

Combining Grid, Cloud and Volunteer Computing

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August 31, 2015





Virtual Atom Smasher

github.com/wavesoft/virtual-atom-smasher



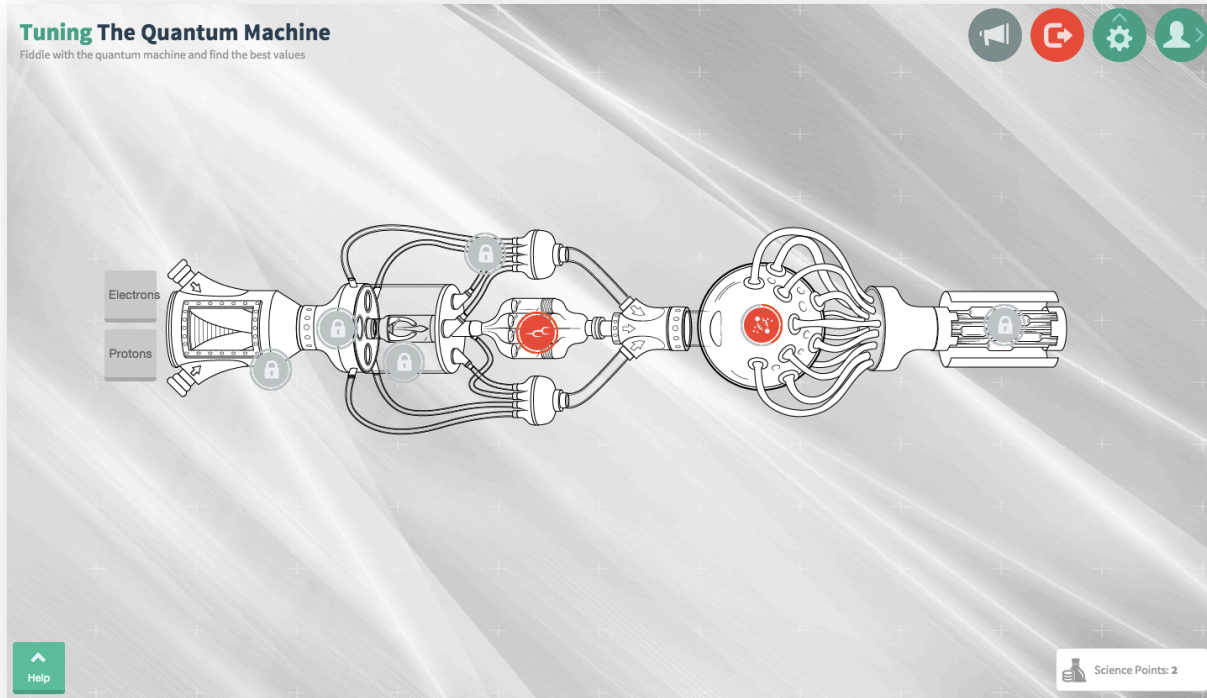
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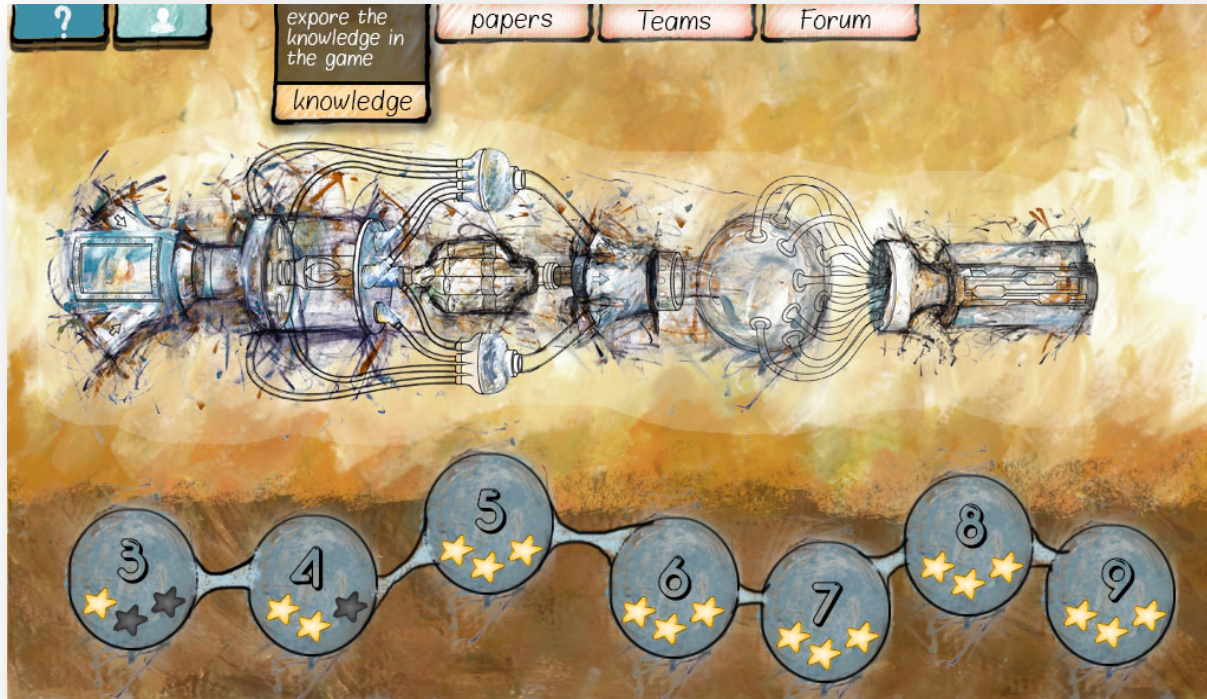
- Interactive **educational** game
- Citizens:
 - **Learn** about science
 - **Contribute** to scientist's work



