

如何设置软件让操作更顺滑！ **Setting for fast, for soft!**

杨之楠

北京弘石设计·BIM总监 | @流浪贼
Autodeak Expert Elite



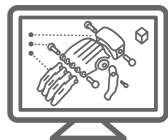
弘石设计
HONGSHI
DESIGN+

卡顿、迟缓怎么办？

从AutoCAD到Revit，都有一些设定和操作可以改善



操作系统真的准备好了么？
硬件驱动呢？
杀毒软件？



硬件加速得设！



Revit堆硬件不一定好使！
项目设置有技巧！
状态和操作可以改善！



个人简介

懂点儿软件的建筑工程师

北京弘石嘉业建筑设计有限公司，BIM总监，建筑给排水工程师；

Revit平台上BIMSpace系列产品连续六年的开发顾问；

Autodesk Expert Elite 成员

AU中国2015，官宣通稿里那个现场考了7张证书的男人



环境相关

PC, MAC还是虚拟化

请一定先针对工作选适当的操作平台

PC

- WindowsXP
- Windows7
- Windows10
- Linx

MAC

- PC架构
- M1架构

虚拟化

- Ctrix
- VM
- Oracle



AutoCAD

- Windows
- Web app
- Mobile app
- MAC

Revit

- Windows
- Parallels Desktop

Windows的麻烦

Autodesk每年新版本，Windows也有版本差异

- WindowsXP

好老的硬件，或者虚拟化，慢没办法

- Windows7

软件（20前）还算能坚持，但硬件不行了

- Windows10

没过几个月都升级一次，每次打补丁都是打BUG，而且删东西不告诉你

- Autodesk几乎全部2015及之前版本的软件，都不兼容Windows10
- Windows最近连续5年，频繁更新的两组内容，总是忍不住删除以前的函数：

.NET Framework

Visual C++(Visual Studio)

