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Abstract:

This deliverable describes the core concepts and properties of ENTROPY Behavioural Intervention Ontology and driving factors of the development of the ontology.

Keywords:
Behavioural model, ontology

Revision History

The following table describes the main changes done in the document since created.

Revision	Date	Description	Author (Organization)
v0.1	14/07/2016	Table of contents	Umutcan Simsek, Anna Fensel (UIBK)
v0.2	19/07/2016	Example content added	Umutcan Simsek (UIBK)
v0.3	05/08/2016	Contribution to Section 2	Angeliki Bousiou (INTELEN)
v0.3	17/08/2016	Contributions to Sections 1, 3,4, Appendix	Umutcan Simsek (UIBK)
v0.4	23/08/2016	Contributions to Appendix, Instantiations	Umutcan Simsek (UIBK)
v0.5	24/08/2016	Ready for review	Umutcan Simsek (UIBK)
v0.6	29/08/2016	Internal review	Eleni Fotopoulou, Anastasios Zafeiropoulos (UBITECH)
V1.0	30/08/2016	Final version	Umutcan Simsek (UIBK)

Executive Summary

This document introduces the ENTROPY Behavioural Intervention Ontology. The ontology consists of concepts and properties that represent behavioural interventions and behavioural aspects of ENTROPY users. ENTROPY platform contains various components and creating common terminology is necessary for knowledge sharing between these components. Additionally semantically enriched data will facilitate the rule based recommender engine that creates behavioural interventions. This model complements the IoT Energy Efficiency Monitoring semantic model, defined also within ENTROPY that aims to represent concepts concerning energy efficiency monitoring observations for building sector. The integration of these two models will facilitate the unified knowledge representation of physical and behavioural aspects of energy efficiency.

Disclaimer

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Table of Contents

1. INTRODUCTION

Analysis Layer of ENTROPY platform reference architecture [3] consists of components such as Recommender Framework, Analytic Tools and Gamification Framework. This layer is responsible of behavioural analysis of platform users and generation of interventions to change energy consumption behaviour. We develop the **ENTROPY Behavioural Intervention Ontology (EBIO),** in order to enable knowledge sharing between these components and to represent behavioural aspects of the ENTROPY platform. In the context of the project, this model complements the IoT Energy Efficiency Monitoring" (IoT-Energy) semantic model described in D2.1[1].

The core of EBIO includes concepts to represent people and interventions. The ontology is designed in a modular fashion. This allows us to keep core concepts of the ontology simple and introduce extensions when necessary. We discuss the possible extensions in scope of ENTROPY project in Section 3.

The design of the core ontology is driven by the definitions made in D1.3 – Energy Efficiency Requirements. Additionally, some of the key terms are defined in detail in Section 2. Given that, EBIO provides concepts and properties to represent psychographics and demographics of a person, preferences regarding energy consumption and context information based on mobile crowd sensing and sensor observations. Figure 1 shows a general view of the ontology. A documentation and an OWL DL representation of the ontology can be found online[2].

In the rest of the document, we describe the key behavioural aspects that drive EBIO (Section 2), a description of the main concepts of the model and possible extensions (e.g. intervention types, activities) and existing ontologies that are reused in EBIO (Section 3) and exemplary instantiations of the ontology (Section 4). We conclude the document with remarks on further development of the model (Section 5).

The most recent version of the ontology documentation can be found in the appendix.

