Chapter 6

Inductive Ontology for Specifying the Contexture of Web Health Information Systems

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ABSTRACT

Inductive ontology helps to describe the algorithm of process, application, architecture, plan, design, etc. It is easily pertinent for elaborating the concept. An ontology creator shows all connectivity of the core concept to another concept, procedures, and application with the five fundamentals i.e., properties, matter, energy, space, and time; hence, it made broader the idea plan of its users/reader enables to find out various connected elements relevant to the query on the direct and indirect way. The services sector has two main property-level functions first to develop/produce the service and second to provide the service. Both the property has specific phases of multiple processes i.e., creating services, owner/authority functions, user functions, identity, process, etc phase can be easily described in a graphical way. Here, a researcher describes the ontology for web-based health information systems (WHISs) by explaining two websites namely Web MD, and drugs.com. Both the WHISs are rich in information and data relevant to mankind's health, lifestyle.

1. INTRODUCTION

Ontology is fortified to elucidate logical, predictable, and conceptual connections among entities and their association with the universe. As a result, it has found applications across various disciplines in the realm of knowledge. Its foundational principles facilitate the systematic mapping of entities, novel concepts, and processes for diverse applications. Consequently, it is employed here to delineate the contextual framework of a web-based health information system, designed to cater to global citizens without being confined by geographical boundaries. This system encompasses the structure of the human body, its functions and organs, diseases, remedies, symptoms, precautions, medications, expertise on diseases, and related medical professionals along with their locations. It also includes information on medicines with user-specific dosage recommendations, nutritional requirements for different body structures, and more. Through this approach, individuals gain a comprehensive understanding of the significance of health and are empowered to combat common ailments. Importantly, ontology plays a pivotal role in managing life-threatening diseases. Its utilization spans across all subjects within the knowledge world, encompassing various branches and sub-branches. Human health, including anatomy, skeletal structure, diseases, treatment modalities, lifestyle, behaviors, and technology, is a comprehensive domain. Furthermore, it comprises specific disciplinary subjects within the medical branch and its associated sciences, as illustrated in Figure 1.

Figure 1. Subject Branches of Medical and its Relevant Sciences
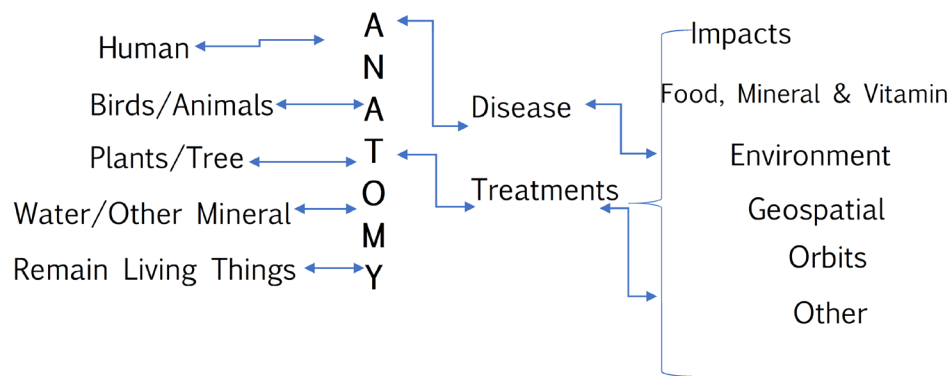
All living organisms exhibit distinct anatomical features that can significantly influence their internal and external environments, thereby warranting thorough

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