these don't happen to provide enough information, it may be worth setting up a desktop-sharing session.

Also, is this behaviour consistent across multiple machines?

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, September 30, 2013 9:25 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

We are working with 2013 right now

On Mon, Sep 30, 2013 at 3:21 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

It was frankly always a mystery why the app would not load in the Academic version (unless the version you're using happens to be AutoCAD LT rather than full AutoCAD). I don't know of a reason it would work in that way.

Which version of AutoCAD are you now working with (e.g. 2013, 2014), by the way?

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN [+41 32 723 9100](tel:+1327239100)

DIRECT [+41 32 723 9499](tel:+1327239499)

MOBILE [+41 79 336 8705](tel:+1793368705)

FAX [+41 32 723 9397](tel:+1327239397)

Twitter

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Blog

Autodesk

Puits-Godet 6

Case postale 35

CH-2002 Neuchâtel

Switzerland

www.autodesk.com



From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, September 30, 2013 9:10 PM
To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Automated SectionPlaneToBlock Module

Hi Kean,

Last semester you developed an add in to automate the sectionplanetoblock command with Anthony Andrews for the AguaClara program at Cornell. This semester we are working to getting this module working in our design code but we have had trouble loading it into AutoCAD. Anthony mentioned to me that he could only get the module to load on the free Educational version and wasn't able to get it to load on the Academic version which we use to output our designs. Would you know why this is happening?

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4 attachments

-  **TestErased.txt**
1K
-  **TestOverload.txt**
1K
-  **TestWorks1.txt**
1K
-  **TestWorks2.txt**
1K

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Wed, Dec 2, 2015 at 11:47 AM

Hi Meghan,

Just a quick note to let you know I'm currently at Autodesk University in Las Vegas. I'll take a look at this when I'm back in the office, next week.

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Monday, November 30, 2015 1:20 PM
To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Thank you very much for your support.

If you have any time, I'd really appreciate if you could look at these test scripts that we are using to figure out how SPTB works. For all of these scripts, I first 'netload' the 'Sectioner.ddl' file you created for us.

What I've discovered is that I can't use the SPTB command more than two times. This is shown in the 'overload' test. The 'works' tests both show two blocks created as expected. In the 'erased' file, I tried erasing the blocks and then using SPTB again, but still this did not work for me.

I am using AutoCAD 2013 and the error that I get is that the command line says 'SPTB' and the program freezes. Does this happen when you paste these text files into your command line?

Thank you,

Meghan

On Thu, Oct 29, 2015 at 10:46 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

No need to apologise – these issues are sometimes tricky to communicate.

There are always going to be discrepancies between the output of the custom SPTB command and the built-in SECTIONPLANETOBLOCK: I had to work around the fact that certain operations aren't exposed through the API I'm using... while it may be possible to close the gap with the built-in command, it won't be straightforward to do.

I've attached an email discussion from a couple of years ago with other (former?) members of the AguaClara team: hopefully it gives a bit of context related to the history of the tool and how it came to be developed.

So my question is really around priorities: I could probably find a way to implement what you're asking for, but with significant time investment from my side. How important is this capability to the project?

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, October 28, 2015 8:45 PM

To: Kean Walmsley

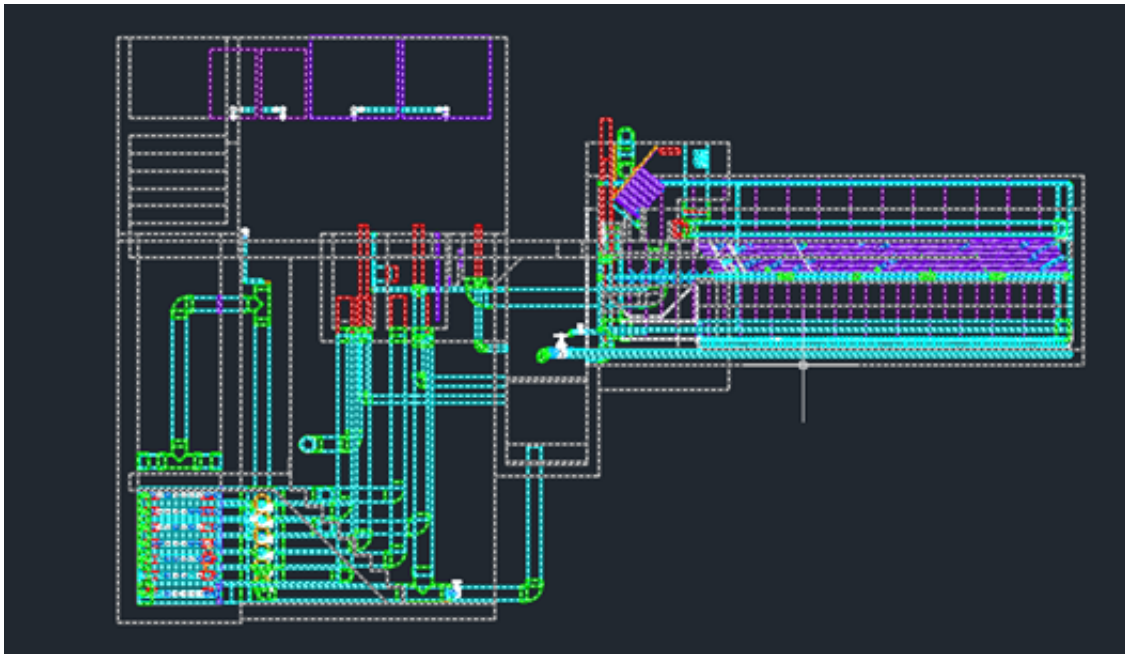
Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

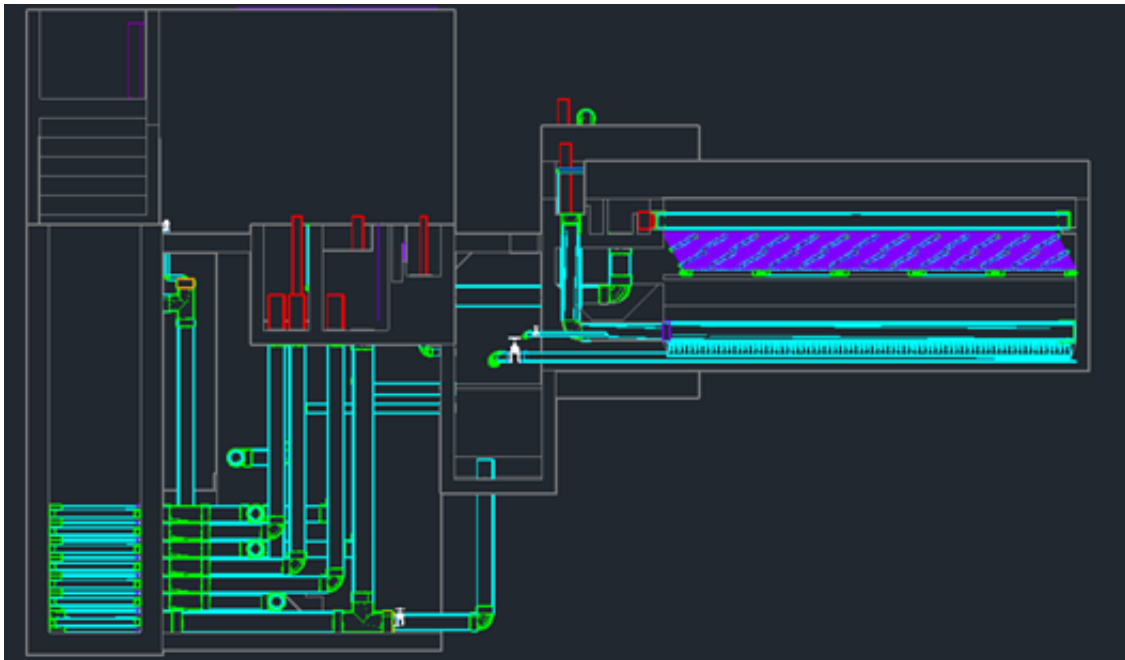
Hello Kean,

Thank you for this new file. It works when we use it here. For some reason, though, all of the background and hidden lines are still visible. I apologize for not communicating this well. A few examples are below:

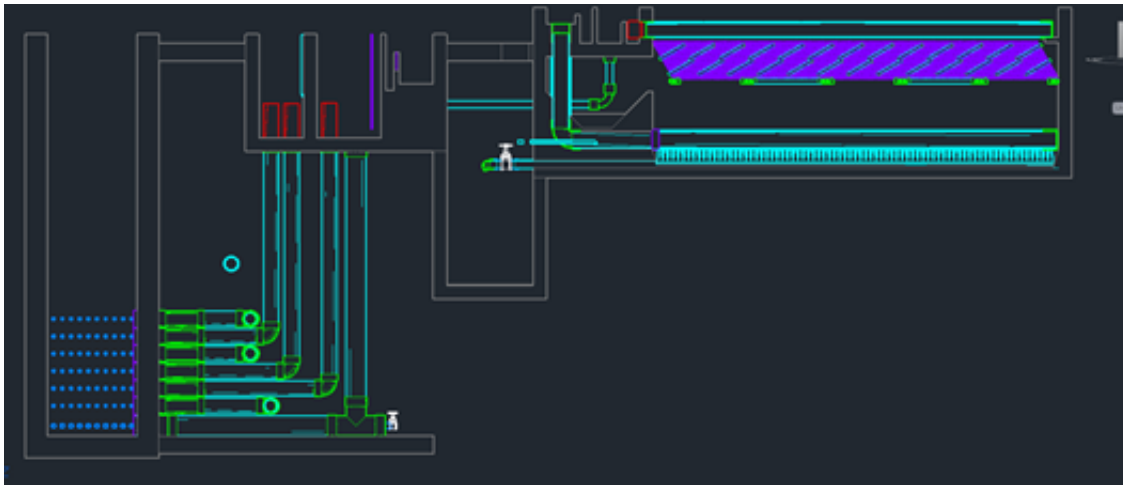
1. This cut includes background and hidden lines. It is what we can currently produce.



