Maintaining and Publishing Metadata Application Profiles with Extensible Authoring Format

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Metadata Application Profiles are the elementary blueprints of any Metadata Instance. They act as a key element in metadata interoperability. Singapore Framework for Dublin Core Application Profiles defined the framework for designing metadata application profiles to ensure interoperability and reusability.

There are various accepted formats to express application profiles. Most of these expression formats such as RDF, OWL, JSON-LD, SHACL, and ShEx are machine actionable, and formats like spreadsheets or web pages act as human-readable documentation. Due to limited options in the mutual conversion of these expression formats, they are often created independent of each other and thus makes the process expensive requiring sophisticated skills and time. Proposals for convertible authoring formats to create application profiles have received less acceptance, mainly due to their inability to address various use cases and requirements.

As a result, domain experts find it difficult to create application profiles, considering the technical aspects, costs and disproportionate incentives and the lack of easy-to-use tools for Metadata Application Profile creation.

This study proposes Yet Another Metadata Application Profile (YAMA) as a user-friendly authoring format for creating, maintaining and publishing Metadata Application Profiles. YAMA helps to produce various standard expressions of the Metadata Application Profiles, change logs, and different versions, with an expectation of simplifying Metadata Application Profile creation process for domain experts. YAMA includes an integrated syntax for recording application profiles as well as changes between different versions. A proof of concept toolkit, demonstrating the capabilities of YAMA is also being developed. YAMA boasts a human readable yet machine actionable syntax and format, which is seamlessly adaptable to modern version control workflows and expandable for any specific requirements.

This study argues that the extensible authoring formats are suitable for creating application profiles with custom requirements and different use cases. This would promote the acceptance of application profiles by reducing the associated cost and skill requirements in creation, maintenance, and publishing of application profiles.

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