INDICO: A COLLABORATION HUB

CHEP 2012 – NEW YORK

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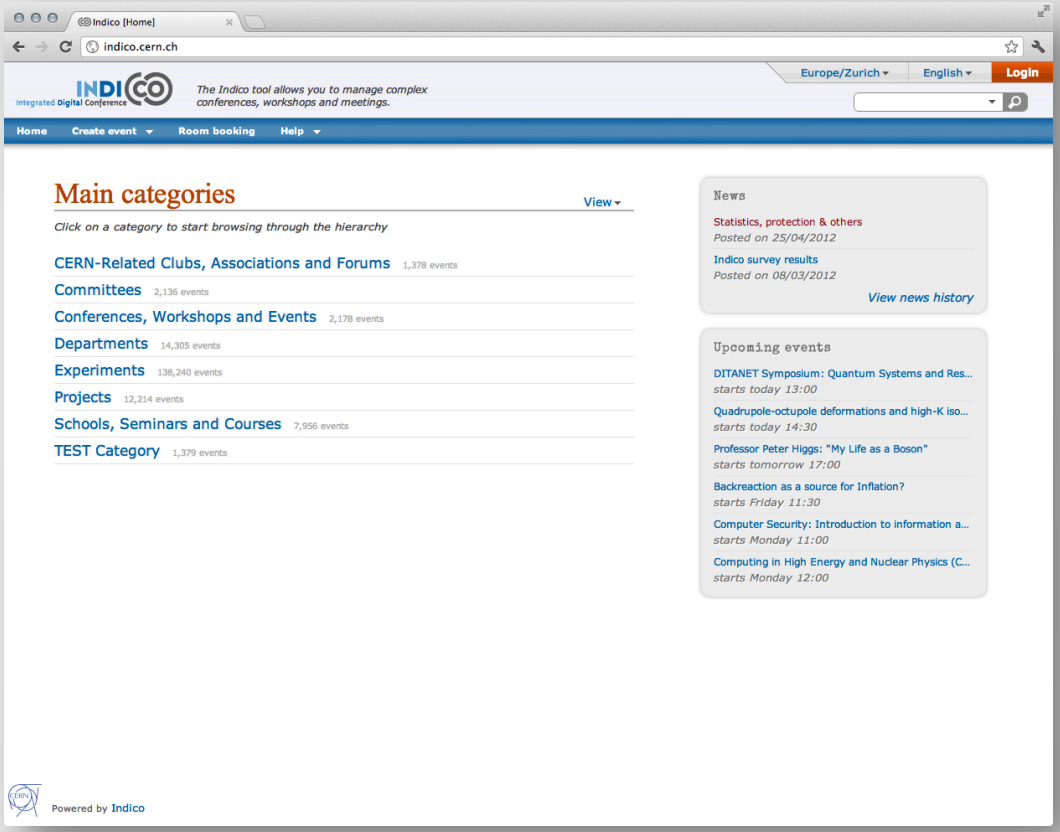
INDICO TEAM / CERN

CERN

WHAT IS INDICO?

An event management web application.



WHAT IS INDICO?

An event management web application

Conference Lifecycle

Room Booking

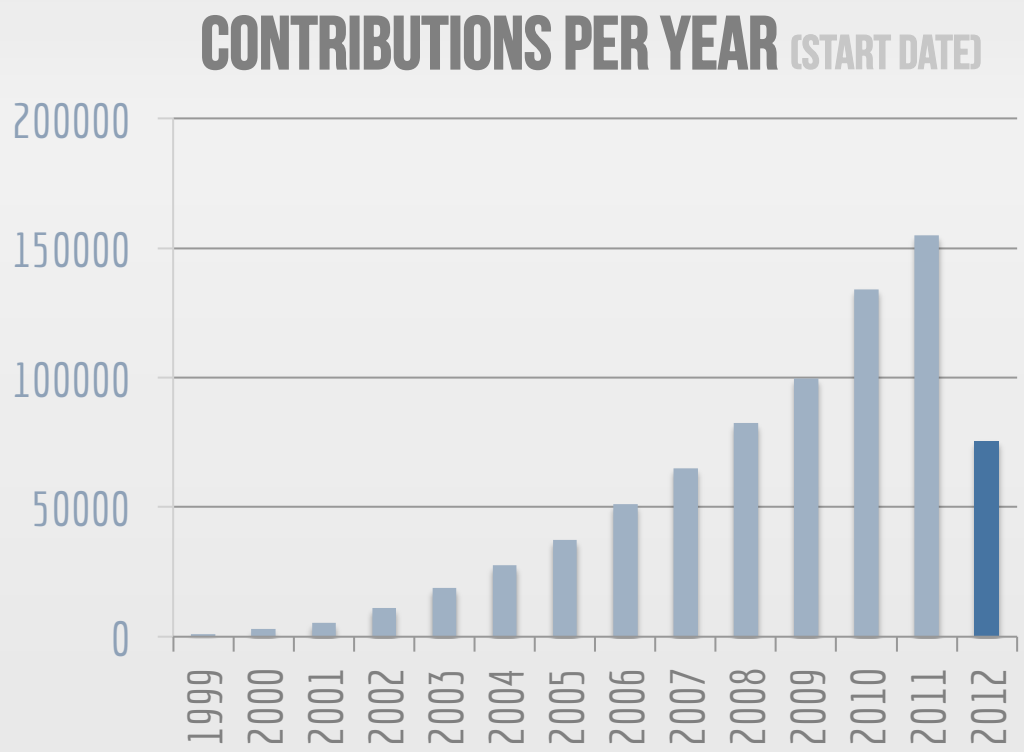
Data Repository

Collaborative tools

Developed at CERN - Free and Open Source

AT CERN

~ 180.000 events
~ 700.000 contributions
~ 1.000.000 files



AROUND THE WORLD

Indico is the *de facto* HEP standard collaboration tool

Growing Community

4 Continents

› 100 known servers

LAST TIME...

