Travelling Towards a Framework for Agent Gamification Based on Ontologies

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Introduction

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FraMework for Agent Gamification Based on Ontologies (MAGO) is the informal title of the mobility funded by the Croatian Science Foundation and the EU, and the accompanying research that focuses on researching, modelling, and implementing an ontology-based agent gamification framework applicable to multiagent systems (MASs).

Introduction

A senior teaching assistant at the University of Zagreb Faculty of Organization and Informatics, and a member of the Artificial Intelligence Laboratory at UNIZG FOI.

Main scientific interests can be found in:

- multiagent systems,
- semantic modelling,
- gamification,
- artificial intelligence,
- computer games.

Introduction

One of the teachers in the following courses, in Croatian or English:

- Internet Security,
- Introduction to Artificial Intelligence,
- Declarative Programming,
- Database Theory,
- Multiagent Systems,
- Introduction to Computer Games,
- Computer Games Development,
- Computer Game Development Platforms.

Introduction

Engaged in international activities and promoting international relations:

- an Erasmus student at Karl-Franzens University of Graz (AT),
- an Erasmus intern at Jožef Stefan Institute in Ljubljana (SI),
- an Erasmus+ intern at Elettra Sincrotrone in Trieste (IT),
- on a research stay at Universitat Politècnica de València in Valencia (ES),
- an ITEC student at Centre for Development of Advanced Computing in NOIDA (IN).

Introduction

Publications

Project activity

BSc and MA Mentees

Overview

Overview

	Part I	Part II
Phase A	MAS ontology	gamification ontology
Phase B	MAS framework	gamification framework

Table 1: Research in a nutshell: two parts, two phases each

Overview

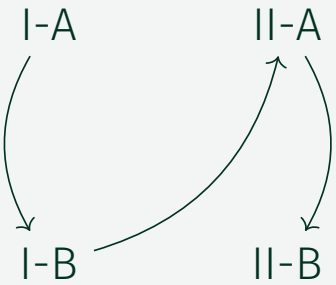

Figure 1: The flow between the parts and the phases

Overview

Detailed Overview

Overview: Part I

Part I-A

Modelling an ontology featuring organisational concepts, towards implementing a framework for instantiating agents based on the contents of the ontology and running a MAS based on a knowledge base.

Overview: Part I

Part I-A
Modelling an ontology featuring organisational concepts, towards implementing a framework for instantiating agents based on the contents of the ontology and running a MAS based on a knowledge base.

Part I-B
Designing, developing and implementing the framework for instantiating and running a MAS described using an ontology. Implementing a testbed environment for applying, testing and evaluating the developed ontology.

Overview: Part II

Part II-A
Modelling, developing, and implementing an ontology for describing video games as intelligent virtual environments (IVEs). Modelling, developing, and implementing an ontology for describing gamification and gamified systems, with a special focus on applicability to artificial agents.

Overview: Part II

Part II-A
Modelling, developing, and implementing an ontology for describing video games as intelligent virtual environments (IVEs). Modelling, developing, and implementing an ontology for describing gamification and gamified systems, with a special focus on applicability to artificial agents.

Part II-B
Designing, developing and implementing the ontology-based agent gamification framework as an upgrade of the framework from Part I-B. Implementing a testbed environment for applying, testing and evaluating the developed ontology.

Expected Results

Expected Results: Dissemination

Description	Quantity	Unit of Measurement
International scientific conferences	6	Papers accepted for publication
Presentations at international scientific conferences	3	Presented papers
International scientific journals	3	Papers submitted for review
Presentations at international professional conferences	2	Presented or accepted papers
Presentation of results to the sending organisation	1	Held presentations
Presentation of results to the host organisation	1	Held presentations

Table 2: Expected results related to dissemination of the results

Expected Results: Teaching, Projects etc.

Description	Quantity	Unit of Measure
Guest lectures by the young researcher	2	Delivered lectures
Guest lectures by teachers of the host organisation	2	Delivered lectures
International project, applied for funding	1	Project applications
Multi-month scientific improvement of a UPV TA	1	Agreed improvements
Informal dissemination	32	Public posts on social networks

Table 3: Expected results related to teaching, project cooperation etc.

Acknowledgement

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