HERCULES PROJECT
A Semantic Research System for Universities

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5. RMS
Hercules is an initiative promoted by the Conference of Rectors of Spanish Universities (CRUE) and led by the University of Murcia. It has a total budget of Five million four hundred and sixty two thousand six hundred euros (5.462.600 €). The European Regional Development Fund (ERDF) is financing 80%, therefore the ERDF makes a contribution of Four million three hundred seventy thousand eight hundred euros (4.370.080 €). This contribution is made through the Ministry of Economy, Industry and Competitiveness (currently the Ministry of Science, Innovation and Universities) as Intermediate Body of the Smart Growth Operational Programme (POCint), which now is known as the Plurirregional Operational Programme of Spain (POPE).
**Background**

- 84 Universities having different Research Management Systems
- Each university has its own procedures and the systems are based on different data models and schema.
- Poor standardisation.
- Data representation is done with different granularity.
- Transfer of research results to the society is done in a disaggregated way.
- Inefficiencies in knowledge management and dissemination.
- Additional costs to use combined research information.
- Difficulties to access European Funds.

**Needs**

- Unify the criteria used to extract the information.
- Open Access of research results to the society.
- Availability of combined information from different universities/sources.
- Improvement of the technological transfer and collaboration University-Company.
- Collaborations between universities and research groups.
- Integration of normalized CV. Greater ease for the mobility of Research Teaching Personnel (PDI) between Spanish universities.
Participation of CRUE Universities in HERCULES
Objectives

Strengthen the transfer of R&D results to companies.

Enable better scientific dissemination of research results.

Development of support systems for the identification of collaborations in R&D between universities.

Higher efficiency in public investment by decreasing duplicities in R+D+i projects.

Facilitate the analysis of the university research costs.

Improve efficiency of research management, licensing costs and software maintenance.

Development of a Research Management System with Semantic Capacities for all the Spanish Universities.
Expected benefits

The expected benefits of this subproject are the following:

- Carry out joint exploitation of information.
- Unify the criteria for obtaining information, offering greater guarantees of an adequate interpretation of the information and, with it, the accuracy of the indicators obtained.
- Being able to establish synergies and collaborations between universities and research groups.
- Increase transparency.
- Facilitate the knowledge of scientific production, for other researchers and for society in general.
- Facilitate technology transfer and university-company collaboration.
Expected benefits

- Facilitate the integration of the Normalized Curriculum Vitae (CVN). Greater ease for the mobility of Research Teaching Personnel (PDI) between Spanish universities.

- Provide more easily to the user, the taxpayer and the society statistical data that may be relevant from the point of view of transparency in the exercise of public service.

- And, ultimately, allow the joint exploitation of research information from all universities, thereby allowing total transparency in university management.
Products

RMS
Development of an Innovative Prototype of a Research Management System which is connected to the Semantic Systems and the research data network created in the scope of the Project.

OISA
- Development of an Ontological Infrastructure for the description of the information of the Research Domain.
- Development of a Semantic Architecture for the management of the research data of the Spanish University System.

DEAM
- Enrichment of Research Data from Internet sources.
- Development of Semantic Analysis Methods.
Intellectual Property Rights

GPLv3

General Public Licence
It is free to facilitate the deployment in all universities
HÉRCULES Final Picture

**Hércules Semantic Layer**

- **HÉRCULES RMS**
  - Universities using Hércules RMS – Full integration.
  - Strongly connected universities
  - Univeristies using their own RMS. They made the RMS accesible

- **Softy connected universities**
  - Universities using their own RMS.
  - RMS not accesible.

- **Universities align with HÉRCULES**

- **Other Universities**
Pre-Commercial Procurement PCP
2.478.199,86 €

Public Procurement of Innovative Solutions PPI
1.362.744,00 €
Project plan

- **OISA**
  - Start Date: Nov 2017
  - End Date: Nov 22

- **RMS**
  - Planned milestones

- **DEAM**
  - Planned milestones

**Milestones**
- Green: Done
- Diamond: Planned

**Dates**
- Project Start Date: Nov 2017
- Project End Date: Nov 22
HERCULES PROJECT
Innovative Prototype of a Research Management System
Project Scope

The development of an innovative prototype of the Research Management System for UNIVERSITIES

Communication with Semantic Architecture

Research Management System

Technologies such as BlockChain, predictive analysis, ...
RMS-HERCULES functional modules

- University research web portal
  - AF finished
- Industrial and intellectual property
  - AF finished
- Technology-based companies
  - AF finished
- Calls, applications, projects and contracts (including the management of grants and scholarships)
- Catalog of the scientific-technical offer (research assistance services)
  - AF finalizado
- Technological offer
- Researchers
- Research Groups
- Scientific production
- Ethics
  - AF finished
- Relationship with clients
- Expertise areas
Collaborative work

Many universities working together to create a RMS that works for all of them:

- The analysis phase has been done with the collaboration of at least 3 universities leading the "requirements gathering" for each module.
- There have been created different groups to validate those requirements → public confluence SITE.

https://confluence.um.es/confluence/display/GES/HERCULES

- The validation of the final system will be performed by these groups.
Confluence is being the work tool that is being used to articulate the work.
... with a public version of free access where the results are published.
The project progresses in the development of Milestones 1 and 2:

**Milestone 1:** includes functional analysis of all modules.

**Milestone 2:** includes 40% of developments.
Thank you for your attention

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