



Ministério da
Ciência e Tecnologia



ANEXO
ANNEX

COORDENAÇÃO-GERAL DE COOPERAÇÃO INTERNACIONAL - CGCIN/CNPq
COORDENAÇÃO DE COOPERAÇÃO BILATERAL - COCBI
General Coordination of International Cooperation- CGCIN/CNPq
Bilateral Coordination - COCBI

Chamada Pública de Projetos
Programa Brasil-França de Cooperação Científica e Tecnológica
Public Call for Projects
Brazil-France Scientific and Technological Cooperation Program

ROTEIRO
DETALHAMENTO DA PROPOSTA
Guidelines for Detailing Joint Proposal

(a ser redigido em duas versões, em português e inglês)
(to be written in two versions, Portuguese and English)

Título do Projeto Conjunto de Pesquisa: Questões de Pesquisa Inovadoras em Ciência da Web

Title of the Joint Research Project: Innovative Research Issues on Web Science

Coordenador brasileiro / Brazilian Research Coordinator:

Nome /Name: Carlos José Pereira de Lucena

Instituição / Institution: Pontifícia Universidade Católica do Rio de Janeiro – PUC-Rio

Departamento / Department: Departamento de Informática

Posição / Position: Professor Titular – Coordenador do INCT em Ciência da Web / Full Professor – President of the Brazilian Institute for Web Science Research

Endereço / Address: Rua Marquês de São Vicente, 225 – Gávea – Rio de Janeiro – RJ – 22451-900

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E-mail: lucena@inf.puc-rio.br

Escrever um parágrafo sobre sua experiência e especialidade / Describe one paragraph on his(her) experience and specialty:

Prof. Lucena é membro do corpo editorial de vários periódicos científicos internacionais, incluindo Communications of the ACM. Sua área de pesquisa principal é engenharia de software para multi-agentes. Prof. Lucena publicou mais de 450 artigos sujeitos a arbitragem nos principais periódicos da área. Ele é *fellow* da Guggenheim Foundation, *fellow* da TWAS (Academy of Sciences for the Developing World) e membro da Academia Brasileira de Ciências. Até setembro de 2011, orientou 37 teses de doutorado e 105

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dissertações de mestrado. Em 2009, recebeu o ACM Distinguished Scientist Award. Prof. Lucena é o responsável pelo INCT de Ciência da Web.

Coordenador francês / *French Research Leader:*

Nome /Name: Mohand Boughanem

Instituição / Institution: Université Paul Sabatier de Toulouse

Departamento / Department: IRIT

Posição / Position: Permanent, Professeur

Endereço / Address: IRIT1 / Niveau 4, Pièce: 408

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E-mail: Mohand.Boughanem@irit.fr

Escrever um parágrafo sobre sua experiência e especialidade / *Describe one paragraph on his/her experience and specialty:*

Prof. Boughanem lidera o grupo de Information Retrieval and filtering (IRf) no IRIT/SIG. Publicou artigos científicos e coordenou projetos envolvendo: avaliação e desempenho de modelos para recuperação de informação, considerando diferentes aspectos da informação, tanto internos (texto, estrutura, opinião, informação médica, etc.) quanto externos (contexto, anotações, usuários, geo-referenciamento, etc.); contexto social de recuperação de informação; dados na Web semântica; métodos e protocolos para avaliação de ferramentas para recuperação de informação.

A sua pesquisa atual enfoca modelos de recuperação de informação, recuperação de documentos em XML, recuperação de informação contextualizada/personalizada/social, e pesquisa agregada. Esteve envolvido em vários projetos e grupos de trabalho sobre recuperação de informação e participa regularmente dos principais foros de discussão sobre recuperação de informação (TREC, CLEF, INEX). Foi membro do comite de programa, revisor ou organizador das principais conferências e periódicos da área de recuperação de informação. É editor-em-chefe do I3 Journal (<http://www.revue-i3.org>) desde 2007. É um dos fundadores da ARIA (a associação francesa para recuperação de informação) e CORIA (a conferência anual sobre recuperação de informação), ambas criadas em 2004. Presidiu a ARIA durante o período de 2004-2007. Orientou 22 teses de doutorado. Publicou mais de 100 trabalhos em conferências e periódicos internacionais.

1. Resumo do Projeto (máximo de 1 página) / *Summary of the project (maximum of 1 page)*

Descrever brevemente os objetivos, o plano de pesquisa e os resultados esperados do projeto proposto.
Describe shortly the objectives, the research plan and the expected results of the proposed project.

A *World Wide Web* (de agora em diante simplesmente chamada a Web) vem tendo um impacto cada vez maior na pesquisa científica, no desenvolvimento tecnológico e na sociedade como um todo. As formas pelas quais nos comunicamos, colaboramos e aprendemos estão mudando radicalmente graças à Web. Surpreendentemente, ela tem sido pouco pesquisada como um objeto de estudo *per se*. Isto motivou o aparecimento, em 2006, de uma nova área de pesquisa – a chamada Web Science. Neste novo domínio, a própria

Web é o objeto a ser estudado – deixa, assim, de ser considerada como uma mera tecnologia baseada em computadores, e que serve de base para comunicação e interação em nível mundial.

Com esta motivação, foi criado o INCT em Ciência da Web, que integra 10 instituições brasileiras congregando esforços para melhor compreender e planejar a Web.

O Instituto possui como missões:

1. Fazer avançar a pesquisa científica em linhas associadas à Ciência da Web, nas quais os pesquisadores do Instituto vêm produzindo contribuições de qualidade para as comunidades científicas nacional e internacional;
2. Educar profissionais e pesquisadores, para garantir inovação e promover colaboração interdisciplinar;
3. Transferir conhecimento para todos os setores da sociedade através de programas educacionais abrangentes; e
4. Transferir conhecimento para a indústria e o setor de serviços através de programas específicos, incluindo residências no Instituto.

O programa de pesquisa do projeto proposto está organizado em quatro áreas: “(1) Pessoas e Sociedade”, “(2) Tecnologias de Software para Aplicações na Web”, “(3) Gerenciamento de Dados da Web”, e “(4) Fundamentos da Ciência da Web”. No contexto de “Pessoas e Sociedade”, o projeto contribuirá para um melhor entendimento da forma como as pessoas interagem com os recursos da Web, da dinâmica das redes sociais, e dos impactos tecnológicos da Web sobre os indivíduos. A pesquisa em “Tecnologias de Software para Aplicações na Web” contribuirá para o desenvolvimento de aplicações na Web envolvendo milhares de processos independentes. As atividades cobrirão ainda a criação de novas técnicas para desenvolver mundos virtuais para colaboração na Web, incluindo o *e-learning* como uma das aplicações-alvo. Os esforços em “Gerenciamento de Dados na Web” contribuirão para resolver os problemas cruciais da busca de dados e da organização de conteúdo na Web. Cobrirão ferramentas e técnicas para gerenciar dados multimídia na Web, para consultar bancos de dados disponíveis na Web, para dotar as páginas da Web de semântica e para desenvolver novos modelos de busca de dados na Web. Por fim, as atividades sobre “Fundamentos da Ciência da Web” investigarão propriedades do grafo da Web e técnicas de modelagem que endereçam questões ligadas a robustez e a interações complexas entre as aplicações da Web e seus usuários.

2. Palavras-chave / Keywords:

Ciência da Web, Aplicações na Web, Dados na Web, Grafo da Web

3. Descrição do consórcio / Description of consortium

O Projeto de pesquisa deverá ter a participação de grupos de pesquisa de mais de um estado do Brasil. Para cada grupo integrante da equipe, informar o nome, a posição, a instituição e o papel no projeto. Apresentar uma curta descrição da especialidade e a contribuição esperada dos grupos envolvidos. Para cada integrante do grupo deverá ser informado: o nome, a posição e a experiência. *The research project shall have the participation of research groups from more than one State of Brazil. For each team inform the name, the position, the institution and its role in the project. Present a short description of the specialty and the expected contribution of involved teams. For each team member inform: the name, the position and his(her) experience.*

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Instituições:

Departamento de Informática - PUC-Rio (Coordenação do projeto, áreas 1 a 3)

Programa de Engenharia de Sistemas e Computação – UFRJ (áreas 1 e 4)

Instituto de Computação – UNICAMP (áreas 1 e 3)

Instituto de Computação – UFF (áreas 2 e 3)

Departamento de Computação – UFC (área 3)

Membro	Instituição	Posição	Experiência	Área
Carlos José Pereira de Lucena	PUC-Rio	Professor Titular	Presidente do INCT Ciência da Web; Bolsista de Produtividade 1A	1,2,3
Marco Antonio Casanova	PUC-Rio	Professor Associado	Participante do INCT Ciência da Web; Bolsista de Produtividade 1C	2,3
Karin Koogan Breitman	PUC-Rio	Professor Assistente	Participante do INCT Ciência da Web; Bolsista de Produtividade 2	2,3
Simone Diniz Junqueira Barbosa	PUC-Rio	Professor Assistente	Participante do INCT Ciência da Web; Bolsista de Produtividade 2	1,2
Nelson Maculan Filho	UFRJ	Professor Titular	Vice-Presidente do INCT Ciência da Web; Bolsista de Produtividade 1A	4
Edmundo Albuquerque Souza e Silva	UFRJ	Professor Titular	Participante do INCT Ciência da Web; Bolsista de Produtividade 1A	4
Geraldo Boronino Xexéo	UFRJ	Professor	Participante do INCT Ciência da Web	2
Anne Marie D. Maculan	UFRJ		Participante do INCT Ciência da Web	1
José Viterbo Filho	UFF	Professor	Participante do INCT Ciência da Web	3
Luiz Andre P.P. Leme	UFF	Professor	Participante do INCT Ciência da Web	3
Claudia Bauzer Medeiros	UNICAMP	Professor Titular	Participante do INCT Ciência da Web; Bolsista de Produtividade 1B	2,3
André Santanchè	UNICAMP	Professor	Participante do INCT Ciência da Web; Bolsista de Produtividade 2	2,3
Vânia Maria Ponte Vidal	UFC	Professor	Participante do INCT Ciência da Web	3
José Antonio F. de Macêdo	UFC	Professor	Participante do INCT Ciência da Web; Bolsista de Produtividade 2	3

4. Objetivos gerais e motivação / *General objectives and motivation*

Descrever em detalhes os objetivos gerais e a motivação para o projeto proposto.

Describe in details the general objectives and the motivation for proposed project.

O objetivo do projeto consiste em criar uma rede de pesquisa bilateral França-Brasil fortalecendo a cooperação científica já existente entre pesquisadores franceses e brasileiros interessados em Ciência da Web. Este objetivo será alcançado através de workshops bilaterais para troca de resultados de pesquisa, intercâmbio de alunos e professores visitantes, co-orientação de alunos de doutorado, e visitas de curta duração.

Em termos dos objetivos científicos, o projeto contribuirá para o desenvolvimento da Ciência da Web de várias formas, cobrindo as quatro áreas já mencionadas: “Pessoas e Sociedade”, “Tecnologias de Software para Aplicações na Web”, “Gerenciamento de Dados da Web”, e “Fundamentos da Ciência da Web”.

5. Publicações / Publications

5.1 Listar as publicações da equipe brasileira ligadas ao tema de pesquisa / *List the publications of the team linked to research subject*

Carvalho, D.B.F.; Lucena, C.J.P. Social Media Savvy: exploiting Orkut content. Position paper. In: Second Workshop of the Brazilian Institute for Web Science Research – 2-3 August, Rio de Janeiro, Brasil.

