

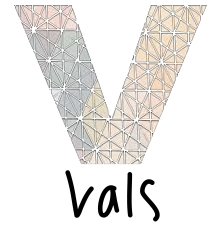
# *Introducing VALS project & Semester of Code*

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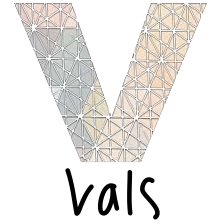
# Virtual Alliances for Learning Society (VALS)



- European project for **building knowledge alliances** between Universities and Companies across Europe with the **aim of facing real business problems through an open innovation** approach based on using and developing open software solutions through virtual placements in worldwide Companies and Foundations.
- Supported by
  - *European Union. Lifelong Learning Programme (Sub-Programme Erasmus-Knowledge Alliances)*
- Duration: November 2013 – October 2015
- Total amount: 533.337€

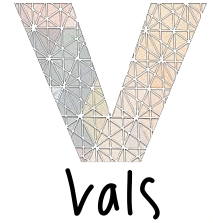
<http://virtualalliances.eu/>

# VALS Consortium



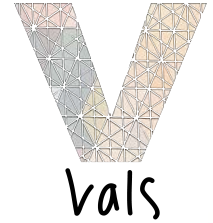
- University of Salamanca / GRIAL, SIPPE (Spain)
- OpenDirective LLP (United Kingdom)
- RayCom B.V. (Netherlands)
- University of Bolton (United Kingdom)
- University of Udine (Italy)
- University of Cyprus (Cyprus)
- Mindshock S.L. (Spain)
- Oxford University - *OSS Watch* (United Kingdom)

# VALS procedures



- Knowledge alliances among the entities (both academic and business)
- The most interesting VALS innovation is about the definition of a system of virtual placements for students in companies
  - Entrepreneurship skills promotion
  - Definition of new teaching / learning methods
- Development of the *Semester of Code*

# Semester of Code

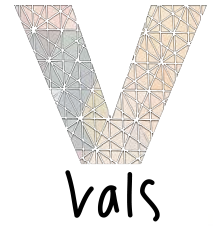


Semester in which one the students have their placements in companies and foundations related to open software

Virtual placements (telework)

Involved academic tutors (from the universities) and mentors (from the businesses)

# Some of the Foundations and Institutions that support the *Semester of Code*



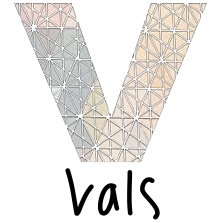
<http://vps2.semesterofcode.com/projects/browse>



The Apache Software  
Foundation

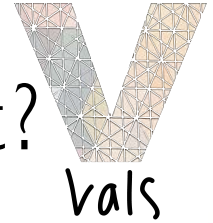


# VALS projects nature



- Real problems of the participant companies and foundations
  - The student proposes an approach to solve the problem
  - The proposed approach will be implemented during the Semester of Code

# How to participate as student?



1. Review the projects list in the *Semester of Code* website (<http://vps2.semesterofcode.com/>)

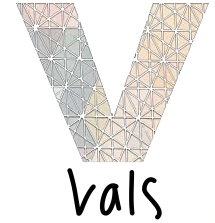
2. Find an academic mentor from your University

3. Sign up and send your application for the proposed projects (competition with other European students)

4. If the application is accepted, the student will develop it



# Students' timeline



The student decides to participate between January to March, 2015

The student reviews the projects proposed by the Companies to the VPS website <http://vps2.semesterofcode.com>. If the student likes any of them, finds an academic mentor and applies its proposal

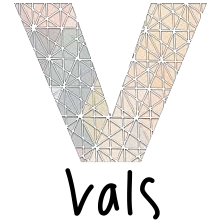
If the proposal is accepted, the student, the company and the university fix the timeline and other details for the project

The student can propose an adaptation of the project in order to be recognized as Final Degree Thesis or MsC Thesis

The student develops the project between March to July, 2015 (dates and timeline will be fixed with the company)

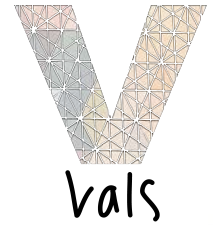
The student submits the project developed within the Semester of Code to its university (if it is necessary)

# Why to participate in the *Semester of Code?*



- Because the students can recognize the virtual placements like a regular internship in a business, and getting ECTS credits by this way in their university
- Because the project developed within the Semester of Code could be adapted and reused to be presented as Final Degree Thesis or MsC Thesis (if the academic supervisor and business mentor agree it)
- Because this experience can be the beginning of the students' professional career
- Because these experiences help the students to develop generic skills like problem solving, working in industrial contexts, multidisciplinary teamwork, communication with different types of stakeholders, etc.

# A real example



<http://vps2.semesterofcode.com/>



### Navigation

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### How VALS Semester of Code Works

1. **Propose a project for approval by a mentoring open source organisation**
2. **Code the semester away**
3. **Achieve Ultimate Glory ...and gain academic credit**

VALS Semester of Code is a program that offers students the chance to write code for open source projects. We have worked with the open source community to identify and fund exciting projects for the upcoming academic year.