这使得Autodesk的一些软件也只能在破碎的库版本上挣扎

- Windows相关浏览器的更新，严重阻碍了旧有基于Flash的帮助，以及老版本软件的网络连通（淘汰了旧的安全协议而且不能手动开启）



硬件

CPU，内存，硬盘，还有显卡

CPU

- 主频
- 睿频
- 核心数

内存

- 通道
- 频率
- 容量

兼容性

硬盘

- 固态
- 机械（SMR，PMR）

显卡

- 游戏
- 专业

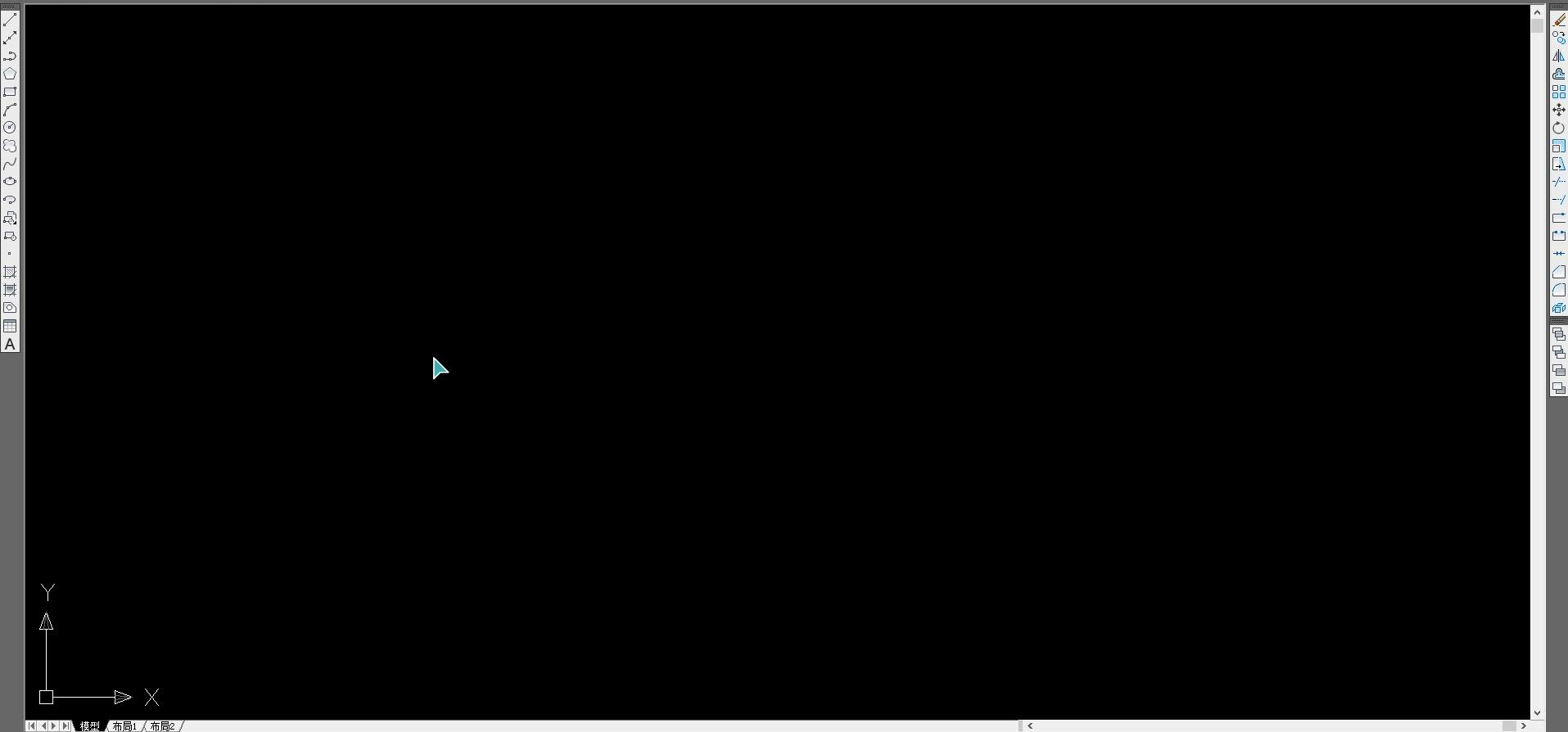


杀毒软件

为什么一定要用360?



硬件加速设定



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命令: 指定对角点:

命令: 指定对角点:

命令:

1682.2001, 742.6949, 0.0000

属性

图纸 Sheet

图纸: Title Sheet 编辑类型

图形

可见性/图形替换 编辑...

比例 1:1

标识数据

相关性 不相关

参照图纸

参照详图

发布的当前修订

当前修订发布者

当前修订发布到

当前修订日期

当前修订说明

当前修订

审核者 Approver

设计者 Designer

应用

项目浏览器 - rac_basic_sample_project.rvt

视图 (all)

- 楼层平面 (Floor Plan)
- 三维视图 (3D View)
- 立面 (Building Elevation)
- 剖面 (Building Section)
- 前图 (Wall Section)
- 详图视图 (Detail)
- 渲染 (Rendering)

案例






- 明细表/数量
- How to I
- Planting Schedule

图纸 (all)

- A001 - Title Sheet
- A101 - Site Plan
- A102 - Plans
- A103 - Elevations/Sections
- A104 - Elev./Sec./Det.
- A105 - Elev./ Stair Sections

族

Autodesk® Revit® Basic Sample Project



Revit

To learn more about the contents of the sample project look for the help icon (?) near an element. Select the icon and then select the Learning Library icon in the Properties palette. Use the ? to connect to the relevant help topic. Once you have reviewed the help topic select the content material checkbox in the Properties palette.

