The ontology of the U.N. Sustainable Development Goals (SDG) and targets

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The SDG Ontology explicitly formalizes the Sustainable Development Goals (SDGs) of the United Nations' 2030 Agenda for Sustainable Development. The knowledge model explicitly represents the details of the seventeen SDG goals and their many targets in OWL DL. It also models the set of indicators that quantify each target, such as the CSD and IAEG. The ontology is developed to facilitate the submission of the data by the U.N. member countries of their status relative to the sustainable development goals and targets. The submitted SDG data can be stored in the SDG knowledge base that instantiates the ontology, and made available to the stakeholders (countries, organizations) through a web interface. Currently, the semantics of the SDG number 2, 6, and 7, that deal with hunger, clean water and sanitation, and affordable and clean energy goals, respectively, are modeled in the ontology. The ontology will evolve to include the rest of the SDGs. Among other concepts, the ontology annotates the SDGIndicatorDataSubmission class, which relates the data to the submitting StakeholderElement, Country, and SDGIndicator classes, and contains information about the submission such as YearSubmitted and the Stakeholder. It also annotates the formulas for the indicators, and keeps track of change in the indicator value over time. The ontology and the related knowledge base can be used by countries and the U.N. to track the progress toward the established goals of the 2030 Agenda for Sustainable Development.