Cirilo, E.J.R., Nunes, I., Kulesza, U., Lucena, C.J.P. Automating the Product Derivation Process of Multi-Agent Systems Product Lines, *Journal of Systems and Software* (submitted), 2010. Extended version of the paper presented in the XXIII Simpósio Brasileiro de Engenharia de Software (SBES 2009), Fortaleza, Brazil, pp. 12-21.

Koga, I. K., Medeiros, C. B., Branquinho, O. Handling and Publishing Wireless Sensor Network Data: a hands-on experiment. In IV eScience Workshop 2010, XXX Congresso da SBC [<http://www.dcc.ufrj.br/~escience>]. Belo Horizonte, MG, July 2010.

Neto, B. F. S.; da Silva, V. T.; de Lucena, C. J. P.; NBDI: An Architecture for goal-oriented normative agents, [In Proceedings of the 3th International Conference on Agents and Artificial Intelligence; 2011; Rome, Italy

Netto, M. T. A.; Neto, B. F. S.; de Lucena, C. J. P. A Pattern-based Framework for Building Self-Organizing Multi-Agent Systems, Proceedings of the ITSC 2010 Workshop on Artificial Transportation Systems and Simulation (ATSS'2010)

Nunes, I., Barbosa, S.D.J., Lucena, C.J.P. An End-user Domain-specific Model to Drive Dynamic User Agents Adaptations. The 22nd International Conference on Software Engineering and Knowledge Engineering, SEKE 2010. San Francisco Bay, USA, 1-3 July 2010.

Nunes, I.; Barbosa, S.; Luck, M.; Lucena, C.J.P. Dynamically Adapting BDI Agent Architectures based on High-level User Specifications, Proceedings of the Twelfth International Workshop on Agent-Oriented Software Engineering (AOSE 2011), Taipei, Taiwan, 105-116, 2011.

Nunes, I.; Barbosa, S.D.J., Lucena, C.J.P. Increasing Users' Trust on Personal Assistance Software using a Domain-neutral High-level User Model, ISoLA 2010, Heraclion, Crete, 18-20 October 2010.

Nunes, I.; Lucena, C.J.P.; Cowan, D.; Kulesza, U.; Alencar, P.; Nunes, C. Developing Multi-agent System Product Lines: From Requirements to Code, *International Journal of Agent-Oriented Software Engineering (IJAOSE)*, 2011

Nunes, I.; Lucena, C.J.P.; Luck, M. BDI4JADE: a BDI layer on top of JADE, Proceedings of the Ninth International Workshop on Programming Multi-Agent Systems (ProMAS 2011), Taipei, Taiwan, 88-103, 2011.

Piccinini, H., Casanova, M. A., Cavalieri, M., Furtado, A.L. W-Ray: A Strategy to Publish Deep Web Geographic Data, accepted to the 4th International Workshop on Semantic and Conceptual Issues in GIS, in conjunction with the 29th International Conference on Conceptual Modeling (ER 2010), Vancouver, BC, Canada, 1-4 November, 2010.

Andrade, R., Lisser, A., Maculan, N. The Design of Multi-facility Backbone Networks under Uncertain Multi-classes of Traffic. In: Proceedings of the ALIO-INFORMS 2010 - Buenos Aires, Argentina, 6-9 June 2010.

Rodrigues, A.V.; Maculan, A.-M. Alguns Indicadores para medir a Inclusão Digital no Brasil. In: Second Workshop of the Brazilian Institute for Web Science Research – 2-3 August, Rio de Janeiro, Brasil.

Santos Neto, B.F., Silva, V.T., Lucena, C.J.P. Using Jason to Develop Normative Agents. Brazilian Symposium on Artificial Intelligence (SBIA). São Bernardo do Campo, BR, 23-28 October 2010.

Senra, R. D. A.; Medeiros, C. M. B. ORGANOGRAPHS - Multi-faceted Hierarchical Categorization of Web Documents, WEBIST, Netherlands, 6-9 May 2011.

Vidal, V.M.P.; Macêdo, J.A.F.; Pinheiro, J.C.; Casanova, M.A.; Porto, F. Query Processing in a Mediator based Framework for Linked Data Integration. In: Second Workshop of the Brazilian Institute for Web Science Research – 2-3 August, Rio de Janeiro, Brasil.

5.2 Listar uma seleção das publicações científicas conjuntas prévias, da equipe brasileira e francesa, caso existam. / *List a selection of the previous joint scientific publications, of Brazilian and French teams, if they exist.*

Amal El Fallah-Seghrouchni, Karin Breitman, Nicolas Sabouret, Markus Endler, Yasmine Charif, Jean-Pierre Briot: Ambient Intelligence Applications: Introducing the Campus Framework. ICECCS 2008: 165-174.

Carolina Felicíssimo, Carlos Lucena, and Jean-Pierre Briot. Modeling of open multiagent systems. In International Conference on Agents and Artificial Intelligence (ICAART'09), pages 540-546, Porto, Portugal, janvier 2009.

Diego Salomone Bruno, Karin Breitman, and Amal El Fallah Seghrouchni. 2011. eCLAIM: an eclipse plug-in for mobile MAS applications. In Proceeding of the 1st workshop on Developing tools as plug-ins (TOPI '11). ACM, New York, NY, USA, 61-62.

E. Vasconcelos, J-P. Briot, M. Irving, S.D.J. Barbosa, and V. Furtado. A user interface to support dialogue and negotiation in participatory simulations. In Nuno David and Jaime Simão Sichman, editors, Multi-Agent-Based Simulation IX - International Workshop, MABS 2008, Estoril, Portugal, May 12-13, 2008, Revised and Invited Papers, number 5269 in Lecture Notes in Artificial Intelligence, pages 127-140. Springer Verlag, 2009.

J. Viterbo, L. Mazuel, Y. Charif, M. Endler, N. Sabouret, K. Breitman, A. El Fallah Seghrouchni, and J-P. Briot. Managing distributed and heterogeneous context for ambient intelligence. In Walteneus Dargie, editor, Context-Aware Self Managing Systems, CRC Studies in Informatics Series, chapter 4, pages 79-128. Chapman & Hall, 2009.

J-P. Briot, A. Sordoni, E. Vasconcelos, V. Patto, D. Adamatti, M. Irving, G. Melo, and C.J.P. Lucena. Design of an artificial decision maker for a human-based social simulation - Experience of the SimParc project. In David R. C. Hill, Alexandre Muzy, and Bernard P. Zeigler, editors, Activity-Based Modeling and Simulation, pages 17-35. Presses Universitaires Blaise-Pascal, Clermont-Ferrand, France, 2010.

6. Projeto de pesquisa, plano de aplicação e metodologia / *Research project, application plan, and methodology*

Explicar em detalhes a proposta de projeto, abordando os objetivos científicos, a metodologia, e as tarefas organizacionais e os parceiros envolvidos em cada uma delas. Descrever como as atividades individuais e as responsabilidades serão divididas entre os parceiros do projeto.

Explain in details the project proposal, focusing the scientific objectives, the methodology and the organizational tasks, and which partners will be involved in each of them. Describe how responsibilities and individual activities will be divided among the project partners.

A área de “Pessoas e Sociedade” investigará os aspectos sociais, políticos e econômicos da Web. Exemplos de estudos a serem realizados envolvem sua influência em mudanças econômicas e de emprego e seu papel em garantir valores sociais básicos como confiança, privacidade e respeito a limites sociais. A pesquisa nesta camada abordará igualmente a necessidade de desenvolvimento de novas interfaces humano-computador para acesso a programas na Web – por exemplo, para permitir a inclusão digital de pessoas idosas ou semi-analfabetas. Esta camada está intimamente relacionada com o Quarto Grande Desafio de Pesquisa proposto pela Sociedade Brasileira de Computação (“Acesso participativo e universal do cidadão brasileiro ao conhecimento”) [Medeiros 2008].

A área de “Tecnologias de Software para Aplicações na Web” irá concentrar a pesquisa em problemas de projeto, desenvolvimento e disponibilização de grandes aplicações distribuídas na Web, envolvendo milhões de usuários. Para isto, será também necessário analisar questões de interatividade em tais aplicações (e, portanto, interagir com a pesquisa na camada de Pessoas). Nesta camada serão também investigados novos paradigmas de execução de sistemas e modelos, ferramentas e técnicas para novos domínios de aplicação (como os associados à chamada *e-Science*, *e-Learning* e *e-Engineering*). Neste sentido, esta camada está relacionada ao segundo Grande Desafio de Pesquisa da Sociedade Brasileira de Computação (“Modelagem computacional de sistemas complexos artificiais, naturais e sócio-culturais e da interação homem-natureza”).

A área de “Gerenciamento de Dados da Web” tratará do acesso e gerenciamento de grandes volumes de fontes de dados distribuídos e heterogêneos, indo desde a escala de Terabytes (10^{12}), passando pela escala de Petabytes (10^{15}), até o nível de Exabytes (10^{18}). A pesquisa aqui irá investigar formas de combinar tais fontes de dados, para extrair e gerar novo conhecimento. Tal conhecimento será passado para a camada de Tecnologias de Software, de forma a trazer benefícios para as Pessoas. Além de volume e heterogeneidade, há que considerar novas formas de acessar os dados na Web – as ferramentas atuais estão voltadas principalmente a gerenciamento de texto, havendo necessidade de novos resultados para aumentar a semântica e permitir acesso aos vários tipos de dados multimídia existentes. Esta camada contribuirá para os esforços de pesquisa no primeiro Grande Desafio (“Gestão da Informação em grandes volumes de dados multimídia distribuídos”).

A área de “Fundamentos da Ciência da Web” é necessária como suporte para a pesquisa em todas as demais camadas. Os resultados aqui obtidos contribuirão, por exemplo, para otimizar o desempenho dos sistemas que executam na Web. Permitirão, também, criar modelos matemáticos da Web, com seus bilhões de links e interações entre seus múltiplos sistemas (um novo objeto de estudo em teoria dos grafos, denominado *Web graph* – o grafo

da Web), e modelos que endereçam as interações complexas entre as aplicações na Web e seus usuários.

Em resumo, os resultados esperados do projeto ajudarão a entender o que é a Web, a traçar seu futuro e a garantir que traga benefícios sociais efetivos. A pesquisa levada a cabo no projeto tem um enorme potencial para a sociedade como um todo – primeiro, por promover um entendimento mais amplo e profundo da Web, que causou a maior revolução social desde o aparecimento da TV há 60 anos; e, segundo, por criar novas ferramentas tecnológicas que irão ajudar a formar a Web do futuro, e o modo como aprendemos, garantindo seu benefício social.

Finalmente, os participantes do projeto deverão colaborar com o INCT para a Web (InWeb), liderado pelo Departamento de Ciência da Computação da UFMG.

7. Resultados esperados e plano de difusão / *Expected results and dissemination plan*

Descrever em detalhe os planos futuros após o encerramento do presente financiamento; os passos a serem seguidos; a relevância para a sociedade e a indústria; e o potencial de financiamento por outras fontes. Explicar como o conhecimento adquirido será disseminado na sociedade; como serão valorizados os resultados e como será sua aplicação na educação. *Describe in details future plans after the ending of present funding, steps to be followed, relevance for society and industry, and potential funding from other sources. Explain how knowledge accomplished will be disseminated in society; how results will be valued and how they will be applied in education.*

Os resultados do projeto, organizados por área, são:

- Pessoas e Sociedade
 - Novas técnicas e paradigmas de interação na Web
 - Socio-pragmática da interação humana através de aplicações na Web
- Tecnologias de Software para Aplicações na Web
 - Técnicas para melhorar o desenvolvimento de aplicações web autonômicas
 - *Frameworks* para suportar o desenvolvimento de aplicações web autonômicas
 - Metodologias e ferramentas para desenvolvimento de linhas de produtos no contexto da Web
- Gerenciamento de Dados da Web
 - Definição de descritores de dados multimídia e de estruturas de armazenagem para dar suporte a indexação e a reuso
 - Heurísticas para identificação de bancos de dados, definição de esquemas mediados e alinhamento de esquemas
 - Processadores de consultas para Linked Data
- Fundamentos da Ciência da Web
 - Modelos para o futuro grafo da Web

O projeto adotará diversos canais para transferir resultados de pesquisa e tecnologia para setores da indústria e serviço:

- IG – Instituto Gênesis, na PUC-Rio: desenvolve programas empresariais e hospeda projetos *start-up* no contexto da comunidade da PUC
- Incubadora de Empresas da COPPE, na UFRJ: incubadora de empresas de tecnologia associada a COPPE.

