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Lucie Lamothe, Alban Gaignard, Mads Kierkegaard, Hager Eldakroury, Melissa Black, Bryan Brancotte, Jon Ison, Veit Schwämmle, Matúš Kalaš, Hervé Ménager

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EDAM, life sciences ontology for data analysis and management

Lucie Lamothe¹, Alban Gaignard², Mads Kierkegaard³, Hager Eldakrouy⁴, Melissa Black⁵, Bryan Brancotte⁶, Jon Ison¹, Veit Schwämmle³, Matúš Kalaš⁷, Hervé Ménager^{1,6}, and the EDAM community

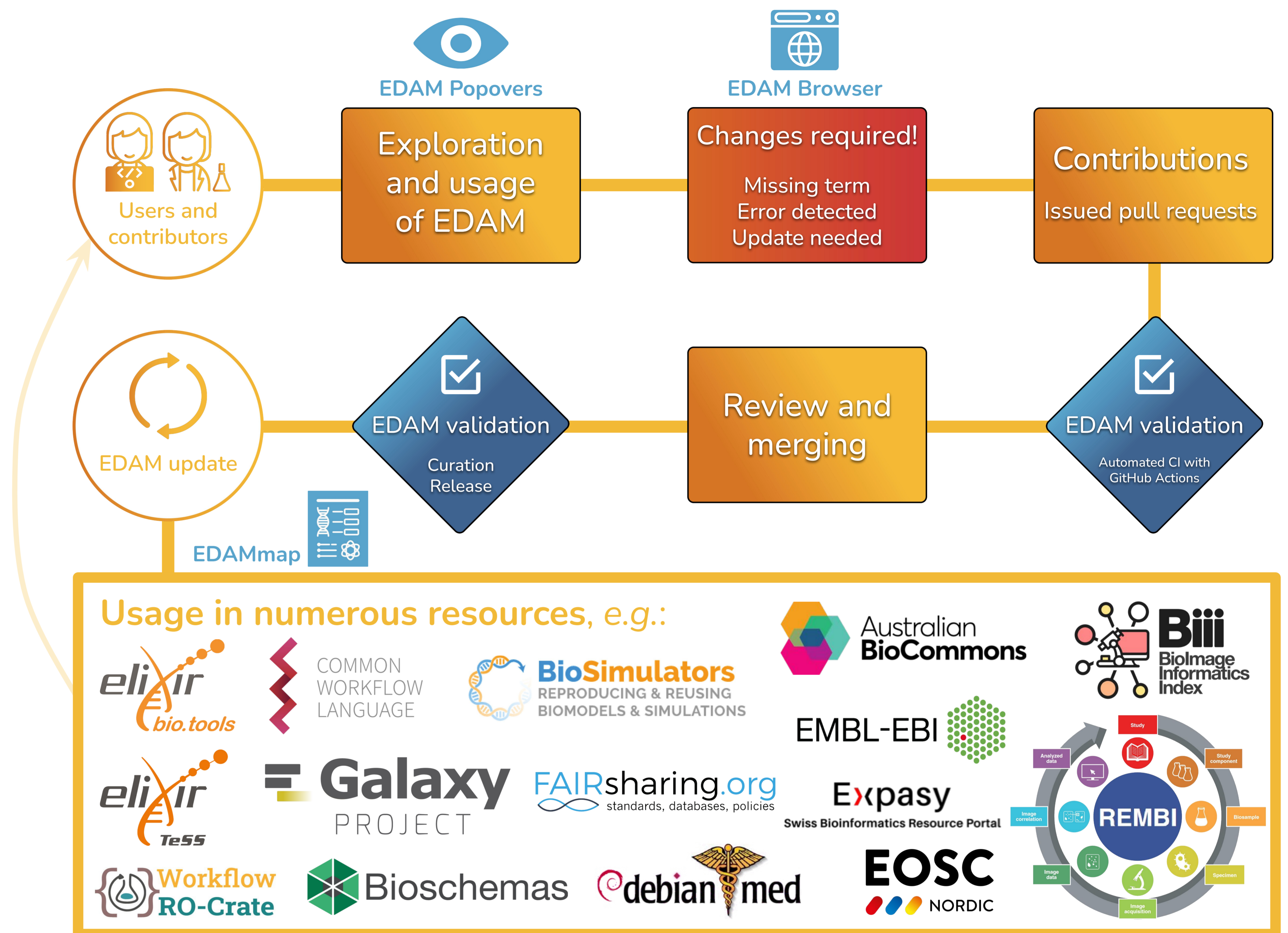
EDAM is an ontology of **data analysis** and **data management**, within and beyond life sciences. It comprises concepts related to data analysis, modelling, optimisation, and data life cycle. EDAM is a human and machine-actionable **controlled vocabulary**, used to annotate data, tools, workflows and training materials, so that they can be more **easily found, reused, and combined**.

