Research areas at the IBM CAS Portugal

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IBM Centers for Advanced Studies

Faculty of Automatic Control and Computers
University Politehnica of Bucharest
João Falcão e Cunha
2012-10-08

Universidade do Porto
Faculdade de Engenharia
FEUP

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Agenda

- Introduction
- IBM CAS Portugal
  - 1992-96 IBM Hardware and software ▶ GIST
  - 2006 IBM SSME ▶ MESG
  - 2009 IBM CAS Portugal
- Mission and Projects of IBM CAS Portugal

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University of Porto - School of Engineering

U.PORTO

FEUP

- 15 Schools
- 60 graduate programs
- 120 master programs
- 100 doctoral programs
- 2200 lecturers and researchers
- 1600 administrative staff
- 27000 students, of which 7500 postgraduate
- One of the Top 20 in RI3
  Ibero-American Ranking of Universities and R&D Institutes http://investigacion.universia.net
- One of the Top 500 in the Shanghai Jiao Tong Univ. Ranking of Universities

- 9 Departments
- 10 / 25 graduate / master programs
- 12 doctoral programs
- 450 lecturers and researchers
- 250 administrative staff
- 7000 students (2500 postgraduate)
- **Member of CESAER**
  Conference of European Schools for Advanced Engineering Education and Research
  www.cesaer.org
- Member of ERCIM
  European Research Consortium on Informatics and Mathematics www.ercim.eu

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IBM CAS Portugal

GIST ▸ OPT

GIST consortium (1990)

University of Lisbon

ICAT

STCP

University of Porto

FEUP

Grupo Barraqueiro

Horários do Funchal

Vimeca

(1992)

R&D Project

with support from IBM

Commercial Product

(1997)

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•J. Falcão e Cunha, Lia Patrício, Ana Camanho, Raymond Fisk: A Master Program in Services Engineering and Management at the University of Porto, *Service Science, Management and Engineering (SSME) Education for the 21st Century*, Bill Hefley, Wendy Murphy (Eds.), Springer US, 2008, ISSN: 1865-4924, ISBN: 978-0-387-76577-8.

A Master Program in Services Engineering and Management at the University of Porto

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ABSTRACT

The education of professional engineers has been mainly oriented towards the requirements of industry, although many graduates will start and end up working in service organizations. Services always involve interaction, either directly between people or using machines. Most services now require the use of technology, including self service machines, Internet and mobile equipments and may involve complex social and organizational issues. Although engineering programs have evolved in order to accommodate changes in the economy, new proposals must be taken into new graduate and postgraduate education.

This paper proposes MESG[1], a Master program in Services Engineering and Management compatible with the Bologna European framework. It is still a program to educate professional engineers, in the sense that graduates will be prepared to Conceive, Design, Implement and Operate (CDIO) complex value-added engineering systems. But MESG has a strong emphasis on: (i) understanding the innovative technologies now required for service provision, (ii) understanding the functional and the experience requirements of people using services, and (iii) management of the service CDIO process and understanding its value. Knowledge and experience about people and about business, in social-organizational environments, are important components in the advanced education of service engineers and managers.

The Master in Service Engineering and Management (MESG*, in Portuguese) aims at *developing competences to conceive, design, implement and operate technology enabled service systems.*

www.fe.up.pt/mesg

English (and Portuguese…)

* Mestrado em Engenharia de Serviços e Gestão

MESG Courses

1st Year - *1st Semester*
Management
Business Process Modelling
Information Systems
Organizational Behaviour
Decision Support Systems
Human-Computer Interaction
Data Base Systems and Inf. Management
Creativity

1st Year - *2nd Semester*
Service Operations Management and Logistics
Services Marketing
Requirements Engineering for Services
Accounting and Financial Management
Multimedia and New Services
Human Resources Management
Cognitive Psychology
Introduction to Research Project I

2nd Year - *1st Semester*
New Service Development and Design
Information Systems Architecture
Capital Budgeting
Enterprise Management Architecture
Corporate Strategy
Customer Relationship Management
Project Management Laboratory
E-Business Technologies
Introduction to Research Project II

2nd Year - *2nd Semester*
Dissertation – Research or Internship Project

Not elective
Elective
Dissertation

www.fe.up.pt/mesg (English and Portuguese)

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IBM
Critical
Novabase
sage
IBS
BPI
SONAE
DISTRIBUIÇÃO
McKinsey&Company
cpc
HS
P
T
enabler
WIPRO