- RNP – Rede Nacional de Ensino e Pesquisa: integra mais de 300 instituições brasileiras de ensino e pesquisa, atingindo mais de um milhão de usuários.

No que tange educação, o projeto ajudará a criar novas ofertas de cursos. No nível de graduação, o projeto ajudará a promover a oferta de Ciência da Web como um subdomínio da Ciência da Computação, com 8 a 10 disciplinas, no total de 450 horas. Especificamente as disciplinas atualmente oferecidas nas instituições acadêmicas participantes serão complementadas com novas disciplinas, cobrindo aproximadamente as linhas de pesquisa propostas. No nível de pós-graduação, o projeto ajudará a promover o oferecimento de disciplinas de pós-graduação que cobrem os novos aspectos da Ciência da Web, bem como levará a teses e dissertações no contexto da pesquisa realizada no projeto. No nível de Educação Continuada e Desenvolvimento Profissional, o projeto ajudará a promover a oferta de cursos de extensão, no espírito da educação continuada, para reciclar profissionais de TI e o público em geral em tópicos relacionados a Ciência da Web. As 450 horas de especialização propostas para a graduação podem ser reorganizadas em um curso de extensão de 450 horas com 50 horas para um projeto final. Tópicos específicos, como Redes Sociais, podem gerar cursos curtos para o público em geral.

8. Valor agregado da cooperação pretendida / Value added of intended cooperation

Descrever qual será o valor agregado da cooperação pretendida / Describe which will be the value added of intended cooperation

O projeto fortalecerá a cooperação científica entre pesquisadores brasileiros e franceses e promoverá a colaboração entre instituições, aumentando o impacto além dos laços já estabelecidos. O projeto permitirá uma visão externa da pesquisa realizada no Brasil, contribuindo para manter o seu nível de excelência.

9. Organização do consórcio / Consortium organization

Descrever como o consórcio se organizará (ex: por meio de um comitê científico) para decidir sobre as várias atividades que envolvam os grupos participantes. Describe how the consortium will be organized (ex: through a scientific committee) in order to decide on the different activities that will involve participant teams.

O projeto terá um comitê científico composto dos coordenadores brasileiro e francês e dos seguintes pesquisadores (do lado brasileiro): Marco Antonio Casanova (PUC-Rio), Claudia Bauzer Medeiros (UNICAMP), Edmundo Albuquerque Souza e Silva (UFRJ) e Anne-Marie Maculan (UFRJ).

Entre outras responsabilidades, o comitê científico, em cada lado do projeto, poderá incluir novos participantes dentre os pesquisadores que participam do INCT em Ciência da Web ou dentre os pesquisadores dos laboratórios franceses.

10. Infra-estrutura disponível / Available infrastructure

Descrever a infra-estrutura disponível oferecida pelos parceiros do projeto (equipamento, pessoal e orçamento, etc.).
Describe the available infrastructure offered by project partners (equipment, staff and budget, etc.).

O projeto utilizará a infraestrutura disponível nas instituições participantes, incluindo laboratórios, salas de aula, auditórios e outras facilidades. Todas as instituições participantes, do lado brasileiro, oferecerão salas de videoconferência.

11. Orçamento solicitado e justificativa / Requested budget and justification

Detalhar e justificar o orçamento solicitado: número de intercâmbios científicos pretendidos (passagens, diárias e seguro-saúde para missões ao exterior), sem indicar nomes, nem datas exatas; itens de custeio e laboratório; e bolsas de formação e aperfeiçoamento (SWE, PDE e SPE). O orçamento deverá prever despesas de mobilidade (passagens e diárias) para garantir a participação do coordenador brasileiro em eventuais reuniões de coordenação e no *workshop* de avaliação final dos resultados alcançados pelo projeto.

Detail and justify requested budget: number of intended scientific exchanges (air tickets, per diems and health insurance for missions abroad), without indicating names or exact dates; items of laboratory and consumables; and training and capacity building fellowships (SWE, PDE and SPE). The budget shall include mobility expenses (air tickets and per diems) to guarantee the participation of Brazilian research coordinator in eventual coordination meetings and in the workshop of final evaluation of results accomplished by the project.

Como o objetivo principal do projeto consiste em estreitar a colaboração entre pesquisadores brasileiros e franceses, o **orçamento anual** está calcado em vistas técnicas:

Orçamento anual (em R\$)				
Tipo de despesa	qtd	Custo por item	Total anual	Total 4 anos
passagens	11	3.000,00	33.000,00	132.000,00
Seguro saúde	11	150	1.650,00	6.600,00
diárias (7 a 30 dias por missão)	77	400	30.800,00	123.200,00
Total (por ano)			65.450,00	261.800,00

As instituições participantes fornecerão a infraestrutura necessária ao projeto, incluindo equipamentos e material de consume. Bolsas do tipo SWE e PDE serão financiadas no contexto do INCT.

12. Questões éticas, de segurança e regulatórias / Ethics, security and regulatory aspects

Sua proposta lida com questões éticas, de segurança ou regulatórias? Se sim, como lidará com isso? Por favor, explique detalhadamente.
Does your proposal deal with ethics, security and regulatory aspects? If so, how will you deal with them? Please, explain it in details.

As preocupações éticas, de segurança e regulatórias aplicam-se ao projeto, garantindo a legitimidade e originalidade dos trabalhos publicados. O projeto também terá o apoio das instituições quando ocorrerem questões legais.

13. Propriedade Intelectual/Intellectual Property

Descrever como serão tratados a questão da propriedade intelectual e o conhecimento resultantes da concretização do projeto conjunto.

Describe how the intellectual property and know-how arising from the accomplishment of the joint research project will be handled.

Questões de propriedade intelectual serão tratadas caso a caso.

14. Referências bibliográficas / Bibliographical references

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ANEXO
ANNEX

COORDENAÇÃO-GERAL DE COOPERAÇÃO INTERNACIONAL - CGCIN/CNPq
COORDENAÇÃO DE COOPERAÇÃO BILATERAL - COCBI
General Coordination of International Cooperation- CGCIN/CNPq
Bilateral Coordination - COCBI

Chamada Pública de Projetos
Programa Brasil-França de Cooperação Científica e Tecnológica
Public Call for Projects
Brazil-France Scientific and Technological Cooperation Program

ROTEIRO
DETALHAMENTO DA PROPOSTA
Guidelines for Detailing Joint Proposal

(a ser redigido em duas versões, em português e inglês)
(to be written in two versions, Portuguese and English)

Título do Projeto Conjunto de Pesquisa: Questões de Pesquisa Inovadoras em Ciência da Web

Title of the Joint Research Project: Innovative Research Issues on Web Science

Coordenador brasileiro / Brazilian Research Coordinator:

Nome /Name: Carlos José Pereira de Lucena

Instituição / Institution: Pontifícia Universidade Católica do Rio de Janeiro – PUC-Rio

Departamento / Department: Departamento de Informática

Posição / Position: Professor Titular – Coordenador do INCT em Ciência da Web / Full Professor – President of the Brazilian Institute for Web Science Research

Endereço / Address: Rua Marquês de São Vicente, 225 – Gávea – Rio de Janeiro – RJ – 22451-900

Telefone / Telephone: +55 21 3527-1500

Fax: +55 21 3527-1530

E-mail: lucena@inf.puc-rio.br

Escrever um parágrafo sobre sua experiência e especialidade / Describe one paragraph on his(her) experience and specialty:

Prof. Lucena is a member of the editorial board of several international journals, including the Communications of the ACM. His research focuses on software engineering for multi-agent systems. Prof. Lucena published more than 450 refereed papers on the major journals of his area. He is a fellow of the Guggenheim Foundation, fellow of the TWAS (Academy of Sciences for the Developing World) and member of the Brazilian Academy of Sciences. Until September 2011, he advised 37 D.Sc. thesis and 105 M.Sc. dissertations. In 2009, he

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received the ACM Distinguished Scientist Award. Prof. Lucena is currently President of the Brazilian Institute for Web Science Research.

Coordenador francês / *French Research Leader:*

Nome / Name: Mohand Boughanem

Instituição / Institution: Université Paul Sabatier de Toulouse

Departamento / Department: IRIT

Posição / Position: Permanent, Professeur

Endereço / Address: IRIT1 / Niveau 4, Pièce: 408

Telefone / Telephone: 05 61 55 7416

Fax:

E-mail: Mohand.Boughanem@irit.fr

Escrever um parágrafo sobre sua experiência e especialidade / *Describe one paragraph on his(her) experience and specialty:*

Mohand Boughanem is the leader of the Information Retrieval and filtering (IRf) group at IRIT/SIG team. His current research focuses on IR models, XML information retrieval, Contextual/personalized/Social IR, aggregated search. He has been involved in a number of projects and working groups on IR and he has regularly participated in major IR evaluation forums (TREC, CLEF, INEX). He has served as a program committee member, reviewer or chairman of the major IR conferences and journals. He is Editor-in-Chief of the I3 journal (<http://www.revue-i3.org>) since 2007. He is one of the founders of ARIA (the French Association of Information Retrieval) and CORIA (the annual French conference in information retrieval), both were founded in 2004. He chaired ARIA during 2004-2007. He advised 22 PhD theses. He published more than 100 papers in international conferences and journals.

1. Resumo do Projeto (máximo de 1 página) / *Summary of the project (maximum of 1 page)*

Descrever brevemente os objetivos, o plano de pesquisa e os resultados esperados do projeto proposto.

Describe shortly the objectives, the research plan and the expected results of the proposed project.

The World Wide Web (the Web for short) has had a tremendous impact on scientific research, technological development and human experience and society. The ways we communicate, collaborate and learn are being radically changed by it. As an entity, however, it remains surprisingly unstudied. This motivated the appearance of a new research domain, the so-called Web Science. In this new domain, the Web is the primary object of study and ceases to be viewed as a mere technology, based on computers, that helps people communicate and interact on a global basis. With this motivation, the Brazilian Institute for Web Science Research was created in 2009, integrating 10 different Brazilian institutions. The Institute has as missions:

1. To advance scientific research in a number of topics within Web Science, especially those topics that the Institute researchers have produced high-quality contributions to both the national and international scientific communities;
2. To educate qualified professionals and researchers to ensure innovation and promote interdisciplinary collaboration;
3. To transfer knowledge to the society at large through broad educational programs.

4. To transfer knowledge to the industry and service segments through specific programs, including residencies at the Institute.

