



EOOSC-hub

M6.8 B2NOTE-OpenAIRE Integration Report

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1 Introduction

B2NOTE is a data annotation service developed in the context of the EUDAT project and integrated within the EOSC-Hub Portfolio. This service enables users of data services to enrich the description of accessible content without modifying the underlying databases or data model. Based on the W3C Web Annotation model, this service enables the linking of uniquely and unambiguously identified resources with various kinds of annotations. In particular, it provides means to associate the content with semantic models (i.e. ontologies, controlled vocabularies) or simply with textual comments or keywords. This service has been designed to be easily integrated as a widget within the User Interface of any data service.

OpenAIRE offers a large number of services and we are focusing on three main services: the data repository Zenodo, the search engine OpenAIRE Explore and the Community Gateway (Research Community Dashboard, RCD). The data repository is an element used to build the OpenAIRE Knowledge Graph while the two other services are providing dedicated interfaces to the Knowledge Graph: a search engine and a community specific facet builder. The aim of this project is to integrate annotations with these different services to provide added-value for the user.

2 Service Overview

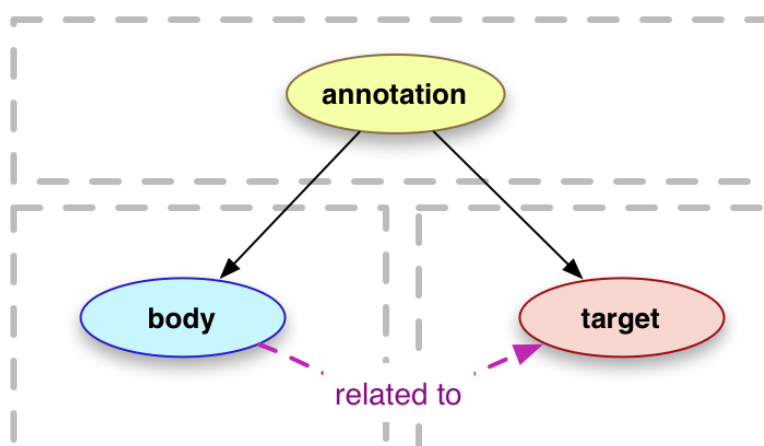
Service/Tool name	B2NOTE
Service/Tool url	https://b2note.eudat.eu (production version)
Service/Tool information page	https://b2note.bsc.es (latest information)
OpenAIRE integration	http://mpagasas.di.uoa.gr:4200/search/publication?articleId=userclaim::1f42f8945fcf34cc70ea390b3b352121 (sample from development version)
Description	B2NOTE is the EUDAT and EOSC-Hub annotation service
Value proposition	This service enables users of data services to enrich the description of accessible content without modifying the underlying databases or data model. Based on the W3C Web Annotation model, this service enables the linking of uniquely and unambiguously identified resources with various kinds of annotations.
Customer of the service/tool	Research Communities
User of the service/tool	Researchers
User Documentation	Included in the tool
Technical Documentation	https://e-sdf.github.io/b2note-docs
Product team	e-Science Data Factory
License	MIT
Source code	https://github.com/e-sdf (latest version) https://github.com/EUDAT-B2NOTE/b2note (production version)
Testing	The low-level testing is significantly alleviated by advanced use of strong typing. Acceptance tests, regression tests and integration tests are performed.

3 Service architecture

The B2NOTE service consists of an API server that handles REST requests and a small Widget server that provides the Widget UI to integrate services. The integration of the Widget is currently done through IFRAME, which imposes minimal requirements and work on the side of the integrating service and enables fully transparent Widget version updates.

3.1 Annotation format

B2NOTE annotations format follows the [Web annotation model](#) (W3C Recommendation):



Where:

- **Target** is the annotated resource on OpenAIRE identified by URL/PID. Next, the `source` part of the target points to the downloadable content of the resource.
- **Body** is the tag/keyword used to annotate the resource.
- **Annotation** contains (apart from *body* and *target*) other attributes, such as purpose, creation timestamp, provenance (creator), etc.