INPI
INSTITUTO NACIONAL DA PROPRIEDADE INDUSTRIAL

TÍTULO DE REGISTO

NÚMERO DE REGISTO	DATA DO PEDIDO	BOLETIM
425113	2007.12.06	2007/12/26
	DATA DO REGISTO	BOLETIM
	2008.03.14	2008/03/25

MARCA NACIONAL MNA	CLASSIFICAÇÃO DOS PRODUTOS E SERVIÇOS
	41

TITULAR(ES)

NOME FEUP - FACULDADE DE ENGENHARIA DA UNIVERSIDADE DO PORTO
DOMICÍLIO/SEDE/ESTABELECIMENTO RUA DR. ROBERTO FRIAS, 4200-465 PORTO
PAÍS DE NACIONALIDADE PORTUGAL
ACTIVIDADE COMÉRCIO/INDÚSTRIA N/E.

REPRODUÇÃO DO SINAL

MESG

REIVINDICAÇÃO DE PRIORIDADES

DATA DO PEDIDO
PAÍS DE ORIGEM
NÚMERO DO PEDIDO

REIVINDICAÇÃO DE CORES

PRODUTOS / SERVIÇOS

41 - EDUCAÇÃO; FORMAÇÃO; DIVERTIMENTO; ACTIVIDADES DESPORTIVAS E CULTURAIS.

M0364.03 1 de 1

I.N.P.I. - Mod. 517

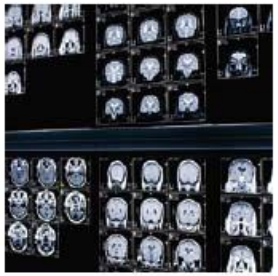
MESG™

The World is Getting Smarter– As we build better *service systems*
SSME educates people about *complex systems that serve customers*
...about a diverse *ecology* of types of *service systems* that all interact