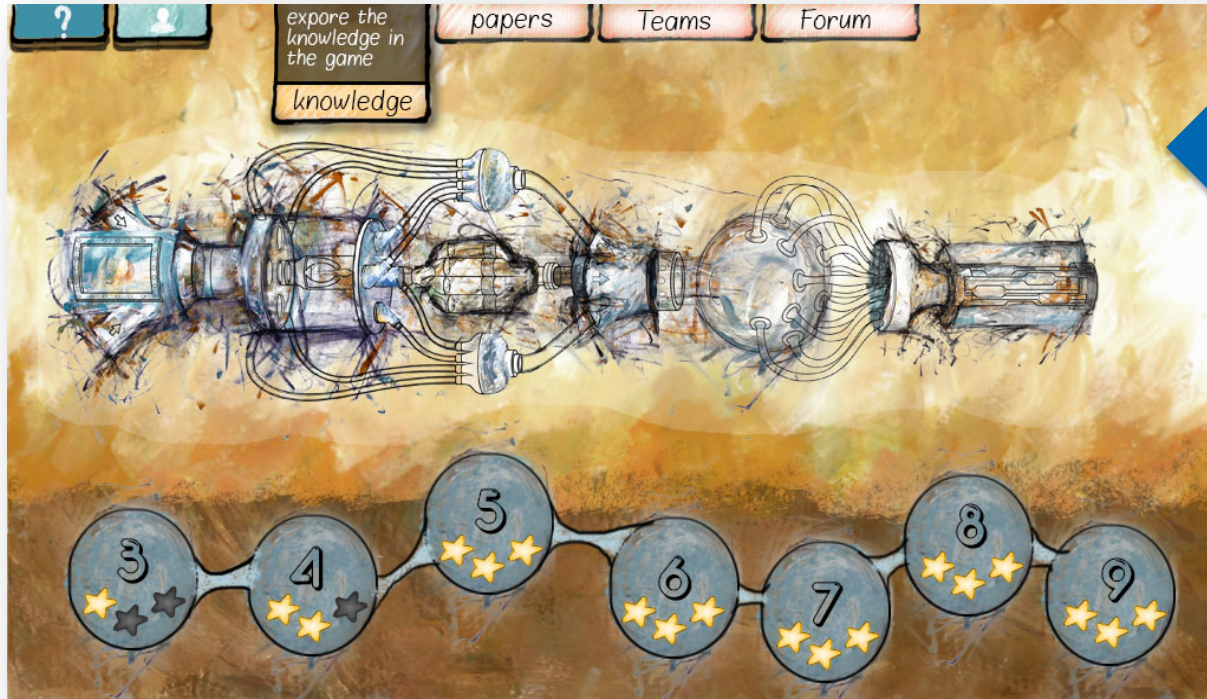
Before



After

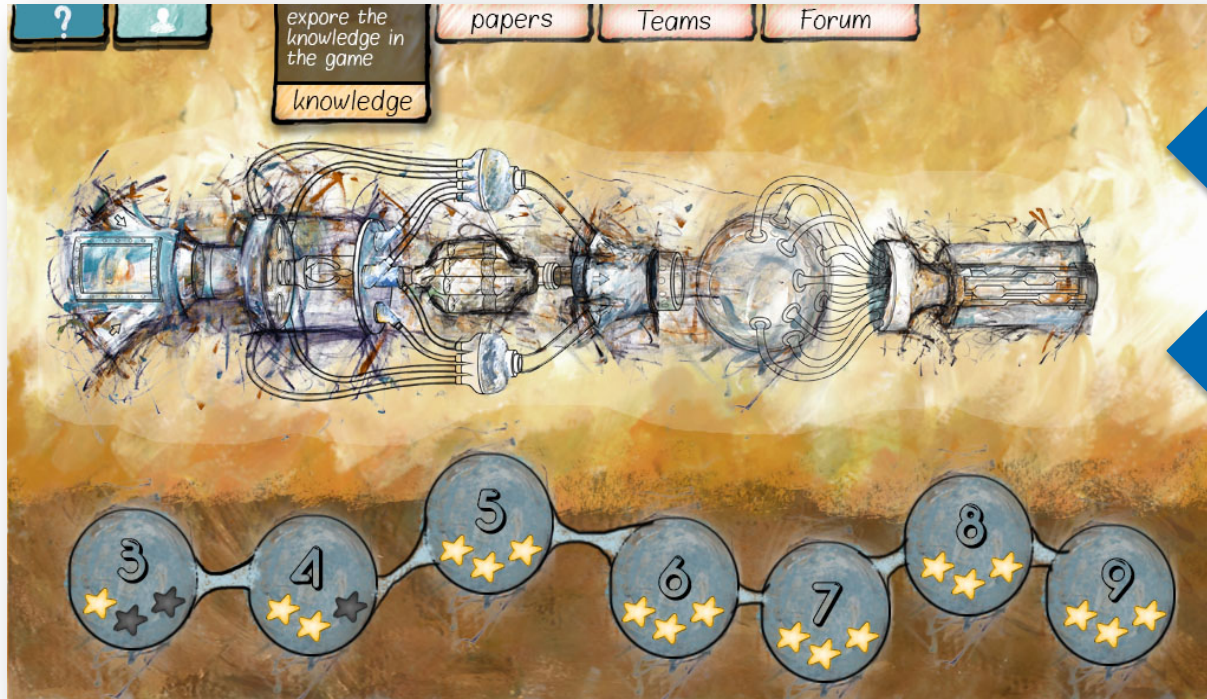


After



Concise menu

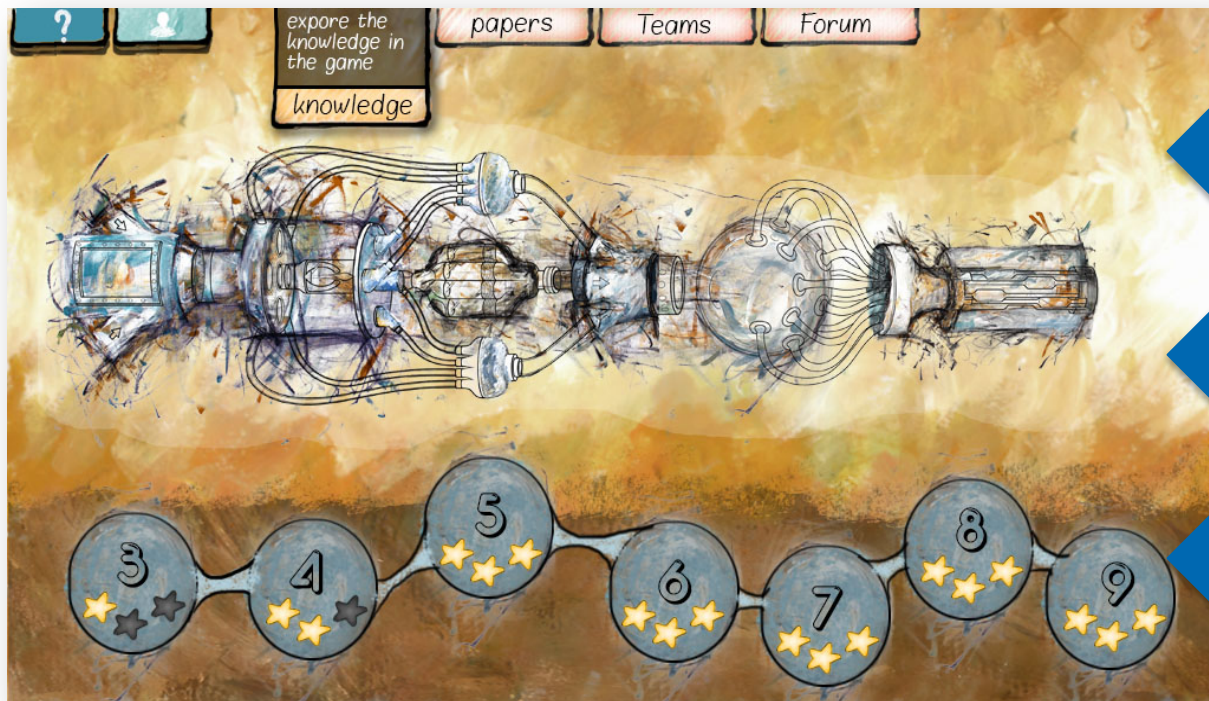
After



Concise menu

New graphics

After

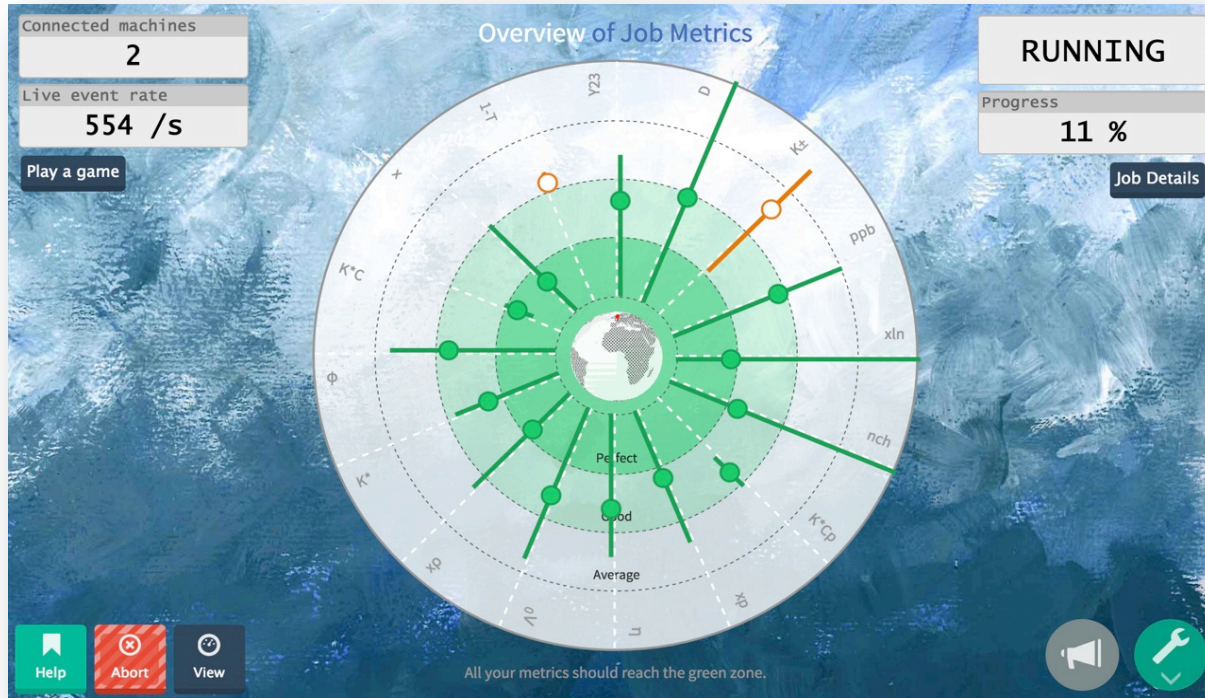


Concise menu

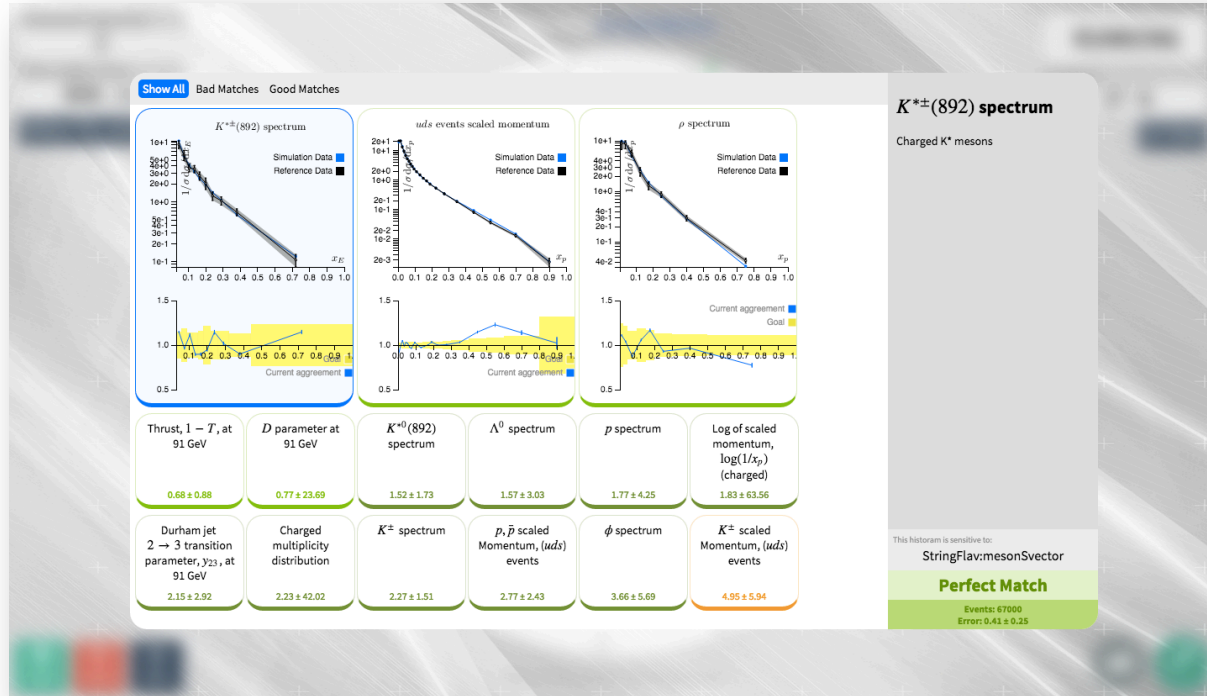
New graphics

Lucid leveling

Simulation Screen



Results View



Help Screens

You are now running a simulation

We have just started your simulation in a network of computers provided by other players and institutions

In a few seconds they are going to send results, that you can observe in this status screen

