

[SORSE] Virtual Reality and Knowledge Graphs

Report of Contributions

Contribution ID: 1

Type: **not specified**

UXF - Framework for creating Virtual Reality human behavior experiments in Unity

Tuesday, September 22, 2020 7:00 PM (30 minutes)

Recent advances in technology has meant that Virtual Reality (VR) is now a feasible tool for performing human behaviour experiments. Scientists dream of being able to have full control over human sensory inputs, as well as complete measurement of responses. VR is coming closer to fulfilling this wish, but researchers must grapple with complex commercial tools (e.g. Unity) in order to create content. We present the Unity Experiment Framework (UXF), an open source toolkit for developing virtual reality experiments in Unity. UXF contains a suite of programming patterns, data collection features, and user interfaces which can be used by researchers to speed up development. This talk discusses the general uses of VR in human behaviour research, the conceptual design of UXF, and how UXF features are used in real experiments in psychology & neuroscience.

Presenter: BROOKES, Jack (UCL)

Session Classification: Talks

Contribution ID: 2

Type: **not specified**

Towards Knowledge Graphs of Research Software metadata

Tuesday, September 22, 2020 7:30 PM (30 minutes)

Research software is a key asset for understanding, reusing and reproducing results in computational sciences. An increasing amount of software is stored in code repositories, which usually contain human readable instructions indicating how to use it and set it up. However, developers and researchers often need to spend a significant amount of time to understand how to invoke a software component, prepare data in the required format, and use it in combination with other software. In addition, this time investment makes it challenging to discover and compare software with similar functionality. In this talk I will describe our efforts to address these issues by creating and using Open Knowledge Graphs that describe research software in a machine readable manner. Our work includes: 1) an ontology that extends schema.org and codemeta, designed to describe software and the specific data formats it uses; 2) an approach to publish software metadata as an open knowledge graph, linked to other Web of Data objects; and 3) a framework for automatically extracting metadata from software repositories; and 4) a framework to curate, query, explore and compare research software metadata in a collaborative manner. The talk will illustrate our approach with real-world examples, including a domain application for inspecting and discovering hydrology, agriculture, and economic software models; and the results of our framework when enriching the research software entries in Zenodo.org.

Presenter: GARIJO, Daniel (Information Sciences Institute, USC)

Session Classification: Talks