

# Agora Virtual e-learning federated by design

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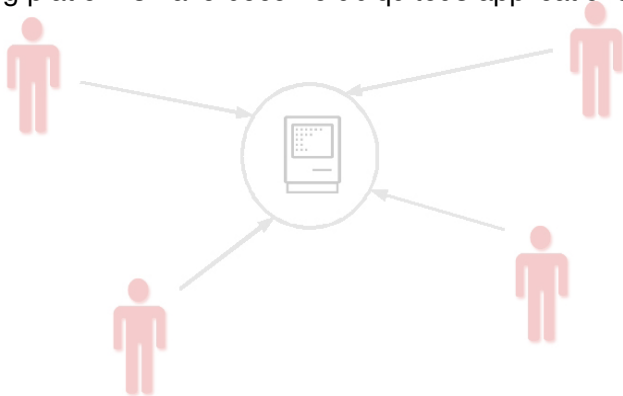
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# Why a federated model for e-learning?

The failure of the monolithic application

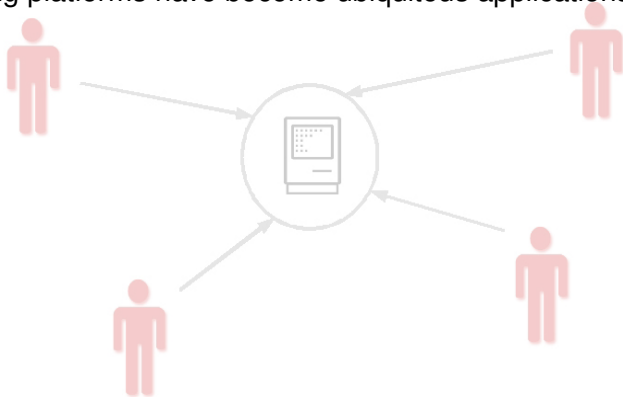
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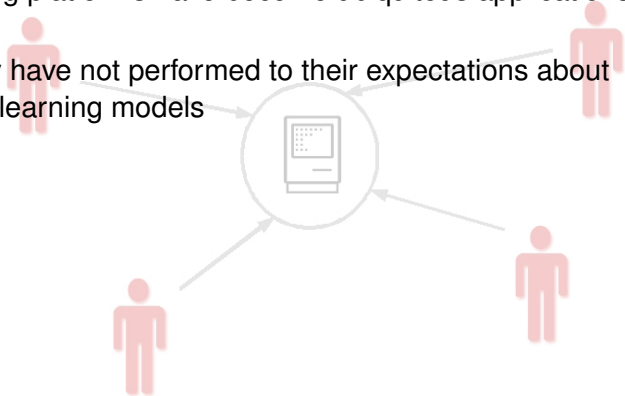


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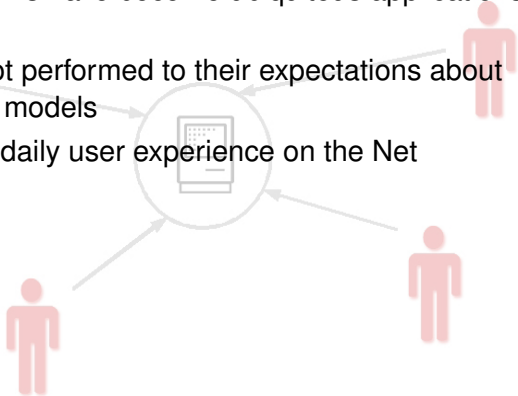