### News and other information

#### New chance for participating in Semester of Code

We decided to start a new instance of the Semester of Code offering students in the second semester a chance to participate as well. Projects and organisations from the first round for which the participation of students possibility ended the 15th of December are transferred to a large extent to this round, so that there are still lots of projects to choose from. The program will start the **15th of January**. (Posted: 19/12/2014)

**Signup period starts soon now**

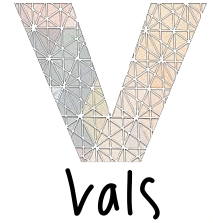
### Program Timeline

**Student applications**  
**JANUARY 15 - MARCH 13**

2015



# A real example



<http://vps2.semesterofcode.com/projects/browse>

[Home](#)

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## Projects

Tags:  Organisations: [All Organisations](#)   
Status: [NA](#)

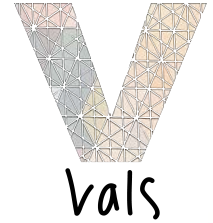
Project title	Organisation	Tags	Proposals	Status
<a href="#">Libre-Mesh: Custom Hardware Detection</a>	Libre-Mesh.org		0	open
<a href="#">Libre-Mesh: Test and Save mode</a>	Libre-Mesh.org	libre-mesh	0	open
<a href="#">(FAST) Coherent Ray Tracing</a>	BRL-CAD	3d, ray tracing, performance, cuda, opencl, cache coherent	0	open
<a href="#">3d printing of brain scans</a>	International Neuroinformatics Coordinating Facility	brain scan 3d printing javascript php python neuroscience linux	0	open
<a href="#">A Meta-Language for Shogun examples</a>	Shogun Machine Learning Toolbox	c++, java, python, octave, c#, compilers, swig	0	open
<a href="#">Add Design items and Measurement Tables for Patternshare</a>	FOSSASIA	math, Javascript, fabric.js, rafael.js, HTML, vector graphics	0	open
<a href="#">Add MuPDF support to cups-filters for a lightweight mobile printing stack</a>	OpenPrinting	PDF, Printing, CUPS, MuPDF, cups-filters, mobile	0	open
<a href="#">Add PowerPC MMU Support</a>	Embox	embox,c,asm,powerpc,ppc,mmu	0	open



Lifelong Learning Programme

540054-LLP-L-2013-1-ES-ERASMUS-EKA

# A real example



<http://vps2.semesterofcode.com/projects/browse>

## Improved HTML5 parsing in HtmlCleaner

HtmlCleaner cleans up all kinds of HTML, including HTML5, however it doesn't currently enforce the specific processing rules that apply to some of the new structural elements found in HTML5, such as "aside" and "nav".

The project would involve identifying all the new tags from the HTML5 spec, and coding the rules into the HtmlCleaner parsing engine. Where the engine can't handle a particular rule, this may require specifying - and implementing - new engine behaviour.

HtmlCleaner uses a TagProvider interface that defines the processing rules that apply to markup tags; you can find the default one here:

<http://sourceforge.net/p/htmlcleaner/code/HEAD/tree/trunk/src/main/java/org/htmlcleaner/DefaultTagProvider.java>

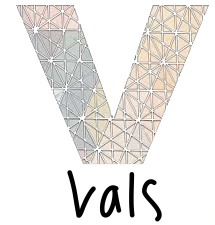
Note that while most of the HTML5 tags are presently listed in this class, they don't necessarily implement the correct rules.

For each tag there should be good coverage with JUnit tests to make sure the rules are working; a good starting point would be to develop these tests first.

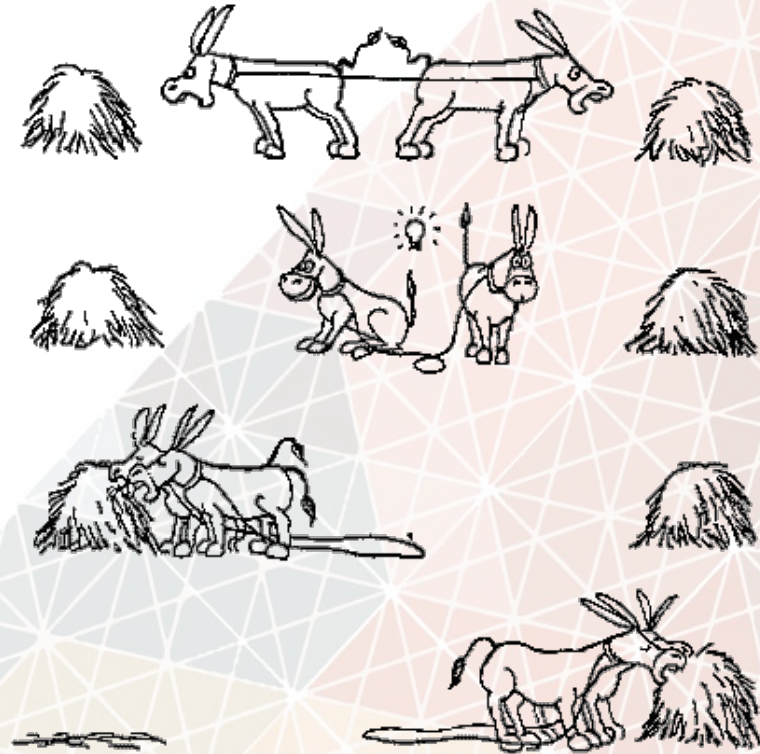
The project needs a good understanding of HTML, Java, and JUnit.