Contributing to the Institute's research program, this project is organized into four layers: "1 - People & Society", "2 - Software Technologies for Web Applications", "3 - Management of Web Data", and "4 - Foundations of Web Science". Under "People & Society", the project will contribute to a better understanding of how people interact with Web resources, what the dynamics of social networks are, and what the psychological impacts of the Web on individuals are. Research under the "Software Technologies for Web Applications" layer focuses on understanding the Web as a decentralized information system. The project will address new software techniques to develop Web-wide applications, involving hundreds of thousands of independent processes, and to create Web-based collaborative virtual worlds, including e-learning as one of the target applications. The efforts under "Management of Web Data" will address the crucial questions of searching Web data and organizing Web content. It covers tools and techniques to manage multimedia Web data, to better access databases available throughout the Web, to endow Web pages with semantics, and to improve searching the Web. Finally, foundational work will contribute to the investigation of properties of the Web graph, to the development of new combinatorial optimization methods involving the Web graph, to the investigation of metaheuristics in connection with Web mathematics, and to advance modeling techniques addressing robustness issues and the complex interactions between Web applications and their users.

2. Palavras-chave / Keywords:

Web Science, Web Applications, Web Data, Web Graph

3. Descrição do consórcio / Description of consortium

O Projeto de pesquisa deverá ter a participação de grupos de pesquisa de mais de um estado do Brasil. Para cada grupo integrante da equipe, informar o nome, a posição, a instituição e o papel no projeto. Apresentar uma curta descrição da especialidade e a contribuição esperada dos grupos envolvidos. Para cada integrante do grupo deverá ser informado: o nome, a posição e a experiência. *The research project shall have the participation of research groups from more than one State of Brazil. For each team inform the name, the position, the institution and its role in the project. Present a short description of the specialty and the expected contribution of involved teams. For each team member inform: the name, the position and his(her) experience.*

Institutions:

Departamento de Informática - PUC-Rio (Project Coordination and Participant in layers 1 to 3)

Programa de Engenharia de Sistemas e Computação – UFRJ (layers 1 and 4)

Instituto de Computação – UNICAMP (layers 1 to 3)

Instituto de Computação – UFF (layers 2 and 3)

Departamento de Computação – UFC (layer 3)

Member	Institution	Position	Experience	Project Layers
Carlos José Pereira de Lucena	PUC-Rio	Full Professor	President of INCT on Web Science; CNPq researcher level 1A	1,2,3
Marco Antonio Casanova	PUC-Rio	Associate Professor	Participant of INCT on Web Science; CNPq researcher level 1C	2,3
Karin Koogan Breitman	PUC-Rio	Assistant Professor	Participant of INCT on Web Science; CNPq researcher level 2	2,3
Simone Diniz Junqueira Barbosa	PUC-Rio	Assistant Professor	Participant of INCT on Web Science; CNPq researcher level 2	1,2
Nelson Maculan Filho	UFRJ	Full Professor	Vice-President of INCT on Web Science; CNPq researcher level 1A	4
Edmundo Albuquerque Souza e Silva	UFRJ	Full Professor	Participant of INCT on Web Science; CNPq researcher level 1A	4
Geraldo Boronino Xexéo	UFRJ	Professor	Participant of INCT on Web Science	2
Anne Marie D. Maculan	UFRJ		Participant of INCT on Web Science;	1
José Viterbo Filho	UFF	Professor	Participant of INCT on Web Science	3
Luiz Andre P.P. Leme	UFF	Professor	Participant of INCT on Web Science	3
Claudia Bauzer Medeiros	UNICAMP	Full Professor	Participant of INCT on Web Science; CNPq researcher level 1B	2,3
André Santanchè	UNICAMP	Professor	Participant of INCT on Web Science; CNPq researcher level 2	2,3
Vânia Maria Ponte Vidal	UFC	Professor	Participant of INCT on Web Science	3
José Antonio F. de Macêdo	UFC	Professor	Participant of INCT on Web Science; CNPq researcher level 2	3

4. Objetivos gerais e motivação / General objectives and motivation

Descrever em detalhes os objetivos gerais e a motivação para o projeto proposto.
Describe in details the general objectives and the motivation for proposed project.

The objective of the project is to create a bilateral French-Brazilian network aiming at strengthening existing scientific cooperation and exchange between French and Brazilian researchers and institutions interested in the Web science field. This will be achieved by means of bilateral academic conferences, exchange of students and visiting scholars, PhD students co-supervising, short-term visits, and international thematic schools, workshops and conferences organization.

In term of scientific objectives, the project will contribute to the development of Web Science in a variety of ways, addressing the problems of defining models and developing software for Web-wide applications, for searching, retrieving and managing data (multimedia content, data, metadata, social content) stored in hundreds of millions of Web sites. The research program encompasses four layers: “People & Society”, “Software Technologies for Web Applications”, “Management of Web Data”, and “Foundations of Web Science”.

5. Publicações / Publications

5.1 Listar as publicações da equipe brasileira ligadas ao tema de pesquisa / *List the publications of the team linked to research subject*

Carvalho, D.B.F.; Lucena, C.J.P. Social Media Savvy: exploiting Orkut content. Position paper. In: Second Workshop of the Brazilian Institute for Web Science Research – 2-3 August, Rio de Janeiro, Brasil.

Cirilo, E.J.R., Nunes, I., Kulesza, U., Lucena, C.J.P. Automating the Product Derivation Process of Multi-Agent Systems Product Lines, *Journal of Systems and Software* (submitted), 2010. Extended version of the paper presented in the XXIII Simpósio Brasileiro de Engenharia de Software (SBES 2009), Fortaleza, Brazil, pp. 12-21.

Koga, I. K., Medeiros, C. B., Branquinho, O. Handling and Publishing Wireless Sensor Network Data: a hands-on experiment. In *IV eScience Workshop 2010, XXX Congresso da SBC (XXX Conference of the Brazilian Computer Society)*, [http://www.dcc.ufrj.br/~escience]. Belo Horizonte, MG, July 2010.

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Piccinini, H., Casanova, M. A., Cavalieri, M., Furtado, A.L. W-Ray: A Strategy to Publish Deep Web Geographic Data, accepted to the 4th International Workshop on Semantic and Conceptual Issues in GIS (SeCoGIS), in conjunction with the 29th International Conference on Conceptual Modeling (ER 2010), Vancouver, BC, Canada, 1-4 November, 2010.

Andrade, R., Lisser, A., Maculan, N. The Design of Multi-facility Backbone Networks under Uncertain Multi-classes of Traffic. In: *Proceedings of the ALIO-INFORMS 2010 - Buenos Aires, Argentina*, 6-9 June 2010.

Rodrigues, A.V.; Maculan, A.-M. Alguns Indicadores para medir a Inclusão Digital no Brasil. In: Second Workshop of the Brazilian Institute for Web Science Research – 2-3 August, Rio de Janeiro, Brasil.

Santos Neto, B.F., Silva, V.T., Lucena, C.J.P. Using Jason to Develop Normative Agents. Brazilian Symposium on Artificial Intelligence (SBIA) , SBIA 2010. São Bernardo do Campo, BR, 23-28 October 2010.

Senra, R. D. A.; Medeiros, C. M. B. ORGANOGRAPHS - Multi-faceted Hierarchical Categorization of Web Documents, WEBIST, Netherlands, 6-9 May 2011.

Vidal, V.M.P.; Macêdo, J.A.F.; Pinheiro, J.C.; Casanova, M.A.; Porto, F. Query Processing in a Mediator based Framework for Linked Data Integration. In: Second Workshop of the Brazilian Institute for Web Science Research – 2-3 August, Rio de Janeiro, Brasil.

5.2 Listar uma seleção das publicações científicas conjuntas prévias, da equipe brasileira e francesa, caso existam. / *List a selection of the previous joint scientific publications, of Brazilian and French teams, if they exist.*

Amal El Fallah-Seghrouchni, Karin Breitman, Nicolas Sabouret, Markus Endler, Yasmine Charif, Jean-Pierre Briot: Ambient Intelligence Applications: Introducing the Campus Framework. ICECCS 2008: 165-174.

Carolina Felicíssimo, Carlos Lucena, and Jean-Pierre Briot. Modeling of open multiagent systems. In International Conference on Agents and Artificial Intelligence (ICAART'09), pages 540-546, Porto, Portugal, janvier 2009.

Diego Salomone Bruno, Karin Breitman, and Amal El Fallah Seghrouchni. 2011. eCLAIM: an eclipse plug-in for mobile MAS applications. In Proceeding of the 1st workshop on Developing tools as plug-ins (TOPI '11). ACM, New York, NY, USA, 61-62.

E. Vasconcelos, J-P. Briot, M. Irving, S.D.J. Barbosa, and V. Furtado. A user interface to support dialogue and negotiation in participatory simulations. In Nuno David and Jaime Simão Sichman, editors, Multi-Agent-Based Simulation IX - International Workshop, MABS 2008, Estoril, Portugal, May 12-13, 2008, Revised and Invited Papers, number 5269 in Lecture Notes in Artificial Intelligence, pages 127-140. Springer Verlag, 2009.

J. Viterbo, L. Mazuel, Y. Charif, M. Endler, N. Sabouret, K. Breitman, A. El Fallah Seghrouchni, and J-P. Briot. Managing distributed and heterogeneous context for ambient intelligence. In Waltenegus Dargie, editor, Context-Aware Self Managing Systems, CRC Studies in Informatics Series, chapter 4, pages 79-128. Chapman & Hall, 2009.

J-P. Briot, A. Sordoni, E. Vasconcelos, V. Patto, D. Adamatti, M. Irving, G. Melo, and C.J.P. Lucena. Design of an artificial decision maker for a human-based social simulation - Experience of the SimParc project. In David R. C. Hill, Alexandre Muzy, and Bernard P. Zeigler, editors, Activity-Based Modeling and Simulation, pages 17-35. Presses Universitaires Blaise-Pascal, Clermont-Ferrand, France, 2010.

6. Projeto de pesquisa, plano de aplicação e metodologia / *Research project, application plan, and methodology*

Explicar em detalhes a proposta de projeto, abordando os objetivos científicos, a metodologia, e as tarefas organizacionais e os parceiros envolvidos em cada uma delas. Descrever como as atividades individuais e as responsabilidades serão divididas entre os parceiros do projeto.

Explain in details the project proposal, focusing the scientific objectives, the methodology and the organizational tasks, and which partners will be involved in each of them. Describe how responsibilities and individual activities will be divided among the project partners.

The topmost layer, “People & Society”, will investigate the social, political and economic aspects of the Web, concerning for instance its influence in economic shifts and employment, and its role in securing the basic social values of trustworthiness, privacy, and respect for social boundaries. Studies will also deal with the need for new human interfaces – e.g., to allow the digital inclusion of elderly and semi-literate populations. This layer includes defining tools for the social web of news, exploiting social content evidence to improve information retrieval, and mining and analyzing opinion. This layer is intimately related with the fourth Grand Research Challenge proposed by the Brazilian Computer Society (“Participative and universal access to knowledge for the Brazilian citizen”) [Medeiros 2008]. In this layer, the project will contribute to a better understanding of how people interact with Web resources, what the dynamics of social networks are, and what the psychological impacts of the Web on individuals are.

The “Software Technologies for Web Applications” layer will consider specific engineering issues in the design, development and deployment of large distributed applications on the Web, involving millions of users. This includes service composition (synthesis, verification, and repair) and business processes on the cloud. This also includes investigating interaction aspects (and thus the People layer), but also new execution paradigms, and models, tools and techniques to support novel application domains (such as those in e-Science, e-Learning and e-Engineering). As such, this layer is related with the second Grand Research Challenge of the Brazilian Computer Society (“Computational modeling of complex systems: artificial, natural, socio-cultural and human-nature interactions”). The project will create new software techniques to develop Web-wide applications, involving hundreds of thousands of independent processes, and to create Web-based collaborative virtual worlds.