[1] For the alignment of two ontologies please refer to D2.1

[2] http://vocab.sti2.at/entropy/behavioural

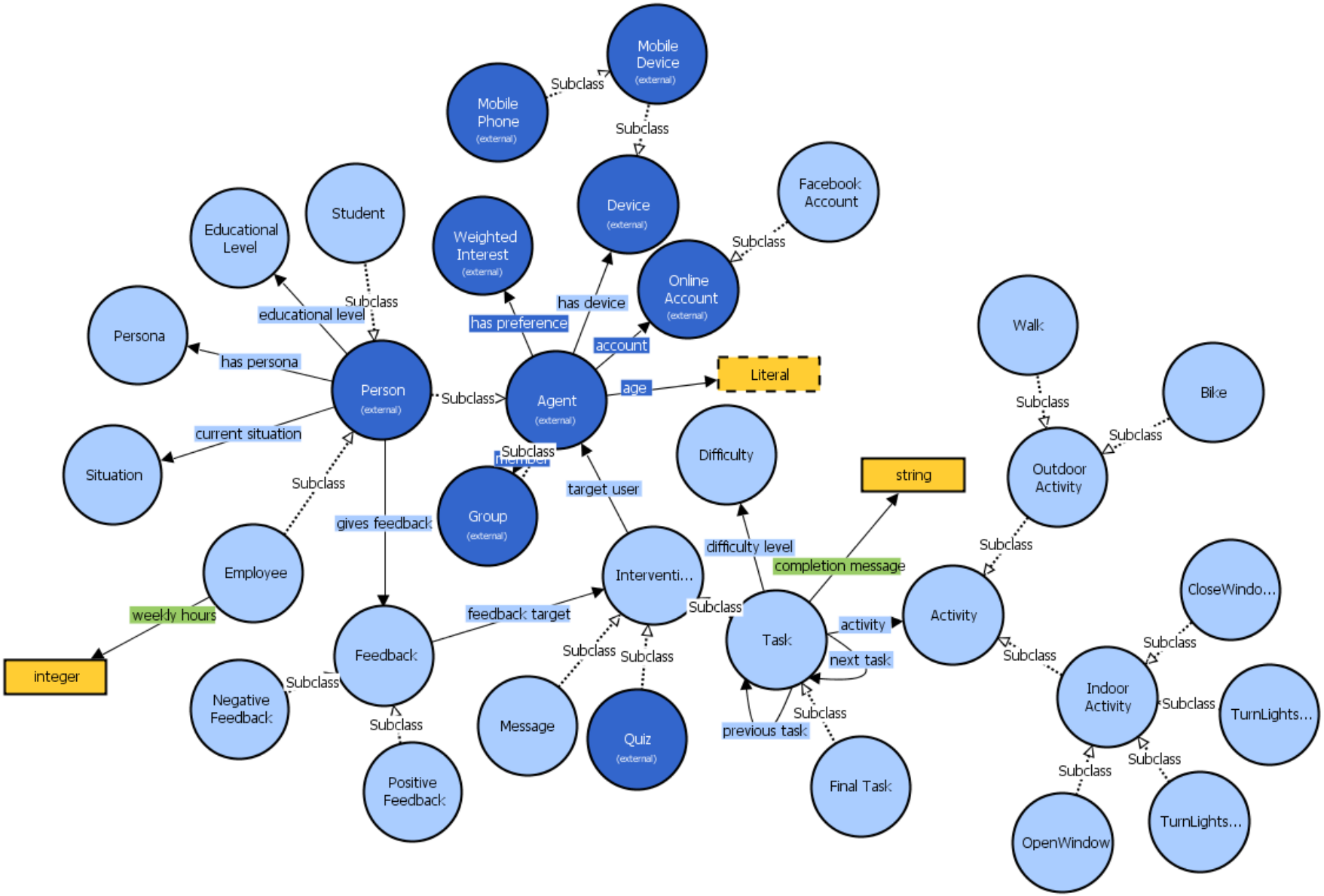

Figure 1: ENTROPY Behavioural Intervention Ontology

2. KEY TERMS FOR BEHAVIOURAL ASPECTS OF ENERGY EFFICIENCY

Both demographics and psychographics are valuable data sources that outline an individual's profile. Demographics explain "who" the individual is, while psychographics explain "why" each individual reacts in a certain way or has certain behaviours and preferences. Demographic information includes basically the dry facts. On the other hand, psychographics step on a more dynamic concept and it is required to be revised from time to time since they are prone to change, especially after interventions or other factors have affected the individual.

ENTROPY will take advantage of both data sources to build the different personas of pilots. Because it is crucial to exploit both demographics and psychographics to proceed with Interventions that will support consumers decision making and deploy highly personalized applications. Use demographics alone is not sufficient since they only allow for a very hazy outline of the pilots' audience. The real challenge is to realize what really moves consumers to action. Psychographics will provide much more insights.

To complete the data requirements in demographics and psychographics, the following data sources of self-reported data should be leveraged:

- ✓ Questionnaire data
- ✓ Survey data
- ✓ Interview data

Below, the data entities that will drive the conceptualization and representation of the behavioural semantic model are presented along with some explanatory information.