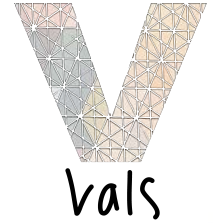
# Conclusions



- VALS presents an open innovation initiative with a win-win approach
  - *The students win*
  - *The companies/foundations win*
  - *The universities win*

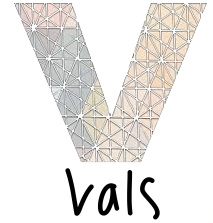


# Conclusions



- Students
  - Professional experience in the real business context
  - Contacts in the software industry that can facilitate the start of their career
  - Personal experience due to operate in an international context
  - Academic rewards

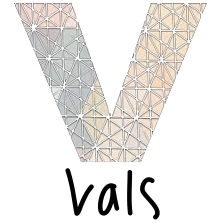
# Conclusions



- Business
  - Find talent directly in Universities
  - Knowledge Alliance with the Universities
  - Possibility of transfer knowledge from the University to the Company

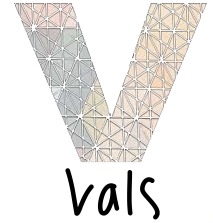


# Conclusions



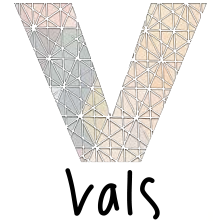
- University
  - New methods for teaching and assessment
  - Long-term Knowledge Alliances with the industry in an international context
  - Possibility of importing successful practices from Business to the University
  - Offering real innovative possibilities to students with a great cost / benefit ratio in a crisis

# Conclusions



- Society
  - Reduction of the gap between University and Business
  - Better professional qualification obtained under equal opportunities in a time of crisis

# More info



## Contact

- <http://virtualalliances.eu/>
- <http://semesterofcode.com/>
- <http://vps2.semesterofcode.com>
- <http://grial.usal.es>

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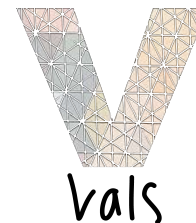
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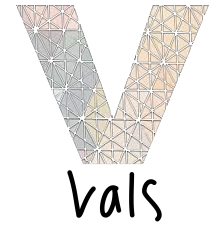
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# References



- García-Peñalvo, F. J. (2015). Presentación del proyecto Virtual Alliances for Learning Society. Retrieved February 11th, 2015, from <http://repositorio.grial.eu/handle/grial/358>
- García-Peñalvo, F.J., Álvarez Navia, I., García Bermejo, J.R., Conde González, M.Á., García-Holgado, A., Zangrando, V., Seoane Pardo, A.M., Cruz-Benito, J., Lee, S., Elferink, R., Veenendaal, E., Zondergeld, S., Griffiths, D., Sharples, P., Sherlock, D., De Toni, A., Battistella, C., Tonizza, G., De Zan, G., Papadopoulos, G., Kapitsaki, G., Achilleos, A., Mettouris, C., Cheung, S., Guerrero, Z., He, E., Alier Forment, M., Mayol, E., Casany, M.J., Wilson, S., Wilson, R., & Johnson, M. (2013). VALS: Virtual Alliances for Learning Society. In F. J. García-Peñalvo, A. García-Holgado & J. Cruz-Benito (Eds.), *Proceedings of the TEEM'13 Track on Knowledge Society Related Projects* (pp. 19-26). Salamanca, Spain: Grupo GRIAL
- García-Peñalvo, F. J., Cruz-Benito, J., Conde, M. Á., & Griffiths, D. (2014). Virtual placements for informatics students in open source business across Europe *2014 IEEE Frontiers in Education Conference Proceedings (October 22-25, 2014 Madrid, Spain)* (pp. 2551-2555). USA: IEEE
- García-Peñalvo, F. J., Cruz-Benito, J., Conde, M. Á., & Griffiths, D. (2015). Semester of Code: Piloting Virtual Placements for Informatics across Europe *Proceedings of Global Engineering Education Conference, EDUCON 2015, Tallinn, Estonia, 18-20 March 2015*. USA: IEEE
- García-Peñalvo, F.J., Cruz-Benito, J., Griffiths, D., Sharples, P., Willson, S., Johnson, M., Papadopoulos, G.A., Achilleos, A.P., Alier, M., Galanis, N., Conde, M.Á., Pessot, E., Elferink, R., Veenendaal, E., & Lee, S. (2014). Developing Win-Win Solutions for Virtual Placements in Informatics: The VALS Case. In F. J. García-Peñalvo (Ed.), *Proceedings of the Second International Conference on Technological Ecosystem for Enhancing Multiculturality (TEEM'14)* (pp. 733-738). New York, USA: ACM



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