We distinguish 3 types of annotations:

1. **Semantic tag** -- represents a precise term from an ontology (or several ones, in case the term is defined in multiple). Annotation using semantic tags is preferred, as it is best aligned with machine-actionability and FAIR principles.
2. **Free-text keyword** -- used generally in cases where the required term is not found in any of the ontologies indexed by B2NOTE.
3. **Comment** -- a free-style text, generally used to attach notes.

3.2 API

The API server responds through REST and provides the possibility to work with annotations and the user profile. The API documentation is <<https://b2note.docs.apiary.io>>. For integrating services, it is used mostly for querying about existing annotations of a target.

3.3 Widget integration

The widget integration into the web page of a service is described at <<https://e-sdf.github.io/b2note-docs/widget-integration.html>> and an example is provided. The integration consists generally of three pieces at the side of the integrating service:

1. Providing an IFRAME for the widget (typically hidden initially).
2. Including the “Annotate” button for the provided resources. On pressing the button, PID and Source of the annotated resource are sent in HTTP POST request to the Widget server to load the Widget.
3. Getting information about the annotations to display badges with a number of annotations of the resource. This information is gathered from the API and the hosting page also gets notified about annotation changes through the JavaScript postMessage functionality.

4 Current State of Integration

We present the current state of integration on a simplified user scenario that begins with logging into OpenAIRE sample record page with B2NOTE integration:

PROTOTYPE

SDSN GREECE

EXPLORE PROVIDE CONNECT MONITOR DEVELOP

DEPOSIT LINK SEARCH ABOUT SIGN IN

Publication . Article . 2020

The most eagerly awaited summer of the Anthropocene: A perspective of SARS-CoV-2 decay and seasonal change.

Kumar, Manish; Kuroda, Keisuke; Dhangar, Kiran;

OPEN ACCESS ENGLISH

Published: 01 Oct 2020 Journal: Groundwater for Sustainable Development, volume 11, pages 100,400-100,400 (eissn: 2352-801X, Copyright policy) Publisher: Elsevier B.V.

SUMMARY

Abstract
Graphical abstract Image 1

DOI: 10.1016/j.gsd.2020.100400
PMC: PMC7175876
PMID: 32322654

Subjects

MEDICAL SUBJECT HEADINGS: VIRUSES

FREE TEXT KEYWORDS: Article, SARS-CoV-2, Corona, COVID-19, Seasonal change, Temperature, Decay, Geography, Planning and Development, Environmental Engineering, Water Science and Technology, Environmental Chemistry

Communities
COVID-19

Download from View all 4 versions

Groundwater for Sustainable Development
Article . 2020
Provider: WHO Global literature on coronavirus disease

Groundwater for Sustainable Development
Article
Provider: UnpayWall

Europe PubMed Central
Article . 2020
Provider: PubMed Central

LINK THIS PUBLICATION TO...
CITE THIS PUBLICATION
Subscribe

2

After logging, the “ADD ANNOTATION” button becomes active and the user can annotate the record using B2NOTE. Clicking on this button invokes the B2NOTE widget interface and initializes the service with the URL/PID and Source of the record/node. The user can then annotate using the above-explained annotation types.

The screenshot shows the SDSN GREECE website interface. A B2NOTE widget is overlaid on the page, displaying a search for 'sars' and a list of results. The widget includes a search bar, a list of results with counts, and a 'Subscribe' button. The background page shows a document page with metadata (DOI, PMC, PMID) and subjects (MEDICAL SUBJECT HEADINGS, FREE TEXT KEYWORDS).

