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COMPUTER SCIENCE DEPARTMENT

Computer Science - Curriculum Artificial Intelligence

Project Assignment

Foundamentals of Artificial Intelligence

GraphBrain

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1.1 Exercise 1

1.1.1 Overview

This document provides a detailed description of the updates performed. The modifications have been structured into two main sections: firstly, the upload of various entities to specific classes, and secondly, the improvements proposed for the ontology design. Each section is organized into bullet-point lists for clarity.

1.1.2 Data Upload Details

- **Metal Slug Series - Main Games:** Approximately 10 main titles from the Metal Slug series *RETROCOMPUTING* → *VIDEOGAME*
- **Flight Simulator Series:** Around 10 flight simulation games. *RETROCOMPUTING* → *VIDEOGAME*
- **Street Fighter Series:** Roughly 8 distinct titles. *RETROCOMPUTING* → *VIDEOGAME*
- **Dragon Ball Games:** About 15 games. *RETROCOMPUTING* → *VIDEOGAME*
- **Pro Evolution Soccer Series:** Nearly 35 games including both current titles and their historical predecessors. *RETROCOMPUTING* → *VIDEOGAME*
- **Console Games:** Approximately 5 devices. *RETROCOMPUTING* → *CONSOLE*
- **Technology Vendors:** Details for 5 companies. *RETROCOMPUTING* → *COMPANY*
- **Peripheral Devices:** Information for about 15 mouse and keyboard devices. *RETROCOMPUTING* → *Input Device (Mouse, Keyboard)*
- **EXPO Events:** A list of approximately 35 events. *RETROCOMPUTING* → *Event*
- **Software Relationships:** For each videogame, a *producedBy* relationship has been established linking the software to the company that developed it.
- **Console Relationships:** For each console, the producing company has been recorded along with associated relationships to already existing consoles.
- **Peripheral Relationships:** For each mouse and keyboard device, the producer has been identified.

- **Geographical Data:** Inclusion of Matera and surrounding cities (approximately 30 locations).
- **Internet Protocols:** Updates include renaming 8 existing protocols and adding around 70 new entries. *RETROCOMPUTING* → *InternetProtocol*
- **Crapinata:** A traditional dish from Matera, described as a soup made with legumes and vegetables, albeit missing some ingredients. *FOOD*
- **Culinary Relationships:** Established relevant relationships associated with the aforementioned dish.

1.1.3 Proposed Ontology Enhancements

The following updates are suggested to further improve the ontology:

- **Genre Classification for Videogames:**
 - *First Person Shooter*: Introduce as a subclass of *Videogame*.
 - *Fighting Game*: Introduce as a subclass of *Videogame*.
 - *Action Game*: Introduce as a subclass of *Videogame*.
 - *Sandbox Game*: Introduce as a subclass of *Videogame*.
- **Software Development Relationships:** The *developedBy* relation currently connects *Software* to *Person*, it is proposed to extend this relationship to include *Organization* as well.
- **Operational Context:**
 - Introduce a *executedOn* relationship between *Software* and **Operating System** to denote the platform on which the software operates.
 - Introduce an *runOn* relationship between *Videogame* and **Console** to specify the console on which the videogame is executed.

1.1.4 Interface Improvements

Several adjustments have been made to enhance the user interface:

- Incorporation of an HTML Date Type field for the insertion of dates.
- Modification of the relationship creation process to allow starting from either the Subject or the Object.