The “Management of Web Data” layer will address access and management of heterogeneous, distributed data sources, from the Terabyte (10^{12}), through the Petabyte (10^{15}), to the Exabyte (10^{18}) levels. This involves combining and integrating data from these sources, to extract and generate new knowledge that is served to the Applications layer, to the benefit of People; improving web search to extract multimedia data from documents and aggregate them; and archiving useful information for future applications and generations. While present Web knowledge management tools mainly deal with text, new kinds of results are needed to enhance semantics, and to access all kinds of multimedia data available. This layer contributes to efforts towards the first Grand Research Challenge (“Management of information over massive volumes of distributed multimedia data”). The project will propose tools and techniques to manage multimedia Web data, to better access databases available throughout the Web, to endow Web pages with semantics, and to improve searching the Web.

Finally, research on the “Foundations of Web Science” is needed to support research in all of the previous strata. Work conducted here will contribute, among others, to optimize the performance of systems that execute on the Web, to create mathematical models of the Web and the billions of links and interactions among its many systems (a new object of study in graph theory, called Web graph), and models that address the complex interactions between Web applications and their users.

In summary, the project is expected to provide a broad range of contributions to the development of Web Science. The contributions range from understanding the impact the Web has on the daily lives of individuals to meeting the challenges of the Web graph. They cover the problems of developing software for Web-wide applications, of searching, retrieving and managing data stored in hundreds of millions of Web sites, and of proposing novel architectures that overcome the limitations of the current Web infrastructure.

Finally, the participants are expected to collaborate with the INCT for the Web (InWeb) lead by the Federal University of Minas Gerais.

7. Resultados esperados e plano de difusão / *Expected results and dissemination plan*

Descrever em detalhe os planos futuros após o encerramento do presente financiamento; os passos a serem seguidos; a relevância para a sociedade e a indústria; e o potencial de financiamento por outras fontes. Explicar como o conhecimento adquirido será disseminado na sociedade; como serão valorizados os resultados e como será sua aplicação na educação. *Describe in details future plans after the ending of present funding, steps to be followed, relevance for society and industry, and potential funding from other sources. Explain how knowledge accomplished will be disseminated in society; how results will be valued and how they will be applied in education.*

The expected results, organized per layer, are:

- People & Society
 - New paradigms and techniques for human interaction mediated by the Web
 - Socio-pragmatics of human interaction through Web applications
- Software Technologies for Web Applications
 - Techniques to improve the development of autonomic Web applications
 - A model-driven framework to support specification, design and implementation of Web applications
 - Methodologies, empirical studies and tools to support the development of software product lines for the Web context
- Management of Web Data
 - Definition of data descriptors and of storage structures to support reuse and composition of multimedia data on the Web
 - Heuristics for database identification, mediated schema definition and schema matching
 - Query processors for Linked Data
- Foundations of Web Science
 - Models of the future Web graph, where content is highly dynamic and personalized

The project will adopt several channels to transfer research results and technologies to the industry and service sectors:

- IG - Gênesis Institute at PUC-Rio: develops entrepreneurship programs and houses start-up projects in the context of the PUC-Rio community.
- RNP – Rede Nacional de Ensino e Pesquisa: integrates more than 300 Brazilian teaching and research institutions, reaching over a million users.

Regarding education and training, the project will create new course offerings. At the undergraduate level, the project will help offer Web Science as a Computer Science minor domain with about 8-10 disciplines, or a total of 450 hours. Specifically, the disciplines currently offered at the participating academic institutions will be complemented with new disciplines, covering roughly the research lines proposed: Foundations of Web Science; Human-Computer Interaction on the Web; Social Impacts of the Web; Web Application Environments; Knowledge Discovery on the Web; The Deep Web and the Semantic Web; Multimedia Data on the Web; Distributed Computing on the Web; Security and Resilience of the Web. At the graduate level, the project will help offer graduate disciplines that cover novel aspects of the Web Science; it is also expected that the participating academic institutions will offer new disciplines, covering the research lines proposed or specific topics of interest. Needless to say that theses and dissertations will emerge in the context of the project. At the Continuing Education and Professional Development in Web Science, the project will help offer extension courses, in the spirit of lifelong learning, to recycle IT professionals and the general public in topics related to Web Science. The minor domain, proposed at the undergraduate level, will be repackaged as a full 450 hour extension course, with a 50 hour final project. Specific topics, such as Social Networks, will generate short courses to the general public.

8. Valor agregado da cooperação pretendida / Value added of intended cooperation

Descrever qual será o valor agregado da cooperação pretendida / Describe which will be the value added of intended cooperation

The project will strengthen the scientific cooperation between Brazilian and French researchers and will foster collaboration with additional institutions, thus increasing the impact of the research network beyond existing ties. It will also provide a qualified external view of the Brazilian scientific research community, contributing to its scientific excellence and recognition thereof.

9. Organização do consórcio / Consortium organization

Descrever como o consórcio se organizará (ex: por meio de um comitê científico) para decidir sobre as várias atividades que envolvam os grupos participantes. Describe how the consortium will be organized (ex: through a scientific committee) in order to decide on the different activities that will involve participant teams.

The scientific committee of the project will consist of the Brazilian and French coordinators, and a steering committee composed of the following researchers (on the Brazilian side): Marco A. Casanova (PUC-Rio), Claudia Bauzer Medeiros (UNICAMP), Edmundo Albuquerque Souza e Silva (UFRJ) and Anne-Marie Maculan (UFRJ).

Among other responsibilities, the scientific committee, on each side of the project, will have the power to include in the research team other members of the Brazilian Institute for Web Science Research or of the French labs that participate in the project.

10. Infra-estrutura disponível / Available infrastructure

Descrever a infra-estrutura disponível oferecida pelos parceiros do projeto (equipamento, pessoal e orçamento, etc.).
Describe the available infrastructure offered by project partners (equipment, staff and budget, etc.).

The project will benefit from the infrastructure already available at the participating departments. This includes multiple laboratories, public or thematic, classrooms, auditoriums, administrative areas and other facilities. All institutions will offer space for the installation of an interaction room, with video-conferencing facilities.

11. Orçamento solicitado e justificativa / Requested budget and justification

Detalhar e justificar o orçamento solicitado: número de intercâmbios científicos pretendidos (passagens, diárias e seguro-saúde para missões ao exterior), sem indicar nomes, nem datas exatas; itens de custeio e laboratório; e bolsas de formação e aperfeiçoamento (SWE, PDE e SPE). O orçamento deverá prever despesas de mobilidade (passagens e diárias) para garantir a participação do coordenador brasileiro em eventuais reuniões de coordenação e no *workshop* de avaliação final dos resultados alcançados pelo projeto.

Detail and justify requested budget: number of intended scientific exchanges (air tickets, per diems and health insurance for missions abroad), without indicating names or exact dates; items of laboratory and consumables; and training and capacity building fellowships (SWE, PDE and SPE). The budget shall include mobility expenses (air tickets and per diems) to guarantee the participation of Brazilian research coordinator in eventual coordination meetings and in the workshop of final evaluation of results accomplished by the project.

As the goal of the project is to increase collaboration between Brazilian and French researchers and institutions, the **annual budget** is focused on scientific exchanges:

Annual budget (in R\$)				
Type of expense	qty	Cost per item	Total per year	Total for 4 years
passagens	11	3.000,00	33.000,00	132.000,00
Seguro saúde	11	150	1.650,00	6.600,00
diárias (7 a 30 dias por missão)	77	400	30.800,00	123.200,00
			65.450,00	261.800,00

The participating institutions will provide the necessary infrastructure, equipment and consumables for the local project activities. SWE and PDE fellowships will be funded by other related projects.

12. Questões éticas, de segurança e regulatórias / Ethics, security and regulatory aspects

Sua proposta lida com questões éticas, de segurança ou regulatórias? Se sim, como lidará com isso? Por favor, explique detalhadamente.
Does your proposal deal with ethics, security and regulatory aspects? If so, how will you deal with them? Please, explain it in details.

The usual academic ethical concerns apply to this project, ensuring the legitimacy and originality of the published work, and the involvement of Institutional Review Boards whenever the investigation involves human subjects, to ensure the protection of their rights and welfare.

13. Propriedade Intelectual/Intellectual Property

Descrever como serão tratados a questão da propriedade intelectual e o conhecimento resultantes da concretização do projeto conjunto.

Describe how the intellectual property and know-how arising from the accomplishment of the joint research project will be handled.

Intellectual property issues will be handled on a case-by-case basis.

14. Referências bibliográficas / Bibliographical references

(Additional selected references authored by members of the project, from 2010 on)

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City Toulouse	State/Province	Country France	Zip code
Phone number (+33)5 61 55 7416	Extension	Fax number	
2. Academic background			
Degree PHD	Field of knowledge Informatique	Start / End date / 1992	
	Institution	city	Country
Degree HDR	Field of knowledge	Start / End date / 2000	
	Institution	city	Country
3. Research interests			
Field of Study		CNPq use	
Information Retrieval Models			
Contextual and Social information retrieval			
Blog search, opinion detection			
Aggregated search			
XML information retrieval			
Semantic-based IR (Ontology/Concept-based IR)			
IR evaluation			
4. Current position			
Managerial and/or administrative activity	Head of the IRf Group at IRIT-SIG Team		
Research and Development			
Technical service/specialization			

Others							
5. Work experience							
5.1. Institution	Position	Activities	Local	Start - End			
6. Scientific, technological and artistic production							
		number		number			
1. scientific articles in national scientific journals		9	6. papers presented in congresses, seminars, conferences, etc.	110			
2. scientific articles in international scientific journals		13	7. participation in expositions, presentations, etc.				
3. articles for scientific divulgement			8. motion pictures, videos, audiovisual and media production				
4. defended theses			9. patents				
5. advised theses			10. books	1			
7. Main publications :							
Relevant publications related to the project							
<ul style="list-style-type: none"> - Arlind Kopliku, Mohand Boughanem, Karen Pinel-Sauvagnat. Towards a framework for attribute retrieval. In Conference on Information and Knowledge Management (CIKM 2011), Glasgow, UK, 24/10/11-28/10/11, ACM, octobre 2011. - Lynda Tamine, Mohand Boughanem, Mariam Daoud. Evaluation of contextual information retrieval: overview of issues and research. Knowledge and Information Systems, Springer, Vol. 24, p. 1-34, 2010. - Malik Muhammad Saad Missen, Mohand Boughanem, Guillaume Cabanac. Opinion Finding in Blogs: A Passage-Based Language Modeling Approach (short paper). Dans : International Conference on Adaptivity, Personalization and Fusion of Heterogeneous Information (RIAO 2010), Paris, France, 28/04/10-30/04/10, p. 148-152, avril 2010. - Ourdia Boudighaghen, Lynda Tamine, Mohand Boughanem. - Inferring situation-based interests for mobile users: a case based reasoning approach. Proceedings of the 2011 ACM Symposium on Applied Computing (SAC), TaiChung, Taiwan, March 21 - 24, 2011 2011 - Mariam Daoud, Lynda Tamine, Mohand Boughanem. A Personalized Graph-Based Document Ranking Model Using a Semantic User Profile. User Modeling, Adaptation, and Personalization, 18th International Conference, UMAP 2010, Big Island, HI, USA, June 20-24, 2010. Proceedings 2010 							
8. Languages							
Indicate your language proficiency: P – poor G - good E - excellent							
Language	speaking	reading	writing	Language	speaking	reading	writing

