



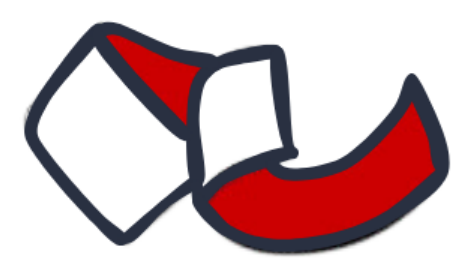
FOSS4G-ASIA 2024



Faculty of Social Sciences
SRINAKHARINWIROT UNIVERSITY



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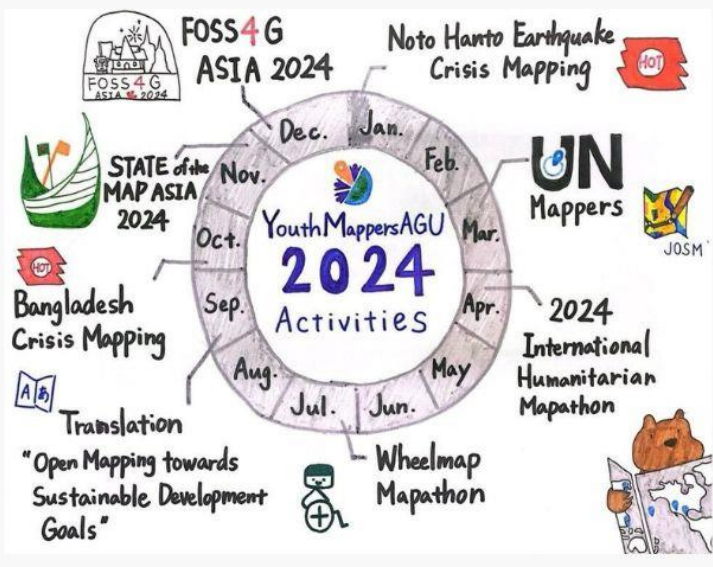
Localization of FOSS4G Tools and Building an Open Knowledge Platform in Japanese University Education