2. This cut contains background lines but no hidden lines.



3. This cut contains no hidden lines or background lines.



Would it be possible to have a toggle for the hidden lines and background lines?

Thank you,

Meghan

On Thu, Oct 22, 2015 at 12:49 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

Apologies for the delay – it's been a hectic week.

Could you give the attached DLL a try, to see if it does what you want?

If it works for you – and you still want the ability to optionally show the background lines – then I can look at creating a setting you can toggle.

Best regards,

Kean

From: Kean Walmsley
Sent: Wednesday, October 07, 2015 1:33 PM
To: 'Meghan Furton'
Cc: David Gold

Subject: RE: AguaClara: Section Plane to Block Reprise

Hello Meghan,

I'll try to look at this next week. (I'm currently on vacation but will be back in the office on Monday.)

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, October 07, 2015 12:59 AM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

We have tried to use the SPTB command on our AutoCAD 2015 software, but so far have been able to use it successfully on AutoCAD 2013. I think it may be a network license issue on our end. I will keep working on this to see if I can find our problem.

One other question we have is whether the SPTB file can be modified to produce section plane blocks with the background lines invisible. It seems like the default setting is to show the lines behind the section plane, and we hope to only show the lines that our plane 'slices' through. When we use the regular SECTIONPLANETOBLOCK command and the pop-up window, there is a section in 'section settings' called 'background lines' with a 'show' setting that we can set to 'no'. Can this be built into the ddl file you have already created for us? Is this default setting something we can change on our versions of AutoCAD outside of the ddl file?

Thank you,

Meghan

On Thu, Oct 1, 2015 at 12:52 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

I've just tried running the SPTB command on both AutoCAD 2015 and 2016 and it seems to be working well for me.

I used the provided DWG and ran the following excerpt from the provided file:

Sectionplane D

-10.10292,-0.15,-3.16929

-10.10292,1.66356,-3.16929

-11.75232,0,0

SPTB last

-20,0,0

1

1

0

Can you please confirm whether the above set of commands still fail for you (and ideally on multiple systems)?

Thanks,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Thursday, October 01, 2015 5:14 PM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Here is the drawing file we are using, which can be found at this [website](#).

We also found that SPTB works great in AutoCAD 2013, and we are able to enter in 'last' and create a block. The script that we are entering into the command line looks something like the text file called 'testSCplease'.

The error that we get occurs only in AutoCAD 2015. Is this something that we can fix, or should we just be careful to use only 2015?

Thank you so much for your support,

Best,

Meghan

On Thu, Oct 1, 2015 at 3:48 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hello Meghan,

I'm glad you have the module loading, at least.

Could you please send a DWG file which I can test against? At the very least I should make sure the command fails gracefully for this scenario.

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, September 30, 2015 9:50 PM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Thank you so much for your help. We have successfully loaded the ddl. It turned out that out AutoCAD was actually on another network and we had to add a line to the adac.exe file to enable loading from remote sources.

Now we are facing the same error as the team contacting you last semester. This team was not able to move beyond this error.

First, we create a sectionplane. This part seems to be working correctly. When we attempt to use the SPTB command and hit space or enter, we get the following line:

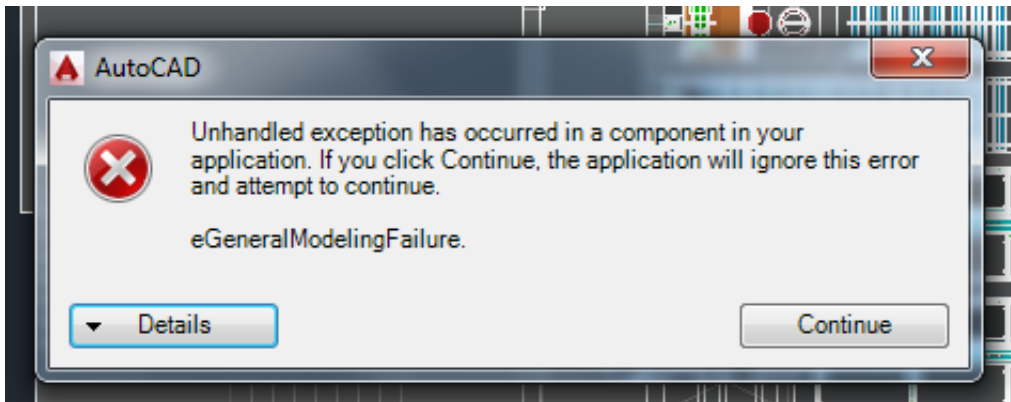
```
> SPTB Select section:
```

When we type in 'Last' into the command line, we get a pop-up box with the error message attached to this email. Here is a list of entries we have also tried:

```
Select section: "L"  
*Invalid selection*  
Expects a point or Last  
Select section: -15,15,0  
Nothing Selected.  
Select section: Last
```

```
> SPTB
```

The point we entered was one corner of our section plane. When we finally type in Last (or l or L or last) we get this error box. I select 'continue' and the SPTB command ends.



Are we not using the function correctly?

Thank you,

Meghan

On Thu, Sep 24, 2015 at 10:27 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

That's very strange. If it's not a blocking issue, then the only thing I can suggest is to double-check the file location (to make sure the path is correct).

You shouldn't need to change the .config file unless loading the DLL from a network location, and you're loading it from the C: drive.

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Thursday, September 24, 2015 4:06 PM
To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Yes, we have made sure to unblock the file in the properties box. The error message from AutoCAD did not change. Do you have any other suggestions?

Thanks,

Meghan

On Thu, Sep 24, 2015 at 10:01 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

Can you try unblocking the ZIP before you extract the DLL? If you save it to disk and check its properties, you may have an "unblock" button:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

If that isn't it, please do let me know and we'll try something else.

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN [+41 32 723 9100](tel:+41327239100)

DIRECT [+41 32 723 9499](tel:+41327239499)

MOBILE [+41 79 336 8705](tel:+41793368705)

FAX [+41 32 723 9397](tel:+41327239397)

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Autodesk

Puits-Godet 6

CH-2000 Neuchâtel

Switzerland

www.autodesk.com



From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Thursday, September 24, 2015 3:54 PM

To: Kean Walmsley

Cc: David Gold

Subject: AguaClara: Section Plane to Block Reprise

Hello Mr. Walmsley,

My name is Meghan Furton and I'm contacting you on behalf of AguaClara at Cornell University. I understand that you've provided our team with a lot of help in the past when creating command-line only solutions for AutoCAD functions. This fall, we are again having difficulty with the file you created for us which is attached below. When we

attempt to 'netload' this file from the C drive of the computer onto AutoCAD 2015, we encounter this problem:

```
"Command: NETLOAD
```

```
Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)
```

```
File name: 'file:///C:\SectionPlaneToBlock.dll' ---> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See http://go.microsoft.com/fwlink/?LinkId=155569 for more information.
```

```
at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)
```

```
at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)
```

```
at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)
```

```
at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)
```

```
at System.Reflection.Assembly.LoadFrom(String assemblyFile)
```

```
at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)
```

```
at loadmgd()"
```

Is this an issue with the version of AutoCAD we are using? I am not sure what 'sandboxing' is. When I tried to modify the 'acad.exe.config' file by inserting the line

```
' <runtime>
```

```
<loadFromRemoteSources enabled="true"/> '
```

I got an error message and had to reinstall AutoCAD on the computer. Are there other settings in AutoCAD that we need to change to use this file?

Thank you very much for your time and support for AguaClara,

Meghan Furton

----- Forwarded message -----

From: Songlin Guo <sg888@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: Julia Morris <jem384@cornell.edu>, Runpeng Yu <ry93@cornell.edu>
Date: Fri, 22 Nov 2013 18:27:46 +0000
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We have figured it out. Thank you anyway and wish you have a good weekend.

Sincerely,

Songlin

On Fri, Nov 22, 2013 at 1:08 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

Sorry for the late response. I think our problem is when we turned off every layers after the Section Cut generated, there was still something left there, and we don't know where is that from. I'm wondering if you could help us with that extra thing there, we appreciate a lot.

Best regards,

Songlin

On Thu, Nov 14, 2013 at 2:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I'll see what I can do. If I'd had this feedback earlier in the year we might have worked on a command-line version of SECTIONPLANETOBLOCK for the next release: reimplementing it externally as I've done is really a workaround (and quite a painful one to get working consistently, at that).

Also, I can't promise when I'll get time to look into this – I'm on the road pretty much until the end of the year.

Best regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Wednesday, November 13, 2013 9:03 PM
To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

The geometry in the section block is important to us, since it is our goal to have those section cuts, to show details of those geometry. We will be so appreciate if you could help us with this. Thank you!

Sincerely,
Songlin Guo

On Tue, Nov 12, 2013 at 12:33 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Yes – the way the command works is somewhat different to the built-in implementation, unfortunately, so there are likely to be discrepancies. It may be possible to get some of the same geometry as you've seen in the standard command, but some of it will take a lot more work.

When I talked about this originally with Anthony, I was led to believe that it was acceptable to have some differences. Before I spend time looking into this, how critical is not having this geometry in the section block, from your perspective?

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Monday, November 11, 2013 10:20 PM

To: Kean Walmsley
Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We are facing another problem with SPTB now. I attached two section cut, and one of them was using build-in command "SectionPlaneToBlock" and the other was using "SPTB". The thing is the "SPTB" generated a solid color of concrete wall in the graph. I also attached he command code here. Sorry for bothering you so many times.