Demographics

- Age
- Sex
- Job (ex. manager, professor, student etc.)
- Educational level
- Studies
- Hours at University
- Occupants per room/house
- Kids at home (yes/no)
- Working hours
- Reported health issues
- Any other demographics that will become available

Psychographics

- Any health issues or disabilities
- Lifestyle preferences
- In-house time availability
- Leisure preferences (home – out)
- Eco-friendliness vs. comfort
- Economy vs. comfort
- Intrinsic interest in RES
- Altruism vs. utilitarianism
- Altruism vs self-interest
- Intrinsic interest in Energy Efficiency (very low-low-indifferent-high-very high)
- Impact of incentives (very low-low-indifferent-high-very high)
- Efficiency vs. curtailment behaviours
- Practices have been utilized to achieve energy efficiency

While most data requirements are clear and straightforward, there are two concepts that might be needed to be defined better. In particular, it is important to clarify what "Efficiency vs. curtailment behaviours" means as well as what "hassle factor" entails.

The terms curtailment, usage-related, adjustments, practices, direct energy use, repeated, non-investment, frugality, conservation, behavioural and habitual actions, daily and non-durable, all referred to frequent and low cost or cost-free behaviours, adopted to achieve energy-saving. Although they generally require no financial outlay, many claim that they entail a cut back on amenities or comfort and must be repeated to drive energy savings.

Examples of such behaviours include unplugging appliances, turning off lights, or reducing appliance usage. Hence any energy conservation behaviours are referred to as curtailment behaviours.

The terms efficiency, equipment, purchase-related, device adoption, conservation, technical/technology choices, investments, measure installations, one-time, non-repetitive but durable, referred to infrequent structural changes that require an investment or purchase. Such behaviours consequently require a financial outlay but result in no loss of amenities with longer-lasting energy conservation effects.

Examples include purchasing energy-efficient equipment or products (energy star appliances, compact fluorescent light bulbs [CFLs]), or investing in structural and building envelope changes to the home (installing double-paned windows). Hence, any similar behaviours are referred to as efficiency behaviours.

"Hassle factor" basically suggests that there are deep attitudes and beliefs that render hassle or inconvenience of energy efficiency improvements to be a key barrier to uptake efficiency and curtailment behaviours in order to improve overall energy efficiency and address energy savings. More specifically, this is the most often reported reason in relation to installing insulation measures. Research revealed that almost half (44%) of householders who had not installed loft insulation it was due to the hassle that clearing loft space, or having to commit time to the process of organising and having the work carried out [7] seemed a really difficult and demanding with no equal payoffs for the consumer. The inconvenience of losing storage space in the loft was also a concern [2], while the 'hassle factor' was also the major barrier to the uptake of solid wall insulation for many households. Physical disruption and having to redecorate, were the most commonly reported barriers to internal wall insulation (each reported by over 60% of non-adopters), with disruption cited as a barrier to external insulation for 33% [7].

Perceptions about the inconvenience and disruption that may be caused, are a common reason why many people who show an initial interest in schemes drop out before work gets underway [1]. However, overcoming the disruption barrier is particularly important for engaging hard to reach groups, especially when it comes to older people, or those who suffering physical or mental ill health [4].

Last but not least, analytics and sensors are two other valuable source of rather observed than self-reported data that can participate in the behavioural semantic model. Such data are noted as behavioural data and aim either to validate that certain actions were performed (feedback) or deepen into consumer's preferences and habits.

ENTROPY exploits analytics based on sensor observations, smart meter measurements, personalised applications and serious games as behavioural data.

3. ENTROPY BEHAVIOURAL INTERVENTION ONTOLOGY CORE CONCEPTS

EBIO is built around two main concepts: *Intervention* and *Agent*.

Intervention represents a certain method that targets a behavioural change. In the core model, there are two different intervention types defined: *Task* and *Message*.

A *Task* contains an *Activity* whose result contributes to elimination of a certain energy waste cause. A Task may be an *Intervention* by its own or it can refer to another *Task*. Eventually, this structure may form a list of tasks. In fact, the *Task* concept is a variation of OWLList [6] pattern which proposes a method for creating list structures in OWL ontologies.

Message concept represents a persuasive message targeting a certain energy consumption behaviour.

An *Intervention* targets an *Agent* such as a *Person* or a *Group*. In the context of ENTROPY, *Group* concept represents a group of users that share a common characteristic (e.g. tendency to sacrifice comfort for energy efficiency). A user can give a positive or negative *Feedback* to an *Intervention* which is later utilized for the generation of new interventions. An *Agent* has a *Situation* derived from its current context which can be used for generation of accurate interventions. Additionally, an *Agent* can have preferences regarding the energy consumption behaviour, as it is discussed in the Section 3.1.