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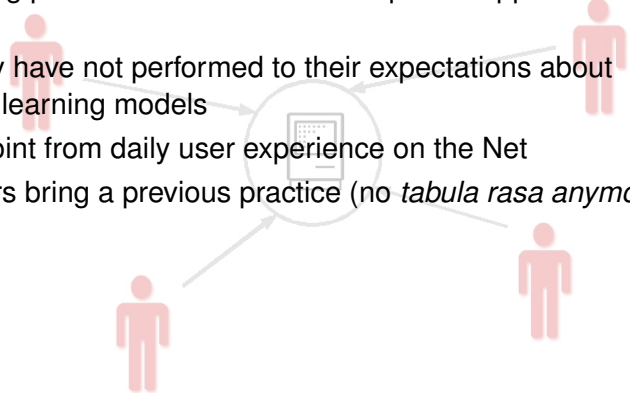
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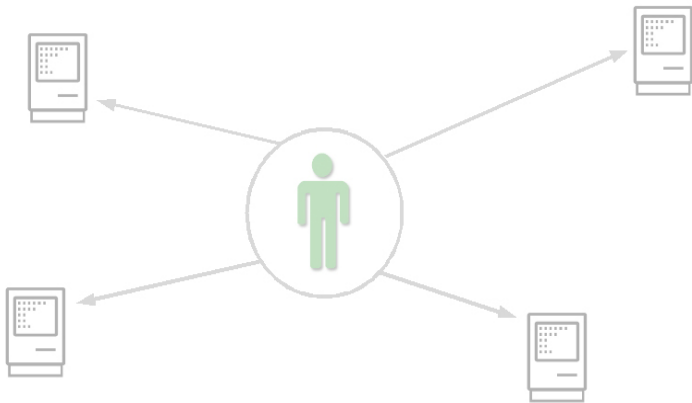
- They have not performed to their expectations about new learning models
  - Disjoint from daily user experience on the Net
  - Users bring a previous practice (no *tabula rasa anymore*)
  - Does it make sense to speak of "constructivist" platforms?
- 



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A user centered approach

New uses of *The Net* require new concepts for the platforms

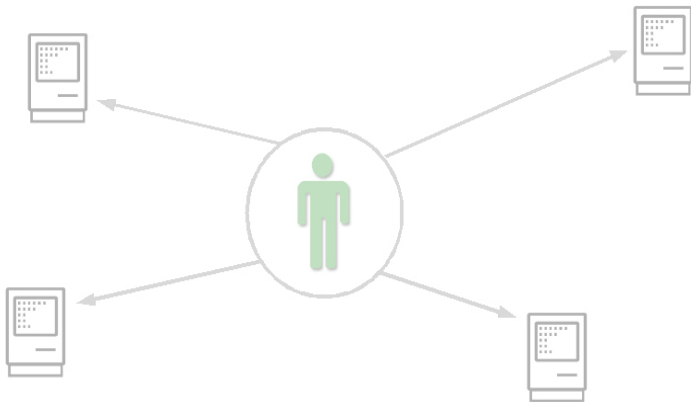


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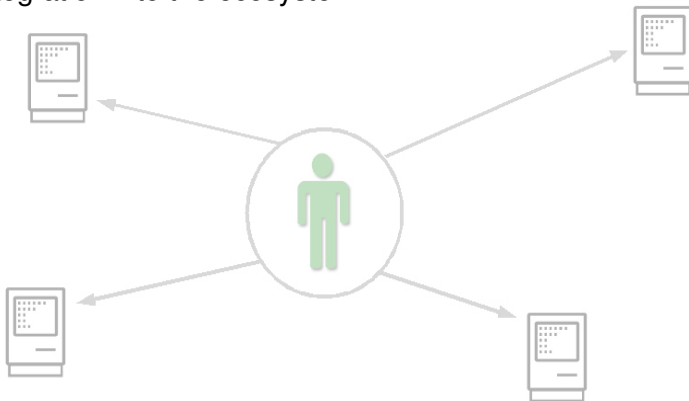