Each one of these simulations are producing virtual particle collisions, using the physics parameters that you have provided

You results are good if your theoretical simulation matches what we have seen in the experiments

Reference : Measured in the experiments

Simulation : Your simulation results

Good Match

Bad Match

You can also see how good they match in the circular indicator : The closer to the center, the better the match

Under the hood



- Page templates
- Code polishing
- **CernVM** **WebAPI** integration

In a nutshell

In a nutshell

So far

- Visual upgrades
- Template utilization
- Code polishing
- **CernVM** **WebAPI**
integration

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Future work

- User feedback assessment
- Audio playback
- Public version release
- **CernVM** **WebAPI** further integration

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CernVM WebAPI

github.com/wavesoft/cernvm-webapi



CernVM WebAPI

github.com/wavesoft/cernvm-webapi

- Browser **API** to install and control local VMs
- **Real-time** interaction with the running instance
- **Automatic** hypervisor installation and configuration



CernVM WebAPI

github.com/wavesoft/cernvm-webapi

- **Beta** project
- **COVERITY**® static code analysis
- But...

Google test

code.google.com/p/googletest

- C++ testing framework
- Multiplatform
- Based on the xUnit architecture
- Support for variety of tests

In a nutshell

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So far

- **Google** test integration
- libcernvm testing

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Future work

- Further test development
-  **Jenkins** integration

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github.com/wavesoft/cernvm-webapi

Thank you
for the experience



Virtual Atom Smasher

test4theory.cern.ch/vas



CERN Public Computing Challenge

test4theory.cern.ch/challenge