1. Professional data/activity			
Full name Amal El Fallah Seghrouchni		e-mail Amal.Elfallah@lip6.fr	
Institution University Pierre and Marie Curie		Present position Full Professor	
Department Laboratoire d'Informatique de Paris 6 (LIP6)		Start date (month/year)	
Office address 104, Avenue du Président Kennedy - 75016 – Paris		P.O. box	
City Paris	State/Province	Country France	Zip code
Phone number (+33) 1 44 27 87 53	Extension	Fax number (+33) 1 44 27 70 00	
2. Academic background			
Degree	Field of knowledge Computer Science	Start / End date /December 1991	
PhD	Institution University of Paris 13	city Paris	Country France
Degree	Field of knowledge Computer Science	Start / End date / January 2000	
HDR (Habilitation à Diriger les Recherches)	Institution University Paris 6	city Paris	Country France
3. Research interests			
Field of Study		CNPq use	
Agent Oriented Programming			
Mobile Agents			
Coordination (Coalition Formation, Distributed Planning, Negotiation)			
Interaction Protocols			
4. Current position			
Managerial and/or administrative activity	Head of MAS group (9 permanents and 25 Ph.D students), University Paris 6 (Since 2006)		
	President of Collège SMA - AFIA (Association Française d'Intelligence Artificielle).		
Research and Development	Research Team (Multi-Agent Systems): about 30 researchers (including 9 permanent researchers and 21 PhD students)		
	Research Department (DESIR): about 80 researchers		
	Laboratory (LIP6): about 400 researchers		
Technical	International Program Committees as AAMAS, ECAI, IAT		

service/specialization Others	Vice co-chair of the International Conference IEEE/ACM WI-IAT (2005 and 2006 editions)
	“Area Chair” of AAMAS 2009

5. Work experience

5.1. Institution	Position	Activities	Local	Start - End
Centre national de la recherche scientifique	Delegation		France	2001-2002
University of Paris 13-LIPN Laboratory	Researcher		France	1993-2002
LIP6 laboratory	Researcher		France	
Paris 10	Full Professor			2002-2006

6. Scientific, technological and artistic production

	number		number
1. scientific articles in national scientific journals		6. papers presented in congresses, seminars, conferences,	92
2. scientific articles in international scientific journals	12	7. participation in expositions, presentations, etc.	
3. articles for scientific divulgement		8. motion pictures, videos, audiovisual and media production	
4. defended theses	8	9. patents	
5. advised theses	5	10. books	10

7. Main publications :

Relevant publications related to the project

- Guerra Hernandez, J. M. Castro-Manzano and A. El Fallah Seghrouchni. "CTL AgentSpeak(L) : a Specification Language for Agent Programs". Journal of Algorithms in Cognition, Informatics and Logic. 64 (2009). 31–40.
- G. Bourgne, A. El Fallah Seghrouchni eand N. Maudet. "Towards refinement of abductive or inductive hypotheses through propagation". Journal of Applied Logic. Volume 7, Issue 3,(2009).89-306.
- M. Hemaissia, A. El Fallah Seghrouchni, C. Labreuche. "A new multilateral multi-issue negotiation protocol and its application to a crisis management problem. Journal of Multiagent and Grid Systems. Volume 4 , Issue 1 (January 2008).Pages 103-123
- A. Suna et A. El Fallah Seghrouchni. "Programming Mobile Intelligent Agents: An operational Semantics". Web Intelligence and Agent Systems (IOS press), Vol 5, N°1, pp. 47--67. 2007
- G. Bourgne, H. Soldano et A. El Fallah Seghrouchni (2007) "SMILE : Sound Multi-agent Incremental LEarning ;-)". In International Conference on Autonomous Agents and Multiagent Systems, pp. 164--171, ACM, Honolulu, Hawai'i.
- M. Hemaissia, A. El Fallah Seghrouchni, C. Labreuche et J. Mattioli (2007) "A Multilateral Multi-Issue Negotiation Protocol". In International Conference on Autonomous Agents and Multiagent Systems, pp. 939--946, Honolulu, Hawai'i.
- Chopinaud C., El Fallah Seghrouchni A. and Taillibert P. "Nasty behaviour prevention in cognitive and autonomous agents systems". To appear in the proceedings of ECAI'2006, the 17th European Conference on Artificial Intelligence. Aug 28th - Sept 1st. Riva del Garda, Italy.
- El Fallah Seghrouchni A., Marc F. and Degirmenciyan-Cartault I. "Modelling, Control and Validation of Multi-Agent Plans in Highly Dynamic Context". To appear in the proceedings of AAMAS'04. ACM Publisher. New York, July, 2004.
- El Fallah Seghrouchni A. Titre du chapitre : «Les systèmes multi-agents». Encyclopédie d'Informatique.

Section Informatique. Editeur Vuibert, 2006.

- El Fallah Seghrouchni A. et Suna A. « CLAIM and SyMPA: A Programming Environment for Intelligent and Mobile Agents ». 4th Chapter of the book «Multi-Agent Programming: Languages, Platforms and Applications», (Kluwer Academic Publishers) Springer. Pages 95-122, July 2005.

Publications in cooperation with the project partners

- J. Viterbo, L. Mazuel, Y. Charif, M. Endler, N. Sabouret, K. Breitman, A. El Fallah Seghrouchni et J.-P. Briot (2009) "Managing distributed and heterogeneous context for ambient intelligence". In Context-Aware Self Managing Systems, CRC Studies in Informatics Series. Waltenegus Dargie (eds), pp. 79-128, Chapman & Hall.
- C. Felicissimo, C. Chopinaud, J.-P. Briot, A. El Fallah Seghrouchni et C. Lucena (2008) "Contextualizing normative open multi-agent systems". In 23rd Annual ACM Symposium on Applied Computing (SAC'08), pp. 52-59, ACM Press, ACM, Fortaleza, CE, Brésil.
- C. Felicissimo, R. Choren, J.-P. Briot, C. Lucena, C. Chopinaud et A. El Fallah Seghrouchni (2008) "Providing contextual norm information in open multi-agent systems". In Agent Oriented Information Systems IV: Proc. of the 8th International Bi-Conference Workshop, AOIS 2008, Lecture Notes in Artificial Intelligence. Manuel Kolp, Alessandro Garcia, Aditya Ghose, Paolo Bresciani, Brian Henderson-Sellers, and Haris Mouratidis (eds), pp. 19-36, Springer-Verlag.
- El Fallah Seghrouchni, K. Breitman, N. Sabouret, M. Endler, Y. Charif et J.-P. Briot (2008) "Ambient intelligence applications: Introducing the Campus framework". In Karin Breitman, Jim Woodcock, Roy Sterritt et Mike Hinchey (eds), 13th IEEE International Conference on Engineering of Complex Computer Systems (ICECCS'08), pp. 165-174, IEEE Computer Society, IEEE, Belfast, Irlande du Nord, Royaume Uni.

8. Languages

Indicate your language proficiency: P – poor G - good E - excellent

Language	speaking	reading	writing	Language	speaking	reading	writing

**OFFICE FOR INTERNATIONAL COOPERATION
Foreign Researcher Curriculum Vitae - English**

1. Professional data/activity			
Full name Farouk Toumani		e-mail farouk.toumani@univbpclermont.fr	
Institution Blaise Pascale University		Present position Professor	
Department Département mathématiques et informatique		Start date (month/year)	
Office address LIMOS, Bat ISIMA, Complexe scientifique des Cézeaux, 63177 AUBIERE cedex		P.O. box	
City Clermont-Ferrand II	State/Province	Country France	Zip code
Phone number +33 (0)4 73 40 50 28	Extension	Fax number +33 (0)4 73 40 50 01	
2. Academic background			
Degree	Field of knowledge	Start / End date	
PHD	Ingénierie Informatique	/	
	Institution	city	Country
	Insa de Lyon		
Degree	Field of knowledge	Start / End date	
HDR (Habilitation à Diriger les Recherches)		/ December 2005	
	Institution	city	Country
3. Research interests			
Field of Study		CNPq use	
Web Services and Semantic Web			
Business Process Management			
Information Integration			
Cloud Computing			
Description Logics			
4. Current position			
Managerial and/or administrative activity	Membre élu du conseil de gestion de l'UFR ST - Université Blaise Pascal.		
	Responsable du master informatique, département mathématiques et informatique, UFR ST, Université Blaise Pascal.		
	Membre du comité d'experts de la section 27, Université Blaise Pascal		

Research and Development	ANR project Plas'O Soins (http://plasosoins.org/). April 2011-April 2014. Plas'O Soins is a joint research project funded by the ANR (Agence Nationale de la Recherche, http://www.agence-nationale-recherche.fr/Intl). The goal of the project is to provide a software platform supporting the monitoring and coordination of Home Care processes.
	Regional research project, "Management of very large scale databases" . June 2010-June 2012. A joint research project funded by the Auvergne Region and Europe (FEDER) with the companies AGAETIS and NUM-TECH.
Technical service/specialization	
Others	

5. Work experience

5.1. Institution	Position	Activities	Local	Start - End date
Université Blaise Pascal	Président du comité de sélection de la section 27			2008-2009
Université Blaise Pascal	Responsable de la licence informatique, département mathématiques et informatique, UFR ST,			Sept 2007- Sept 2009
Université Blaise Pascal	Vice-président de l'Université Blaise Pascal délégué à la valorisation et au transfert de technologie			Jan 2007- Jul 2008
ISIMA	co-responsable de la filière "Informatique des Systèmes d'Information et de Production et Aide à la Décision" à l'ISIMA.			Sept 2000- Sept 2006
Université Blaise Pascal	Membre titulaire de la commission de spécialistes de la 27ème section de l'université Blaise Pascal.			2004- 2008
ISIMA	Membre élu du conseil d'administration de l'ISIMA			Sept 2000- Sept 2004

6. Scientific, technological and artistic production

	number		number
1. scientific articles in national scientific journals	2	6. papers presented in congresses, seminars, conferences, etc.	57
2. scientific articles in international scientific journals	19	7. participation in expositions, presentations, etc.	
3. articles for scientific divulgement		8. motion pictures, videos, audiovisual and media production	
4. defended theses	4	9. patents	

5. advised theses	8	10. books	2
7. Main publications :			
Relevant publications related to the project			
<ul style="list-style-type: none"> - Julien Ponge, Boualem Benatallah, Fabio Casati and Farouk Toumani. Analysis and Applications of Timed Service Protocols. ACM Transactions on Software Engineering and Methodology (TOSEM), 19(4), 2010. - Z.Bellahsene et al. FORUM : a flexible data integration system based on data semantics SIGMOD Record, 39(2) : 11-18 (2010). - Z.Bellahsene et al. FORUM : a flexible data integration system based on data semantics, SIGMOD Record, 39(2) : 11-18 (2010). - B. Benatallah, F. Casati, Hamid R. Motahari Nezhad, F. Toumani. Web Services Interoperability Specifications, IEEE Computer, IEEE Computer 39(5) : 24-32 (2006). 			
8. Languages			
Indicate your language proficiency: P – poor G - good E - excellent			
Language	speaking	reading	writing

1. Professional data/activity				
Full name Marc El-Bèze			e-mail marc.elbeze@univ-avignon.fr	
Institution Université D'Avignon			Present position Professor	
Department Laboratoire Informatique D'Avignon			Start date (month/year)	
Office address 74 rue Louis Pasteur, 84 029 Avignon cedex 1			P.O. box	
City Avignon		State/Province	Country France	Zip code
Phone number 04 90 84 35 09		Extension	Fax number 04 90 84 35 01	
2. Academic background				
Degree	Field of knowledge		Start / End date /	
	Institution	city	Country	
3. Research interests				
Field of Study			CNPq use	
Text Categorization				
Multi-Document Update Summarization				
Scalable MMR Approach				
4. Current position				
Managerial and/or administrative activity				
Research and Development				
Technical service/specialization Others				
5. Work experience				
5.1. Institution	Position	Activities	Local	Start - End
6. Scientific, technological and artistic production				

	number		number
1. scientific articles in national scientific journals		6. papers presented in congresses, seminars, conferences, etc.	27
2. scientific articles in international scientific journals	1	7. participation in expositions, presentations, etc.	
3. articles for scientific divulgement		8. motion pictures, videos, audiovisual and media production	
4. defended theses		9. patents	
5. advised theses		10. books	

