

Software and Settings

ABV Visualization

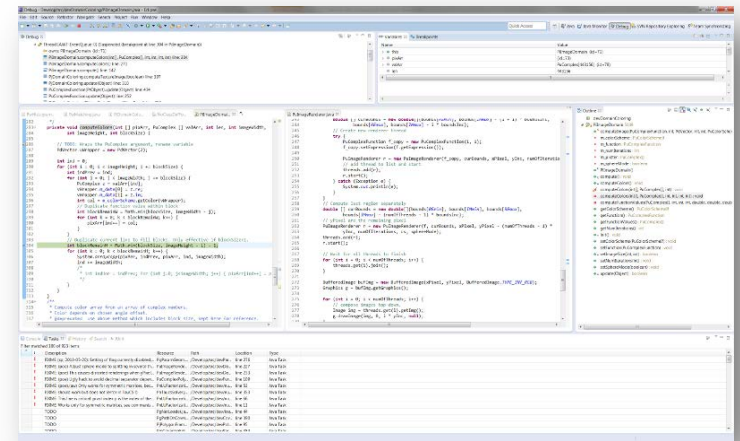
Mathematical Geometry Processing

Freie Universität Berlin

07.09.2015

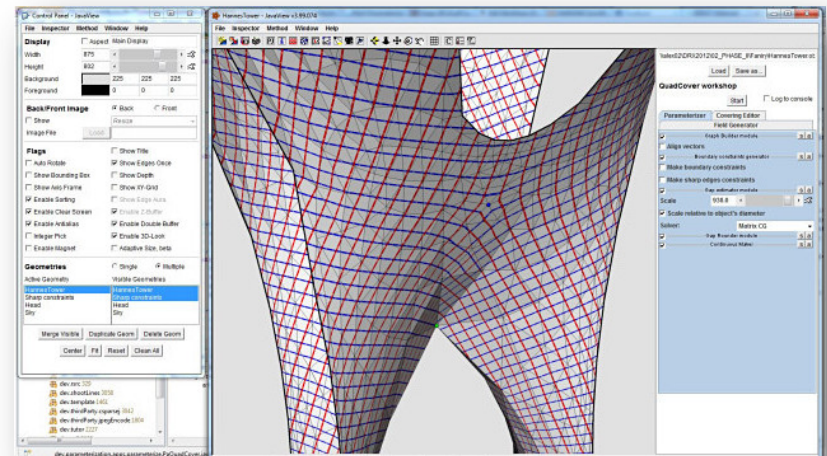
Eclipse

- General purpose IDE (integrated development environment)
- Originally for Java, extendable for many (programming) languages
 - C/C++, Python, XML, ...
- Text editor with convenient features
- Download: <https://eclipse.org/downloads/>
- Pick „Eclipse IDE for Java Developers“
- If you have an old laptop (<2007), pick 32bit, otherwise 64bit
- Unzip
- Runnable files
 - „eclipse.exe“ (Windows)
 - „eclipse“ (Linux)



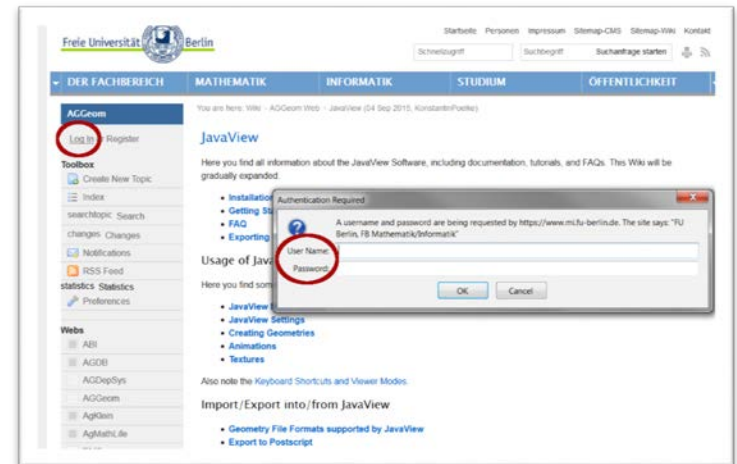
JavaView

- Geometry library and front end
- Used as application or development framework
- Download: <http://javaview.de/download/>
- Pick „javaviewFull.zip“ or the Windows installer
- Unzip
- Runnable files in /bin:
 - „javaview.bat“ (Windows)
 - „javaview“ (Linux)



