History

2006

We create the Sage Notebook, a web-based graphical user interface for Sage, inspired by Google docs. It provides web-based access to Sage, but lacks reliability, scalability and other critical features needed to support millions of users.

2012

We start design of SageMathCloud as a successor to the Sage Notebook. This involves exploring concrete ideas for building the system, based on essential design constraints, including high-availability, horizontal scalability and continuous snapshotting of data.

2013

Intense work starts full steam in March 2013, and the site is launched publicly. Several classrooms start to use SageMathCloud, including a 350-student Calculus course at UCLA.

2014

Grants from NSF and Google allow us to expand SageMathCloud's power and functionality. Fall 2014 has very strong growth in users and overall activity. SageMathCloud greatly improves based on large amounts of usage data and feedback, which allows us to shape, develop and direct the development of SageMathCloud toward a bright future!

"My 150+ students are now actively using SMC. This time last year I was running around in a panicked state rebooting servers and various other things as our local Sage Notebook server kept crashing. This year it has been painless with all the students using SageMathCloud. I even had the opportunity to teach some markdown to some students and also heard of a group of 3 who were collaboratively writing revision notes using a shared IPython notebook. Great tool."

– Vincent Knight, Cardiff University

Website: `https://cloud.sagemath.com`

Open Source: `https://github.com/sagemath/cloud/`

Contact: William Stein <wstein@uw.edu>

Credits

SageMathCloud makes available, is built upon, and powered by: GNU/Linux, Node.js, Coffeescript, Python, IPython, Sage, LaTeX, Octave, R, Julia, GCC, Fortran, Lisp, Haskel, Codemirror, Bootstrap, term.js, diff-patch-merge, Markdown, pandoc, rst2html, ImageMagic, rsync, ssh, Nginx, Cassandra, ZFS, Bup, Java, stunnel, tinc, HAproxy, and much, much more.

Financial support

NSF, Google, University of Washington

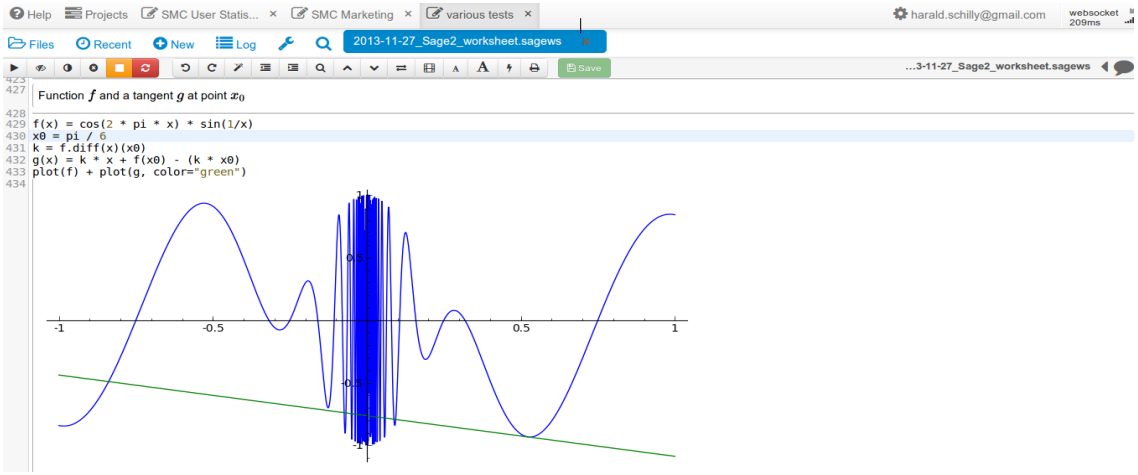
This flyer was created entirely inside SageMathCloud.

(See `http://goo.gl/zFVe8w`)