Smart traffic systems

Intelligent oil field technologies

Smart food systems


Smart healthcare

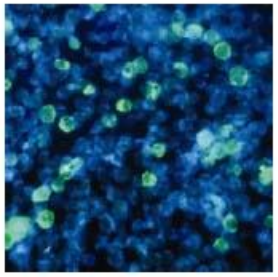
Smart energy grids

Smart retail

Smart water management

Smart supply chains

Smart countries


Smart weather

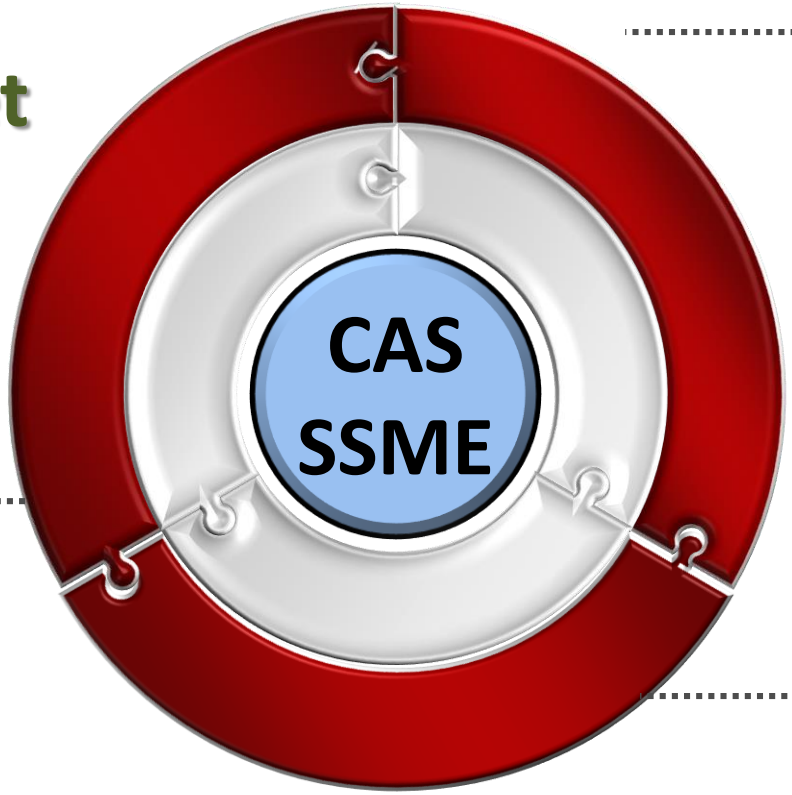
Smart regions

Smart cities

IBM CAS
Center for Advanced Studies

IBM CAS Portugal

Smart Planet Solutions



Health Ecosystem

Public
E-gov & Education

Smart Cities & Mobility

Services Oriented Architecture

Business Process Modeling

Business Intelligence & Analytics

Cloud Computing

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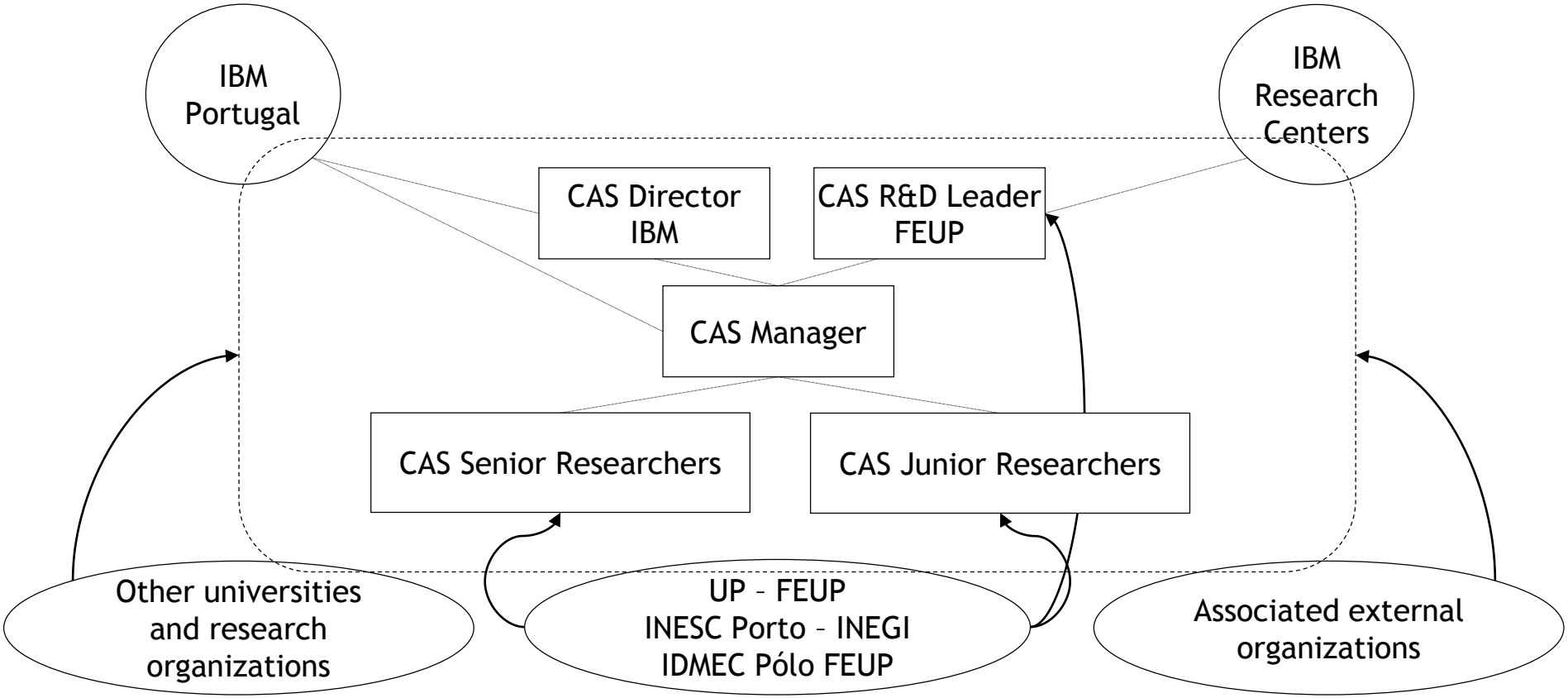

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IBM Centers for Advanced Studies – A Model for Collaborative Research

- CAS Program started in 1990 at the IBM Toronto SW Lab
- It has played a significant role in bringing together worldwide academia, government and industry research organizations
- Model for facilitating the transfer of advanced technology into products and solutions
- CAS created a world class applied research program that offers a winning solution to its participants
- There are currently 25 centers for advanced studies around the world
- CAS at Porto is the latest addition to the growing CAS community

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Current Projects

- One.Stop.Transport – INEGI QREN
- An integrated framework for operating room capacity planning and scheduling – FEUP FCT
- Designing a sustainable EHR – FEUP MS
- The dial-a-ride problem with split requests and profits – INESC Porto LA
- Mobipag – FEUP QREN
- Scientific Cloud Computing / NovaCloud – FEUP