Best,

Songlin

On Mon, Nov 11, 2013 at 3:13 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Great! :-)

Best regards,

Kean

Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

It works perfectly! Thank you.

Best,

Songlin

On Mon, Nov 11, 2013 at 9:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

The SPTB command is currently doing some work to create a block definition and then launching the INSERT command to do the rest of the work (including asking the user for the insertion point, scale factors & rotation). I'd previously done this as you get a nicer interactive experience: you see the block at the cursor location as you place it. But as you're automating the placement, this is pretty much redundant for your use-case.

I've adjusted the logic to ask for this information up-front in the SPTB command, and then pass it through to the INSERT command at the end.

If this adjusted approach doesn't work – and I've enabled a bit more info at the command-line, so we can see what's failing more easily – we can always just create the block reference in the drawing directly, so let me know how you get on. Also, if you always use standard scale factors and rotations then we could also streamline the approach further.

Updated file attached – please remember to unblock the ZIP before NETLOADing it.

Best regards,

Kean

P.S. I believe there's a redundant call to the SELECT command in your automation script: as the command isn't using "noun-verb" mode for the section selection, there's no point doing "Select L" before calling SPTB.

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Sunday, November 10, 2013 8:56 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the text that they are inputting into the AutoCAD drawing attached. An error seems to occur after "last" is inputted after the SPTB command. We noticed that there is a lag in the run time and maybe this could be the reason why an error occurs when trying to input the block coordinates. The SPTB command does work however if you input SPTB then "last" and then wait for the command to run and then input the coordinates, but the fact that it won't run automatically is a problem for us and we were wondering if you had any insight on how we could fix this.

Thanks!

Julia

```
.ms
-group c * y
all
-layer s 0

-layer f *

-layer m Sedimentation Cross Section
c t 0,255,255
Sedimentation Cross Section

Sectionplane D
-2.78283,0,0
-2.78283,3.5004,0

0,3.5004,0
laythw
Select L

SPTB last
55.2076,6.55393,0
1
1
0
```

On Tue, Nov 5, 2013 at 2:52 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I can't think of a reason, off the top of my head.

If you could document some steps I can use to reproduce the problem from my side, perhaps then I'll be able to say what's happening.

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]

Sent: Monday, November 04, 2013 9:51 PM

To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

On Mon, Nov 4, 2013 at 3:50 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

We are facing another problem after we enter the SPTB command. We notice it takes a while to run the SPTB command, and the code coming after that will not run correctly if we run the whole thing at one time. But if we wait for SPTB running completely, and run the second part of code after that, it will work. I attached notepad code here. Would you know why this is happening?

Thank you,

Songlin

On Tue, Oct 8, 2013 at 1:25 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

That's great! :-)

Please do let me know how it works for you, and if any tweaks are needed to be usable.

Best regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, October 07, 2013 10:03 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Thanks Kean! Unblocking the zip file before loading worked! The DLL now loads and the SPTB command works

Thanks again!

Julia

On Sun, Oct 6, 2013 at 2:54 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Actually, before that... please try right-clicking the DLL, to see if you have the unblock option. That would save you from having to modify the acad.exe.config file:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

Regards,

Kean

From: Kean Walmsley
Sent: Sunday, October 06, 2013 8:31 PM
To: 'Julia Morris'

Cc: Songlin Guo; Runpeng Yu
Subject: RE: Automated SectionPlaneToBlock Module

Hi Julia,

Thanks – that's very helpful. Could you please try to apply the change to acad.exe.config suggested here?

http://through-the-interface.typepad.com/through_the_interface/2011/07/loading-blocked-and-network-hosted-assemblies-with-net-4.html

Please let me know how you get on,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Sunday, October 06, 2013 8:14 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the error message I get when I try to load the DLL and I get an Unknown Command when I try to enter the SPTB command

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' ---> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, StackCrawlMark& stackMark, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()

Thanks,

Julia

On Fri, Oct 4, 2013 at 9:41 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Thanks – this helps confirm the version you’re using, at least.

When you say the app doesn’t work, can you please describe the behavior in more detail?

For instance, does the NETLOAD print any message when you try to load the DLL? Does entering SPTB at the command-line after the load attempt just result in an “Unknown Command”?

Thanks & regards,

Kean

From: Julia Morris [<mailto:jem384@cornell.edu>]

Sent: Friday, October 04, 2013 1:20 AM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Sorry for the late response. We've tried loading this on a few different computers on campus and have not been able to do so.

Here are the results of the commands you told me to type in:

"G.55.0.0 (UNICODE)" (read only)

"393-16565185" (read only)

Best,

Julia

On Mon, Sep 30, 2013 at 3:29 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

It would certainly be good to get to the bottom of this loading issue. If you could confirm a few things by typing them in at the command-line and letting me know what's displayed:

_vernum

_pkser

If these don't happen to provide enough information, it may be worth setting up a desktop-sharing session.

Also, is this behaviour consistent across multiple machines?

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Monday, September 30, 2013 9:25 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

We are working with 2013 right now

On Mon, Sep 30, 2013 at 3:21 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

It was frankly always a mystery why the app would not load in the Academic version (unless the version you're using happens to be AutoCAD LT rather than full AutoCAD). I don't know of a reason it would work in that way.

Which version of AutoCAD are you now working with (e.g. 2013, 2014), by the way?

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN +41 32 723 9100

DIRECT +41 32 723 9499

MOBILE +41 79 336 8705

FAX +41 32 723 9397

Twitter

Facebook

Blog

Autodesk

Puits-Godet 6

Case postale 35

CH-2002 Neuchâtel

Switzerland

www.autodesk.com



From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, September 30, 2013 9:10 PM
To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Automated SectionPlaneToBlock Module

Hi Kean,

Last semester you developed an add in to automate the sectionplanetoblock command with Anthony Andrews for the AguaClara program at Cornell. This semester we are working to getting this module working in our design code but we have had trouble loading it into AutoCAD. Anthony mentioned to me that he could only get the module to load on the free Educational version and wasn't able to get it to load on the Academic version which we use to output our designs. Would you know why this is happening?

Thanks,

Julia

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Tue, Dec 8, 2015 at 4:21 AM

Hi Meghan,

I've had a chance to look at Overload.txt and can see the same behavior: AutoCAD freezes for me, too.

I'll look into the code to understand why this happens and get back to you.

Regards,

Kean

From: Kean Walmsley
Sent: Wednesday, December 02, 2015 5:47 PM
To: 'Meghan Furton'
Cc: David Gold
Subject: RE: AguaClara: Section Plane to Block Reprise

Hi Meghan,

Just a quick note to let you know I'm currently at Autodesk University in Las Vegas. I'll take a look at this when I'm back in the office, next week.

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Monday, November 30, 2015 1:20 PM
To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Thank you very much for your support.

If you have any time, I'd really appreciate if you could look at these test scripts that we are using to figure out how SPTB works. For all of these scripts, I first 'netload' the 'Sectioner.ddl' file you created for us.

What I've discovered is that I can't use the SPTB command more than two times. This is shown in the 'overload' test. The 'works' tests both show two blocks created as expected. In the 'erased' file, I tried erasing the blocks and then using SPTB again, but still this did not work for me.

I am using AutoCAD 2013 and the error that I get is that the command line says 'SPTB' and the program freezes. Does this happen when you paste these text files into your command line?

Thank you,

Meghan

On Thu, Oct 29, 2015 at 10:46 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

No need to apologise – these issues are sometimes tricky to communicate.

There are always going to be discrepancies between the output of the custom SPTB command and the built-in SECTIONPLANETOBLOCK: I had to work around the fact that certain operations aren't exposed through the

API I'm using... while it may be possible to close the gap with the built-in command, it won't be straightforward to do.

I've attached an email discussion from a couple of years ago with other (former?) members of the AguaClara team: hopefully it gives a bit of context related to the history of the tool and how it came to be developed.

So my question is really around priorities: I could probably find a way to implement what you're asking for, but with significant time investment from my side. How important is this capability to the project?

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, October 28, 2015 8:45 PM

To: Kean Walmsley

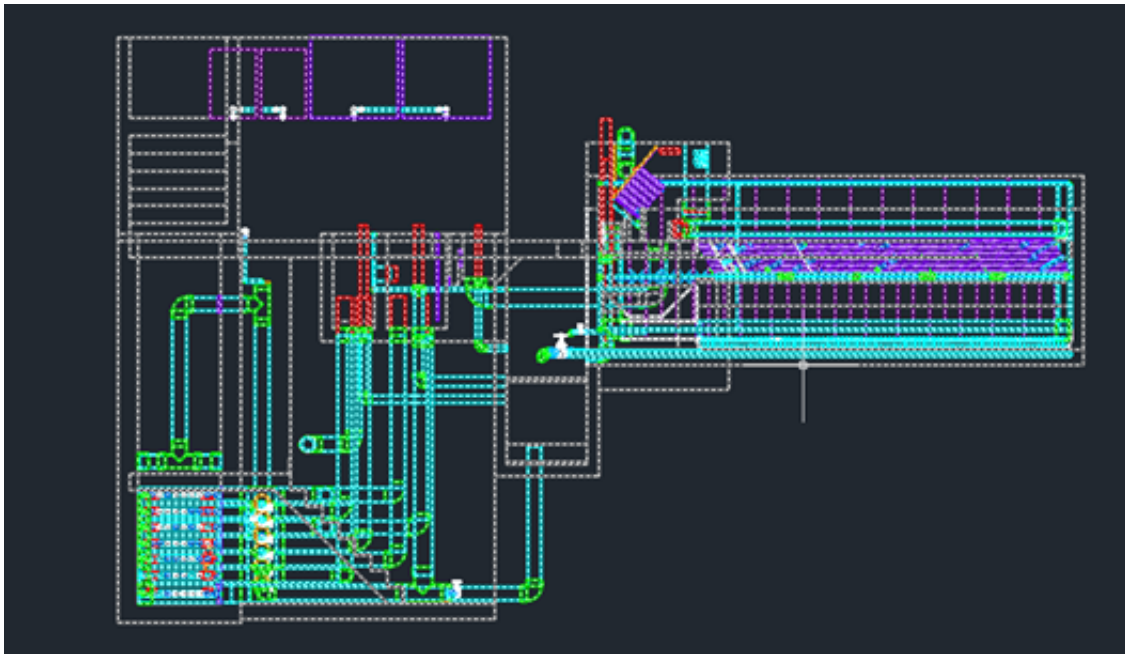
Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

