31-12-2024

Report on the Pilot Project “eduMEET Activity Monitor”

Grant Agreement No.:	101100680
Work Package:	4
Task Item:	5.2
Nature of Document:	Report
Dissemination Level:	PU (Public)
Lead Partner:	PSNC
Document ID:	GN5-1-25-45R65A

Authors:	Bartlomiej Idzikowski (PSNC), Piotr Pawalowski (PSNC)

Abstract

This document reports on the pilot project “eduMEET Activity Monitor”, an eduMEET extension that enables authorised users (like teachers) to monitor students’ participation time in a videoconferencing session.

Table of Contents

Executive Summary

This report describes the GÉANT GN5-1 WP4 incubator pilot project eduMEETime, the eduMEET Activity Monitor. eduMEETime is an extension that monitors student participation time in video-conferencing sessions using eduMEET, a video-conferencing service designed for education and research.

It looks at how eduMEETime allows teachers to track student engagement in online lectures, promoting accountability and identifying students who may need help, and at how this data can be used to improve teaching strategies, assess lecture effectiveness, and encourage student interaction.

The report concludes that by monitoring student participation, eduMEETime can enhance the quality of the online learning experience and ensure equal opportunity for all students.

Finally, the report looks at next steps, which include a call for proposals for two more proof-of-concepts (PoCs) based on innovation, implementation quality, and potential impact on the GÉANT community.

1 Introduction

The goal of the GÉANT GN5-1 WP4 incubator is to seek ideas for new digital services in support of European research and education. Through the incubator, the GN5-1 project is offering its participants manpower to develop service proof-of-concepts (PoCs), aimed at possible inclusion into the GÉANT community's portfolio of above-the-net services. The PoCs could be something entirely new or add functionality to existing services.

The incubator ultimately aims to reduce risks associated to the development of innovative ideas before committing resources on the level of a project task or GÉANT service. Above-the-net services in support of research and education extend well beyond commodity cloud services (both community and commercial).

2 The eduMEET Activity Monitor

eduMEET is a prime example of a service that originated as a concept within the GÉANT community and now provides custom video-conferencing support for education and research activities globally. New functionalities are regularly added to this solution, making it a highly competitive and extremely valuable toolset within the NREN portfolio. Therefore, for the first pilot of the incubator, an extension of eduMEET has been selected for implementation.

eduMEETime is an innovative eduMEET extension designed to monitor students' participation time in educational video-conferencing sessions. In the ever-evolving landscape of education, online video-conference lectures have become an essential tool for remote learning. Their success, however, depends heavily on student engagement and active participation. By tracking how long a user has participated in such lectures, educators can promote accountability, identify students in need of support, adapt instructional strategies, evaluate lecture effectiveness, encourage interaction, and recognise high performers. Implementing these practices not only enhances the quality of the online learning experience, but also ensures that every student has an equal opportunity to succeed in learning.

3 Objective

Thanks to the open architecture of eduMEET, the project has created an extension that enables authorised users (like teachers) to monitor students' participation time in a video-conferencing session. As eduMEET employs the OIDC protocol for Single-Sign-On (SSO) functionality using OpenID, it can be integrated with SSO services provided by entities like Google, GÉANT or others. This way, users can use their institutional credential to log in to eduMEET. An extension has been created to monitor eduMEET video-conferencing sessions, recording the amount of time a user has spent in a session. This information is collected and presented to authorised individuals.

4 Project Innovation

Currently, there is a high demand for an open-source tool that allows monitoring of participation time in video-conferencing sessions, integrated with SSO services. While commercial solutions do track user participation time, they require all users to have accounts with the provider's service. From the data protection standpoint, students should not be compelled to give their personal data to a commercial provider.

In recent years, the introduction of online video-conference lectures has revolutionised the field of education. With the rapid development of remote learning and virtual classrooms, it has become crucial to monitor and analyse students' active participation in these virtual learning environments. Tracking how long a user has participated in an online video-conference lecture is a valuable tool for teachers and institutions, offering many benefits that contribute to the overall success of the learning process.

By tracking the time students participate in the video-conference lectures, teachers can promote a sense of responsibility among students. Knowing that their involvement is being monitored, students are more likely to remain engaged and attentive during sessions. Increased accountability leads to higher levels of responsibility, as students recognise the value of active participation and its direct correlation to academic performance.

