Scilab on Cloud
OSI Days Conference

Saket Choudhary
Undergraduate Student
IIT Bombay

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Outline

- Scilab
  - What is Scilab
  - Why Scilab
- Scilab on Cloud
  - Why On Cloud
  - Architecture and Demo
- Text-Book Companion Project

Scilab : Free and Open Source

"The Difference between Capitalism and Socialism, is the difference between CEO's and Scientists, is the difference between licensed software and open source, between MATLAB and SCILAB"
Licensed Softwares cripple you. To the Core!

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- '94 : INRIA decides to Open Source Scilab, puts it on public ftp as Scilab 1.1 for free download !

Scilab : Why Scilab ?

No just a software for Numerical Computations !

- It's Free ! Free as in Free Beer. MATLAB would cost you some 12000 pints of beer, or maybe more !
- Cross platform. Comes with simple binaries for Linux as well and one click installers for Windows/Mac, unlike MATLAB
- Scilab comes pre-loaded with Xcos, a Hybrid dynamic systems modeler and simulator' equivalent to MATLAB's Simulink/LABView
  - No Free Lunches here !
- Scilab uses LAPACK just the way MATLAB does
- Scilab uses some of the state of the art packages like ODEPACK and DASSL, which may not be available in MATLAB :: We don't know because MATLAB is closed source !

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- XMLlab : Simulation module
- A lot more at `http://atoms.scilab.org/`

Scilab : But Why Only Scilab ? I

- Scilab has been used successfully for several years at CNES for flight simulations !
- Recently , on September 28, ARIANE 5 put one of our satellites successfully in Orbit :: This touches our emotional chord , doesn' t it ?
- MATLAB costs A LOT OF MONEY ! A budding enterpreneur lost on his Idea just because, he needed a version of MATLAB with lost of permissions

Scilab : But Why Only Scilab ? II

- More permissions on MATLAB :: More money
- Network licences are slow and are dependent on the network beling alive. Scilab is simple, No Licenses !
- Open Source Community's support. Stuck somewhere ? Fire up a question on Scilab mailing list, you will end up with genuine answers since the users can try out your problem without a Licensed copy of Matlab !
- Dont have a toolbox ? Scilab has an API too, you can develop your own toolboxes

Scilab On Cloud

- Scilab on Cloud ports Scilab to work directly from your browser
- Takes away the requirement on installing Scilab natively
- Simple online interface to run Scilab codes, download graphs
- Learn Scilab on the go , from a pool of examples

Scilab on Cloud : The Need

- Enabling users with low end PC configuration to learn and try out Scilab
- Why pay hefty amounts for licenses , when the Open Source tools are equivalent and in some sense far better ?
- An add on to the TextBook Companion project, an IIT Bombay-MHRD flagship project aiming to port worked out examples from standard textbooks using an open source software system, such as Scilab
- Aim is make it easy for the users of the book to use Scilab and to improve Scilab documentation

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- We are in the process of integrating it with scilab.in , and TextBook Companion Project

So Where from here ?

- An easy to use, interactive Scilab Shell ! A good enough reason to start programming early !
- Scilab on Cloud is *literally* cross platform. Works on phones as well !
- Scilab is slowly being adapted in National Curriculum , TextBook Companion is just a push to it !
- Encourage students to extend scilab, more modules, good enough reasons to stick to MATLAB
- Open Source is know doubt the future !

References

- Scilab : `http://www.scilab.org`
- Scilab Indian Project : `http://www.scilab.in`
- Scilab Modules : `http://atoms.scilab.org/`
- TextBook Companion : `http://scilab.in/Textbook_Companion_Project`
- Lab Migration Project : `http://scilab.in/procedure-lab-migration`
- Scilab On Cloud : `http://scilab-test.garudaindia.in`
- Scilab on Cloud [sources] : `https://github.com/saketkc/scilab_cloud/`

About Me

- Fourth Year Dual Degree Student, Chemical Engineering, IIT Bombay
- Google Summer of Code 2012 Student for Rice University's Connexions Project (`http://cnx.org`)
- FOSS enthusiast, Codes at `http://github.com/saketkc`
- Homepage : `http://home.iitb.ac.in/~saket.kumar`
- `saketkc@gmail.com`, `saket.kumar@iitb.ac.in`