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The importance of persistent identifiers in implementing FAIRness principles of dissertations in Serbia

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INTRODUCTION

Since 01.10.2014. Universities and faculties in Serbia are obliged to deposit basic information about the dissertation in NaRDuS (National Repository of Dissertations in Serbia).

FAIRness principles improve overall quality of deposited record. By adopting those principles NaRDuS becomes trustworthy and significant data source for end-users. On the other hand, data providers, in this case graduated doctoral students due to FAIRness principles, gain benefits without any need to take part in process of obtaining PID (persistent identifier). The benefits are seen over the following characteristics:

- **Findability** – simplified process of discovery for machines and humans
- **Accessibility** – improving openness of data and repository
- **Interoperability** – extending scope of possibilities for other users
- **Reusability** – basis for evaluating upcoming results

OBJECTIVE

The main issue with dissertations is their lack of visibility and source trustworthy.

Dissertations are not used to be recognisable with common identifiers that could be apply within journal articles. PIDs are represented as available alternative of more popular, but less accessible, identifiers that could support technical requirements for implementing FAIRness principles

PID fulfilled all necessary requirements.
Beside all benefits, PIDs are seen as technical solution for adopting FAIRness principles in NaRDuS.

METHODOLOGY

The implementation process, gave us the opportunity to define how the PIDs would be assigned to theses and possibility to adopt good practice that are in relation with standardised identifiers.

https://hdl.handle.net/21.15107/rcub_nardus_2022

network protocol | **deposing PID system** | **deposing PID system subgroup** | **PID provider** | **internal system ID**

PID depends on different data types. Based on the assigned ID from internal system, in this case NaRDus handle system, PID gains the last segment of identifier. The other segments are static and comes from, local system, network protocol, PID provider and deposing PID system.

System for deposing assigned PIDs is provided to NaRDuS due to cooperation of University of Belgrade with GRnet through the National Initiative for Open Science (NI4OS) project.

ANALYSIS

The main issues:

- Metadata that are unique for other scientific results, like identifiers, were not supported in case of theses
- Difficulty to identify certain thesis and recognise when the thesis is distributed over network. Having in mind that NaRDuS follows international suggestions and adopts them, it is necessary to find solution which is standardised.
- The lack of identifiers. Comparing to some journal articles, thesis is not provided with DOI numbers which is accepted by science community in Serbia.

Solution: Find identifier that follows international standardisation, support record identification and are cost efficient.

NATIONAL REPOSITORY OF DISSERTATIONS IN SERBIA

RESULTS

Results are seen as improvements of long-term practice of having unidentifiable objects. Improvements gave thesis the mechanism to be recognisable in the same way as other scientific work such as journal articles.

Graduated doctoral student are satisfied because their thesis gains more visibility due to assigned PID.

Related literature
Zakon o visokom obrazovanju: 88/2017-41, 27/2018-3 (dr. zakon), 73/2018-7, 67/2019-3, 6/2020-3 (dr. zakon), 6/2020-20 (dr. zakon), 11/2021-3, 67/2021-3 (dr. zakon), 67/2021-7. (2014).

CONCLUSION

Implementing PIDs in NaRDuS changed how graduated doctoral student sees their thesis.

Achieved results shows that this implementation brings benefits to every NaRDuS user type.

Achieved integration opens new opportunities for further upgrading of the system.

In the further, this integration could be used for implementing citation stats and adopting additional recommendations of FAIRness principles.