eosc | FAIR-IMPACT

Expanding FAIR solutions across EOSC

## FAIRSFAIR

Fostering Fair Data Practices in Europe

F-UJI for FAIRness assessment and PhD training at Gdansk University of Technology Library
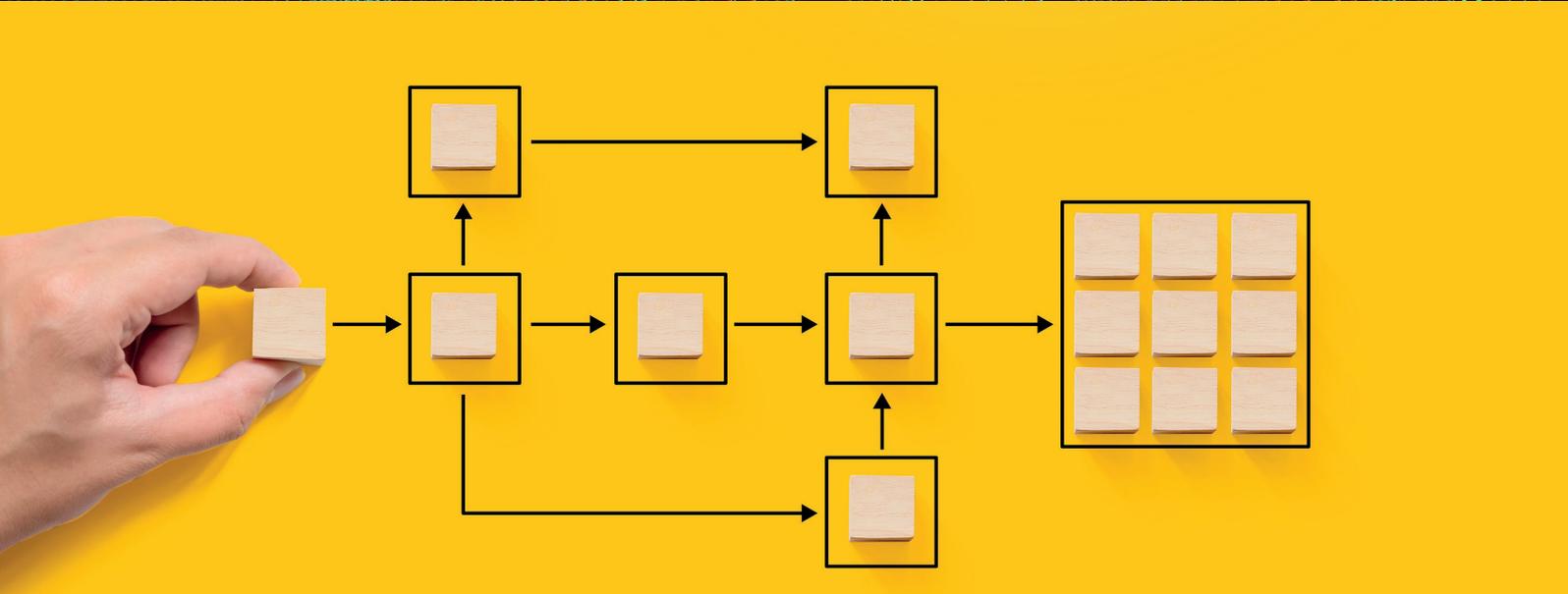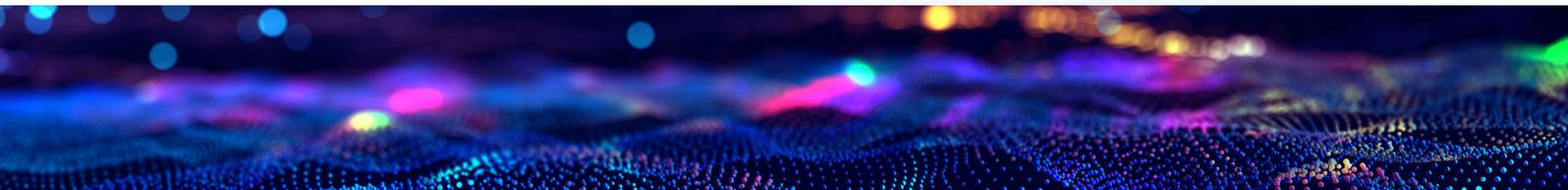
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Support action:

FAIRness Assessment Challenge. During the 3 month challenge participants took part in three virtual workshops to self-assess and incrementally improve the FAIRness of their selected outputs. During the support action, participants benefited from interacting with a group of mentors representing the various FAIRness assessment tools and methods.