7. Main publications :

Relevant publications related to the project

- Rémi Lavalley, Chloé Clavel, Marc El-Bèze, Patrice Bellot. Finding Topic-specific Strings in Text Categorization and Opinion Mining Contexts. Proceedings of The 2010 International Conference on Data Mining, DMIN 2010, July 12-15, 2010, Las Vegas, Nevada, USA 2010
- Rémi Lavalley, Chloé Clavel, Patrice Bellot, Marc El-Bèze. Combining text categorization and dialog modeling for speaker role identification on call center conversations. INTERSPEECH 2010, 11th Annual Conference of the International Speech Communication Association, Makuhari, Chiba, Japan, September 26-30, 2010 2010
- Rémi Lavalley, Patrice Bellot, Marc El-Bèze. Interactions entre le calcul de collocations et la catégorisation automatique de textes. Conférence en Recherche d'Informations et Applications - CORIA 2009, 6th French Information Retrieval Conference, Presqu'île de Giens, France, May 5-7, 2009. Proceedings 2009
- Rémy Kessler, Nicolas Béchet, Juan Manuel Torres Moreno, Mathieu Roche, Marc El-Bèze. Job Offer Management: How Improve the Ranking of Candidates. Foundations of Intelligent Systems, 18th International Symposium, ISMIS 2009, Prague, Czech Republic, September 14-17, 2009. Proceedings 2009
- Juan Manuel Torres Moreno, Pier-Luc St-Onge, Michel Gagnon, Marc El-Bèze, Patrice Bellot. Automatic Summarization System coupled with a Question-Answering System (QAAS). CoRR 2009, Volume 0, 2009
- Florian Boudin, Marc El-Bèze, Juan Manuel Torres Moreno. A Scalable MMR Approach to Sentence Scoring for Multi-Document Update Summarization. COLING 2008, 22nd International Conference on Computational Linguistics, Posters Proceedings, 18-22 August 2008, Manchester, UK 2008
- Florian Boudin, Juan Manuel Torres Moreno, Marc El-Bèze. Mixing Statistical and Symbolic Approaches for Chemical Names Recognition. Computational Linguistics and Intelligent Text Processing, 9th International Conference, CILing 2008, Haifa, Israel, February 17-23, 2008, Proceedings 2008

8. Languages

Indicate your language proficiency: P – poor G - good E - excellent

Language	speaking	reading	writing	Language	speaking	reading	writing

OFFICE FOR INTERNATIONAL COOPERATION
Foreign Researcher Curriculum Vitae - English

1. Professional data/activity			
Full name Marie-Christine Rousset		e-mail Marie-Christine.Rousset@imag.fr	
Institution University of Grenoble		Present position Professor	
Department Laboratoire d'Informatique de Grenoble		Start date (month/year)	
Office address 681 Rue de la Passerelle B.P. 72, 38402 St Martin D'Herès Cedex		P.O. box	
City Grenoble	State/Province	Country France	Zip code
Phone number 33 (0)4 76 82 72 06	Extension	Fax number 33 (0)4 76 82 72 87	
2. Academic background			
Degree	Field of knowledge Computer Science		Start / End date / 1983
PhD	Institution Université Paris-Sud	city Orsay	Country France
Degree	Field of knowledge Computer Science		Start / End date / 1988
Thèse d'Etat	Institution Université Paris-Sud	city Orsay	Country France
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
3. Research interests			
Field of Study			CNPq use
Knowledge Representation			
Information Integration			
Logic-based mediation between distributed data sources			
Query rewriting using views			
Automatic classification and clustering of semi-structured data			
Peer to peer data sharing			

Distributed reasoning for the Semantic Web

4. Current position

Managerial and/or administrative activity	Senior member of Institut Universitaire de France (IUF)
	Membre du comite editorial d' Interstices.
	Deleguee Scientifique du LIG.
	Member of the Editorial Board of Communications of the ACM
	Member of the Editorial Board of AI Communications
	Member of the advisory board of 21th International Joint Conference on Artificial Intelligence (IJCAI-09)
Research and Development	Chevalier de l'Ordre National du Merite (11 Juillet 2011).
	Best Paper Award at AAAI'96 for Verification of Knowledge Bases based on Containment Checking co-authored with Alon Levy
Technical service/specialization	
Others	

5. Work experience

5.1. Institution	Position	Activities	Local	Start - End
Institut Universitaire de France (IUF)	Member			1997-2002

6. Scientific, technological and artistic production

	number		number
1. scientific articles in national scientific journals		6. papers presented in congresses, seminars, conferences, etc.	74
2. scientific articles in international scientific journals		7. participation in expositions, presentations, etc.	
3. articles for scientific divulgement		8. motion pictures, videos, audiovisual and media production	
4. defended theses		9. patents	
5. advised theses		10. books	

7. Main publications :

Relevant publications related to the project

- Web Data Management, Serge Abiteboul, Ioana Manolescu, Philippe Rigaux, Marie-Christine Rousset, Pierre Senellart, to appear at Cambridge University Press, 201
- Discovery of Probabilistic Mappings between Taxonomies: Principles and Experiments Remi Tournaire, Jean-Marc Petit, Marie-Christine Rousset, and Alexandre Termier. Journal of Data Semantics (JoDS), Volume 15, pages 66-101.
- Rémi Tournaire, Jean-Marc Petit, Marie-Christine Rousset, Alexandre Termier: Discovery of Probabilistic Mappings between Taxonomies: Principles and Experiments. J. Data Semantics 15: 66-101 (2011)

- Marie-Christine Rousset: Combiner approche logique et numérique pour la réconciliation de données et l'alignement d'ontologies. EGC 2010: 23-24
- Rémi Tournaire, Jean-Marc Petit, Marie-Christine Rousset, Alexandre Termier: Combining Logic and Probabilities for Discovering Mappings between Taxonomies. KSEM 2010: 530-542
- Sergio Tessaris, Enrico Franconi, Thomas Eiter, Claudio Gutierrez, Siegfried Handschuh, Marie-Christine Rousset, Renate A. Schmidt: Reasoning Web. Semantic Technologies for Information Systems, 5th International Summer School 2009, Brixen-Bressanone, Italy, August 30 - September 4, 2009, Tutorial Lectures Springer 2009
- Nada Abdallah, François Goasdoué, Marie-Christine Rousset: DL-LITER in the Light of Propositional Logic for Decentralized Data Management. IJCAI 2009: 2010-2015
- - Fatiha Saïs, Nathalie Pernelle, Marie-Christine Rousset: Combining a Logical and a Numerical Method for Data Reconciliation. J. Data Semantics 12: 66-94 (2009)

8. Languages

Indicate your language proficiency: P – poor G - good E - excellent

Language	speaking	reading	writing	Language	speaking	reading	writing

OFFICE FOR INTERNATIONAL COOPERATION
Foreign Researcher Curriculum Vitae - English

1. Professional data/activity			
Full name Philippe Michelon		e-mail philippe.michelon@univ-avignon.fr	
Institution Université D'Avignon		Present position Professor	
Department Laboratoire Informatique D'Avignon		Start date (month/year)	
Office address 74 rue Louis Pasteur, 84 029 Avignon cedex 1			P.O. box
City Avignon	State/Province	Country France	Zip code
Phone number 04 90 84 35 09	Extension	Fax number 04 90 84 35 01	
2. Academic background			
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
3. Research interests			
Field of Study			CNPq use
4. Current position			
Managerial and/or administrative activity	President of Laboratoire Informatique D'Avignon		

Research and Development				
Technical service/specialization				
Others				
5. Work experience				
5.1. Institution	Position	Activities	Local	Start - End
6. Scientific, technological and artistic production				
	number		number	
1. scientific articles in national scientific journals		6. papers presented in congresses, seminars, conferences,	21	
2. scientific articles in international scientific	1	7. participation in expositions,		
3. articles for scientific divulgement		8. motion pictures, videos, audiovisual and media production		
4. defended theses		9. patents		
5. advised theses		10. books		
7. Main publications :				
Relevant publications related to the project				
<ul style="list-style-type: none"> - R. Acuna-Agost, Michelon Philippe, D. Feillet, S. Gueye "A MIP-based local search method for the railway rescheduling problem", 2011 Networks, 57(1): 69-86, 2011 - M. Posta, J. Ferland, Michelon Philippe "Generalized Resolution Search", 2011 Discrete Optimization, Vol. 8, #2 (2011), pp 215-228 - M. Posta, Ferland J., Michelon Philippe "An Exact Method with Variable Fixing for solving the Generalized Assignment Problem", 2011 Computational Optimization and Applications , à paraître (2011) Acuna-Agost Rodrigo, Michelon Philippe, D. Feillet, S. Gueye "SAPI: Statistical Analysis of Propagation of Incidents. A new Approach for Rescheduling Trains after Disruptions", 2011 à paraître dans EJOR - Acuna-Agost Rodrigo, Michelon Philippe, D. Feillet, S. Gueye "SAPI: Statistical Analysis of Propagation of Incidents. A new Approach for Rescheduling Trains after Disruptions", 2011 à paraître dans EJOR - M.J N. Gomes, A. Xavier, X.A. Fontenelle Sampaio, Michelon Philippe, N.Maculan " A Framework of Computational Systems and Optimization Models for the Prevention and Combat of Dengue", 2010 - S. boussier, M. Vasquez, Y. Vimont, S. Hanafi, Michelon Philippe "A Multi-Level Search Strategy for the 0-1 Multidimensional Knapsack Problem", 2010 Discrete Applied Mathematics, vol. 158, no2, pp. 97-109 - A. Dupont, A. C. Linhares, C. Artigues, D. Feillet, Michelon Philippe, M. Vasquez "The Dynamic Frequency Assignment Problem", 2009 European Journal of Operational Research, 195(1):75-88 				
8. Languages				
Indicate your language proficiency: P – poor G - good E - excellent				
Language	speaking	reading	writing	Language speaking reading writing

**OFFICE FOR INTERNATIONAL COOPERATION
Foreign Researcher Curriculum Vitae - English**

1. Professional data/activity			
Full name Sihem Amer-Yahia		e-mail	
Institution University of Grenoble		Present position	
Department Laboratoire d'Informatique de Grenoble		Start (month/year)	date
Office address 681 Rue de la Passerelle B.P. 72, 38402 St Martin D'Herès Cedex		P.O. box	
City	State/Province	Country	Zip code
Phone number ()	Extension	Fax number ()	
2. Academic background			
Degree	Field of knowledge		Start / End date /
PHD	Institution Paris-Orsay and INRIA	city	Country France
Degree	Field of knowledge		Start / End date /
M.S. in Computer Science	Institution University Paris Dauphine	city	Country France
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
3. Research interests			
Field of Study		CNPq use	
Data management			
Query processing			
Relevance models that leverage social behavior for online content serving			
4. Current position			
Managerial and/or administrative activity	Chair the SIGMOD 2009 Tutorials		
	Chair Social Networks and Personal Information track at ICDE 2010		

	Chair Structured and Unstructured Data Track at WWW 2010
	SIGMOD 2011 Information Retrieval and Extraction track
	EDBT/ICDT 2011 Industrial track
	Member of the Board of Trustees of the VLDB Endowment
	ACM SIGMOD Executive Committee
	Information Systems Journal Area Editor
Research and Development	
Technical service/specialization Others	