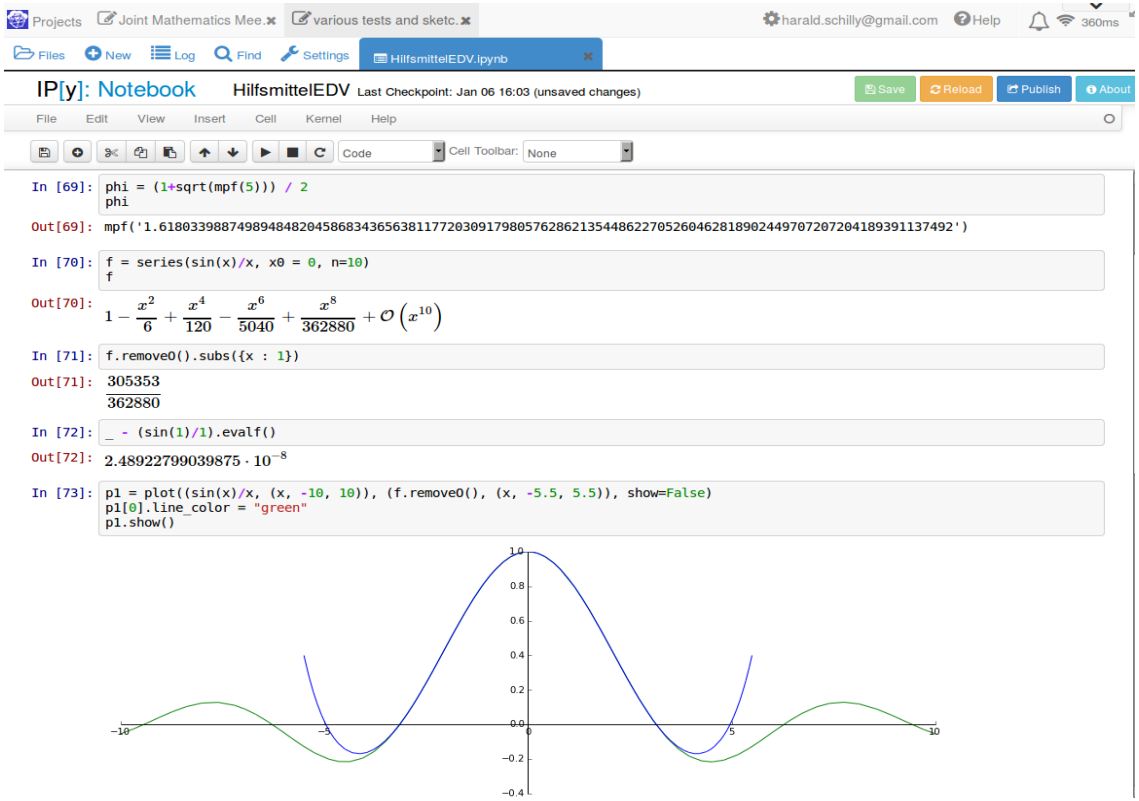
SageMathCloud
Scientific Workplace
MAA Project NExT, 2015
`https://cloud.sagemath.com`

SageMathCloud is the scientific workplace of the 21st century. It offers interactive documents for computational mathematics, data storage and document processing through a modern web-interface.

- Collaborative online web-service
- Real-time synchronization of worksheets and files
- Easy publishing and downloading of files
- Snapshots with continuous backup of all data
- Enhanced Sage installation & full scientific Python stack
- LaTeX document editor
- Full Linux terminal
- IPython, R, Fortran, C/C++, Java, M2, Julia, ...



Plotting a function in a Sage worksheet.



Full IPython Notebook support!

About SageMathCloud

Vision

The scientific workplace of the 21st century lives in the cloud. SageMathCloud is a complete new approach that offers real-time collaboration for many document types, incremental snapshot-backups, and manages the entire software-stack for you.

In short, SageMathCloud offers everything you expect in a web-centric world without any administrative overhead.

Features

SageMathCloud focuses on computational mathematics, in particular *Sage*, the scientific stack of *Python*, *R* and other open-source tools like *Octave*.

However, SageMathCloud is not limited to computational tasks: document authoring (LaTeX, Markdown, HTML), course teaching management, online publication, backup facilities and task lists are just a few additional features.

Backup and High Availability

Never lose work again! SageMathCloud frequently snapshots all your data then copies it to several remote locations. In case of failure or maintenance, your project will automatically restart in a different data center.

Infrastructure

SageMathCloud is a comprehensive software environment, delivering a vast collection of regularly updated software packages. Its backbone is a network of **80 virtual machines** at University of Washington and on Google Compute Engine that form a redundant, highly-available, infrastructure.

Available Tools

SMC builds on the GNU/Linux operating system to provide many open-source software tools including a full *C/C++ compiler*, *Git*, *Python*, *R*, *Julia*, *Java*, *Fortran*, *Octave*, *Lisp*, *Pari*, *Sage*, *Macaulay2*, *GAP*, and much more.