



PONTE - CETIC's SOA and Semantic Expertises for Innovative Clinical Trial Protocol Design and Safe, Efficient, Patients Recruitment



CETIC

Objectives

The PONTE European R&D project CETIC is leading aims at providing a platform following a Service Oriented Architecture (SOA) and Semantic approach that will offer semi-automatic intelligent identification of patients eligible to participate in well-specified clinical trials for drug re-positioning, with particular focus on mitigating patient safety risks, reducing clinical trial costs, and improving clinical trial efficacy.

Materials and Methods

To reach its objective, the PONTE project's work involves decision support mechanisms fed with information retrieved from a semantic search engine - with the search engine operating on top of a data representation, linking data in drug and disease knowledge databases, clinical care and clinical research information systems.

Results

PONTE will provide four main outcomes:

1. Consistent linking of clinical research information systems with clinical care information from Electronic Health Records (EHRs) through the development of a Semantic Specification Language.
2. Integration of a wide spectrum of existing clinical data standards into an innovative core ontology-driven scheme that encompasses the entire clinical research and clinical care processes within the PONTE objectives.
3. Advanced authentication and data confidentiality techniques will be incorporated, and usage control techniques will be explored for providing access control services as well as privacy protection services.
4. Current legislation related to access and use of patient health data for the purposes of the PONTE platform (among other legal issues) will be studied and will guide the PONTE architecture through the duration of the project.

Conclusion

PONTE provides clinicians with new means of collecting information to prepare, design and recruit eligible patients for clinical trials. Semantic interoperability between heterogeneous data sources, a service oriented architecture and a semantic search engine are the three main features of the platform.

Potential Application and Key Benefits

Pharmaceutical companies will benefit from earlier and more reliable go/no-go decisions, earlier failure identification, and mitigated patient safety risks. Clinical research institutions will spend less time in clinical trials design and patient recruitment. Healthcare IT providers will be challenged with innovative applications of SOA and Semantic concepts and tools for semantic interoperability and information and document retrieval.

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