EDAM is developed in a **participatory** and **transparent** fashion, within a broad and growing **community of contributors** from both inside and outside of ELIXIR.

Community extensions of EDAM are:

-  **EDAM Bioimaging** (including machine learning)
-  **EDAM Geo** for interdisciplinary applications, such as **global** and **planetary health**

The community-driven development comes with a set of **challenges**.

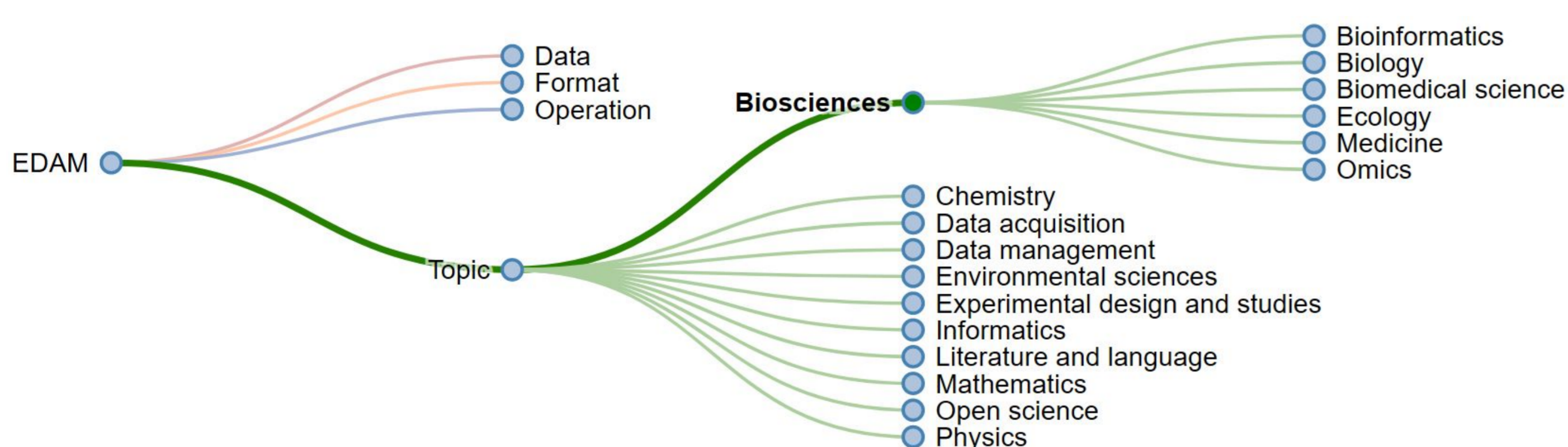


Design by Alban Sauvalle, IFB-core, ELIXIR France. Using icons from Flaticon.com

To help the community use and contribute to EDAM, a set of tools are provided:

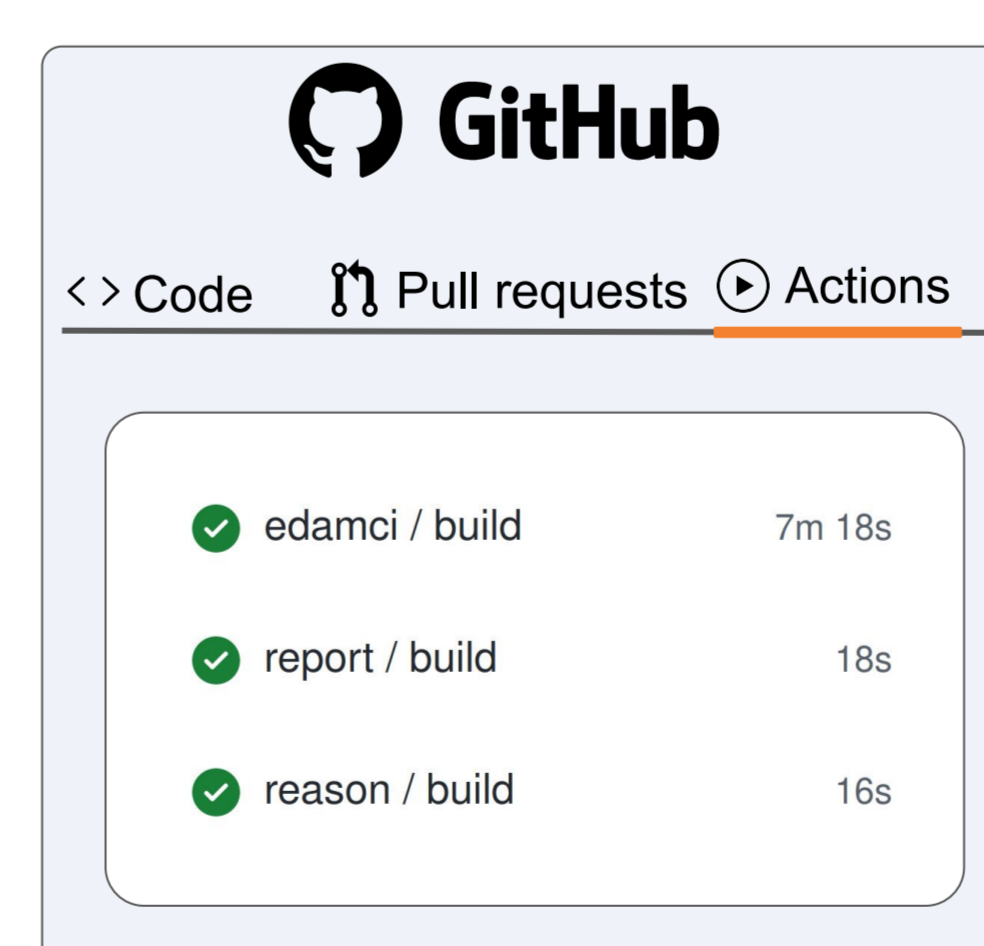
EDAM Browser

A web interface that lets users **explore EDAM** and its usage graphically. It also allows contributors to **submit a suggestion** to the GitHub repository using a graphical user interface.



EDAM validation

The quality-control tooling includes standard tools such as **ELK** and **ROBOT**, plus a custom validator working on both the syntactic and semantic levels. The validation tools are run by **continuous integration (CI)** workflows, using GitHub Actions. Additional tests are available for **curation**.



¹ CNRS, Institut Français de Bioinformatique, IFB-core, **France** (J.I. at the time of contribution)

² Nantes Université, CNRS, INSERM, L'institut du thorax, **France**

³ University of Southern Denmark, Ødense, **Denmark**

⁴ Outreachy intern (EDAM), Cairo, **Egypt** (at the time of contribution)

⁵ Outreachy intern (EDAM), São Paulo, **Brazil** (at the time of contribution)

⁶ Institut Pasteur, Université Paris Cité, Bioinformatics and Biostatistics Hub, **France**

⁷ University of Bergen, **Norway**

