**Discover Collectively Open Science Projects**

**Team 1: *ENDLESS - Learning & Digital & Life Sciences***

**Introduction**

Open science is a concept proposed to improve scholarly communication which entails  the processes of producing, reviewing, organising, disseminating and preserving scholarly knowledge1. Its dissemination is accessible to all levels of inquiring society, amateur or professional. According to the members of the Open Access Network Austria (OANA), there are several principles to enhance the scholarly knowledge system - The 12 Vienna Principles2.

Therefore, this report explains in-depth about the collaborative work of assessing a list of projects based on the principles to assess the application of Open science.

We studied seven open science projects:

**Human brain Project**3, a cutting-edge research infrastructure to help advance neuroscience, medicine and computing,

**Event Horizon Telescope**4, to observe black holes by linking together existing telescopes using novel systems,

**Science Feedback**5, a pedagogical Platform assessing the credibility of scientific publications online.

**OpenWorm**6, Open source project that aims to build the first virtual organism by gathering a wide range of literature, data and platforms.

**Safecast**7, an interface to create an accessible and granular environment data,

**Sensebox**8, a kit created for digital education based on an easily programmable mini-computer,

Kiron, an open learning area

**Grading methodology**

Taking into account 10 out of the 12 Vienna Principles, we graded seven different projects to evaluate their openness - being 0 the minimum and 5 the maximum score. The Vienna Principles set an organized, detailed and shared vision of what should be scientific communication, research and innovation.

Therefore, the projects were graded according to 10 different items: accessibility, discoverability, publication, reusability, reproducibility, transparency, understandability,  collaboration, evaluation and public good, with a final total score. Finally we highlighted for each project positive and improvement remarks.

**Peer reviewing strategy**

We have chosen a peer-reviewing strategy because it appeared to us that considering the short amount of time we had to evaluate several projects, it was the best way to communicate with everybody (through feedback and questions).

We first graded one project all together - The Human Brain Project3 - to discuss methodically about what were the different categories (e.g. publication, accessibility) and to set simple guidelines to reproducibly grade on our own the other projects. Then, for the other six projects we divided ourselves into pairs: one giving the score and the other providing feedback. This way, we were able to discuss the choices we made and reflect on the different Vienna Principles.

**Collaboration strategy**

We took the time to discuss and determine our methodology together, according to the given tasks and time constraints. It seemed important to grade one project together to make sure that we had similar criteria. Then we split the tasks according to our peer reviewing strategy and finally met one last time to discuss what we did, determine what we wanted to share and who was responsible for presenting it.

**How can we apply this on future projects?**

We could take the time to find a process together to standardize our methods. Also, working as a group also enables us to implement double-checking in our methodology through peer reviewing which is something that we should systematically work on.

**Conclusion (what did we benefit from this task)**

We learned how to improve our collaboration and communication by establishing a proper methodology, which implied peer reviewing. We also discovered a lot about the diversity of open sciences projects and trained our critical thinking.

**Bibliography**

1. About Open Science. https://oana.at/en/about-open-science/.

2. Kraker, P. *et al.* *The Vienna Principles: A Vision for Scholarly Communication in the 21st Century*. https://zenodo.org/record/55597#.X5xCGYhKg2w (2016) doi:10.5281/zenodo.55597.

3. Human Brain Project Home. https://www.humanbrainproject.eu/en/.

4. Event Horizon Telescope. https://eventhorizontelescope.org/home.

5. Science Feedback. *Science Feedback* https://sciencefeedback.co/ (2019).

6. OpenWorm. http://openworm.org/.

7. Safecast. *Safecast* https://safecast.org/.

8. Home. *senseBox.de* sensebox.de/en/.