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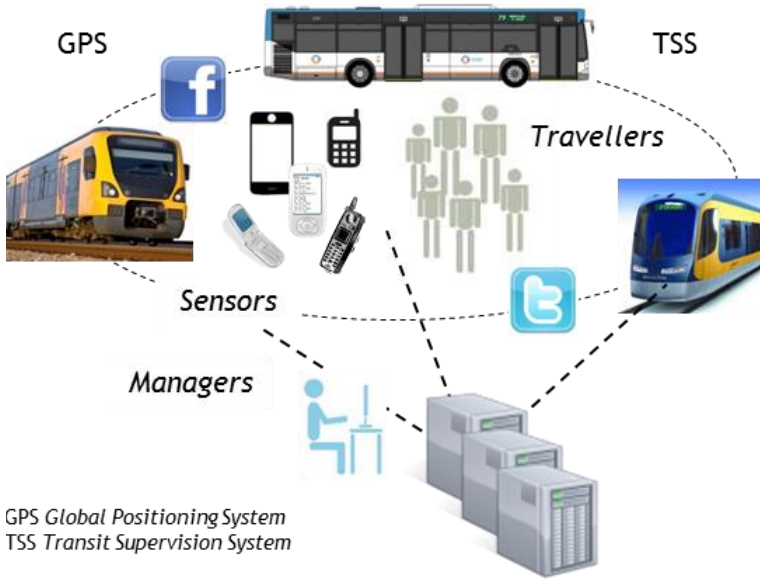
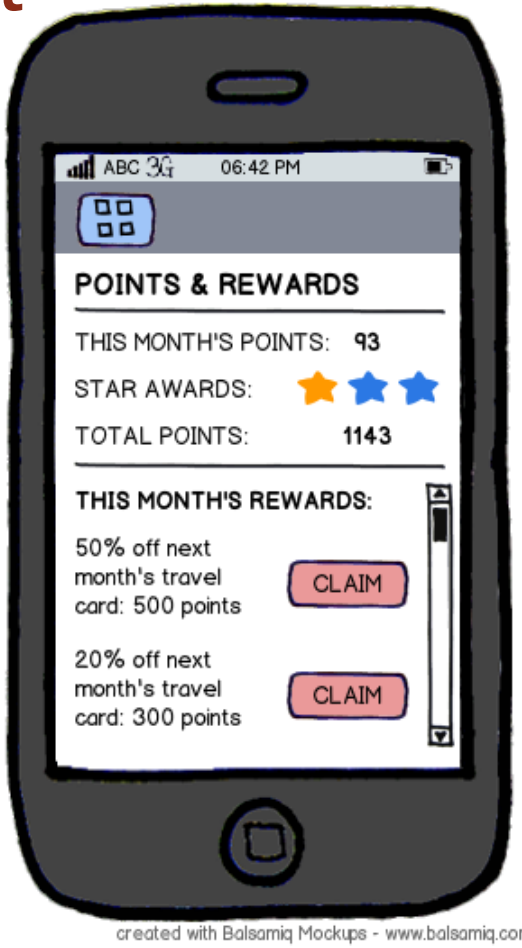
One.Stop.Transport





António Nunes, Teresa Galvão, J. Falcão e Cunha, Jeremy Pitt: Using social networks for exchanging valuable real time public transport information among travelers, Proc. 2011 IEEE Conference on Commerce and Enterprise Computing, ISBN: 978-1-4577-1542-6 , pp. 365-370.