ENTROPY project utilizes personalized apps and serious games as intervention methods. This creates the need of a set of concepts to represent necessary aspects from both domains. To meet this requirement, EBIO can be extended with new intervention types. *Quiz* concept is an example for this situation. This concept can later be extended with other concepts from gamification domain (e.g. Reward, TimeLimit etc.).

3.1 Ontology Reuse

Ontology reuse has many advantages for new ontology creation, therefore it is highly encouraged. Reusing existing ontologies reduces the human labour on creation and testing effort, since the reused ontologies are more likely to be already tested [5].

EBIO currently reuses three ontologies from the literature: Friend-of-a-Friend (FOAF), mIO! Ontology Network and Weighted Interest Ontology.

In Figure 1, concepts borrowed from external ontologies are represented with dark blue colour.

3.1.1 Friend-of-a-Friend (FOAF)

FOAF[5] is a vocabulary to represent and link people and information on the Web. FOAF vocabulary allows us to represent certain demographic properties of an *Agent*, which may be a *Person, Organization* or a *Group*.

While FOAF proposes many concepts and properties for social relationships and representation of information about agents, EBIO is currently reusing a fraction of those. As an example, we adopt the Agent concept and two of its sub-concepts Person and Group to represent the users of ENTROPY platform. For instance, an Agent can receive an intervention or give a feedback to an intervention.

3.1.2 mIO! Ontology Network

mIO! Ontology Network is a modular ontology that heavily reuses many existing ontology in order to provide concepts and properties to rsepresent mobile context information [8].

We adopt a small part of the Device module to represent mobile devices that can be used for user identification and for obtaining certain user profile information.

3.1.3 Weighted Interest Ontology

According to the definition from its specification[6]: "The Weighted Interests Vocabulary specification provides basic concepts and properties for describing preferences (interests) within contexts, their temporal dynamics and their origin on/ for the Semantic Web."

We integrate this ontology to EBIO, in order to represent user preferences regarding their energy consumption. The ontology allows of the describe preferences with a weight on a certain scale (e.g. Likert Scale). These preferences later will be used for behavioural analysis.

[5] *http://xmlns.com/foaf/spec/*

[6] *http://smiy.sourceforge.net/wi/spec/weightedinterests.html*

4. INSTANTIATIONS

The indicative class instances in Figure 2 are created based on the motivational scenario described in [9]:

"*A faculty or staff member arrives to his/her office in the morning. The HVAC (Heating, Ventilating and Air Conditioning) system equipped with sensors and smart meters are available in the offices. We observe the average temperature every hour from the weather station in the campus as well as the HVAC state in the offices. For instance, in a summer day, we create a personalised recommendation to persuade a faculty or a staff member to turn the HVAC system on and open the window instead, if the external weather conditions and user's traits are suitable.*"

The instances show a possible intervention that consists of two tasks targeting an employee who is currently in his/her office[7]. After the intervention, user gives a positive feedback (i.e. task has been completed) which creates a *PositiveFeedback* instance.

```
@prefix behavioural: <http://entropy-project.eu/behavioural#> .
@prefix user: <http://entropy-project.eu/user/>
@prefix intervention: <http://entropy-project.eu/interventions/>
@prefix activity: <http://entropy-project.eu/activities/>

user:usr1 a behavioural:Employee.
activity:act1 a behavioural:TurnHVACOff.
activity:act2 a behavioural:CloseWindow.


intervention:task1 a behavioural:Task ;
    behavioural:activity activity:act1 ;
    behavioural:nextTask intervention:task2 ;
    behavioural:targetUser user:usr1 .


intervention:task2 a behavioural:FinalTask ,
        behavioural:Task ;
    behavioural:activity activity:act2 ;
    behavioural:previousTask intervention:task1;
    behavioural:showOnCompletion "Thank you!" .

user:usr1 behavioural:givesFeedback [a behavioural:PositiveFeedback;
                                     behavioural:feedbackTarget intervention:task1].

```

Figure 2: EBIO Indicative Instances

Please note that the instances do not show all the properties they might have. (e.g. A feedback instance should have properties like timestamp, validation of the feedback etc.)