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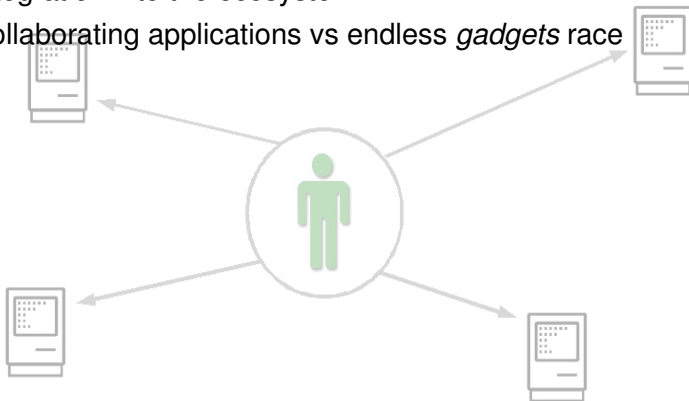


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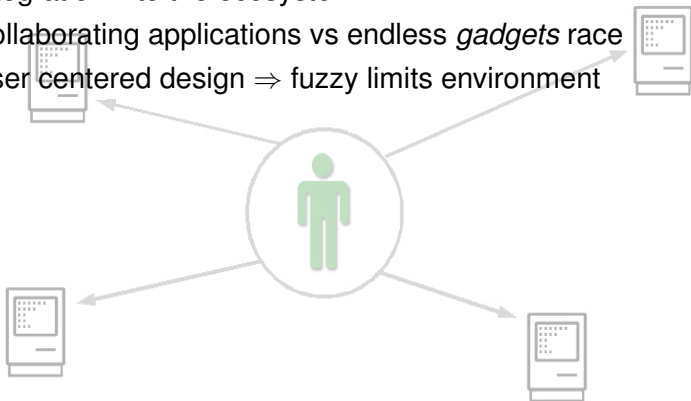


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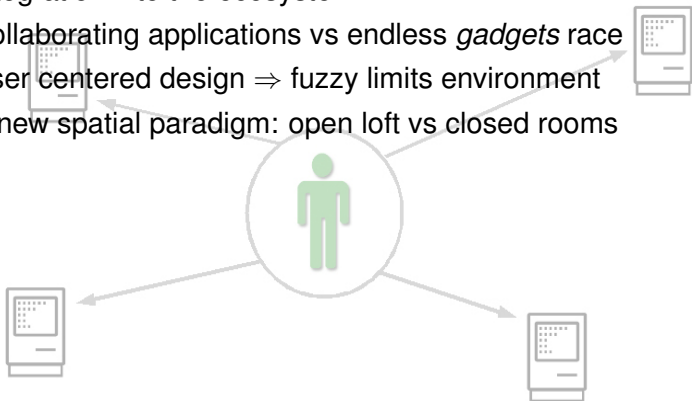


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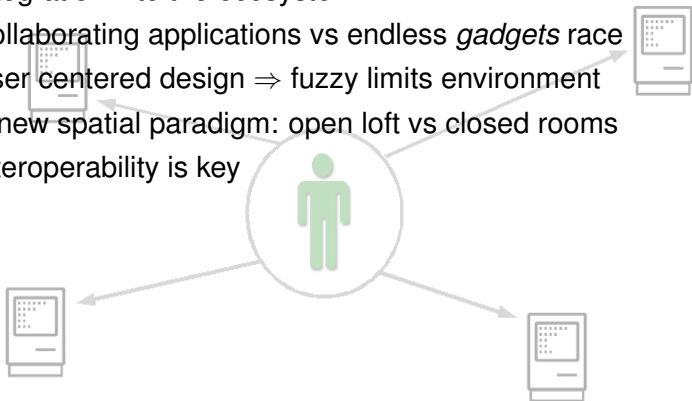


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- Interoperability is key

*Interoperability is the degree to which a provider and a consumer can successfully interface having never met*

Coppeto, T.: Introduction To OSID V3 for developers



# Materials for building a new platform

Available technologies for collaborating applications

We need some basic tools to transform the flat into a loft



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- Platform

## Agora Virtual 1.0 → 5.0

- Test bed for new approaches
- Two years in use for postgraduate courses and international research projects
- Some degree of interoperability since v1: Jabber server, authN OSID, Google Maps API...
- ...but other tools remain in traditional form



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- Platform
- **Interoperability**