Keywords:

F-UJI, university data repository, PhD training

Summary:

The team from the Gdansk University of Technology Library and IT Center carried out a FAIRness assessment of datasets from their institutional multidisciplinary research data repository using the F-UJI tool with two goals in mind: increasing the FAIRness of the repository and learning about a tool that could be used to teach Ph.D. students about FAIR data and FAIRness assessments practically and visually.

Introduction

The support action call arrived perfectly as I updated my open science course for PhD students. This is a mandatory course for our students and has a module on open research data, which includes data management plans and how to deposit research data in our repository. After having recently participated in other calls for EOSC and RDA about increasing the interoperability of research data, I was looking to incorporate information about FAIR data and FAIRness assessment into the training program.

In my team at Gdansk University of Technology, which is composed of developers, researchers, and data stewards, we also run the University's open research data repository, which is part of our Bridge of Knowledge platform (https://mostwiedzy.pl/en/). This is an institutional multidisciplinary repository.

I decided to participate in the support action with one of the developers, as FAIRness is not only about the dataset but also the infrastructure, how the metadata is harvested, etc. We wanted to increase the FAIRness of our research data objects and gain knowledge on the tools that help scientists, repository managers, and other stakeholders do this. However, each of us had slightly different aims. I had in mind to find a service or tool I could include in the Ph.D. training as a practical demonstration for students and get a good understanding of that tool. He wanted to improve the FAIRness of our research data repository.

Approach taken:

We had heard of F-UJI[1] but had never used it before the challenge. I also knew about the guidelines for the FAIR Data Maturity Model (FDMM)[2], which had been created by one of the RDA working groups. However, those documents were written in technical language that sometimes was hard to correctly and efficiently understand.

We decided to focus on the F-UJI tool as, in our opinion, the other assessment tools proposed are too advanced for people who just started working with the data or learning about FAIR, like Ph.D. students, and they would be too complicated and time-consuming to explain during the short time training we provide to them. Instead, the F-UJI tool is straightforward to use; you need to give the link to the dataset to get all the features and points, and, ultimately, a score, all with clear and short explanations.

Once we got our initial score from the F-UJI tool, we got additional feedback from the mentors on what needed to be changed in the repository code to improve that score. Following that feedback, my colleague made some changes to the infrastructure, mainly metadata improvements (e.g., adding file size, MIME type in the download, or changing the condition of access in schema.org), which helped increase the score from 66% to 79 and 83 % for the selected datasets. Another suggestion to improve the FAIRness score from the feedback was to provide information about our site, which we didn't have a chance to do during the supporting action but planned to do in the months after.

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1   https://www.f-uji.net/
2   FAIR Data Maturity Model Working Group. (2020). FAIR Data Maturity Model. Specification and Guidelines (1.0). Zenodo. https://doi.org/10.15497/rda00050

Impact:

As a repository manager, I can now use F-UJI to evaluate many datasets. In addition to the improvements we have already implemented, the tool can guide us towards further improvement in compliance with the FAIR principles.

I have incorporated the F-UJI tool into the PhD training module regarding Open Research Data from December 2023 until January 2024. I wanted a practical exercise to complement the explanation about the FAIR principles, similar to what I already have for the module on Data Management Plans, and F-UJI is perfect for that. For example, students can check datasets related to their research, and I can show on the screen how F-UJI works and explain what FAIR means. I regret not having had this in the previous years' courses. I think how F-UJI shows the information is visually very nice and will be more eye-catching for Ph.D. students than the usual slides about the FAIR principles. The FDMM is a list of text and wouldn't work well for this.

The module and exercise with PhD students went very well, with positive feedback. Students would have a better chance to understand all layers of FAIR and could study the level of FAIRness practically. Students worked in groups and evaluated several datasets from different scientific disciplines.

It was also interesting to check the F-UJI version for social sciences during the support action. However, we were told it was still under development and needed to be ready for use. I am looking forward to that new version and will keep an eye on how it is evolving and any disciplinary-specific recommendations that come with it.

I also enjoyed listening to the experiences of other participants with disciplinary repositories and how they are working with ontologies and vocabularies. In the future, we may consider adding another level of metadata to our repository, and it was helpful to see the types of problems people were having with that.

Key message:

At the start, it helps to work on the FAIRness assessment with someone from IT (such as a programmer or software developer). This speeds up the improvement of the score since many changes need to be made in the code.