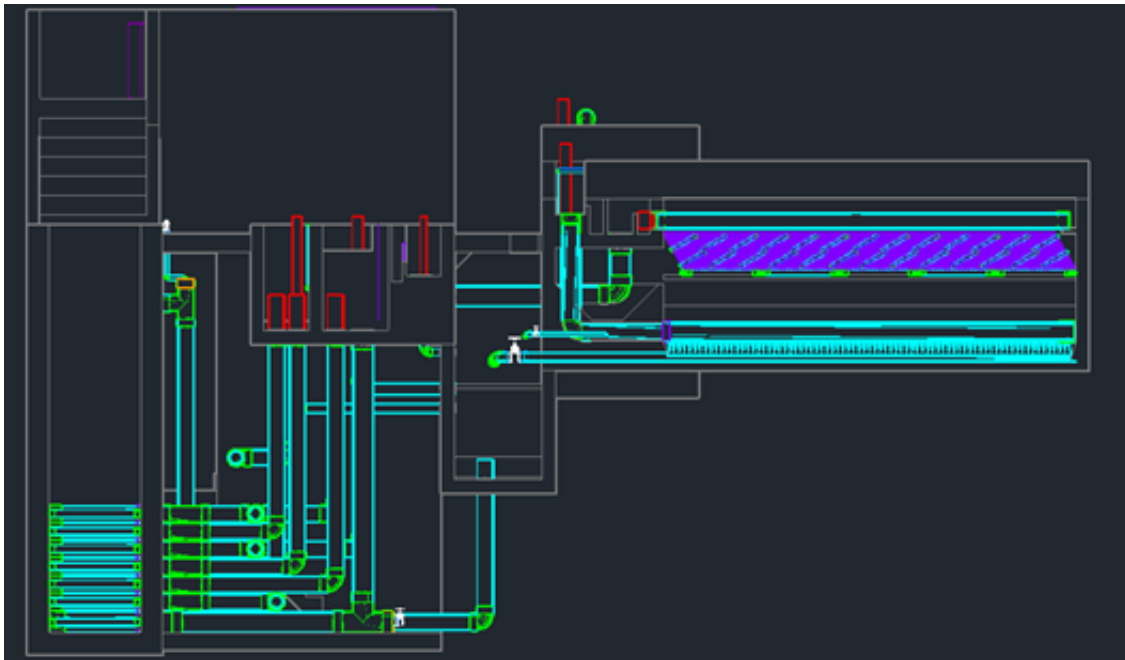
Hello Kean,

Thank you for this new file. It works when we use it here. For some reason, though, all of the background and hidden lines are still visible. I apologize for not communicating this well. A few examples are below:

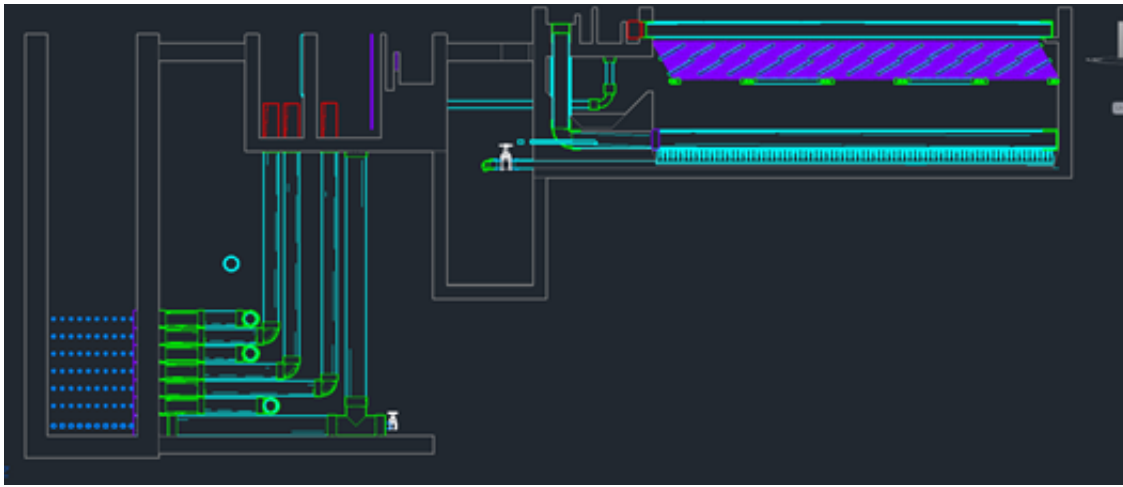
1. This cut includes background and hidden lines. It is what we can currently produce.



2. This cut contains background lines but no hidden lines.



3. This cut contains no hidden lines or background lines.



Would it be possible to have a toggle for the hidden lines and background lines?

Thank you,

Meghan

On Thu, Oct 22, 2015 at 12:49 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

Apologies for the delay – it's been a hectic week.

Could you give the attached DLL a try, to see if it does what you want?

If it works for you – and you still want the ability to optionally show the background lines – then I can look at creating a setting you can toggle.

Best regards,

Kean

From: Kean Walmsley
Sent: Wednesday, October 07, 2015 1:33 PM
To: 'Meghan Furton'
Cc: David Gold

Subject: RE: AguaClara: Section Plane to Block Reprise

Hello Meghan,

I'll try to look at this next week. (I'm currently on vacation but will be back in the office on Monday.)

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, October 07, 2015 12:59 AM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

We have tried to use the SPTB command on our AutoCAD 2015 software, but so far have been able to use it successfully on AutoCAD 2013. I think it may be a network license issue on our end. I will keep working on this to see if I can find our problem.

One other question we have is whether the SPTB file can be modified to produce section plane blocks with the background lines invisible. It seems like the default setting is to show the lines behind the section plane, and we hope to only show the lines that our plane 'slices' through. When we use the regular SECTIONPLANETOBLOCK command and the pop-up window, there is a section in 'section settings' called 'background lines' with a 'show' setting that we can set to 'no'. Can this be built into the ddl file you have already created for us? Is this default setting something we can change on our versions of AutoCAD outside of the ddl file?

Thank you,

Meghan

On Thu, Oct 1, 2015 at 12:52 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

I've just tried running the SPTB command on both AutoCAD 2015 and 2016 and it seems to be working well for me.

I used the provided DWG and ran the following excerpt from the provided file:

```
Sectionplane D
```

```
-10.10292,-0.15,-3.16929
```

```
-10.10292,1.66356,-3.16929
```

```
-11.75232,0,0
```

```
SPTB last
```

```
-20,0,0
```

```
1
```

```
1
```

```
0
```

Can you please confirm whether the above set of commands still fail for you (and ideally on multiple systems)?

Thanks,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Thursday, October 01, 2015 5:14 PM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Here is the drawing file we are using, which can be found at this [website](#).

We also found that SPTB works great in AutoCAD 2013, and we are able to enter in 'last' and create a block. The script that we are entering into the command line looks something like the text file called 'testSCdlease'.

The error that we get occurs only in AutoCAD 2015. Is this something that we can fix, or should we just be careful to use only 2015?

Thank you so much for your support,

Best,

Meghan

On Thu, Oct 1, 2015 at 3:48 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hello Meghan,

I'm glad you have the module loading, at least.

Could you please send a DWG file which I can test against? At the very least I should make sure the command fails gracefully for this scenario.

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, September 30, 2015 9:50 PM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Thank you so much for your help. We have successfully loaded the ddl. It turned out that out AutoCAD was actually on another network and we had to add a line to the adac.exe file to enable loading from remote sources.

Now we are facing the same error as the team contacting you last semester. This team was not able to move beyond this error.

First, we create a sectionplane. This part seems to be working correctly. When we attempt to use the SPTB command and hit space or enter, we get the following line:

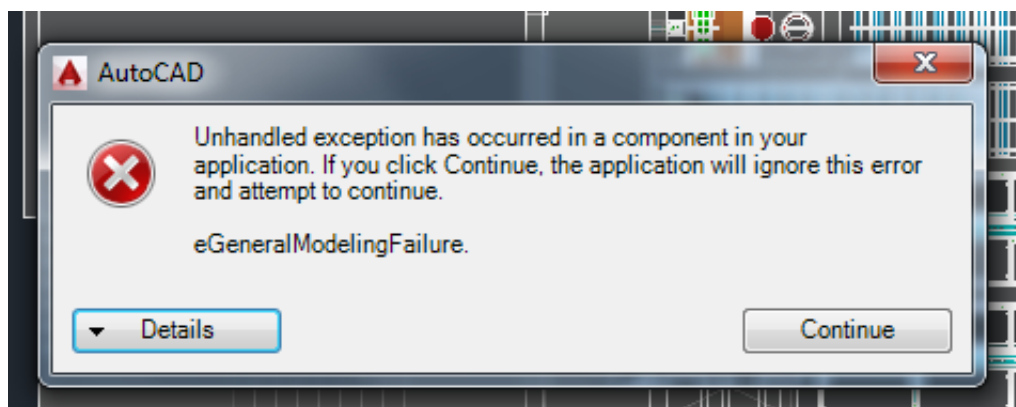
```
> SPTB Select section:
```

When we type in 'Last' into the command line, we get a pop-up box with the error message attached to this email. Here is a list of entries we have also tried:

```
Select section: "L"  
*Invalid selection*  
Expects a point or Last  
Select section: -15,15,0  
Nothing Selected.  
Select section: Last
```

```
> SPTB
```

The point we entered was one corner of our section plane. When we finally type in Last (or l or L or last) we get this error box. I select 'continue' and the SPTB command ends.