CHEP 2009 – "Indico Central"

Indico 0.97 was coming out

Biggest change in Indico to date

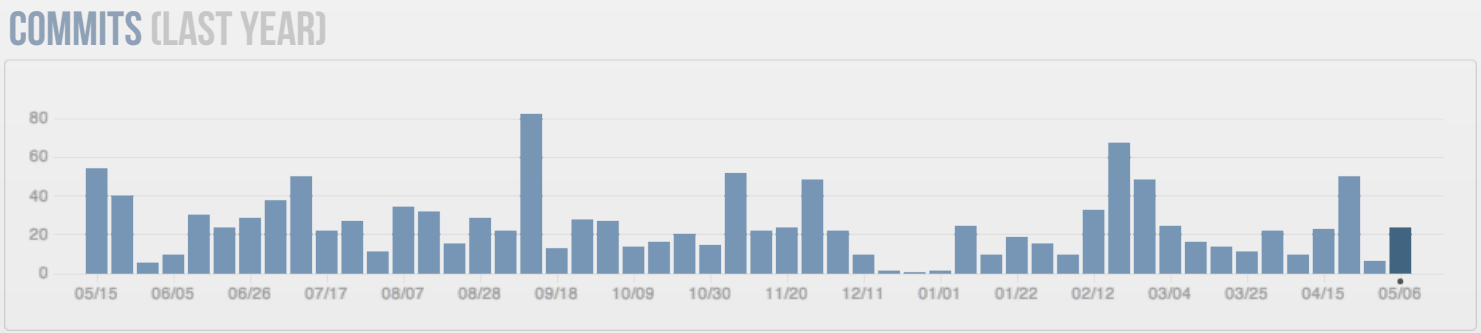
Integration with Collaborative tools

NOW

Indico is currently in version 0.98.2

0.99 is around the corner

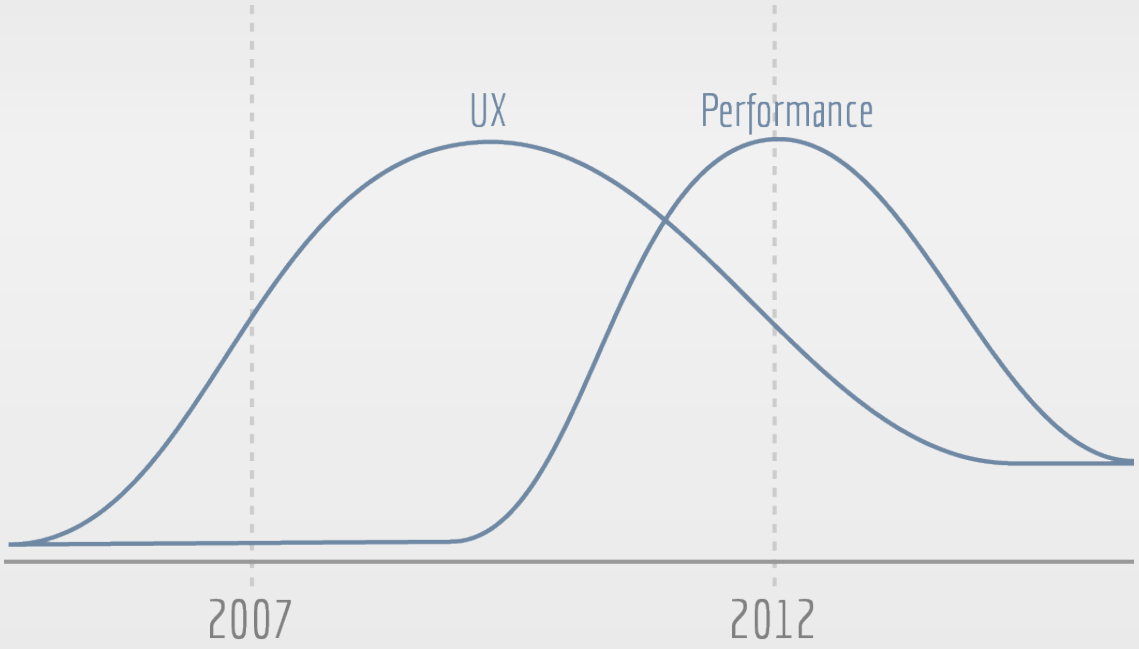
Version 1.0 should be out by the end of the year



WHAT HAS CHANGED?