## OKI OSIDs

(Open Knowledge Initiative Open Service Interface Definitions)

- Specifications describing communications between components of a software environment
- Service oriented architecture
- Interoperability as main goal (even better in v3)



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- Platform
- **Interoperability**

## Harmoni framework

- Led by the Curricular Technologies Group at Middlebury College
- PHP implementation of OSID v2 (v3 is on its way)
- Rapid development and easy maintenance of curricular IT projects



# Materials for building a new platform

Available technologies for collaborating applications

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- Platform
- Interoperability
- **Identity**

## phpPoA → PAPI

- Easy to deploy
- PHP support
- Widely used in our context

The simplest and easiest way to put SSO into PHP applications



# Materials for building a new platform

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## SimpleSAMLphp

|        |   |                     |
|--------|---|---------------------|
| SAML   | ⇒ | federations         |
| simple | ⇒ | easy to integrate   |
| php    | ⇒ | <i>our</i> language |

In all:

a clever SAML 2 SP and IdP implementation

or

the simplest and easiest way to get

PHP applications into SAML 2 federations



# Evolving the platform

Starting point: Agora virtual v4

Ágora Virtual .es

Manuel Cebrían (mcebrían) worksites: Supervisión practicum Manuel Cebrían 07 [Logout]

- Home
- Schedule
- Announcements
- Resources
- Dropbox
- Assignments
- Forum
- Rubric
- Users

## Rubric

Back



### The Context observation - Jurado Ripoll, Laura

| Criteria                                     | Indicators                                |   |   |  | Value      |
|--|---|---|---|--|------------|
| <i>The context observation</i>               |   |   |   |  |            |
| The context observation                      | It don't gather any characteristics       | It gathers with details the characteristics of the students group | It gathers with details the characteristics of the students group, of the school and of classroom | It gathers with details the characteristics of the students group, of the school and of classroom, and the socio-economics levels of context | 10         |
|  | 2.5 ↻                                     | 5 ↻   | 7.5 ↻   | 10 ↻   |            |
| <i>Observación contexto escolar</i>          |   |   |   |  |            |
| Makes the objectives in terms of competences | It does not do it in terms of competences | Single some   | Considering Makes all the objectives in terms of competences                                      | Considering the characteristics of the studentand their resources available  | 25         |
| 0 ↻  | 8.33 ↻                                    | 16.67 ↻   | 25 ↻  |  |            |
| <i>Categoría unidad didáctica</i>            |   |   |   |  |            |
| Justifies the assignment                     | It does not make any justification        | Yes, but briefly  | It justifies with the PCC   | It justifies with the PCC and curricula  | 10         |
| 2.5 ↻  | 5 ↻                                       | 7.5 ↻   | 10 ↻  |  |            |
| Total  |   |   |   |  | 31.67 / 45 |

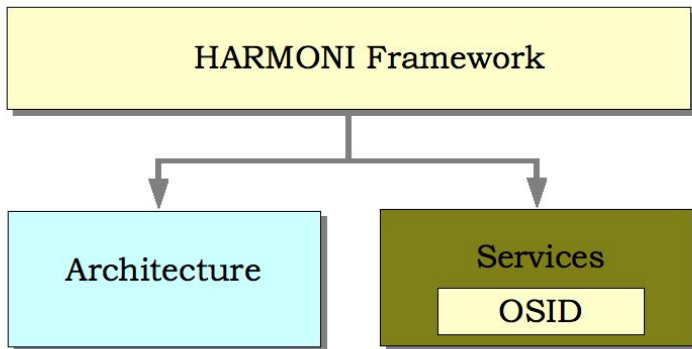
Save

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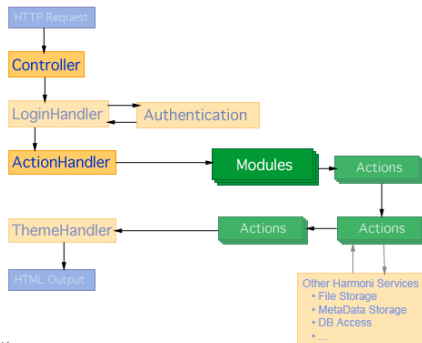
# Evolving the platform

