VALS

Dr. Francisco José García Peñalvo
fgarcia@usal.es / @frangp
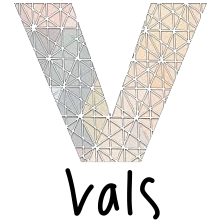
Departament of Computers and Automatics
GRIAL Research Group
University of Salamanca

Erasmus+ KA1 School Education Staff Mobility
"Improving the use of IT tools in English, Science and Maths Courses"

Research Institute for Educational Sciences
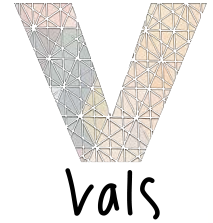University of Salamanca, Spain
June 16th, 2015

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€
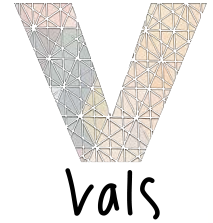
http://virtualalliances.eu/

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

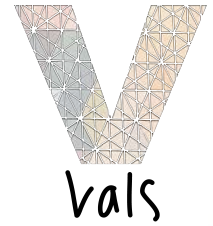- Development of the *Semester of Code*

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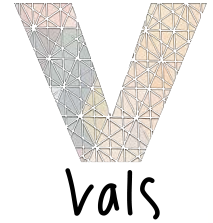
Semester in which one the students have their placements in companies and foundations related to open software

Virtual placements (telework)

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

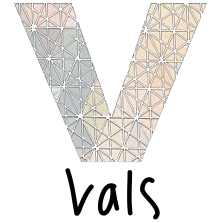# Some of the Foundations and Institutions that support the *Semester of Code*

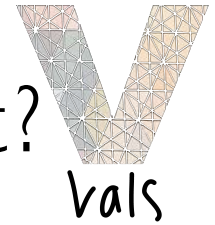http://vps2.semesterofcode.com/projects/browse

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?

Vals

1. Review the projects list in the *Semester of Code* website (http://vps2.semesterofcode.com/)
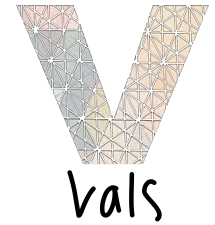
2. Find an academic mentor from your University

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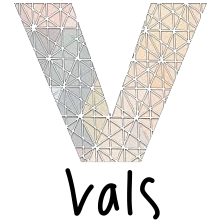
If the proposal is accepted, the student, the company and the university fix the timeline and other details for the project

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/

A real example

http://vps2.semesterofcode.com/projects/browse
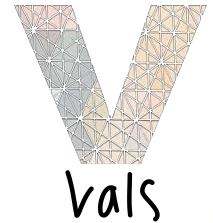
Home

Navigation

- Home
- User guide
- Institutes
- Organisations
- Projects
- About Vals

User login

Username *

Password *

- Create new account
- Request new password

Log in

Projects

Tags: [   ]   Organisations: All Organisations

Status: NA

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

A real example

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

Vals
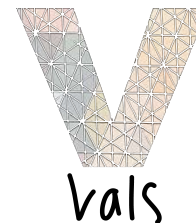
Improved HTML5 parsing in HtmlCleaner

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.
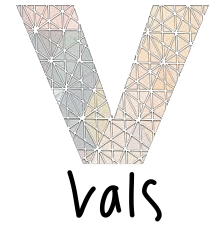
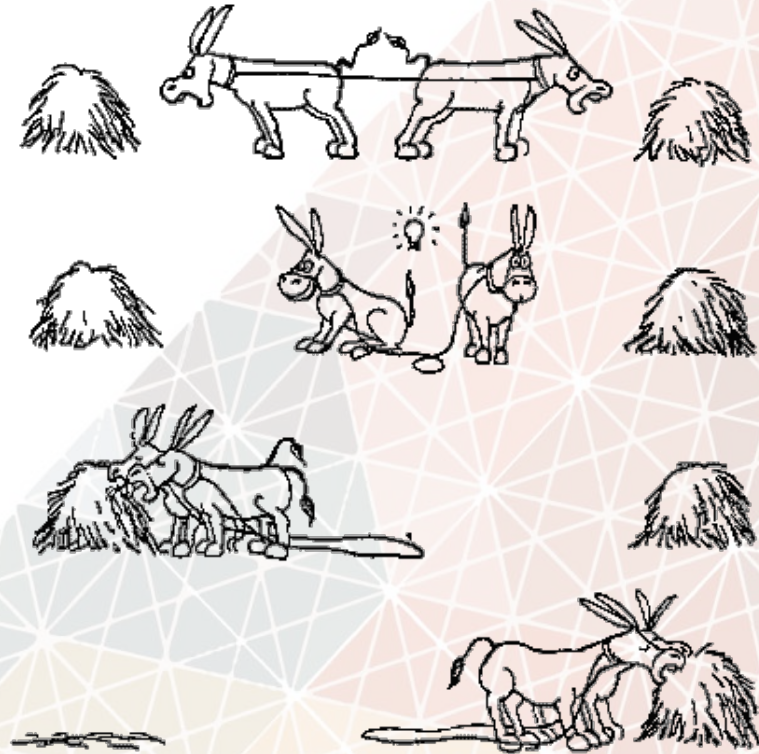# Semester of Code firsts results
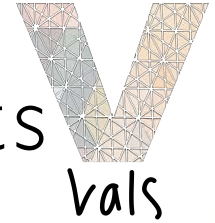
- Participation
  - 12 universities
  - 67 companies/foundations
  - 300 proposed projects