SHIFTING PRIORITIES

A bit less UX, more performance



FEATURE SET

New features since 0.97

Integration with Collaborative Tools

Room Map

Paper Reviewing

Timetable Drag'n'drop

Per-event Statistics

Real-time search updates

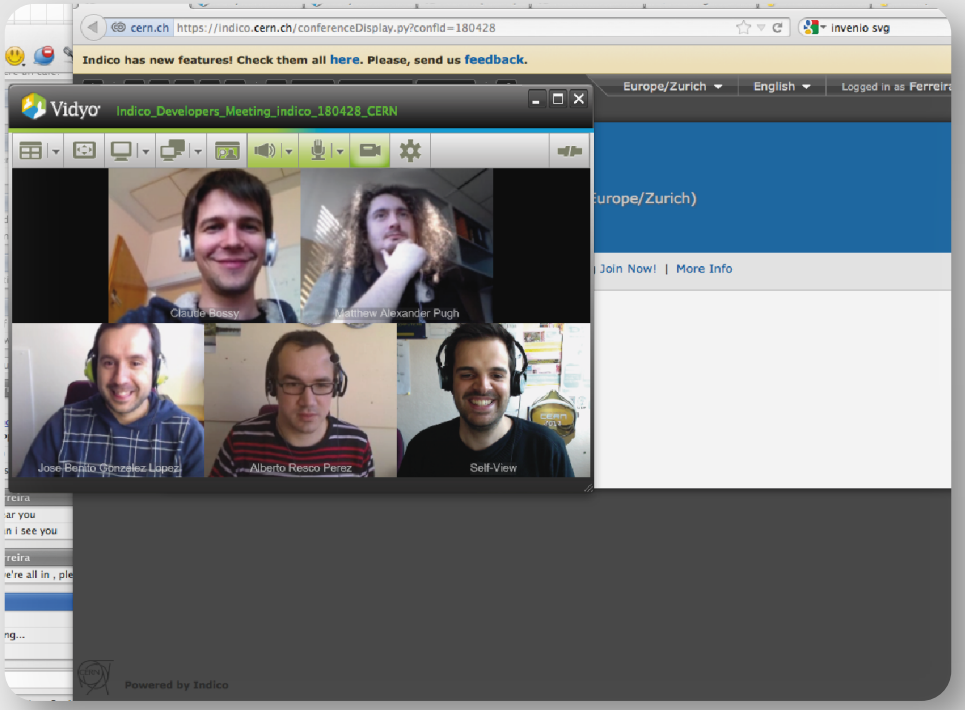
HTTP API

Security Improvements

COLLABORATIVE TOOLS

Integration with videoconferencing, recording and chat tools

- Vidyo
- Recording/webcast request
- CERN MCU
- EVO
- XMPP/Jabber



HTTP API

Accessing structured information in an easy and secure way

http://indico.cern.ch/export/event/149557.json?ak=xxxxxxxx


```
{
    "count": 1,
    "additionalInfo": {},
    "_type": "HTTPAPIResult",
    "complete": true,
    "url": "https:\/\/indico.cern.ch\/export\/event\/149557.json?ak=xxxxxx&pretty=yes",
    "ts": 1337178456,
    "results": [
        {
            "category": "Conferences",
            "startDate": {
                "date": "2012-05-21",
                "tz": "Europe\/Zurich",
                "time": "12:00:00"
            },
            "_type": "Conference",
            "endDate": {
                "date": "2012-05-26",
                "tz": "Europe\/Zurich",
                "time": "00:00:00"
            },
            "description": "",
            "title": "Computing in High Energy and Nuclear Physics (CHEP) 2012",
            "chairs": [
                {
                    "_type": "ConferenceChair",
                    "id": 1,
                    "affiliation": "Unknown",
                    "_fossil": "conferenceChairMetadata",
                    "fullName": "Ernst, Michael",
                    "email": "mernst@bnl.gov"
                } ...
```

HTTP API

The Swiss Army Knife for the Indico Community

Easy to use (HTTP-oriented)

Secure – several configuration modes

Allows access to most event metadata

Events, contributions, sessions, file URLs, bookings

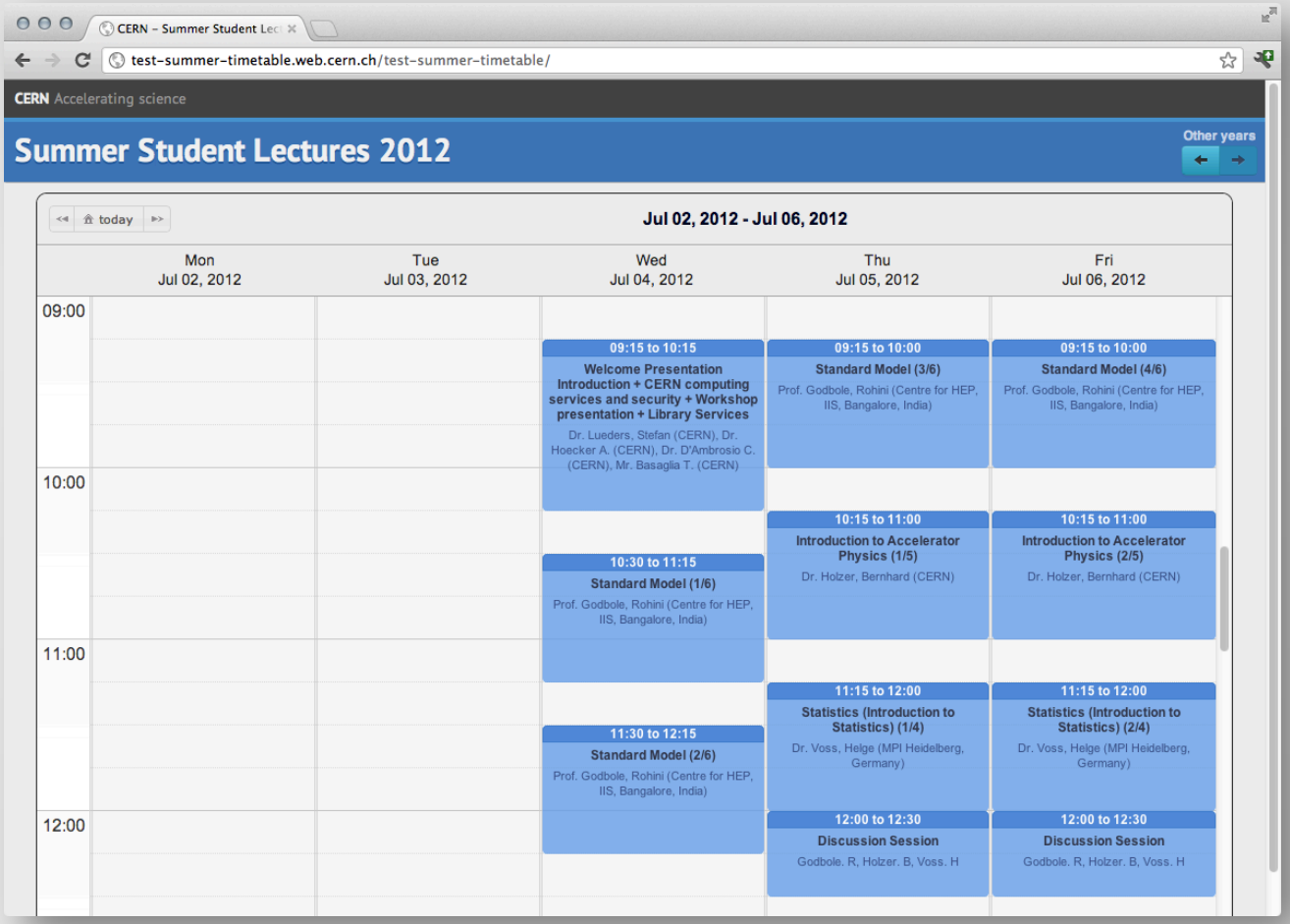
Several formats (XML, JSON, iCalendar, Atom, JSONP)