Are we not using the function correctly?

Thank you,

Meghan

On Thu, Sep 24, 2015 at 10:27 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

That's very strange. If it's not a blocking issue, then the only thing I can suggest is to double-check the file location (to make sure the path is correct).

You shouldn't need to change the .config file unless loading the DLL from a network location, and you're loading it from the C: drive.

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Thursday, September 24, 2015 4:06 PM
To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Yes, we have made sure to unblock the file in the properties box. The error message from AutoCAD did not change. Do you have any other suggestions?

Thanks,

Meghan

On Thu, Sep 24, 2015 at 10:01 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

Can you try unblocking the ZIP before you extract the DLL? If you save it to disk and check its properties, you may have an “unblock” button:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

If that isn't it, please do let me know and we'll try something else.

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN +41 32 723 9100

DIRECT +41 32 723 9499

MOBILE +41 79 336 8705

FAX +41 32 723 9397

Twitter

Facebook

Blog

Autodesk

Puits-Godet 6

CH-2000 Neuchâtel

Switzerland

www.autodesk.com



From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Thursday, September 24, 2015 3:54 PM

To: Kean Walmsley

Cc: David Gold

Subject: AguaClara: Section Plane to Block Reprise

Hello Mr. Walmsley,

My name is Meghan Furton and I'm contacting you on behalf of AguaClara at Cornell University. I understand that you've provided our team with a lot of help in the past when creating command-line only solutions for AutoCAD functions. This fall, we are again having difficulty with the file you created for us which is attached below. When we

attempt to 'netload' this file from the C drive of the computer onto AutoCAD 2015, we encounter this problem:

"Command: NETLOAD

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\SectionPlaneToBlock.dll' ---> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()"

Is this an issue with the version of AutoCAD we are using? I am not sure what 'sandboxing' is. When I tried to modify the 'acad.exe.config' file by inserting the line

```
' <runtime>
```

```
<loadFromRemoteSources enabled="true"/> '
```

I got an error message and had to reinstall AutoCAD on the computer. Are there other settings in AutoCAD that we need to change to use this file?

Thank you very much for your time and support for AguaClara,

Meghan Furton

----- Forwarded message -----

From: Songlin Guo <sg888@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: Julia Morris <jem384@cornell.edu>, Runpeng Yu <ry93@cornell.edu>
Date: Fri, 22 Nov 2013 18:27:46 +0000
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We have figured it out. Thank you anyway and wish you have a good weekend.

Sincerely,

Songlin

On Fri, Nov 22, 2013 at 1:08 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

Sorry for the late response. I think our problem is when we turned off every layers after the Section Cut generated, there was still something left there, and we don't know where is that from. I'm wondering if you could help us with that extra thing there, we appreciate a lot.

Best regards,

Songlin

On Thu, Nov 14, 2013 at 2:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I'll see what I can do. If I'd had this feedback earlier in the year we might have worked on a command-line version of SECTIONPLANETOBLOCK for the next release: reimplementing it externally as I've done is really a workaround (and quite a painful one to get working consistently, at that).

Also, I can't promise when I'll get time to look into this – I'm on the road pretty much until the end of the year.

Best regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Wednesday, November 13, 2013 9:03 PM
To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

The geometry in the section block is important to us, since it is our goal to have those section cuts, to show details of those geometry. We will be so appreciate if you could help us with this. Thank you!

Sincerely,

Songlin Guo

On Tue, Nov 12, 2013 at 12:33 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Yes – the way the command works is somewhat different to the built-in implementation, unfortunately, so there are likely to be discrepancies. It may be possible to get some of the same geometry as you've seen in the standard command, but some of it will take a lot more work.

When I talked about this originally with Anthony, I was led to believe that it was acceptable to have some differences. Before I spend time looking into this, how critical is not having this geometry in the section block, from your perspective?

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Monday, November 11, 2013 10:20 PM

To: Kean Walmsley
Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We are facing another problem with SPTB now. I attached two section cut, and one of them was using build-in command "SectionPlaneToBlock" and the other was using "SPTB". The thing is the "SPTB" generated a solid color of concrete wall in the graph. I also attached he command code here. Sorry for bothering you so many times.

Best,

Songlin

On Mon, Nov 11, 2013 at 3:13 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Great! :-)

Best regards,

Kean

Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

It works perfectly! Thank you.

Best,

Songlin

On Mon, Nov 11, 2013 at 9:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

The SPTB command is currently doing some work to create a block definition and then launching the INSERT command to do the rest of the work (including asking the user for the insertion point, scale factors & rotation). I'd previously done this as you get a nicer interactive experience: you see the block at the cursor location as you place it. But as you're automating the placement, this is pretty much redundant for your use-case.

I've adjusted the logic to ask for this information up-front in the SPTB command, and then pass it through to the INSERT command at the end.

If this adjusted approach doesn't work – and I've enabled a bit more info at the command-line, so we can see what's failing more easily – we can always just create the block reference in the drawing directly, so let me know how you get on. Also, if you always use standard scale factors and rotations then we could also streamline the approach further.

Updated file attached – please remember to unblock the ZIP before NETLOADing it.

Best regards,

Kean

P.S. I believe there's a redundant call to the SELECT command in your automation script: as the command isn't using "noun-verb" mode for the section selection, there's no point doing "Select L" before calling SPTB.

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Sunday, November 10, 2013 8:56 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the text that they are inputting into the AutoCAD drawing attached. An error seems to occur after "last" is inputted after the SPTB command. We noticed that there is a lag in the run time and maybe this could be the reason why an error occurs when trying to input the block coordinates. The SPTB command does work however if you input SPTB then "last" and then wait for the command to run and then input the coordinates, but the fact that it won't run automatically is a problem for us and we were wondering if you had any insight on how we could fix this.

Thanks!

Julia

```
.ms
-group c * y
all
-layer s 0

-layer f *

-layer m Sedimentation Cross Section
c t 0,255,255
Sedimentation Cross Section
```

```
Sectionplane D
-2.78283,0,0
-2.78283,3.5004,0
```

```
0,3.5004,0
```

```
laythw
Select L
```

```
SPTB last
55.2076,6.55393,0
```

```
1
```

```
1
```

```
0
```

On Tue, Nov 5, 2013 at 2:52 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I can't think of a reason, off the top of my head.

If you could document some steps I can use to reproduce the problem from my side, perhaps then I'll be able to say what's happening.

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]

Sent: Monday, November 04, 2013 9:51 PM

To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

On Mon, Nov 4, 2013 at 3:50 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

We are facing another problem after we enter the SPTB command. We notice it takes a while to run the SPTB command, and the code coming after that will not run correctly if we run the whole thing at one time. But if we wait for SPTB running completely, and run the second part of code after that, it will work. I attached notepad code here. Would you know why this is happening?

Thank you,

Songlin

On Tue, Oct 8, 2013 at 1:25 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

That's great! :-)

Please do let me know how it works for you, and if any tweaks are needed to be usable.

Best regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, October 07, 2013 10:03 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Thanks Kean! Unblocking the zip file before loading worked! The DLL now loads and the SPTB command works

Thanks again!

Julia

On Sun, Oct 6, 2013 at 2:54 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Actually, before that... please try right-clicking the DLL, to see if you have the unblock option. That would save you from having to modify the acad.exe.config file:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

Regards,

Kean

From: Kean Walmsley
Sent: Sunday, October 06, 2013 8:31 PM
To: 'Julia Morris'

Cc: Songlin Guo; Runpeng Yu
Subject: RE: Automated SectionPlaneToBlock Module

Hi Julia,

Thanks – that's very helpful. Could you please try to apply the change to acad.exe.config suggested here?

http://through-the-interface.typepad.com/through_the_interface/2011/07/loading-blocked-and-network-hosted-assemblies-with-net-4.html

Please let me know how you get on,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Sunday, October 06, 2013 8:14 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the error message I get when I try to load the DLL and I get an Unknown Command when I try to enter the SPTB command

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' --> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, StackCrawlMark& stackMark, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()

Thanks,

Julia

On Fri, Oct 4, 2013 at 9:41 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Thanks – this helps confirm the version you’re using, at least.

When you say the app doesn’t work, can you please describe the behavior in more detail?

For instance, does the NETLOAD print any message when you try to load the DLL? Does entering SPTB at the command-line after the load attempt just result in an “Unknown Command”?

Thanks & regards,

Kean

From: Julia Morris [<mailto:jem384@cornell.edu>]

Sent: Friday, October 04, 2013 1:20 AM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Sorry for the late response. We've tried loading this on a few different computers on campus and have not been able to do so.

Here are the results of the commands you told me to type in:

"G.55.0.0 (UNICODE)" (read only)

"393-16565185" (read only)

Best,

Julia

On Mon, Sep 30, 2013 at 3:29 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

It would certainly be good to get to the bottom of this loading issue. If you could confirm a few things by typing them in at the command-line and letting me know what's displayed:

_vernum

_pkser

If these don't happen to provide enough information, it may be worth setting up a desktop-sharing session.

Also, is this behaviour consistent across multiple machines?

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Monday, September 30, 2013 9:25 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

We are working with 2013 right now

On Mon, Sep 30, 2013 at 3:21 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

It was frankly always a mystery why the app would not load in the Academic version (unless the version you're using happens to be AutoCAD LT rather than full AutoCAD). I don't know of a reason it would work in that way.

