Manifesto of the FDO Forum GO FAIR Implementation Network

The FDO Forum is a group of international experts from relevant research institutions and infrastructure initiatives committed to specify FAIR DOs and its components and to foster the implementation of an infrastructure ready to support FDOs practically. This group evolved from the C2CAMP Implementation Network which stopped its activities. The FDO Forum will actively work together with working groups from other initiatives such as RDA, OAI, W3C, ISO, and IETF to achieve these goals.

As the name already indicates, the FAIR principles are the starting point of our considerations and we will look for a variety of implementation models that meet the FDO requirements such as the DO and the LDP approaches.

Scientific practices increasingly depend on high quality and interlinked digital information and respective online services. To enable data infrastructures to provide the expected level of service, it is imperative that we underpin their critical path of operations. A globally agreed-upon framework for structuring, curating and communicating Digital Objects is urgently needed. The big challenge for data infrastructure builders is to increase the efficiency of working with data, which currently is not a given. Three reports from RDA EU, MIT, and CloudFlowers indicate that between 75 and 80% of scientists' time is wasted with so called data wrangling, include the steps needed before the actual analytics work can be done. Basically, this is due to missing or bad specifications of the data organisation and a lack of data/metadata quality. We expect that only a systematic application of the FDO approach will help overcoming these inefficient practices.

Much work has already been done to develop the DO approach such as by CNRI, DONA and in a variety of RDA groups (Data Foundation & Terminology, PID Information Types, Data Type Registry, Kernel Information Types, Practical Policies, and Data Citation to just mention a few). Important software components have already been developed and tested according to the RDA specifications and some communities follow already a DO centred approach in infrastructure building. The LDP approach based on the Web protocol stack is very well know, but also needs to address essential topics such as predictable PID resolution behaviour and machine actionable information. The basis of the FDO work will be the FDO Framework that has been agreed upon during the Paris workshop. It is now time to test it out in configurations bringing a number of the results together including components from other initiatives.

Detailed information can be found here:
- FDO Forum: https://fairdo.org
- FDO Paris workshop: https://github.com/GEDE-RDA-Europe/GEDE/tree/master/FAIR%20Digital%20Objects/Paris-FDO-workshop
- FDO Framework: https://github.com/GEDE-RDA-Europe/GEDE/tree/master/FAIR%20Digital%20Objects/FDOF

The method of work in the FDO Forum will be as follows:
- It will act as a home for all discussions about FDOs and advance the specification and implementation work.
- It will create Working Groups and cross-working group task forces dependent on the needs of the discussions.
- It will foster infrastructure implementation and component development work enabling researchers to make use of an FDO based landscape.
- As indicated FAIR compliance, is an essential pillar of its work, however, we need to specify the FDO Framework in a way that validators for FAIRness can be developed.
- Other initiatives in GOFAIR will help to test all specifications and carry out validations.

The reason to participate in the GO FAIR initiative as an IN is clear. We want to have a close discussion link to ensure not only FAIR compliance but also to interact with other implementation groups to increase interoperability where possible.

Guiding Purpose:
Increased Interoperability though FAIR Digital Objects as one way to implement FAIR partly will help to increase the efficiency of data science enormously.

Deliverables
FDO Forum will regularly develop documents that summarise and evaluate component specifications and their characteristics and interfaces, describe new components needed, identify gaps and weaknesses. We will share these documents within the GO FAIR community and raise discussions.

Overarching Principle of Operation
We commit to comply with the Rules of Engagement of GO FAIR Implementation Networks. The primary objectives of FDO Forum thus include:
1. Developing specifications for FDO and its components to make data intensive science more efficient and disseminate the knowledge about such specifications and components.
2. Push projects that implement such components in an integrated way to gather much more experience and to stepwise realise a usable infrastructure.
3. Aim at a global testbed project to test out the various components being produced.

The FDO Forum is co-chaired by the following persons: Christine Kirkpatrick, Dimitris Koureas, George Strawn, Peter Wittenburg

Membership in the FDO Forum is defined by all members in the different recognised groups in the FDO Forum (see the website).