Allows people to build applications on top of Indico

Example - Conference4Me

HTTP API

Example: Summer Student lecture timetable



SECURITY

Security is an essential topic in modern web applications

Full HTTPS mode – logged in users

Protected events excluded from iCal/Atom feeds

Access key/signature authentication mechanism (HTTP API)

HTML sanitization, XSS prevention

Protection status displayed for protected pages

USER EXPERIENCE

Since 2007, we've been actively conducting usability tests

UX is **not** a secondary question

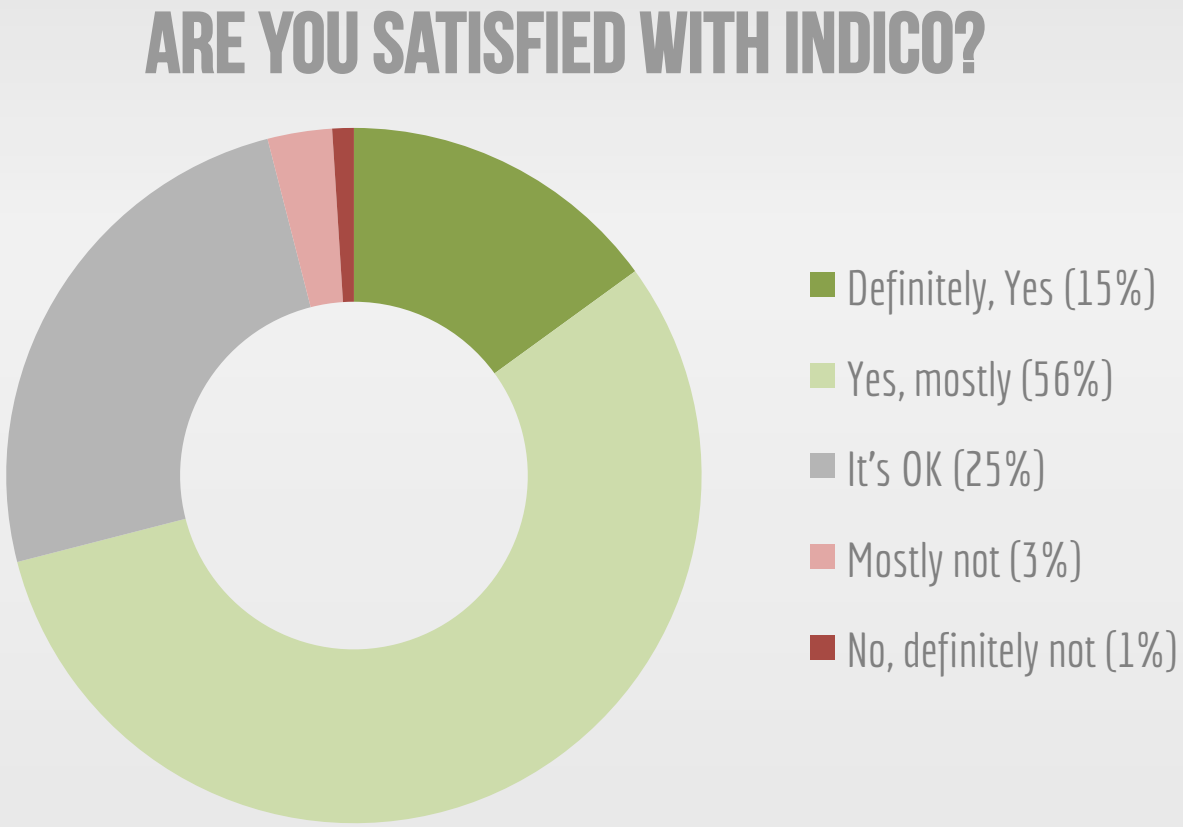
Several testing methodologies

"Lab tests" in 2007 and 2012

Real users, a computer and a camera

USER EXPERIENCE

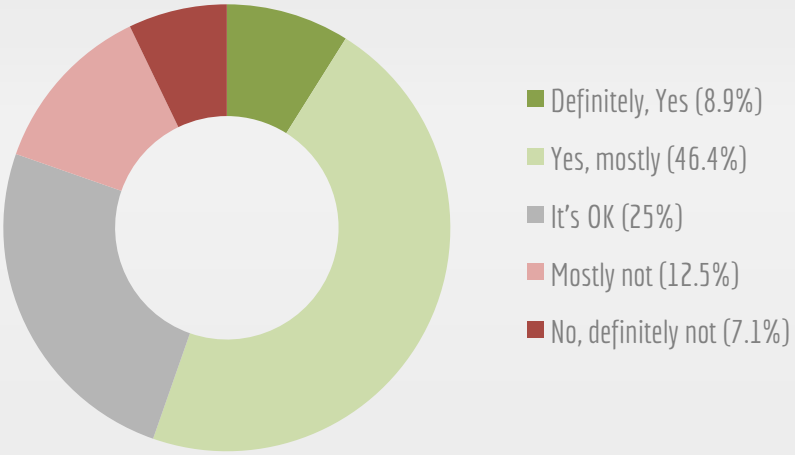
And we haven't been doing too bad...