Which version of AutoCAD are you now working with (e.g. 2013, 2014), by the way?

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN [+41 32 723 9100](tel:+41327239100)

DIRECT [+41 32 723 9499](tel:+41327239499)

MOBILE [+41 79 336 8705](tel:+41793368705)

FAX [+41 32 723 9397](tel:+41327239397)

Twitter

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Blog

Autodesk

Puits-Godet 6

Case postale 35

CH-2002 Neuchâtel

Switzerland

www.autodesk.com



From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, September 30, 2013 9:10 PM
To: Kean Walmsley
Cc: Songlin Guo; Rungpeng Yu
Subject: Automated SectionPlaneToBlock Module

Hi Kean,

Last semester you developed an add in to automate the sectionplanetoblock command with Anthony Andrews for the AguaClara program at Cornell. This semester we are working to getting this module working in our design code but we have had trouble loading it into AutoCAD. Anthony mentioned to me that he could only get the module to load on the free Educational version and wasn't able to get it to load on the Academic version which we use to output our designs. Would you know why this is happening?

Thanks,

Julia

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

Kean Walmsley <kean.walmsley@autodesk.com>
To: Meghan Furton <mrf222@cornell.edu>
Cc: David Gold <dfg42@cornell.edu>

Tue, Dec 8, 2015 at 4:42 AM

Hi Meghan,

Well that was quick: the code was entering an infinite loop, trying to find a unique name for the second block being added to the drawing (it starts with "SECTIONBLOCK0" and should increment to "SECTIONBLOCK1", etc., but the variable was staying at 0).

The attached version should now work properly for multiple calls to SPTB.

Regards,

Kean

From: Kean Walmsley
Sent: Tuesday, December 08, 2015 10:21 AM
To: 'Meghan Furton'
Cc: 'David Gold'
Subject: RE: AguaClara: Section Plane to Block Reprise

Hi Meghan,

I've had a chance to look at Overload.txt and can see the same behavior: AutoCAD freezes for me, too.

I'll look into the code to understand why this happens and get back to you.

Regards,

Kean

From: Kean Walmsley
Sent: Wednesday, December 02, 2015 5:47 PM
To: 'Meghan Furton'
Cc: David Gold
Subject: RE: AguaClara: Section Plane to Block Reprise

Hi Meghan,

Just a quick note to let you know I'm currently at Autodesk University in Las Vegas. I'll take a look at this when I'm back in the office, next week.

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Monday, November 30, 2015 1:20 PM
To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Thank you very much for your support.

If you have any time, I'd really appreciate if you could look at these test scripts that we are using to figure out how SPTB works. For all of these scripts, I first 'netload' the 'Sectioner.ddl' file you created for us.

What I've discovered is that I can't use the SPTB command more than two times. This is shown in the 'overload'

test. The 'works' tests both show two blocks created as expected. In the 'erased' file, I tried erasing the blocks and then using SPTB again, but still this did not work for me.

I am using AutoCAD 2013 and the error that I get is that the command line says 'SPTB' and the program freezes. Does this happen when you paste these text files into your command line?

Thank you,

Meghan

On Thu, Oct 29, 2015 at 10:46 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

No need to apologise – these issues are sometimes tricky to communicate.

There are always going to be discrepancies between the output of the custom SPTB command and the built-in SECTIONPLANETOBLOCK: I had to work around the fact that certain operations aren't exposed through the API I'm using... while it may be possible to close the gap with the built-in command, it won't be straightforward to do.

I've attached an email discussion from a couple of years ago with other (former?) members of the AguaClara team: hopefully it gives a bit of context related to the history of the tool and how it came to be developed.

So my question is really around priorities: I could probably find a way to implement what you're asking for, but with significant time investment from my side. How important is this capability to the project?

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

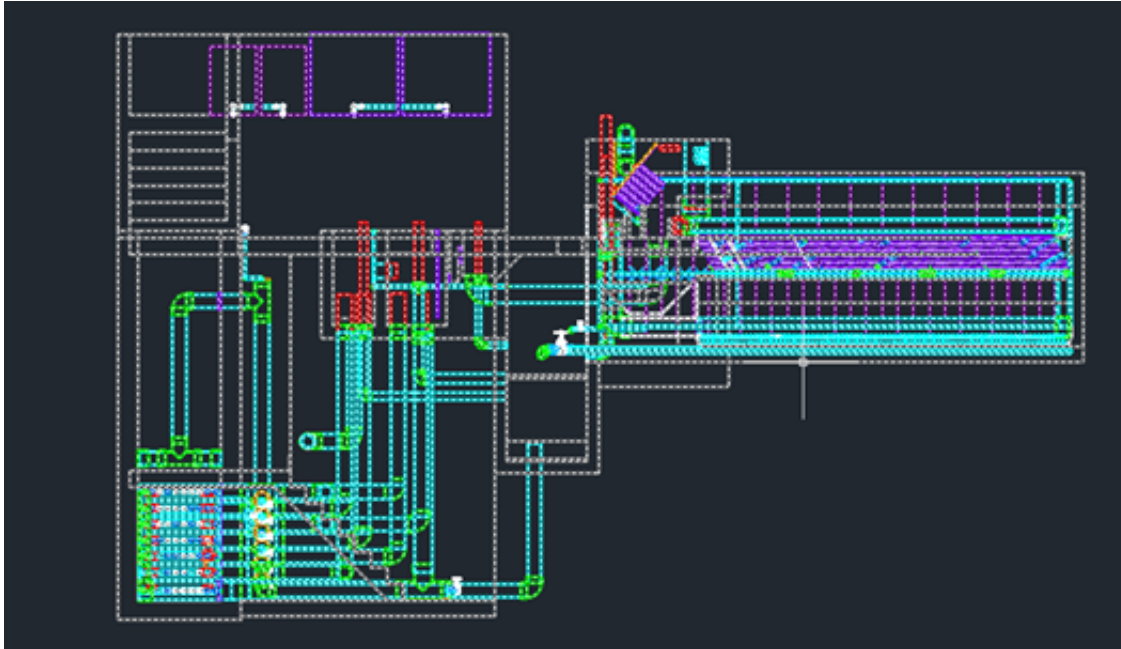
Sent: Wednesday, October 28, 2015 8:45 PM

To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

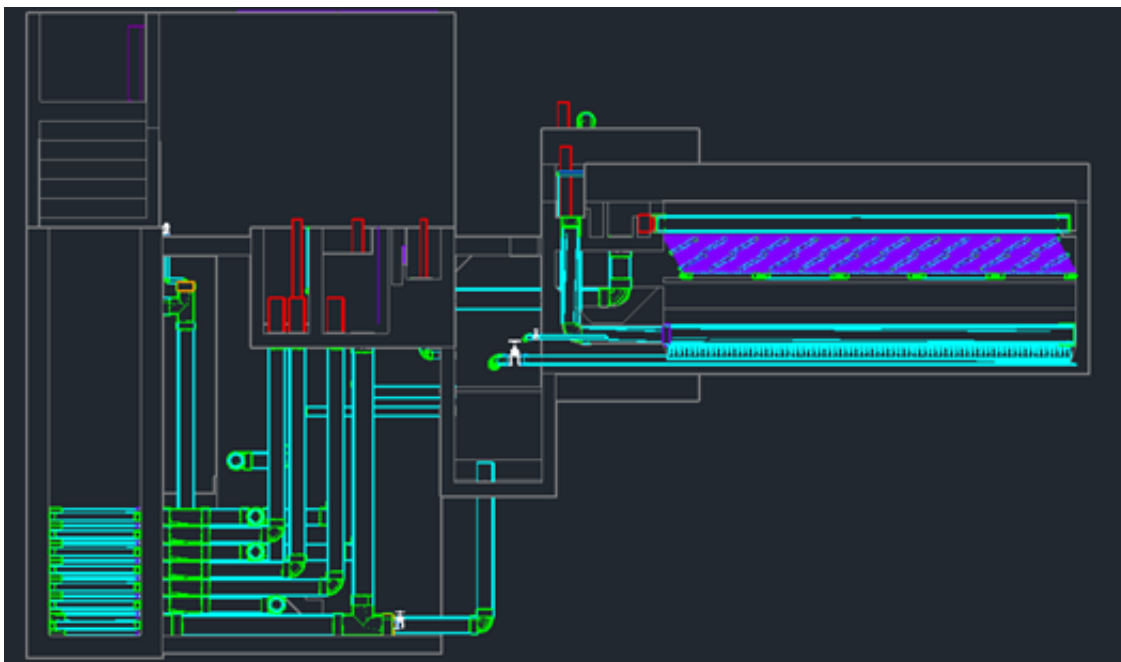
Hello Kean,

Thank you for this new file. It works when we use it here. For some reason, though, all of the background and hidden lines are still visible. I apologize for not communicating this well. A few examples are below:

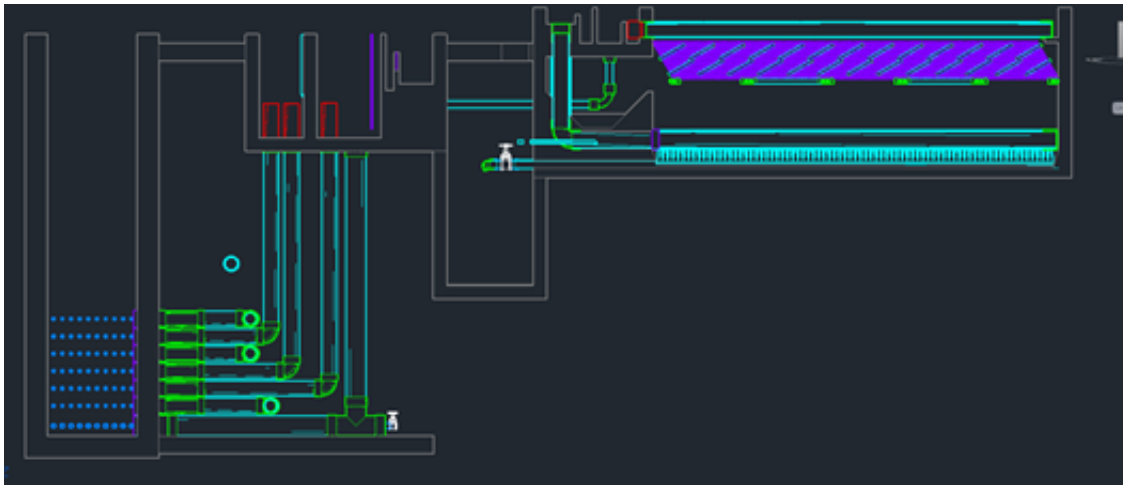
1. This cut includes background and hidden lines. It is what we can currently produce.