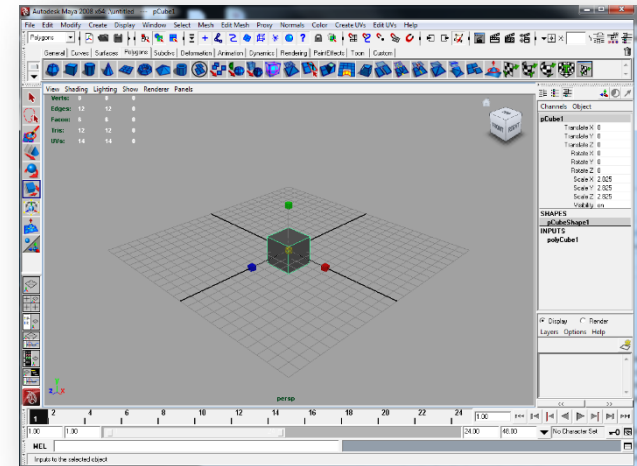
JavaView Wiki

- <http://www.mi.fu-berlin.de/w/AGGeom/JavaView>
- Huge collection of documentation for
 - Usage, Installation, Development
 - Style Guides, Hints, Performance, Keyboard Shortcuts (!),...
 - Tutorials, Menu entries, import/export,...
- Still in early stage
- Feel free to edit and improve
 - ... if something is unclear
 - ... if something is wrong or outdated
- You need to log-in with your FU account credentials
- Your help is very appreciated 😊



Autodesk Maya

- High-end 3D modelling software
- Heavily used in industry/computer graphics
- Student version available for free
 - <http://www.autodesk.com/education/free-software/maya>
- Scripting via MEL and Python
- Open-source alternative:
 - <https://www.blender.org/>



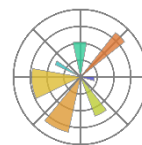
- Maya workshop on Tuesday
- **Please install Maya until tomorrow**



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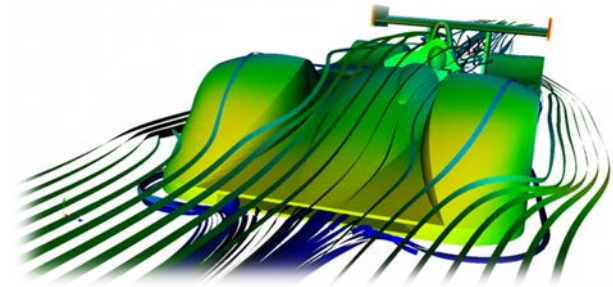
Python

- Programming language heavily used in scientific community
- Standalone + scripting language (e.g. Maya, ParaView, GIMP)
- Thousands of additional python packages available for...
 - Matrices, linear algebra: <http://www.numpy.org/>
 - Advanced math, sparse methods, eigensolver: <https://www.scipy.org/>
 - Visualization: <http://matplotlib.org/>, <http://www.vtk.org/>
 - Machine learning, data analysis, web, data bases,...
- Convenient scripting with IPython notebooks: <https://ipython.org/>
- Anaconda distribution: <http://continuum.io/downloads>
- Contains everything we need
- Domain coloring workshop on Friday
- **Please download/install Anaconda 2.7 until Friday**



ParaView

- Visualization tool based on VTK framework
- Widely used in publications, scripting with Python
- Applications:
 - Volume Rendering
 - Vector field visualization, stream line tracing
 - Fluid visualization
- Freely available under <http://www.paraview.org/download/>



- ParaView workshop next week
- Please download ParaView 4.3 until next week