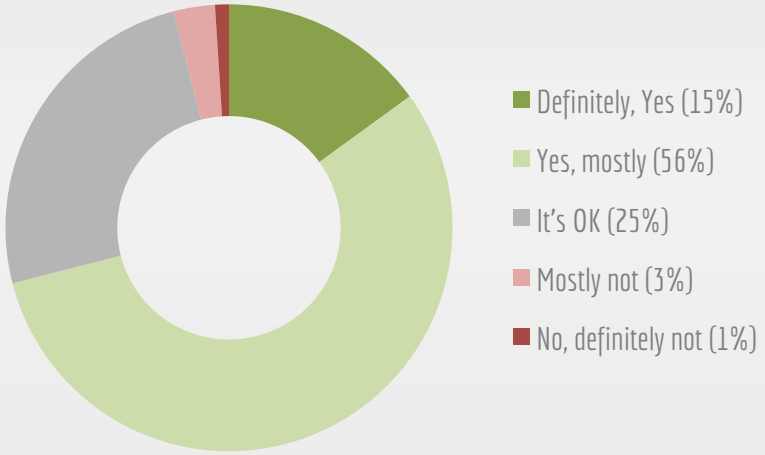
USER EXPERIENCE

A clear improvement, but we can do even better

ARE YOU SATISFIED WITH INDICO? (2007)



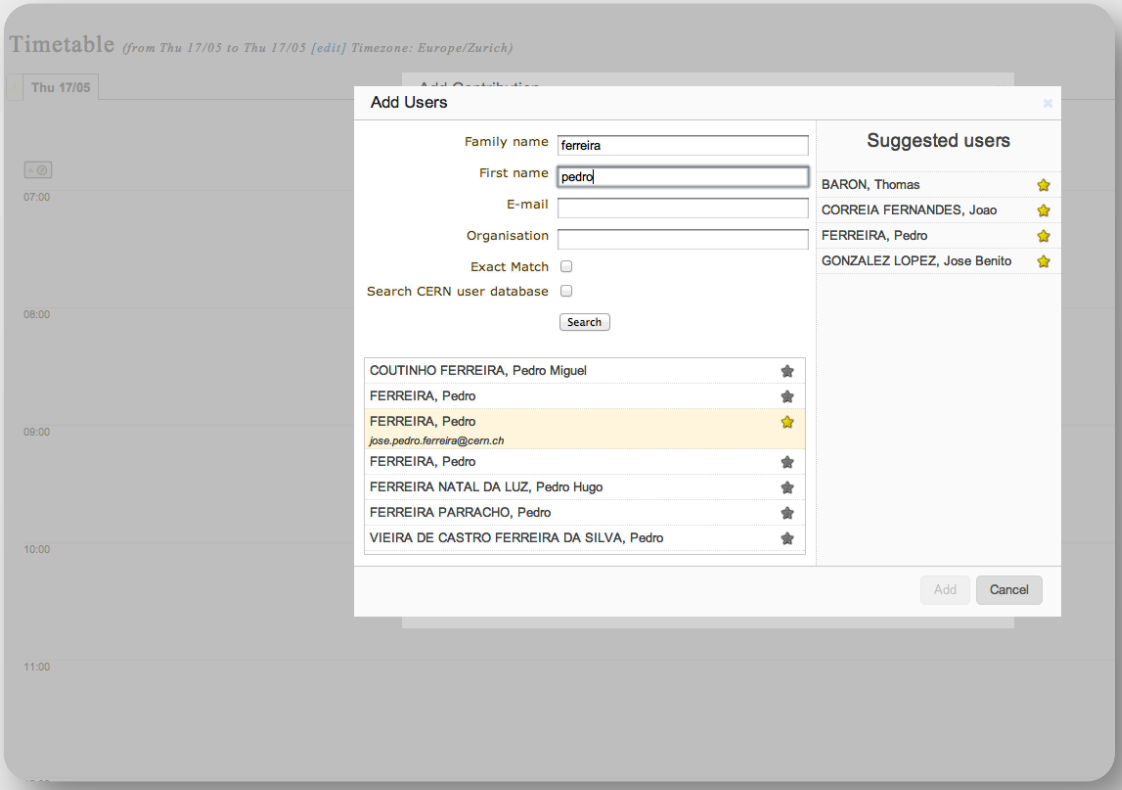
ARE YOU SATISFIED WITH INDICO? (2011)