[7] *We assume that users current situation is inferred as being in the office based on the sensor observations*

5. CONCLUSIONS

In this document we have introduced the ENTROPY Behavioural Intervention Ontology (EBIO) and its core concepts and properties. We explained the existing ontologies that we reuse within EBIO. We are continuously looking for suitable ontologies from the literature to increase the ontology reuse.

We have given indicative instances of the ontology. Since the nature of ontology development is very dynamic, it is highly likely for the ontology terms to change throughout the project implementation. Therefore, it is recommended to follow the online documentation and resources from the link provided in the document. We will validate the developed model with the initial platform implementations.

It should be noted that, ENTROPY platform supports various intervention delivery methods (e.g. serious games, personalised applications) and they require different sets of concepts to represent the their domain. Therefore, the core concepts will be extended with necessary concepts to serve those domains. For this matter, we are conducting individual studies with the involved partners.

Even though EBIO is being developed for an energy efficiency focused project, we predict that the model can be applied to different domains involving behavioural intervention (e.g. health, marketing).

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APPENDIX: EBIO ONTOLOGY DOCUMENTATION

The list the ontology concepts and properties can be found below. The terms that are used to describe the ontology concepts and properties are explained as follows:

IRI: Internationalized Unique Identifier[8] of a term.

Term status: A status value that indicates the stability of a term. This annotation is defined by "Vocabulary Status Vocabulary"[9].

Sub-classes/Super-classes: Please refer to rdfs:subClassOf section in RDF Schema documentation[10]

In range of: Please refer to rdfs:range section in RDF Schema documentation[11].

In domain of: Please refer to rdfs:domain section in RDF Schema documentation [12].

Members: Represents the individuals of a class[13] .

Disjoint with: Indicates that two classes are disjoint [14].

Classes

Activity

IRI: http://entropy-project.eu/behavioural#Activity

Term status: unstable

An activity can be part of task. Every instance of an activity or its subclasses might have different properties depending on activities nature.

e.g. Walk activity can have a distance property.

Sub-classes: Indoor Activity, Outdoor Activity

In range of: activity

Sub-classes: Indoor Activity, Outdoor Activity

[8] *https://en.wikipedia.org/wiki/Internationalized_Resource_Identifier*
[9] *https://www.w3.org/2003/06/sw-vocab-status/note*
[10] *https://www.w3.org/TR/rdf-schema/#ch_subclassof*
[11] *https://www.w3.org/TR/rdf-schema/#ch_range*
[12] *https://www.w3.org/TR/rdf-schema/#ch_domain*
[13] *https://www.w3.org/TR/owl2-syntax/#Named_Individuals*
[14] *https://www.w3.org/TR/owl2-syntax/#Disjoint_Classes*

Agent

IRI: http://xmlns.com/foaf/0.1/Agent

Defined by: http://xmlns.com/foaf/0.1/

Term status: stable

The Agent class is the class of agents; things that do stuff.

Sub-classes: Group, Person
In domain of: account, age, has device, has preference, member

---

Bike

IRI: http://entropy-project.eu/behavioural#Bike

Term status: unstable

Biking activity

Super-classes: Outdoor Activity

Close Window

IRI: http://entropy-project.eu/behavioural#CloseWindow

Window closing activity

Has super-classes: Indoor Activity

Device

IRI: http://cenitmio.es/ontologies/Device.owl#Device

Defined by: http://cenitmio.es/ontologies/Device.owl

Term status: unstable

A Device

Sub-classes: Mobile Device
In range of: has device

Difficulty

IRI: http://entropy-project.eu/behavioural#Difficulty

Term status: unstable

This class represents difficulty levels. A typical usage of a difficulty instance is with a Task.

In range of difficulty level

Members: easy, hard, medium

Educational Level

IRI: http://entropy-project.eu/behavioural#EducationalLevel

Term status: unstable

Educational level may be used for behavioural analysis and Interventions.

In range of: educational level
Members: Doctorate Degree, High School Diploma, Master's Degree, Undergraduate Degree

Employee

IRI: http://entropy-project.eu/behavioural#Employee

Term status: unstable

A subclass of Person that represents the people who work at an institution.

Super-classes: Person
In domain of: weekly hours

Facebook Account

IRI: http://entropy-project.eu/behavioural#FacebookAccount

Term status: unstable

A Facebook account. It may be used to identify a person or to retrieve some profile information for behavioural analysis.