  - 35 applications from the students
    - 18 accepted applications are now under development

Conclusions

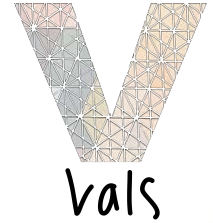- VALS presents an open innovation initiative with a win-win approach
    - *The students win*
    - *The companies/foundations win*
    - *The universities win*

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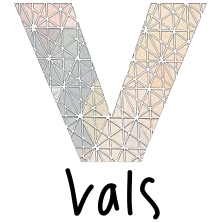
- Business
  - Find talent directly in Universities
  - Knowledge Alliance with the Universities
  - Possibility of transfer knowledge from the University to the Company

Lifelong
Learning
Programme

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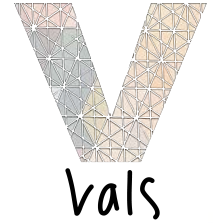
- University
  - New methods for teaching and assessment
  - Long-term Knowledge Alliances with the industry in an international context
  - Possibility of importing successful practices from Business to the University
  - Offering real innovative possibilities to students with a great cost / benefit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

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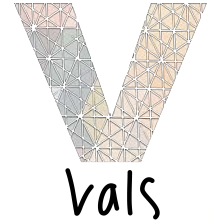
- Society
  - Reduction of the gap between University and Business
  - Better professional qualification obtained under equal opportunities in a time of crisis

More information

http://virtualalliances.eu/

http://semesterofcode.com/

http://vps2.semesterofcode.com

http://grial.usal.es
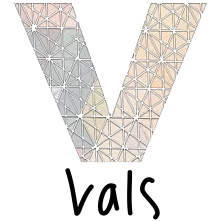
Dr. Francisco José García Peñalvo
Facultad de Ciencias, Dpto. de Informática y
Automática
Grupo GRIAL
Plaza de los Caídos, S/N
37008 Salamanca (España)

(+34) 923294500 (ext. 1302)
fgarcia@usal.es

D. Juan Cruz Benito
Grupo GRIAL. IUCE
Paseo de Canalejas 169
37008 Salamanca (España)

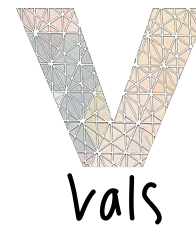(+34) 923294500 (ext. 3334)
juancb@usal.es

Lifelong Learning Programme
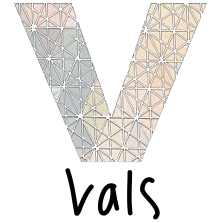
540054-LLP-L-2013-1-ES-ERASMUS-EKA

References

- 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 Enginnering Education Conference, EDUCON 2015. Tallinn, Estonia, 18-20 Mach 2015 (pp.* 567-576). USA: IEEE

- García-Peñalvo, F. J., Cruz-Benito, J., Griffiths, D. & Achilleos, A.(2015). Tecnología al servicio de un proceso de gestión de prácticas virtuales en empresas: Propuesta y primeros resultados del Semester of Code. *VAEP RITA* Vol. 3, n. 1. (pp 52-59). Spain. 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

References
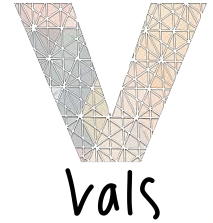
- García-Peñalvo, F.J. (2014). VALS Project – One year after. *Presented in the Thematic Cluster Meeting "Knowledge Alliances" in Brussels at November 7th, 2014*. http://hdl.handle.net/10366/125221

- García-Peñalvo, F. J. (2015). Executive Presentation of VALS project. 2015, http://repositorio.grial.eu/handle/grial/374

- García-Peñalvo, F.J. (2015). Introducing VALS project and Semester of Code (English version). http://hdl.handle.net/10366/125227

- García-Peñalvo, F.J. (2015). Presentación del proyecto Virtual Alliances for Learning Society (Spanish version). http://hdl.handle.net/10366/125220

Lifelong Learning Programme

VALS

Dr. Francisco José García Peñalvo
fgarcia@usal.es / @frangp

Departament of Computers and Automatics
GRIAL Research Group
University of Salamanca

Erasmus+ KA1 School Education Staff Mobility
"Improving the use of IT tools in English, Science and Maths Courses"

Lifelong
Learning
Programme