INTERFACE IMPROVEMENTS

Small things can make a lot of difference

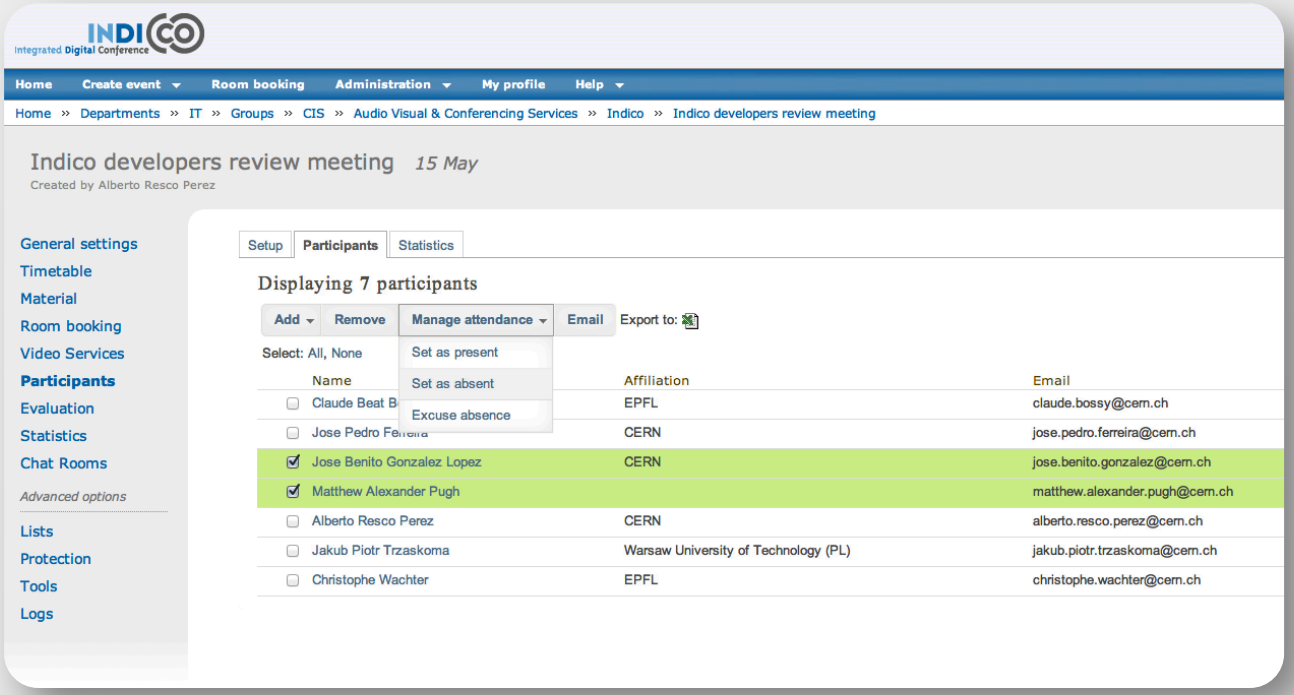
User search pop-up everywhere



INTERFACE IMPROVEMENTS

Small things can make a lot of difference

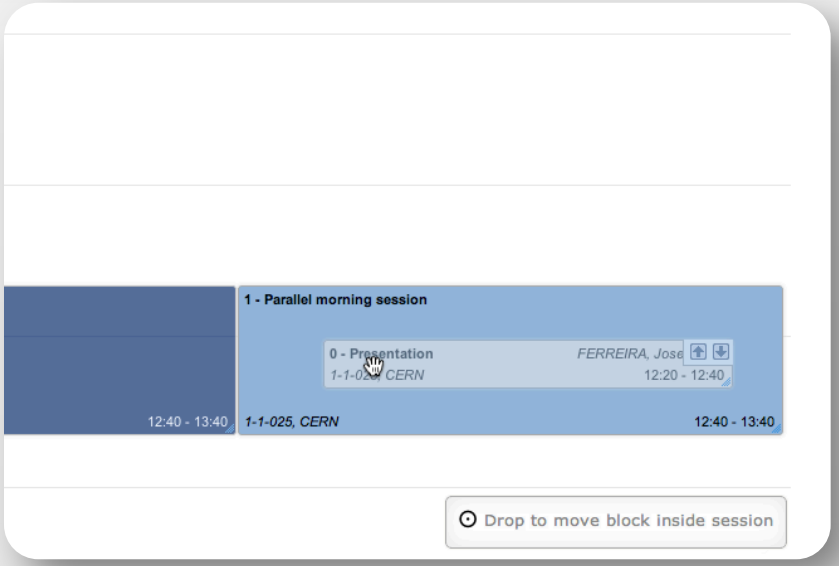
Nicer, more functional listings

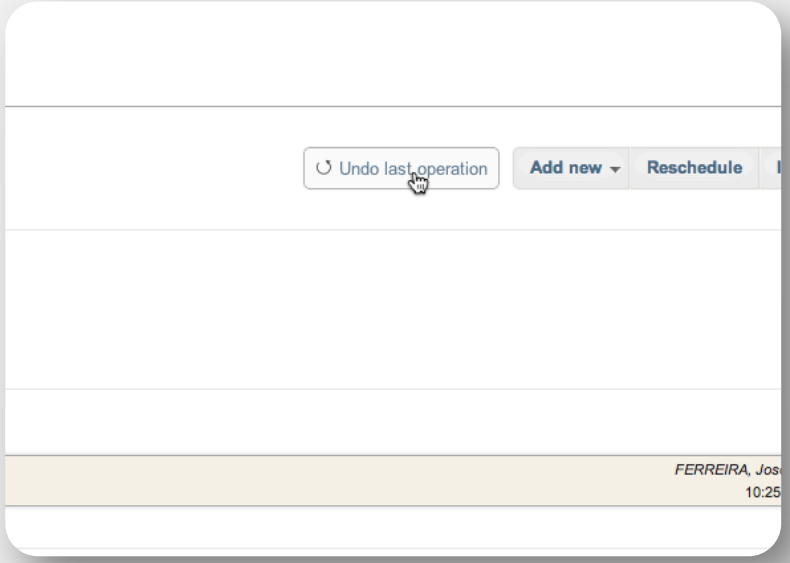


INTERFACE IMPROVEMENTS

Small things can make a lot of difference

Drag'n'drop Timetable

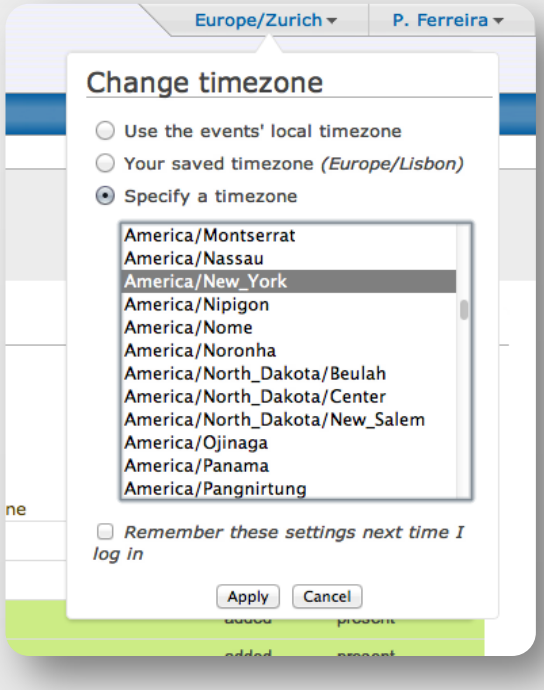


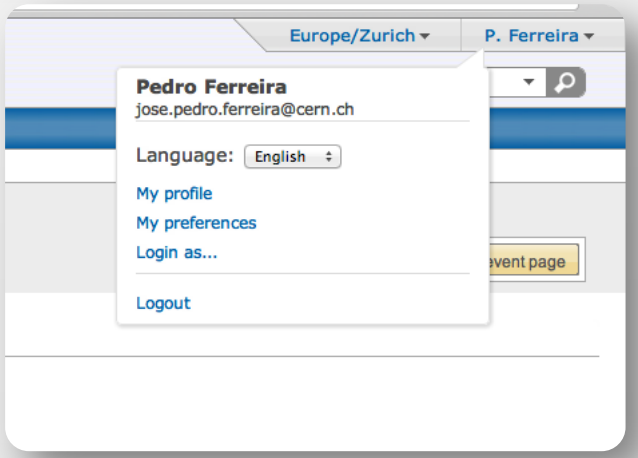


INTERFACE IMPROVEMENTS

Small things can make a lot of difference

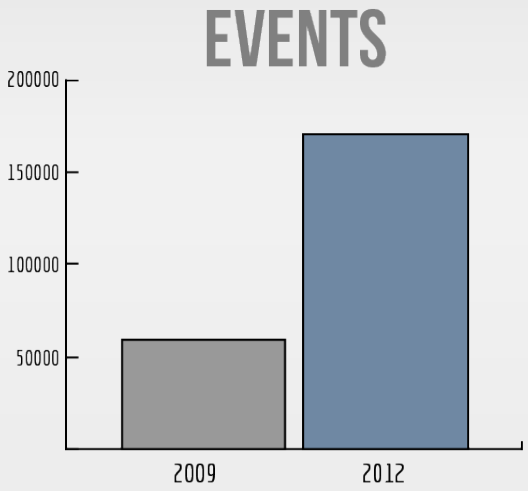
Integrated profile bar

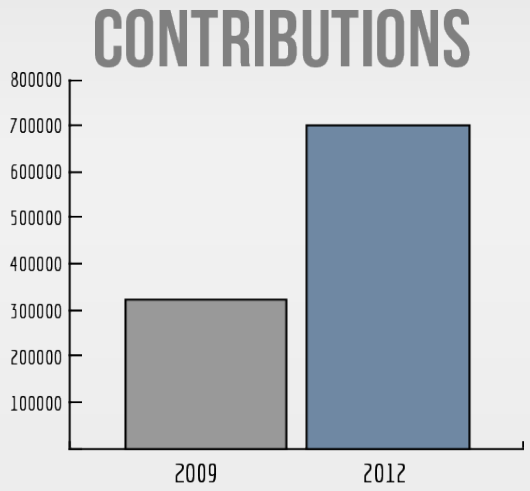




PERFORMANCE