2. This cut contains background lines but no hidden lines.



3. This cut contains no hidden lines or background lines.



Would it be possible to have a toggle for the hidden lines and background lines?

Thank you,

Meghan

On Thu, Oct 22, 2015 at 12:49 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

Apologies for the delay – it's been a hectic week.

Could you give the attached DLL a try, to see if it does what you want?

If it works for you – and you still want the ability to optionally show the background lines – then I can look at creating a setting you can toggle.

Best regards,

Kean

From: Kean Walmsley
Sent: Wednesday, October 07, 2015 1:33 PM
To: 'Meghan Furton'
Cc: David Gold

Subject: RE: AguaClara: Section Plane to Block Reprise

Hello Meghan,

I'll try to look at this next week. (I'm currently on vacation but will be back in the office on Monday.)

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, October 07, 2015 12:59 AM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

We have tried to use the SPTB command on our AutoCAD 2015 software, but so far have been able to use it successfully on AutoCAD 2013. I think it may be a network license issue on our end. I will keep working on this to see if I can find our problem.

One other question we have is whether the SPTB file can be modified to produce section plane blocks with the background lines invisible. It seems like the default setting is to show the lines behind the section plane, and we hope to only show the lines that our plane 'slices' through. When we use the regular SECTIONPLANETOBLOCK command and the pop-up window, there is a section in 'section settings' called 'background lines' with a 'show' setting that we can set to 'no'. Can this be built into the ddl file you have already created for us? Is this default setting something we can change on our versions of AutoCAD outside of the ddl file?

Thank you,

Meghan

On Thu, Oct 1, 2015 at 12:52 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

I've just tried running the SPTB command on both AutoCAD 2015 and 2016 and it seems to be working well for me.

I used the provided DWG and ran the following excerpt from the provided file:

```
Sectionplane D
```

```
-10.10292,-0.15,-3.16929
```

```
-10.10292,1.66356,-3.16929
```

```
-11.75232,0,0
```

```
SPTB last
```

```
-20,0,0
```

```
1
```

```
1
```

```
0
```

Can you please confirm whether the above set of commands still fail for you (and ideally on multiple systems)?

Thanks,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Thursday, October 01, 2015 5:14 PM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Here is the drawing file we are using, which can be found at this [website](#).

We also found that SPTB works great in AutoCAD 2013, and we are able to enter in 'last' and create a block.

The script that we are entering into the command line looks something like the text file called 'testSCnlease'.

The error that we get occurs only in AutoCAD 2015. Is this something that we can fix, or should we just be careful to use only 2015?

Thank you so much for your support,

Best,

Meghan

On Thu, Oct 1, 2015 at 3:48 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hello Meghan,

I'm glad you have the module loading, at least.

Could you please send a DWG file which I can test against? At the very least I should make sure the command fails gracefully for this scenario.

Thanks & regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]

Sent: Wednesday, September 30, 2015 9:50 PM

To: Kean Walmsley

Cc: David Gold

Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Thank you so much for your help. We have successfully loaded the ddl. It turned out that out AutoCAD was actually on another network and we had to add a line to the adac.exe.file to enable loading from remote sources.

Now we are facing the same error as the team contacting you last semester. This team was not able to move beyond this error.

First, we create a sectionplane. This part seems to be working correctly. When we attempt to use the SPTB command and hit space or enter, we get the following line:

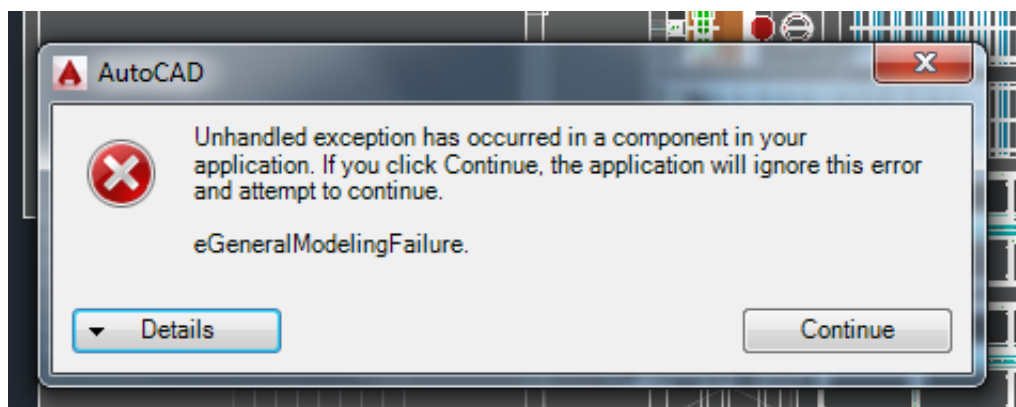
```
> SPTB Select section:
```

When we type in 'Last' into the command line, we get a pop-up box with the error message attached to this email. Here is a list of entries we have also tried:

```
Select section: "L"  
*Invalid selection*  
Expects a point or Last  
Select section: -15,15,0  
Nothing Selected.  
Select section: Last
```

```
> SPTB
```

The point we entered was one corner of our section plane. When we finally type in Last (or l or L or last) we get this error box. I select 'continue' and the SPTB command ends.



Are we not using the function correctly?

Thank you,

Meghan

On Thu, Sep 24, 2015 at 10:27 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

That's very strange. If it's not a blocking issue, then the only thing I can suggest is to double-check the file location (to make sure the path is correct).

You shouldn't need to change the .config file unless loading the DLL from a network location, and you're loading it from the C: drive.

Regards,

Kean

From: Meghan Furton [mailto:mrf222@cornell.edu]
Sent: Thursday, September 24, 2015 4:06 PM
To: Kean Walmsley
Cc: David Gold
Subject: Re: AguaClara: Section Plane to Block Reprise

Hello Kean,

Yes, we have made sure to unblock the file in the properties box. The error message from AutoCAD did not change. Do you have any other suggestions?

Thanks,

Meghan

On Thu, Sep 24, 2015 at 10:01 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Meghan,

Can you try unblocking the ZIP before you extract the DLL? If you save it to disk and check its properties, you may have an "unblock" button:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

If that isn't it, please do let me know and we'll try something else.

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN [+41 32 723 9100](tel:+41327239100)

DIRECT [+41 32 723 9499](tel:+41327239499)

MOBILE [+41 79 336 8705](tel:+41793368705)

FAX [+41 32 723 9397](tel:+41327239397)

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Autodesk

Puits-Godet 6

CH-2000 Neuchâtel

Switzerland

www.autodesk.com



From: Meghan Furton [<mailto:mrf222@cornell.edu>]

Sent: Thursday, September 24, 2015 3:54 PM

To: Kean Walmsley

Cc: David Gold

Subject: AguaClara: Section Plane to Block Reprise

Hello Mr. Walmsley,

My name is Meghan Furton and I'm contacting you on behalf of AguaClara at Cornell University. I understand that you've provided our team with a lot of help in the past when creating command-line only solutions for AutoCAD functions. This fall, we are again having difficulty with the file you created for us which is attached below. When we

attempt to 'netload' this file from the C drive of the computer onto AutoCAD 2015, we encounter this problem:

"Command: NETLOAD

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\SectionPlaneToBlock.dll' ---> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, IntPtr pPrivHostBinder, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, RuntimeAssembly reqAssembly, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()"

Is this an issue with the version of AutoCAD we are using? I am not sure what 'sandboxing' is. When I tried to modify the 'acad.exe.config' file by inserting the line

```
' <runtime>
```

```
<loadFromRemoteSources enabled="true"/> '
```

I got an error message and had to reinstall AutoCAD on the computer. Are there other settings in AutoCAD that we need to change to use this file?

Thank you very much for your time and support for AguaClara,

Meghan Furton

----- Forwarded message -----

From: Songlin Guo <sg888@cornell.edu>
To: Kean Walmsley <kean.walmsley@autodesk.com>
Cc: Julia Morris <jem384@cornell.edu>, Runpeng Yu <ry93@cornell.edu>
Date: Fri, 22 Nov 2013 18:27:46 +0000
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We have figured it out. Thank you anyway and wish you have a good weekend.

Sincerely,

Songlin

On Fri, Nov 22, 2013 at 1:08 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

Sorry for the late response. I think our problem is when we turned off every layers after the Section Cut generated, there was still something left there, and we don't know where is that from. I'm wondering if you could help us with that extra thing there, we appreciate a lot.

Best regards,

Songlin

On Thu, Nov 14, 2013 at 2:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I'll see what I can do. If I'd had this feedback earlier in the year we might have worked on a command-line version of SECTIONPLANETOBLOCK for the next release: reimplementing it externally as I've done is really a workaround (and quite a painful one to get working consistently, at that).

Also, I can't promise when I'll get time to look into this – I'm on the road pretty much until the end of the year.

