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| **Ontology Requirements Specification Document – PEO ontology** | |
| **1** | **Purpose** |
|  | The prompt engineering ontology aims to formalise knowledge about the creation  and various types of prompts for the different large language models (LLMs) available by making it accessible to both experienced and less experienced users. |
| **2** | **Scope** |
|  | The ontology covers:   * Large language models (LLMs) available to users * Prompt engineering techniques * Examples of prompts specific to the large language model |
| **3** | **Implementation Language** |
|  | The ontology will be implemented in OWL (Ontology Web Language) using the Protegé software, a tool to develop ontologies. |
| **4** | **Intended End-Users** |
|  | 1. Researchers in the field of artificial intelligence using LLMs for research purpose. 2. Software engineers and developers. 3. Educators and trainers teaching students or professionals about AI and prompt engineering, using the ontology as a learning and instructional tool. 4. Content Creators using LLMs for generating content. 5. Undergraduate and high school students learning about AI, LLMs and prompt engineering, using the ontology to understand core concepts and experiment with language models. |
| **5** | **Intended Uses** |
|  | 1. Prompt generation 2. Large language models learning 3. Prompt engineering learning 4. Prompt generation for a specific task |
| **6** | **Ontology Requirements** |
|  | 1. **Non-Functional Requirements** |
|  | * NFR1. The ontology must be easy to use * NFR2. The ontology must cover most used LLMs * NFR3. The ontology must cover modern prompt engineering techniques * NFR4. The ontology must have exhaustive documentation * NFR5. The ontology must be easy to update * NFR6. The ontology must cover most popular tasks |
|  | 1. **Functional Requirements: Lists or tables of requirements written as Competency Questions and sentences** |
|  | * CQ1. What is prompt engineering? * CQ2. What is a prompt? * CQ3. What are prompting techniques? * CQ4. What are image prompting techniques? * CQ5. What are code prompting techniques? * CQ6. Which task does a prompt solve? * CQ7. Which prompts are generated using a prompting technique? * CQ8. What are responses of each prompt? * CQ9: What are possible tasks? * CQ10: Which tasks are related to the text? * CQ11: What chats does each large language model have? * CQ12: What is a large language model? * CQ13: What types of large language models are available? * CQ14: What are the available versions of each large language model? * CQ15: What are large language models architectures? * CQ16: What are large language models capabilities? * CQ17: What companies develop large language models? * CQ18: What is the first version of each large language model developed by each company? |
| **7** | **Pre-Glossary of Terms** |
|  | 1. **Terms from Competency Questions** |
|  | * Prompt 8 * Prompt 1 * Engineering 2 * Prompting 1 * Techniques 1 * Components 1 * Evolution 1 * Output 2 * Time 1 * Text 1 * Task 2 * LLM 3 * Available 1 * Families 1 * Specific 2 |
|  | 1. **Terms from Answers** |
|  | * Prompting 3 * Data 2 * Language 2 * Technique 1 * Techniques 1 * Prompt 1 * Instruction 1 * Context 1 * Input data 1 * Output indicator 1 * GPT 2 * LlaMA 2 * Family 3 * Classification 1 * Coding 1 * Image generation 1 * BARD 1 * PaLM 1 * Zero-shot 1 * Few-shot 1 * Chain-of-Thought 1 * Tree of Thoughts 1 * AI 1 * Trained 1 |
|  | 1. **Objects** |
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