5. Work experience

5.1. Institution	Position	Activities	Local	Start - End
Yahoo! Labs since May 2006	Senior Research Scientist			May 2006

6. Scientific, technological and artistic production

	number		number
1. scientific articles in national scientific journals		6. papers presented in congresses, seminars, conferences, etc.	80
2. scientific articles in international scientific journals	1	7. participation in expositions, presentations, etc.	
3. articles for scientific divulgament		8. motion pictures, videos, audiovisual and media production	
4. defended theses		9. patents	
5. advised theses		10. books	1

7. Main publications :

Relevant publications related to the project

- Anastasia Ailamaki, Sihem Amer-Yahia, Jignesh M. Patel, Tore Risch, Pierre Senellart, Julia Stoyanovich: EDBT 2011, 14th Int. Conf.on Extending Database Technology, Uppsala, Sweden, March 21-24, 2011, Proceedings ACM 2011
- Anastasia Ailamaki, Sihem Amer-Yahia, Jignesh M. Patel, Tore Risch, Pierre Senellart, Julia Stoyanovich: EDBT 2011, 14th Int. Conf. on Extending Database Technology, Uppsala, Sweden, March 21-24, 2011, Proceedings ACM 2011
- Julia Stoyanovich, Sihem Amer-Yahia, Tova Milo: Making interval-based clustering rank-aware. EDBT 2011: 437-448
- Senjuti Basu Roy, Gautam Das, Sihem Amer-Yahia, Cong Yu: Interactive itinerary planning. ICDE 2011: 15-26
- Sihem Amer-Yahia: Recommendation Projects at Yahoo! IEEE Data Eng. Bull. 34(2): 69-77 (2011)
- F. Diaz, Donald Metzler, Sihem Amer-Yahia: Relevance and ranking in online dating systems. SIGIR 2010: 66-73
- Sihem Amer-Yahia, AnHai Doan, Jon M. Kleinberg, Nick Koudas, Michael J. Franklin: Crowds, clouds,

and algorithms: exploring the human side of "big data" applications. SIGMOD Conference 2010: 1259-1260

8. Languages

Indicate your language proficiency: P – poor G - good E - excellent

Language	speaking	reading	writing	Language	speaking	reading	writing

**OFFICE FOR INTERNATIONAL COOPERATION
Foreign Researcher Curriculum Vitae - English**

1. Professional data/activity			
Full name Stéphane Gançarski		e-mail Stephane.Gancarski@lip6.fr	
Institution Université Pierre et Marie Curie Paris 6		Present position Associate Professor	
Department LIP 6		Start date (month/year) 1996	
Office address 4 place Jussieu, 75252 PARis cedex 5		P.O. box	
City	State/Province	Country France	Zip code
Phone number (33-1) 44.27.87.95	Extension	Fax number (33-1) 44.27.70.00	
2. Academic background			
Degree PHD	Field of knowledge Informatique		Start / End date / 1994
	Institution Université de Paris 11 Orsay	City Orsay	Country France
HDR (Habilitation à Diriger les Recherches)	Field of knowledge Informatique		Start / End date /
	Institution Université de Paris 6	city Paris	Country France
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country

3. Research interests				
Field of Study				CNPq use
Web archiving				
XML, RSS feeds				
Version and time management, concurrency control, integrity constraints				
Distributed databases and nested transactions, data replication and relaxed consistency				
Mobile transactions				
4. Current position				
Managerial and/or administrative activity				
Research and Development		Project Scape (EC-FP6) (started in feb. 2011) Project Cartec (ANR)(ends in december 11) Project Respire (ARA)(ended in december 08)		
Technical service/specialization				
Others				
5. Work experience				
5.1. Institution	Position	Activities	Local	Start - End date
Université Pierre et Marie Curie Paris 6.	Associate Professor			1996 -
Université Paris 12 Créteil.	A.T.E.R.			1995-1996
Université Paris 11 Orsay.	A.T.E.R.			1994-1995
Université Paris-Dauphine	Allocataire-Moniteur			1991-1994
Concepteur PAO	Analyste programmeur			
6. Scientific, technological and artistic production				
	number			number
1. scientific articles in national scientific journals	1	6. papers presented in congresses, seminars, conferences, etc.		41
2. scientific articles in international scientific journals		7. participation in expositions, presentations, etc.		
3. articles for scientific divulgement		8. motion pictures, videos, audiovisual and media production		
4. defended theses		9. patents		
5. advised theses		10. books		

7. Main publications :

Relevant publications related to the project

- Myriam Ben Saad, Zeynep Pehlivan, Stéphane Gançarski. Coherence-oriented Crawling and Navigation for Web Archives using Patterns. In TPDL '11: Proceedings of the 15th International Conference on Theory and Practice of Digital Libraries (formerly ECDL: European Conference on Digital Libraries), Berlin, Germany, September, 2011. TPDL2011.pdf
- Myriam Ben Saad, Stéphane Gançarski. Improving the Quality of Web Archives through the Importance of Changes. In 22st International Conference on Database and Expert Systems Applications (DEXA 2011), Toulouse, France, August 2011.
- Myriam Ben Saad, Stéphane Gançarski. Archiving the Web using Page Changes Patterns: A Case Study. In ACM/IEEE Joint Conference on Digital Libraries (JCDL 2011), Ottawa, Canada, June 2011. Best Student Paper Award.
- Zeynep Pehlivan, Anne Doucet, Stéphane Gançarski Changing Vision for Access to Web Archives TAWAW, Hyderabad, Inde, March 2011.
- Zeynep Pehlivan., Myriam Ben Saad, Stéphane Gançarski. Understanding Web Pages Changes. DEXA (1) 2010: 1-15
- Myriam Ben Saad, Stéphane Gançarski: Using visual pages analysis for optimizing web archiving. EDBT/ICDT Workshops 2010. Best contribution award.
- Myriam Ben Saad, Stéphane Gançarski, Zeynep Pehlivan. A Novel Web Archiving Approach based on Visual Pages Analysis. 9th International Web Archiving Workshop (Corfu 2009) <http://www.iwaw.net/09>, collocated with ECDL'09.

8. Languages

Indicate your language proficiency: P – poor G - good E - excellent

Language	speaking	reading	writing	Language	speaking	reading	writing

**OFFICE FOR INTERNATIONAL COOPERATION
Foreign Researcher Curriculum Vitae - English**

1. Professional data/activity			
Full name Zahia Guessoum		e-mail Zahia.Guessoum-AT-lip6.fr	
Institution University Pierre and Marie Curie		Present position Associate Professor	
Department Laboratoire d'Informatique de Paris 6 (LIP6)		Start date (month/year)	
Office address 104, Avenue du Président Kennedy - 75016 – Paris		P.O. box	
City Paris	State/Province	Country Paris	Zip code
Phone number +33 1 44 27 36 67	Extension	Fax number ()	
2. Academic background			
Degree PhD	Field of knowledge Computer Science		Start / End date / May 1996
	Institution University Paris 6	city Paris	Country France
Degree HDR (Habilitation à Diriger les Recherches)	Field of knowledge Computer Science		Start / End date / December 2003
	Institution University Paris 6	city Paris	Country France
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
Degree	Field of knowledge		Start / End date /
	Institution	city	Country
3. Research interests			
Field of Study			CNPq use
Agent Architectures			
Adaptive Agents and Multi-Agent Systems			
Agent-Based Simulation			
Fault-Tolerant Multi-Agent Systems			
(Multi-)Agent-Oriented Software Engineering			

Image processing				
Agent-Based Computational Economics (ACE)				
UML				
Software engineering				
4. Current position				
Managerial and/or administrative activity				
Research and Development	Research Team (Multi-Agent Systems): about 30 researchers (including 9 permanent researchers and 21 PhD students)			
	Research Department (DESIR): about 80 researchers			
	Laboratory (LIP6): about 400 researchers			
Technical service/specialization				
Others				
5. Work experience				
5.1. Institution	Position	Activities	Local	Start - End
LMD, Logistique Mutualisée Durable, ADEME	Head	Researcher		2007-2008
HORIZON, Programme Réseaux du futur et services, ANR	Participant	Researcher		2009-2001
FACOMA, Programme Sécurité et Informatique, ANR	Participant	Researcher		2007-2009
Towards FT Cooperative Air Traffic Management, EuroControl Programme CARE INO III	Participant	Researcher		2007
6. Scientific, technological and artistic production				
	number			number
1. scientific articles in national scientific journals		6. papers presented in congresses, seminars, conferences, etc.		80
2. scientific articles in international scientific journals	22	7. participation in expositions, presentations, etc.		
3. articles for scientific divulgement		8. motion pictures, videos, audiovisual and media production		
4. defended theses	5	9. patents		
5. advised theses	8	10. books		8

7. Main publications :

Relevant publications related to the project

- Z. Guessoum, J.-P. Briot, N. Faci, and O. Marin. Towards reliable multi-agent systems - an adaptive replication mechanism. *Multiagent and Grid Systems (MAGS) An International Journal*, 6(1), March 2010.
- S. Mazouzi, Z. Guessoum et F. Michel. Une approche multi-agents pour la segmentation d'image de profondeur. A paraître dans la revue *Technique et Science Informatiques (TSI)*, 2009.
- A. Yang, B. Braunschweig, E. Fraga, Z. Guessoum, W. Marquardt, O. Nadjemi, D. Paen, D. Pinol, P. Roux, S. Sama, S. Serra, and I. Stalker, I., A Multi-Agent System to Facilitate Component-based Process Modeling and Design, *Journal of Computers and Chemical Engineering*, Elsevier, November 2007, 34 pages.
- S. Hacini, Z. Guessoum et Z. Boufaïda. "TAMAP: A New Trust-based Approach for Mobile Agent Protection". *Journal in Computer Virology*, Springer Paris, Volume 3, Number 4, pp. 267-283, november 2007.
- T. Jarraya and Z. Guessoum. Towards A Model Driven Process For Multi-Agent System. In proc. of Central and East European Conference on MultiAgent Systems (CEEMAS), Springer Verlag, LNCS 4696, pp. 256-265, September 2007.
- Z. Guessoum, N. Faci and J.-P. Briot. Adaptive Replication of Large-Scale Multi-Agent Systems - Towards a Fault-Tolerant Multi-Agent Platform. In "Software Engineering for Multi-Agent Systems IV", LNCS 3914, Alessandro Garcia, Ricardo Choren, Carlos Lucena, Alexander Romanovsky, Paolo Giorgini & Tom Holvoet (eds.), pp. 238-253, February 2006.
- T. Jarraya and Z. Guessoum. Reuse Interaction Protocols to develop Interactive Agents. To appear in Proc. of IEEE Conference on Intelligent Agent technology: (IAT'06), IEEE Press Hong Kong, China December 2006,
- D. Julien, M. Ziane et Z. Guessoum. Gestion automatique de la cohérence de l'interface utilisateur avec l'état de l'application, *ISDM (Informations, Savoir, Décisions et Médiations) n°19 – 2005*, Special Issue of The 8th MCSEAI'0, 2005.
- Z. Guessoum. Adaptive Agents and Multi-Agent Systems. In *Distributed Systems Online Journal*, IEEE Computer Society, vol. 5, N°7, pp. 1-4, July, 2004 (Invited Column).
- Z. Guessoum, M. Ziane, N. Faci. Monitoring and Organizational-Level Adaptation of Multi-Agent Systems. In proc. of the third International Joint Conference on Autonomous Agents and Multi-Agents Systems (AAMAS'04), ACM, pp. 514-522, New York City, July 2004.

8. Languages

Indicate your language proficiency: P – poor G - good E - excellent

Language	speaking	reading	writing	Language	speaking	reading	writing