In case the user is already previously logged in OpenAIRE Explore, the login token is transferred into the Widget and the user is automatically logged in B2NOTE through OpenAIRE AAI, as can be seen in the screenshot. At the same time, the user may log out in the Widget and log into their different account on OpenAIRE or even some other account provided by B2ACCESS:

The screenshot shows the SDSN GREECE website interface. A B2NOTE widget is overlaid on the page, displaying an authentication dialog. The dialog asks the user to authenticate through B2ACCESS or OpenAIRE. The background page shows a document page with metadata (DOI, PMC, PMID) and subjects (MEDICAL SUBJECT HEADINGS, FREE TEXT KEYWORDS).

The user is able to see their annotations for this file in the B2NOTE interface. However, it is more convenient for them to see in advance, whether this record has been annotated before. For this

purpose, OpenAIRE uses the B2NOTE API to show the user the annotations associated with the record:

The screenshot displays a web interface for a record in the SDSN GREECE repository. The record's DOI is 10.1016/j.gsd.2020.100400, with PMC ID 7175876 and PMID 32322654. The record is titled "Groundwater for Sustainable Development" and is associated with the WHO Global literature on coronavirus disease. The B2NOTE interface is overlaid on the page, showing a list of filters for the record. The "SARS" filter is selected, showing 12 annotations. The annotations are listed below the filter, including links to bioontology.org and ncbigene.org. The B2NOTE interface also includes a search bar, a list of filters, and a "Subscribe" button. The record page includes a "Download from" section with links to various providers: WHO Global literature on coronavirus disease, UnpayWall, PubMed Central, and Crossref. The page is powered by OpenAIRE Research Graph and includes a "Report an Issue" link.

PROTOTYPE SDSN GREECE

DEPOSIT LINK SEARCH ABOUT RP

DOI: 10.1016/j.gsd.2020.100400
PMC: PMC7175876
PMID: 32322654

Subjects

MEDICAL SUBJECT HEADINGS: VIRUSES
FREE TEXT KEYWORDS: Article, SARS-CoV Temperature, Decay, Geography, Planning an Science and Technology, Environmental Chen

Download from View all 4 versions

Groundwater for Sustainable Development
Article . 2020
Provider: WHO Global literature on coronavirus disease

Groundwater for Sustainable Development
Article
Provider: UnpayWall

Europe PubMed Central
Article . 2020
Provider: PubMed Central

Groundwater for Sustainable Development
Article . 2020
Provider: Crossref

View more

Powered by OpenAIRE Research Graph . Last

Annotations

ADD ANNOTATION

SEMANTIC SARS

<http://purl.bioontology.org/ontology/LNC/LA10504-1>
<http://identifiers.org/ncbigene/266975>
<http://purl.bioontology.org/ontology/MDR/10061986>
+ 9 more

Any information missing or wrong? Report an Issue

5 Integration Process

First meetings of B2NOTE and OpenAIRE teams were focused on planning and specifying the user scenarios, followed by technical meetings. The last meetings were focused on technical tunings, release plans and dissemination plans. We also organised one workshop to present the integration to user communities and gather their feedback.

6 Conclusions

The collaboration with the OpenAIRE team is lively and productive. The current integration consists of:

- Integration of the B2NOTE Widget into OpenAIRE Explorer.
- Transfer of login token from OpenAIRE to the Widget.
- Annotation of the record in the B2NOTE Widget.
- Management of annotations in the B2NOTE Widget.
- Visualisation of the B2NOTE annotations on the record page, including the type of annotations and links to ontologies of the semantic ones.

In production, the integration within the OpenAIRE explore service will be available for the Research Community Dashboard (RCD) and all associated OpenAIRE services.

Currently, all the functionality required at the side of B2NOTE is ready. However, the integration is still blocked at the level of the development services due to delays in providing the Data Privacy Statement (DPS) for B2NOTE, which is under the responsibility of BSC and EUDAT Ltd. (Should be provided by the end of October). The lack of the DPS prevents us from integrating the widget with production AAI services which are required for migrating this integration into production environments. The same applies for the migration of new B2NOTE version 3 into the BSC production servers.

As for the dissemination, we are currently working together with the OpenAIRE team to discuss with user communities using the RCD that would test and evaluate B2NOTE service into their community workflows and usage.