The Harmoni framework



# Evolving the platform

## The Harmoni architecture



### Key

**Orange boxes** = indicate parts of the Harmoni Project (faded boxes indicate optional modules)

**Green boxes** = program-specific code, the code **you** write

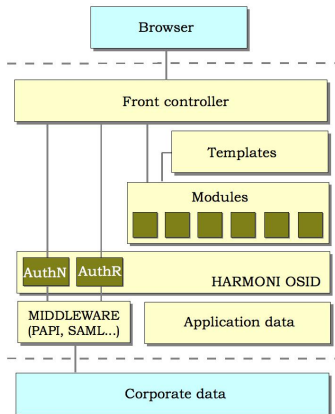
————> = program execution flow

————> = HTTP data flow



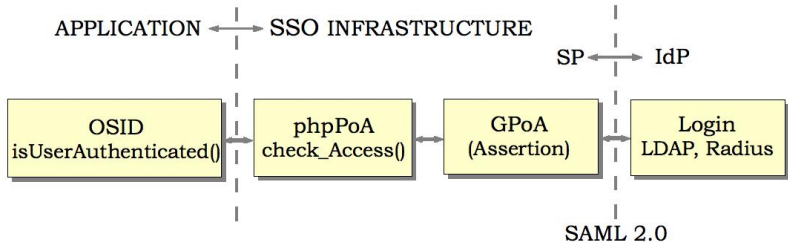
# Evolving the platform

End point: Agora virtual v5 redesigned architecture



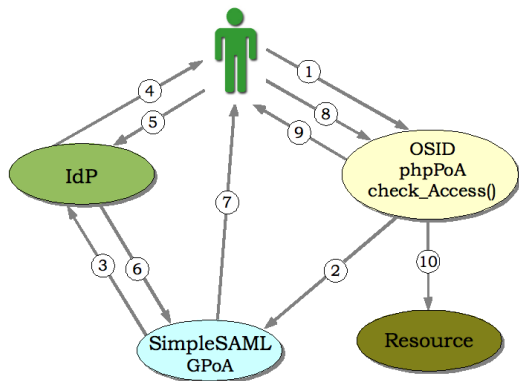
# Evolving the platform

The new AuthN architecture



# Evolving the platform

## The new AuthN process



# Evolving the platform

Thinking out of the box

Our implementation is different from a standard SimpleSAML setup in that



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Our implementation is different from a standard SimpleSAML setup in that

- One SimpleSAML GPOA is able to manage several applications



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Our implementation is different from a standard SimpleSAML setup in that

- One SimpleSAML GPOA is able to manage several applications
- There is no need for having distinct SPs for each application



# Possible uses

Choosing the best approach for each case

An institution could opt for . . .



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- Get an alternate GPoA for other authentication mechanism (e.g.: basic auth)
- Use this model against a SimpleSAML IdP just choosing the adequate plugin
- Even writing a PAPI plugin for SimpleSAML authentication against PAPI



- Real constructivism has a strong need for new building blocks



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- User centered implies being identity centered



- Real constructivism has a strong need for new building blocks
- User centered implies being identity centered
- Applications need to collaborate themselves in order to help the user



# Acknowledgements

Diego López <diego.lopez@rediris.es>

Adam Franco <afranco@middlebury.edu>

Andreas Å.Solberg <andreas.solberg@uninett.no>



Application : <http://agoravirtual.es/>  
Harmoni framework : <http://harmoni.sourceforge.net/>  
O.K.I. : <http://www.okiproject.org/>  
Technical knowledge : [accino@uma.es](mailto:accino@uma.es)  
Domain knowledge : [mcebrian@uma.es](mailto:mcebrian@uma.es)  
*“Marketing”* : [victoriano@uma.es](mailto:victoriano@uma.es)

