

On the ontology of Service based on [WiMa]REA

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Abstract:

In the present paper, we represent an ontological analysis of the concept of Service to recognize in which state of existence we can take it into account. Therefore, we introduce our work in progress [WiMa]REA that is an attempt to develop the REA ontology as a higher level ontology or foundational ontology. We show how this upgrade can be useful to properly recognize a high level concept such as Service. Also we explain how a dualistic perspective such as Substance Dualism can be applied in practice and be integrated with a domain ontology.

Keywords: Substance Dualism, Will-Matter Dualism, [WiMa]REA ontology, Service, State of Existence, Context

Introduction

In this paper, we want to see how we can recognize Service distinctively. Based on the Service-Dominant logic (S-D Logic), Service is the foundation of any economic exchange. It means any exchange of value at any level in economy is forming through the exchange of services between stockholders. According to this perspective, service is considered as the application of competences for the benefit of a party. This recognition implies the existence of Agents (the owner of competences) in the phenomenon of service [1].

Service, in the REA ontology, is considered as Resource. Based on the entry of Resource in [2] all good, right and service of value that are under control of a person are Resource.

Here, we want to discuss that based on the [WiMa]REA – an ontological proposal that we are developing to upgrade the REA ontology to a higher level ontology – Service is no longer a type of Resource. This difference comes from the existential differences between what it can be considered as a Resource and the phenomenon of Service.

Further, we briefly describe the [WiMa]REA basic components and show how it can deal with the concept of service.

WiMa

We start our discussion by representing the basics of [WiMa]REA. We develop this discussion by describing the WiMa ontology separately as a substance dualistic proposal [3] that is the basis of our ontological proposal and then integrate it with the REA ontology.

WiMa represents a general existential ontology based on two substances, the *Will* and the *Matter*. Basic in the WiMa means that any thing or phenomenon, regarding its form of the combination of the two essences, has a unique *state of existence*. The *state of existence* at any time is unique and any *entity* can have just one *state of existence*. Figure 1

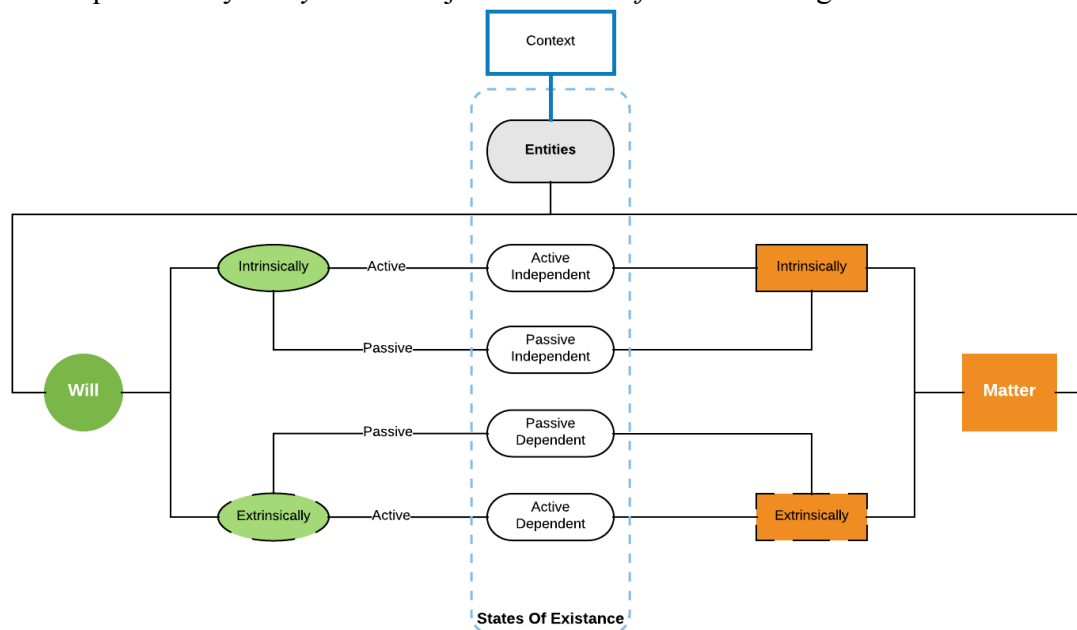


Figure 1, Context and States of Existence in Will-Matter substance dualistic perspective

Entity

we consider an Entity as a unique combination of types of *Will* and *Matter*.