Because we can't afford being slow.



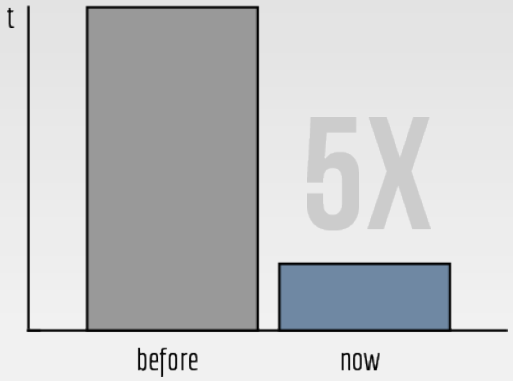


PERFORMANCE

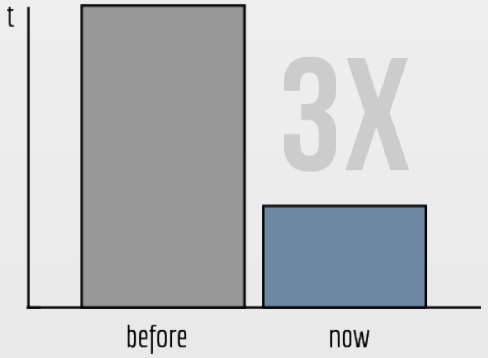
Optimizing “slow spots”.

Event List
Event Pages
Event Overview / Calendar
Room Booking module
Abstract management
PDF creation
Registrant List
Contribution List

EVENT OVERVIEW



BOOKING CALENDAR

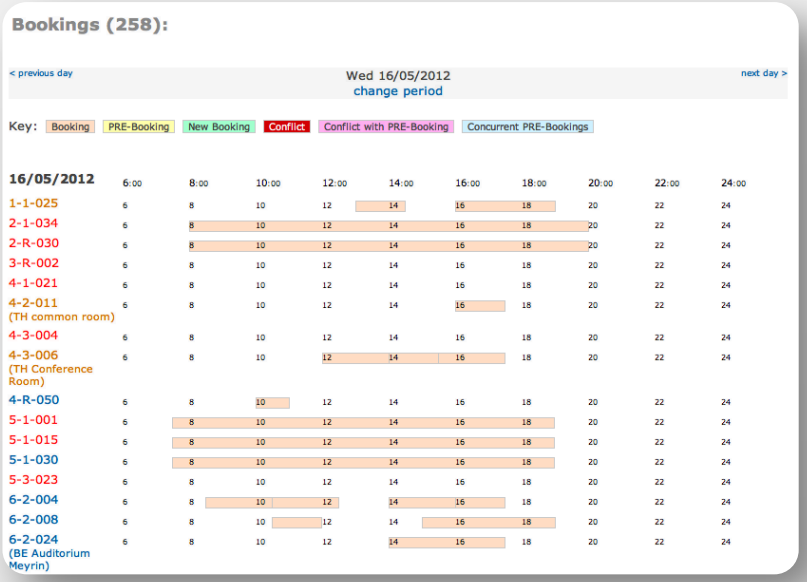


PERFORMANCE

Using technologies the right way.

Minimizing the number of database commits

New caching mechanism with memcached support



TECHNOLOGIES

Doing more, writing less code.

Python 2.6 +

WSGI

Mako templating engine

jQuery & friends

Babel (i18n)

jQueryUI, Google Maps, webassets.py, memcached, pypdf, pyatom, icalendar ...