Level	Topic	Window	Reviewed
01-000	Basics of Revit	Revit Help - Basics	
01-001	Basics of Revit: Getting started with Revit	Revit Help - Basics	
01-002	Basics of Revit: Getting started with Revit	Revit Help - Basics	
01-003	Basics of Revit: Getting started with Revit	Revit Help - Basics	
01-004	Basics of Revit: Getting started with Revit	Revit Help - Basics	
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01-100	Basics of Revit: Getting started with Revit	Revit Help - Basics	

Autodesk Sample House

Title Sheet

Project number: 001-001

Date: 12/12/2015

Author: JLM

Check by: JLM

A001

Scale: 1:1

Revit操作技巧

中心文件还是链接

平衡性能和协同效率，通常都用明白了可以混合。



我的硬件是不是行？

看干什么

集成全项目

单专业工作

演示

学习



Revit工作过程中非常卡

我是一位BIM行业工作者，平时主要使用Revit进行BIM建模工作。我的电脑配置已经非常高了，但是Revit运行起来仍然严重卡顿。例如：使用打断命令、绘制墙体的过程中，经常出现卡顿现象。

希望后续Autodesk Revit的更新能将重点放到解决工作中的卡顿上，而非增加新的功能！作为一个从业者，我们更需要的是效率而非新的不实用的功能。Revit的反应速度经常跟不上我的思维！

TIPS：我的电脑配置：

CPU：i9 9900K

显卡：P4000

内存：DDR4 3200MHz 64GB

硬盘：970EVO 512G

一些操作技巧

Revit工作还是得注意些工作习惯

- 请一定控制同时打开的视口数目！Revit 比较引以为傲的逻辑，就包括“所有视图都基于实体实时更新”。如果同时打开的视口多（哪怕最小化），那么每一点儿修改都带来的所有视口“重绘”，对于系统资源的占用也很可观。
- 上述基础上延伸，可以考虑把“工作视图”和“表现视图”分开——作为一个建筑工程师，很难理解建筑师们对“真实模式”里面材质的执拗。在三维视图内用“真实模式”，会将材质内的贴图、透明度、表面线条等通通都开启，这时对于显示资源的占用非常大。通常，只有在进行表现工作时，才需要完全开启材质内容。通常工作时，请务必使用“中等”精细程度，以及“隐藏线”或“着色”显示选项。
- 请将“建模”、“填色”、“标注制图”等可拆解为不同阶段的工作，分别建立不同视图——没必要所有内容在一个视图。在AutoCAD时代，都会善用开关图层的方式，将当下不进行的工作从视野、视图中先去除，工作完再显示，那为啥在Revit上就一定要一个视图同时显示所有东西才开心？不能分开么？
- 相信很多室内设计师在AutoCAD中都有类似的习惯：模型都分图层画在一个区域，不同布局开关不同图层，依靠图层的视口开关出一堆图。在Revit内，一样可以：模型都在一个文件里（或者链接到一个文件内），不同内容通过视图可见性以及过滤器开关，在不同的视图里面出一堆图。

一些操作技巧

Revit工作还是得注意些工作习惯

- 顶部工具栏，“视图”标签页下面，靠左侧有一个按钮叫“细线”。请务必保证日常工作时这个按钮是按下去的！在这个状态下，所有可见内容的“线宽”都会按照“最细的线”进行显示，不再运算“线宽”带来的图形影响——这对于滚轮缩放或者中键平移都是重生成的显示运算来说，是相当大的负担。虽然属于治标不治本，但也不算少许提升流畅程度的设定。这个状态只影响显示器上的显示，其实内容里线宽该是啥样儿就是啥样儿，打印也是。所以在标注、制图的阶段，适当关闭这个按钮，看看图面很有必要。
- 每个视图底部的工具栏，也有“线框、隐藏、着色、一致颜色、真实、光线追踪”。请务必在所有没特定需要的视图，离“真实”这个选项远一点。
- Revit在2017及以后版本，都在努力尝试从主线程里拆出一部分运算，避免在这个时代依旧是“单核软件”——当下这可不是夸赞的词儿。所以，一定程度上多核CPU可以改善运算速度，一些拆出来的分支线程，会运算在其它的核心上——以2021来说，4核真是都能同时用上了，不浪费。2022的改善更多一些。