Super-classes: Online Account

Feedback

IRI: http://entropy-project.eu/behavioural#Feedback

Term status: unstable

The class that represents a feedback that is given by a Person to an Intervention. A feedback can be positive or negative.

Sub-classes: Negative Feedback, Positive Feedback
In domain of: feedback target
In range of: gives feedback

Final Task
IRI: http://entropy-project.eu/behavioural#FinalTask

The final task of a sequence.

Super-classes: Task, next task max 0

Group

IRI: http://xmlns.com/foaf/0.1/Group

Defined by: http://xmlns.com/foaf/0.1/

Term status: stable

The Group class represents a collection of individual agents (and may itself play the role of an Agent, ie. something that can perform actions).

In the context of this vocabulary, Group concept represents a group of people that share some common characteristics. Group instances may be created by behavioural analysis and be used in Intervention process.

Super-classes: Agent
In range of: member

Indoor Activity

IRI: http://entropy-project.eu/behavioural#IndoorActivity

Term status: unstable

The class of indoor activities

Super-classes: Activity
Sub-classes: Close Window, Open Window, Turn Lights Off, Turn Lights On

---

Intervention

IRI: http://entropy-project.eu/behavioural#Intervention

Term status: testing

This class represents an intervention aiming to change a certain behaviour. An intervention can be in different forms (e.g Task, Message).

Subclasses:: Message, Quiz, Task
In domain of:: target user
In range of:: feedback target

Message

IRI: http://entropy-project.eu/behavioural#Message

Term status: testing

The Message class represents a persuasive message that targets an Agent and aims to change a certain behaviour.

Super-classes: Intervention

Mobile Device

IRI: http://cenitmio.es/ontologies/Device.owl#MobileDevice

Defined by: http://cenitmio.es/ontologies/Device.owl

Term status: unstable

A portable device

Super-classes: Device
Sub-classes: Mobile Phone

Mobile Phone

IRI: http://cenitmio.es/ontologies/Device.owl#MobilePhone

Defined by:
http://cenitmio.es/ontologies/Device.owl

Term status: unstable

A mobile phone.
This class represents mobile phone of a person and its properties that may be used to identify a person or its certain context elements.

Super-classes: Mobile Device

Negative Feedback

IRI: http://entropy-project.eu/behavioural#NegativeFeedback

Term status: unstable

Super-classes: Feedback

Disjoint with: Positive Feedback

Online Account

IRI: http://xmlns.com/foaf/0.1/OnlineAccount

Defined by: http://xmlns.com/foaf/0.1/

Term status: stable

The OnlineAccount class represents the provision of some form of online service, by some party to some Agent.

Sub-classes: Facebook Account
In range of: account

Open Window

IRI: http://entropy-project.eu/behavioural#OpenWindow

Window opening activity.

Super-classes: Indoor Activity

Outdoor Activity

IRI: http://entropy-project.eu/behavioural#OutdoorActivity

Term status: unstable

The class of outdoor activities.

Super-classes: Activity
Subclasses: Bike, Walk

Person

IRI: http://xmlns.com/foaf/0.1/Person

Defined by: http://xmlns.com/foaf/0.1/

Term status: stable

The Person class represents people.
In the context of ENTROPY a person is an individual that is registered to the platform.

Super-classes: Agent
Sub-classes: Employee, Student
In domain of: current situation, educational level, gives feedback, has persona
In range of: target user

Persona
IRI: http://entropy-project.eu/behavioural#Persona

Term status: unstable

This class represents a persona label, produced by behavioural analysis.

In range of: has persona

Positive Feedback

IRI: http://entropy-project.eu/behavioural#PositiveFeedback

Term status: unstable

Super-classes: Feedback
Disjoint with: Negative Feedback

Quiz
IRI: http://entropy-project.eu/gamification#Quiz

Defined by: http://entropy-project.eu/gamification

A gamified quiz

Super-classes: Intervention

Situation
IRI: http://entropy-project.eu/behavioural#Situation

Term status: unstable

Current contextual situation of a person. Situation is inferred by context reasoning based on different context elements (time, location etc.)

In range of: current situation

Student

IRI: http://entropy-project.eu/behavioural#Student

Term status: unstable

A student in an educational organization. The seperation between a student and an employee is important, since they have different movement patterns during a day. (e.g. students usually do not have dedicated offices, they are more felixable in terms of location)

Super-classes: Person

Task

IRI: http://entropy-project.eu/behavioural#Task

Term status: testing

Task is a form of intervention. A task can be followed by another Task which forms a sequence. Every task contains an activity.