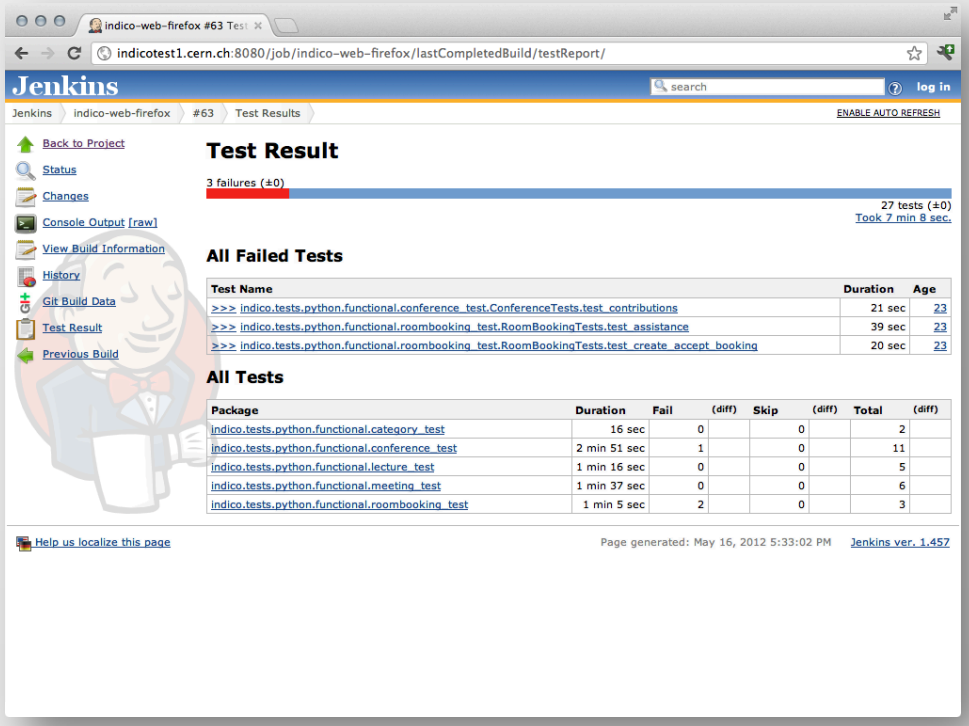
QUALITY ASSURANCE

Developers fail but software can't

Unit tests

Functional (interface) tests

Integration server



THE FUTURE

1.0

Is coming out this year

Lots of refactored code

Cleaning up some “dusty corners” – improving design/usability

UX improvements (Drag’n’drop Registration form…)

A Uniform, stable and complete Software Project

INDICO MOBILE

An improved interface for mobile devices

A mobile add-on for Indico

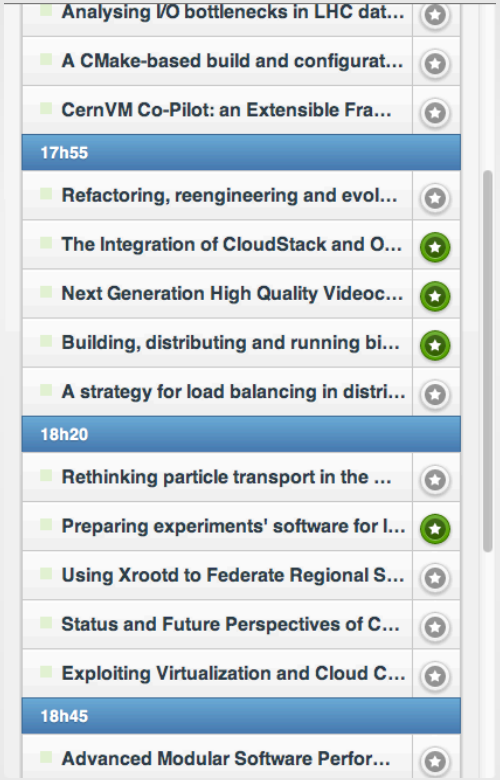
Currently in development

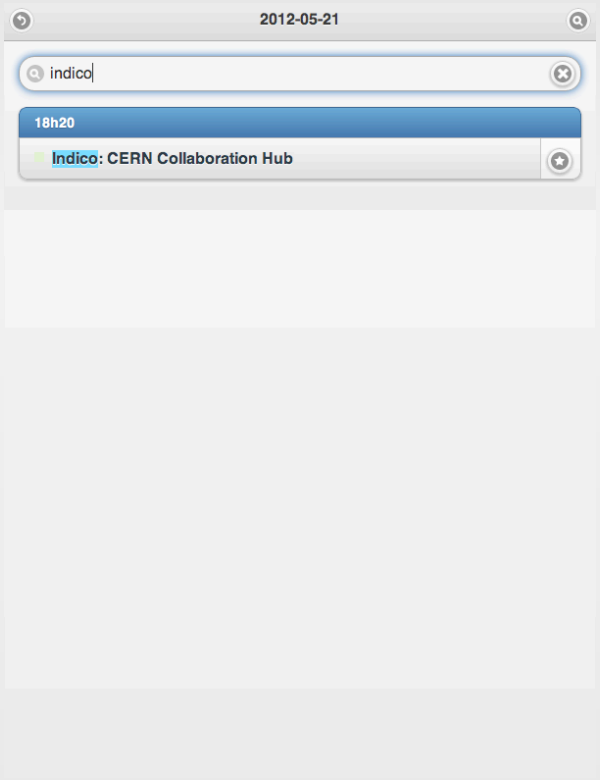
Usable version by the end of the year

Powered by Indico's own HTTP API

INDICO MOBILE

An improved interface for mobile devices





BEYOND 1.0

We have come a long way since CHEP 2004

Paper Reviewing brought us closer to our objectives

Finishing the Conference Lifecycle coverage – **proceedings**

“My Indico” – better homepage?

The web keeps evolving towards something ubiquitous…

We want to be a part of it!

TAKE PART!

Indico is Open Source and free to use

You can help us make it better.

We are open to suggestions and code contributions!

Project Site - http://indico-software.org

GitHub - http://github.com/indico

INDICO TEAM

Web Development for the Scientific Community

Jabber/XMPP - indico@conference.jabber.cern.ch

Admin mailing list - project-indico-administrators@cern.ch

Project Site - http://indico-software.org

Thank you for your time!

QUESTIONS?