Monitoring user attendance times allows teachers to identify students who may be struggling or at risk of falling behind. Students who consistently attend class for shorter periods of time or miss lectures altogether may require additional support and intervention. Early identification of these students allows teachers to address challenges quickly, providing personalised support and resources to help them stay on track.

Understanding how long students participate in online lectures helps teachers adapt their teaching strategies. By analysing engagement patterns, teachers can identify aspects of the lecture that may be less engaging and then improve their teaching methods. This data-driven approach ensures that teachers tailor their presentations to students' preferences, learning styles and concentration times.

Tracking attendance time also helps to assess the effectiveness of online video-conference lectures. Instructors can use this data to measure the overall interest and attention of the class. Additionally, they can compare participation rates across lectures or topics to determine which subjects require further clarification or additional resources to increase understanding and engagement.

Online video-conference lectures can sometimes be one-sided, with the instructor speaking and students listening passively. By monitoring participation time, teachers can encourage students to interact and collaborate more. Integrating interactive elements such as quizzes, surveys, discussion sessions, and discussion forums can create a more dynamic learning experience and foster active student engagement.

Tracking user participation time is not just about identifying struggling students; it is also about recognising and rewarding high achievers. By acknowledging students who consistently participate actively and for extended periods of time, teachers can motivate others to follow suit. This positive reinforcement creates a supportive learning environment where students are encouraged to excel and take pride in their contributions.

5 Impact

In the ever-evolving landscape of education, online video-conference lectures have become an essential tool for remote learning. Their success, however, depends heavily on student engagement and active participation. By tracking how long a user has participated in such lectures, educators can promote accountability, identify students in need of support, adapt instructional strategies, evaluate lecture effectiveness, encourage interaction, and recognise high performers. Implementing these practices not only enhances the quality of the online learning experience, but also ensures that every student has an equal opportunity to succeed in learning. As technology continues to shape the future of education, monitoring user participation remains a key aspect of providing effective and inclusive learning opportunities for all.

As the results of this project are an extension of eduMEET, they are available for the existing deployments of eduMEET, as well as new ones. Following this approach, the GÉANT community has gained a new tool for broad usage. As contributing to eduMEET follows a well-organised pattern, to enable usage by the community the team has followed the predefined process:

- Discuss eduMEETime approach to creating the designed functionality and integration points with the eduMEET developer community.
- Develop our software, test it, and validate it.
- Create a GIT branch for the developer community to test.
- Create a GIT pull request.
- Merge with the main GIT branch of eduMEET.

6 Proof-of-Concept deployment

The proof of concept (PoC) has been developed and tested with eduMEET users. The first deployment can be found in the eduMEET development instance [eduMEET_DEV].

To access the user activity statistics, visit the stats page of the eduMEET website [eduMEET_STATS].

7 Conclusions

Based on the lessons learned during the pilot, a call for proposals for two more PoCs was initiated in August 2023. Proposal submission takes place on the GÉANT Indico platform [INDICO]. The call is limited to GN5-1 project partners, as the cost of concept development will be covered by project Person Months (PMs), allocated specifically for this purpose. Each successful PoC will be allocated 8 PMs.

It will be possible to form a consortium of partners within the GN5-1 project in order to harness all the skills necessary to develop and demonstrate your concept. It is anticipated that the development of ideas will occur in 4-month sprints.

The key questions to be answered by the proposers are:

- The problem you want to solve / the target group or area that will benefit and how.
- The innovative features of the project.
- The expected project results – what you will deliver.
- The expected impact on the GÉANT community's portfolio of above-the-net services.

The proposals will be assessed by subject matter experts coming from the GÉANT community. Each proposal will be scored in the following areas:

- Innovation and excellence of the proposal.
- Quality and efficiency of the implementation and the management.
- Potential impact.

References

[eduMEET_DEV] https://dev1.edumeet.eu/
[eduMEET_STATS] https://stats.dev1.edumeet.eu/
[INDICO] https://events.geant.org/event/1470/

Glossary

GN5-1 WP4	The GN5 Phase 1 project, Work Package 4 (Above-the-net services)
NREN	National Research and Education Network
POCs	Proof of concepts
SSO	Single sign-on