Super-classes: Intervention
Subclasses: Final Task
In domain of: activity, completion message, difficulty level, next task, previous task
In range of: next task, previous task

Turn lights off

IRI: http://entropy-project.eu/behavioural#TurnLightsOff

Super-classes: Indoor Activity

Turn lights on

IRI: http://entropy-project.eu/behavioural#TurnLightsOn

Super-classes: Indoor Activity

Walk
IRI: http://entropy-project.eu/behavioural#Walk

Term status: unstable

Walking activity

Super-classes: Outdoor Activity

Weighted Interest

IRI: http://purl.org/ontology/wi/core#WeightedInterest

Defined by: http://purl.org/ontology/wi/core#

Term status: unstable

A weighted interest object, which also can have interest dynamics etc. This concept may be used to represent questionaire and/or survey results for behavioural analysis.

In range of: has preference

Properties

Object Properties

account

IRI: http://xmlns.com/foaf/0.1/account

Defined by: http://xmlns.com/foaf/0.1/

Term status: stable

The property that relates an Agent to an Online Account

Domain: Agent

Range: Online Account

activity

IRI: http://entropy-project.eu/behavioural#activity

Term status: testing

The property that relates a Task to an Activity.

Domain: Task

Range: Activity

---

current situation

IRI: http://entropy-project.eu/behavioural#currentSituation

Term status: unstable

The property that relates a Person to a Situation. (see Situation)

Domain: Person

Range: Situation

---

difficulty level

IRI: http://entropy-project.eu/behavioural#difficulty

Term status: unstable

A Task can have a Difficulty level

Domain: Task

Range: Difficulty

---

educational level

IRI: http://entropy-project.eu/behavioural#educationalLevel

Term status: unstable

The property that indicates a person's educational level.

Domain: Person

Range: Educational Level

---

feedback target

IRI: http://entropy-project.eu/behavioural#feedbackTarget

Term status: unstable

The property that relates a Feedback to a Recommendation

Domain: Feedback

Range: Intervention

---

gives feedback

IRI: http://entropy-project.eu/behavioural#givesFeedback

Term status: unstable

The property that indicates the Person who gives a certain Feedback.

Domain: Person

Range: Feedback

---

has device

IRI: http://entropy-project.eu/behavioural#hasDevice

Term status: unstable

An Agent can have a Device.

Domain: Agent

Range: Device

---

has persona

IRI: http://entropy-project.eu/behavioural#hasPersona

Term status: unstable

A Person can have Persona(s)

Domain: Person

Range: Persona

---

has preference

IRI: http://purl.org/ontology/wi/core#preference

Defined by: http://purl.org/ontology/wi/core#

Term status: unstable

A link between an agent and a weighted interest

Domain: Agent

Range: Weighted Interest

---

member

IRI: http://xmlns.com/foaf/0.1/member

Defined by: http://xmlns.com/foaf/0.1/

Term status: stable

The property that indicates that an Agent is a member of a Group

Domain: Agent

Range: Group

---

next task

IRI: http://entropy-project.eu/behavioural#nextTask

Term status: testing

The property that indicates that next Task in a Task sequence.

Domain: Task

Range: Task

Inverse of: previous task

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previous task

IRI: http://entropy-project.eu/behavioural#previousTask

Term status: testing

see nextTask

Domain: Task

Range: Task

Inverse of: next task

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target user

IRI: http://entropy-project.eu/behavioural#targetUser

Term status: testing

A recommendation has a target user which is a Person. This property might update its range to Agent in the future.

Domain: Intervention

Range: Person

Data Properties

age

IRI: http://xmlns.com/foaf/0.1/age

Defined by: http://xmlns.com/foaf/0.1/

Term status: stable

Age of an Agent

Domain: Agent

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completion message

IRI: http://entropy-project.eu/behavioural#completionMessage

Term status: testing

This property indicates the textual message to be shown after the completion of a Task.

Domain: Task

Range: string

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weekly hours

IRI: http://entropy-project.eu/behavioural#weeklyHours

Term status: stable

Weekly hours of an employee. Value of this property may be used for behavioural analytics

Domain: Employee

Range: integer