Will

Any *Drive* that directs an *Entity* in a way to consume *energy* to decrease the relative tension and stay in the homeostatic state can be considered as the *Will* of the entity. It can be *Intrinsically* or *Extrinsically*. [4]

Matter

The *Matter* is any format of consumable and storable mass or energy. It can be *Intrinsically* or *Extrinsically*. The *Matter* is intrinsic when it cannot be separated from the subject. *Matter* is perceived to always be entangled by the *Will*. In our perspective, *Energy* is perceived in the monistic-materialistic phenomenology of *Energy*. [5]

Based on the WiMa, any entity can be Independent if it has Will and Matter Intrinsically, and it can be Dependent when Will and Matter of the entity are Extrinsically. Also entities can be Active when they have Active Will, and they can be Passive when they have Passive Will. Based on this matrix, all possible states of existence are Active Independent, Passive Independent, Active Dependent and Passive Dependent. WiMa claims that all these states of existence are necessary for a Context to be or become. It means, the existence of a context is depending on the existence of all necessary entities that satisfy all possible states of existence of the context.

[WiMa]REA

In WiMa, we represent the essential entities that need to exist in any context. On the other hand, REA claims that a constellation of Resource, Event and Agent are the essential entities in the context of economic exchange [6]. We discovered an abstract resemblance in the manifested entities for general characterization of context by WiMa and REA assessment on the context of the economic exchange. Regarding this compatibility, we tried to integrate WiMa and REA in order to transform or upgrade REA to a higher level ontology that is implementable to any context other than business transaction context and called it [WiMa]REA.

WiMa can be seen as an extension to REA to justify this ontology being a foundational ontology. When we redefined the REA primitives, we witnessed some differences from traditional descriptions that REA already proclaimed. Following, we represent our new definition for REA concepts, based on the WiMa terminology.

	Will	Matter
Agent	Active	Intrinsically
Event	Composite	Externally
Resource	Passive	Intrinsically

Figure 2 Integration of WiMa and REA

Any Active Independent entity is an Agent. It means that an Agent is an entity with Active Will and Matter Intrinsically. Having the Active Will distinguishes Agent from Resource, and having Matter Intrinsically distinguishes it from Event. We considered the Agent Entity as an individual human. Based on this perspective, we can consider Resources as objects which have Passive Will and Matter Intrinsically. Event is considered as a Dependent entity which has Matter Extrinsically. The Will of Event can be Active and Passive that results in Institutional Agent-Event and Institutional Resource-Event.

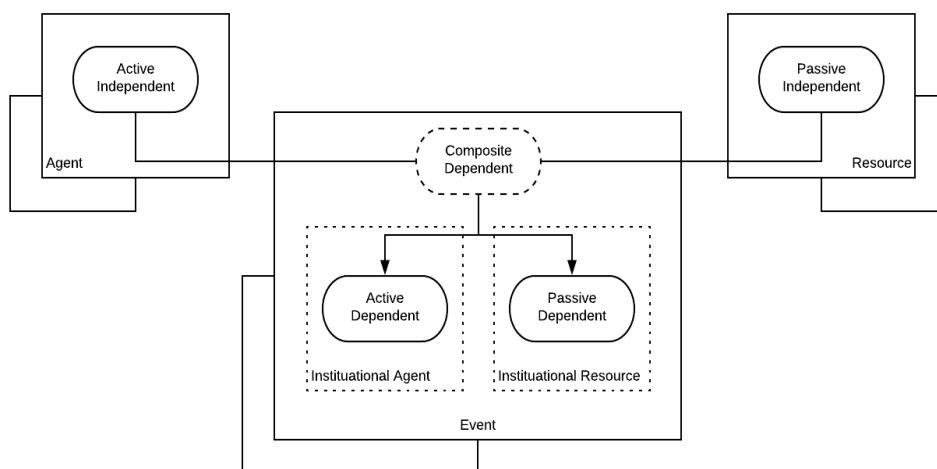


Figure 3 [WiMa]REA Metamodel

Service

In the REA ontology, services are considered as resources. Here we claim that Service, as it is dependent on Agents which act on Resources, cannot be seen as a Resource, as it is not an Independent entity.

We recognize service as an Event entity which has its own Agents and Resources. On the other hand, considering service as a resource disregard the flexibility and dynamics of the phenomenon.

So Service is a possible Event resulting from the act of agents on the resources, as any changes in Agents can change the Event of Service and also any changes in resources will change the Service, too. Service can be seen as an Event that either an individual or an organization can join and get the benefit of that in exchange of value. When we apply for a service, we have an Event in demand not Resource in demand. In other words, when Service is in demand it means Agents and Resources are in demand through the Event of Service. Having this perspective also supports the discussion on the capability for Service in demand, as it regards the role of Active Will that might act differently in time.

Reference

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