Best regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Wednesday, November 13, 2013 9:03 PM
To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

The geometry in the section block is important to us, since it is our goal to have those section cuts, to show details of those geometry. We will be so appreciate if you could help us with this. Thank you!

Sincerely,
Songlin Guo

On Tue, Nov 12, 2013 at 12:33 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Yes – the way the command works is somewhat different to the built-in implementation, unfortunately, so there are likely to be discrepancies. It may be possible to get some of the same geometry as you've seen in the standard command, but some of it will take a lot more work.

When I talked about this originally with Anthony, I was led to believe that it was acceptable to have some differences. Before I spend time looking into this, how critical is not having this geometry in the section block, from your perspective?

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]
Sent: Monday, November 11, 2013 10:20 PM

To: Kean Walmsley
Cc: Julia Morris; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

We are facing another problem with SPTB now. I attached two section cut, and one of them was using build-in command "SectionPlaneToBlock" and the other was using "SPTB". The thing is the "SPTB" generated a solid color of concrete wall in the graph. I also attached he command code here. Sorry for bothering you so many times.

Best,

Songlin

On Mon, Nov 11, 2013 at 3:13 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

Great! :-)

Best regards,

Kean

Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

It works perfectly! Thank you.

Best,

Songlin

On Mon, Nov 11, 2013 at 9:04 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

The SPTB command is currently doing some work to create a block definition and then launching the INSERT command to do the rest of the work (including asking the user for the insertion point, scale factors & rotation). I'd previously done this as you get a nicer interactive experience: you see the block at the cursor location as you place it. But as you're automating the placement, this is pretty much redundant for your use-case.

I've adjusted the logic to ask for this information up-front in the SPTB command, and then pass it through to the INSERT command at the end.

If this adjusted approach doesn't work – and I've enabled a bit more info at the command-line, so we can see what's failing more easily – we can always just create the block reference in the drawing directly, so let me know how you get on. Also, if you always use standard scale factors and rotations then we could also streamline the approach further.

Updated file attached – please remember to unblock the ZIP before NETLOADing it.

Best regards,

Kean

P.S. I believe there's a redundant call to the SELECT command in your automation script: as the command isn't using "noun-verb" mode for the section selection, there's no point doing "Select L" before calling SPTB.

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Sunday, November 10, 2013 8:56 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the text that they are inputting into the AutoCAD drawing attached. An error seems to occur after "last" is inputted after the SPTB command. We noticed that there is a lag in the run time and maybe this could be the reason why an error occurs when trying to input the block coordinates. The SPTB command does work however if you input SPTB then "last" and then wait for the command to run and then input the coordinates, but the fact that it won't run automatically is a problem for us and we were wondering if you had any insight on how we could fix this.

Thanks!

Julia

```
.ms
-group c * y
all
-layer s 0

-layer f *

-layer m Sedimentation Cross Section
c t 0,255,255
Sedimentation Cross Section

Sectionplane D
-2.78283,0,0
-2.78283,3.5004,0

0,3.5004,0
laythw
Select L

SPTB last
55.2076,6.55393,0
1
1
0
```

On Tue, Nov 5, 2013 at 2:52 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Songlin,

I can't think of a reason, off the top of my head.

If you could document some steps I can use to reproduce the problem from my side, perhaps then I'll be able to say what's happening.

Regards,

Kean

From: Songlin Guo [mailto:sg888@cornell.edu]

Sent: Monday, November 04, 2013 9:51 PM

To: Kean Walmsley

Cc: Julia Morris; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

On Mon, Nov 4, 2013 at 3:50 PM, Songlin Guo <sg888@cornell.edu> wrote:

Hi Kean,

We are facing another problem after we enter the SPTB command. We notice it takes a while to run the SPTB command, and the code coming after that will not run correctly if we run the whole thing at one time. But if we wait for SPTB running completely, and run the second part of code after that, it will work. I attached notepad code here. Would you know why this is happening?

Thank you,

Songlin

On Tue, Oct 8, 2013 at 1:25 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

That's great! :-)

Please do let me know how it works for you, and if any tweaks are needed to be usable.

Best regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, October 07, 2013 10:03 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Thanks Kean! Unblocking the zip file before loading worked! The DLL now loads and the SPTB command works

Thanks again!

Julia

On Sun, Oct 6, 2013 at 2:54 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Actually, before that... please try right-clicking the DLL, to see if you have the unblock option. That would save you from having to modify the acad.exe.config file:

http://labs.blogs.com/its_alive_in_the_lab/2011/05/unblock-net.html

Regards,

Kean

From: Kean Walmsley
Sent: Sunday, October 06, 2013 8:31 PM
To: 'Julia Morris'

Cc: Songlin Guo; Runpeng Yu
Subject: RE: Automated SectionPlaneToBlock Module

Hi Julia,

Thanks – that's very helpful. Could you please try to apply the change to acad.exe.config suggested here?

http://through-the-interface.typepad.com/through_the_interface/2011/07/loading-blocked-and-network-hosted-assemblies-with-net-4.html

Please let me know how you get on,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Sunday, October 06, 2013 8:14 PM

To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Below is the error message I get when I try to load the DLL and I get an Unknown Command when I try to enter the SPTB command

Cannot load assembly. Error details: System.IO.FileLoadException: Could not load file or assembly 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' or one of its dependencies. Operation is not supported. (Exception from HRESULT: 0x80131515)

File name: 'file:///C:\Users\cit-labs\Desktop\SectionPlaneToBlock.dll' --> System.NotSupportedException: An attempt was made to load an assembly from a network location which would have caused the assembly to be sandboxed in previous versions of the .NET Framework. This release of the .NET Framework does not enable CAS policy by default, so this load may be dangerous. If this load is not intended to sandbox the assembly, please enable the loadFromRemoteSources switch. See <http://go.microsoft.com/fwlink/?LinkId=155569> for more information.

at System.Reflection.RuntimeAssembly._nLoad(AssemblyName fileName, String codeBase, Evidence assemblySecurity, RuntimeAssembly locationHint, StackCrawlMark& stackMark, Boolean throwOnFileNotFound, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadAssemblyName(AssemblyName assemblyRef, Evidence assemblySecurity, StackCrawlMark& stackMark, Boolean forIntrospection, Boolean suppressSecurityChecks)

at System.Reflection.RuntimeAssembly.InternalLoadFrom(String assemblyFile, Evidence securityEvidence, Byte[] hashValue, AssemblyHashAlgorithm hashAlgorithm, Boolean forIntrospection, Boolean suppressSecurityChecks, StackCrawlMark& stackMark)

at System.Reflection.Assembly.LoadFrom(String assemblyFile)

at Autodesk.AutoCAD.Runtime.ExtensionLoader.Load(String fileName)

at loadmgd()

Thanks,

Julia

On Fri, Oct 4, 2013 at 9:41 AM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

Thanks – this helps confirm the version you’re using, at least.

When you say the app doesn’t work, can you please describe the behavior in more detail?

For instance, does the NETLOAD print any message when you try to load the DLL? Does entering SPTB at the command-line after the load attempt just result in an “Unknown Command”?

Thanks & regards,

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Friday, October 04, 2013 1:20 AM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

Hi Kean,

Sorry for the late response. We've tried loading this on a few different computers on campus and have not been able to do so.

Here are the results of the commands you told me to type in:

"G.55.0.0 (UNICODE)" (read only)

"393-16565185" (read only)

Best,

Julia

On Mon, Sep 30, 2013 at 3:29 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

It would certainly be good to get to the bottom of this loading issue. If you could confirm a few things by typing them in at the command-line and letting me know what's displayed:

_vernum

_pkser

If these don't happen to provide enough information, it may be worth setting up a desktop-sharing session.

Also, is this behaviour consistent across multiple machines?

Kean

From: Julia Morris [mailto:jem384@cornell.edu]

Sent: Monday, September 30, 2013 9:25 PM

To: Kean Walmsley

Cc: Songlin Guo; Runpeng Yu

Subject: Re: Automated SectionPlaneToBlock Module

We are working with 2013 right now

On Mon, Sep 30, 2013 at 3:21 PM, Kean Walmsley <kean.walmsley@autodesk.com> wrote:

Hi Julia,

It was frankly always a mystery why the app would not load in the Academic version (unless the version you're using happens to be AutoCAD LT rather than full AutoCAD). I don't know of a reason it would work in that way.

Which version of AutoCAD are you now working with (e.g. 2013, 2014), by the way?

Regards,

Kean

Kean Walmsley

Software Architect

AutoCAD Product Line

MAIN [+41 32 723 9100](tel:+41327239100)

DIRECT [+41 32 723 9499](tel:+41327239499)

MOBILE [+41 79 336 8705](tel:+41793368705)

FAX [+41 32 723 9397](tel:+41327239397)

Twitter

Facebook

Blog

Autodesk

Puits-Godet 6

Case postale 35

CH-2002 Neuchâtel

Switzerland

www.autodesk.com



From: Julia Morris [mailto:jem384@cornell.edu]
Sent: Monday, September 30, 2013 9:10 PM
To: Kean Walmsley
Cc: Songlin Guo; Runpeng Yu
Subject: Automated SectionPlaneToBlock Module

Hi Kean,

Last semester you developed an add in to automate the sectionplanetoblock command with Anthony Andrews for the AguaClara program at Cornell. This semester we are working to getting this module working in our design code but we have had trouble loading it into AutoCAD. Anthony mentioned to me that he could only get the module to load on the free Educational version and wasn't able to get it to load on the Academic version which we use to output our designs. Would you know why this is happening?

Thanks,

Julia

--

Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)

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Julia Morris

Cornell University 13'

Cornell Masters of Engineering 14'

Environmental Engineering

[772-766-3245](tel:772-766-3245)



Sectioner6.zip

14K