预算和还不行怎么办

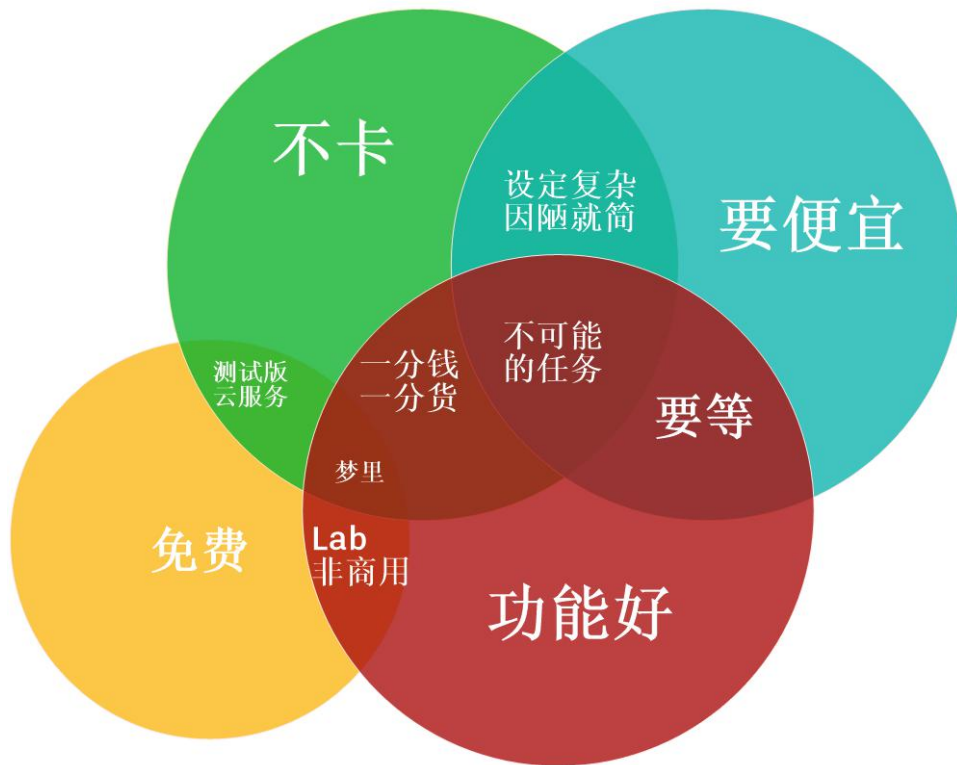
Revit工作，大部分人员不用买太贵的计算机

- 好多视图都关着，工作视图里好多内容也可见性关闭，工作区域之外的内容，都是链接进来并已经卸载不占内存，显示负担小得很，内部运算负担也小，卡顿总会好很多的吧？
- 我经历的多家企业，BIM工作人员的标准机箱，大约就是7K左右的预算——这还是最近两年随行就市通胀涨价了，之前机箱6K就行。只有模型整合那一台机器，一定要好一些的，要多好看总文件量多大的。
- 如果都按我文字注意了，项目工作依旧暴多到卡，那么就得涉及到族的制作（进一步降低显示负担），涉及到视图样板（以及后台支撑的样板文件设定），甚至涉及到加载的外部DWG、SAT、SKP文件等的预处理。这就比较复杂。



毕竟啥都要有点儿难

砸钱不都顶用，堆配置也是



The background features several large, dark, metallic-looking geometric shapes, possibly representing computer components or architectural elements, arranged around the central text. These shapes have sharp edges and reflective surfaces, creating a high-tech, modern aesthetic.

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