

OpenDreamKit

Open Digital Research Environment Toolkit
for the Advancement of Mathematics

A personal perspective

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OpenDreamKit.org

For me, it all started there



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A question of Bruce Westbury at FPSAC 2013

Given unlimited funding, what would you do with it for Sage?

Context

Emergence in the last decade(s) of a vibrant ecosystem of open source software for pure mathematics

- Specialized libraries: GAP, Linbox, Pari/GP, MPIR, Singular, ...
- General purpose systems: Sage, ...
- Online databases: LMFDB, ...
- Interactive computing environments:
IPython/Jupyter, SageMathCloud, ...
- Together with the wider Scientific Python ecosystem

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Viable open source alternatives to Maple, Mathematica, Matlab, Magma, ...

- Research
- Education
- Industry?

A successful development model ...

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- Some highly technical tasks are lagging behind:
 - Hard to justify work on them for a researcher
 - Hard to justify work on them on a research grant
- Impeding the wide adoption of those systems
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A need for funding for:

- A couple full time developers
- Community building

An opportunity suggested by Eugenia, January 2014

Virtual Research Environments

A call of the H2020 European Research Infrastructures Work Programme

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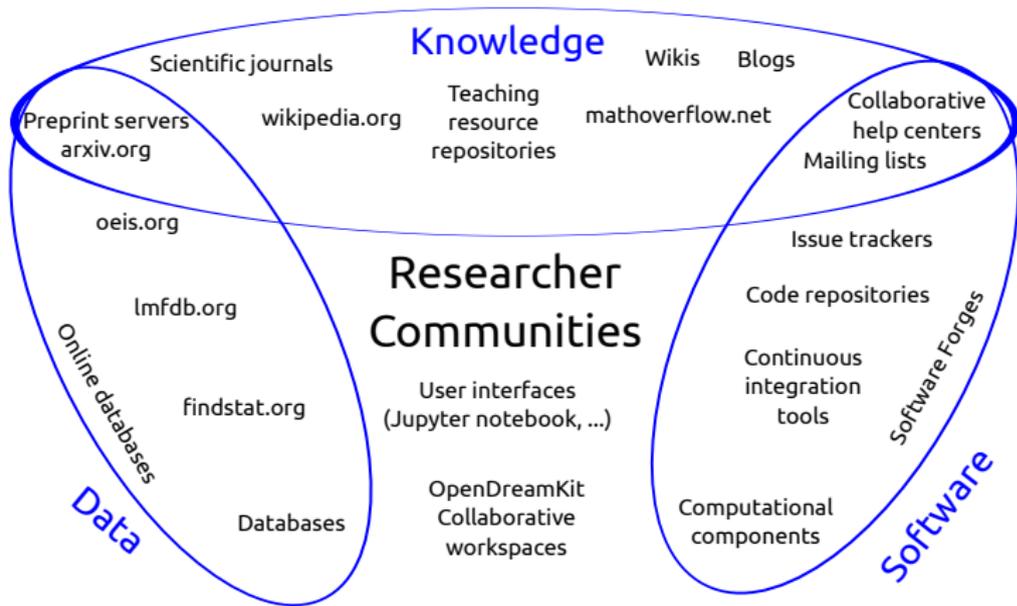
Virtual Research Environments

A call of the H2020 European Research Infrastructures Work Programme

Definition

Groups of researchers, typically widely dispersed who are working together through ubiquitous, trusted and easy access to services for scientific data, computing and networking, in a *collaborative virtual environment*.

Virtual Research Environments in Math



Storage resources
(local, shared folder, cloud)

Computational resources
(local, super computer, cloud)

OpenDreamKit (2015-2019)

Open Digital Research Environment Toolkit for the Advancement of Mathematics

- H2020 European Research Infrastructures Work Programme
Call: Virtual Research Environments
- Budget: 7.6 million euros
- 15 sites
- 50 participants

OpenDreamKit (2015-2019)

Aims

- Deliver a flexible Virtual Research Environment toolkit supporting collaborative work on soft, data, and knowledge

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- Deliver a flexible Virtual Research Environment toolkit supporting collaborative work on soft, data, and knowledge
- Foster the ecosystem of open source software for pure mathematics and beyond

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Listen to your heart and do what's right