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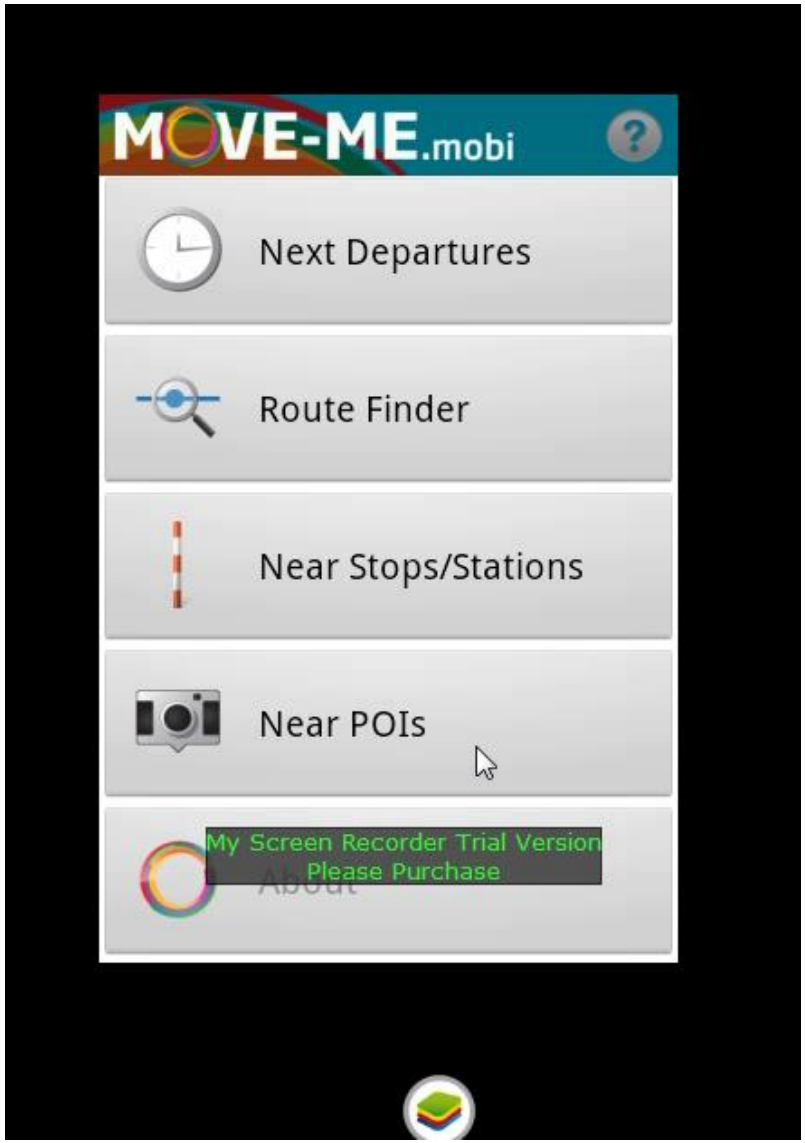
MOVE-ME

["Video MOVE-ME" 3 min.]

www.move.me.mobi



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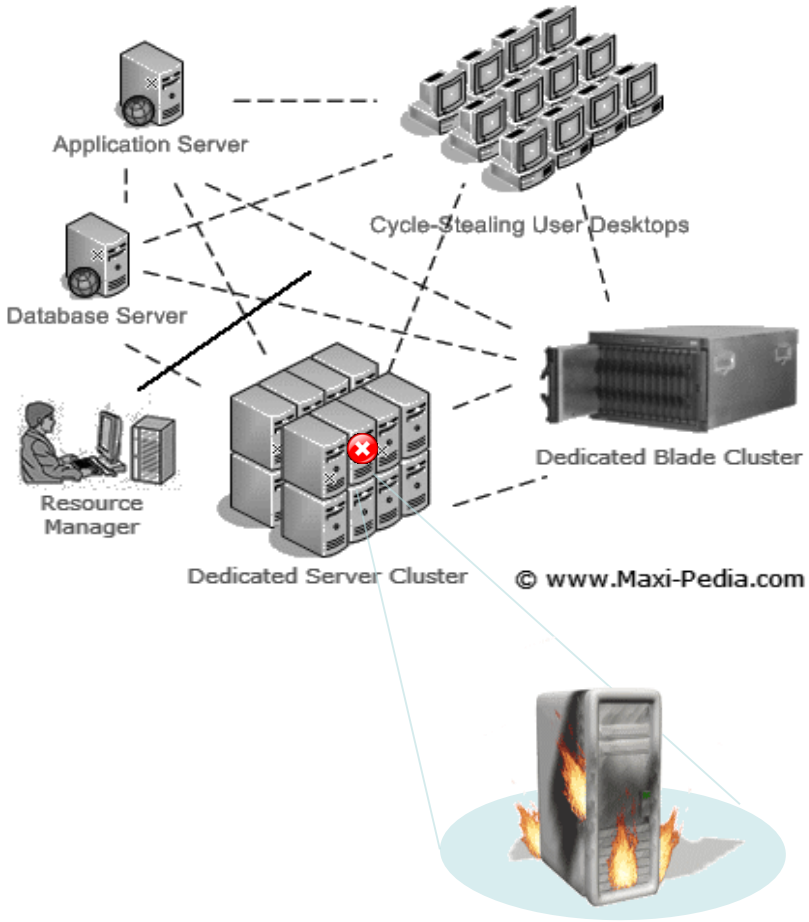
Scientific Cloud Computing
NovaCloud (country project 2011-12)



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Sistemas inteligentes
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