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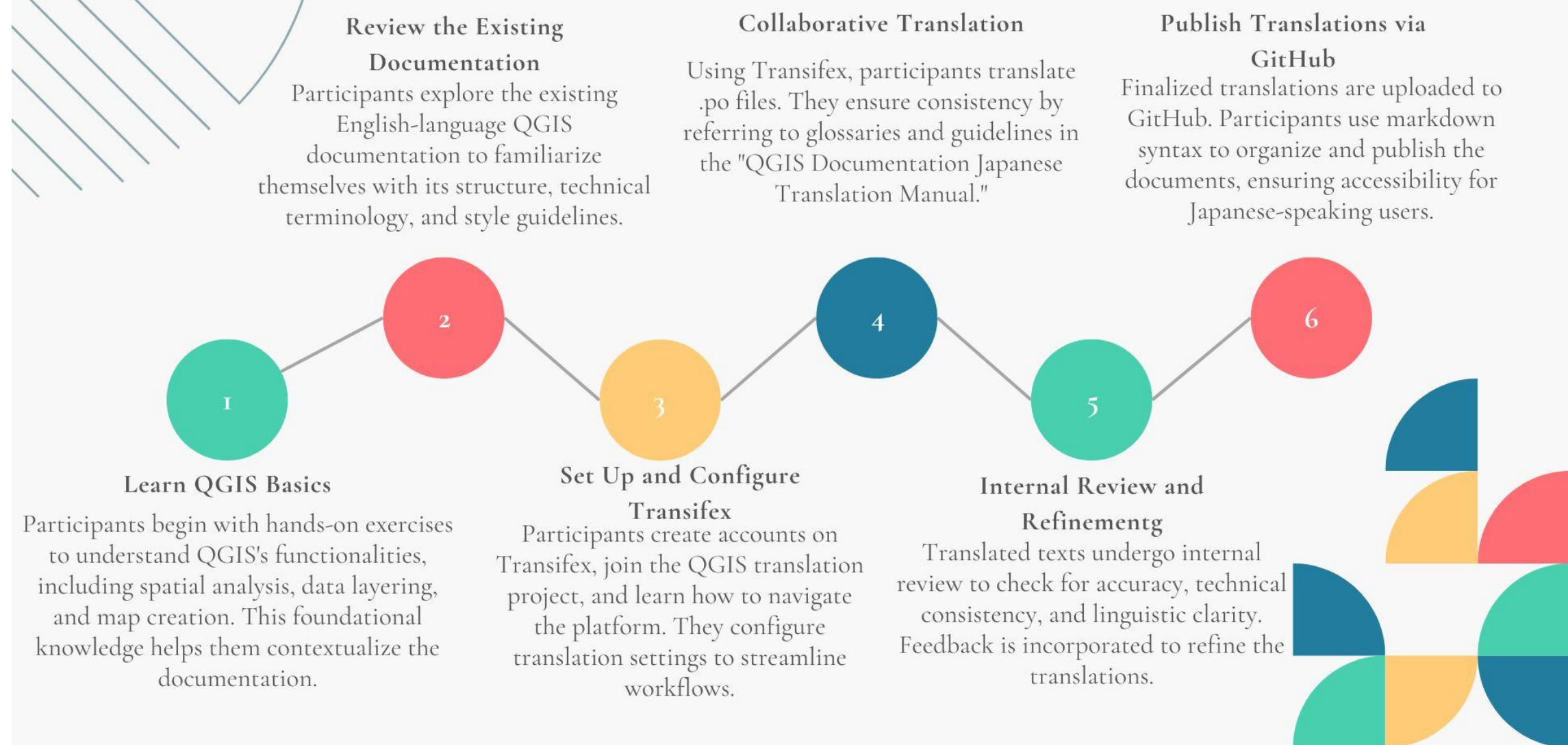
Introduction

Furuhashi Lab has been working on OSM mapping and Mapathon as YouthMappersAGU under the theme of "Participatory Mapping and Social Contribution". Throughout our year-long activities, we have been faced with the challenge that there is a large gap in understanding depending on the amount of knowledge and language level of individuals. As newcomers to the geospatial information industry, we had little prerequisite knowledge and were unfamiliar with tools, which are commonplace for advanced mappers. The most difficult thing for us Japanese was that the manuals for understanding these tools were mostly in English.

For this reason, this presentation will introduce the usefulness of translation and visualization for problems such as unfamiliarity with computer operation, inability to understand manuals due to lack of knowledge in the field, and resistance to learning in a language other than one's native tongue. As examples, we will discuss the creation of graphic recordings for the JOSM Validation Training. We will then publish those deliverables on GitHub to create an open knowledge platform.



QGIS TRANSLATION PROCESS



Localization of FOSS4G Tools and Building an Open Knowledge Platform

At Aoyama Gakuin University, the "Applied Geospatial Information Science III" course focuses on localizing technical documents for FOSS4G tools like QGIS and GDAL. These open-source tools are vital for geospatial data manipulation, yet their predominantly English documentation limits accessibility for Japanese users. By translating these resources into Japanese, the project aims to bridge language barriers and foster a deeper understanding of geospatial technologies.

Participants engage in hands-on exercises to learn the tools, followed by collaborative translations using platforms like Transifex and GitHub. The project also emphasizes community engagement, replicating real-world open-source collaboration through markdown documentation and Sphinx integration. This initiative not only enhances geospatial literacy among Japanese users but also promotes a culture of open knowledge sharing. Findings will be shared at the FOSS4G International Conference, contributing to a more inclusive global geospatial community.

What is "Graphic Recording"?

Furuhashi Lab uses Graphic recording as a visualization method to reliably communicate information in a way that is **easy for anyone to understand**. Graphic recording is "a method of summarizing the content of a meeting or presentation using graphics such as pictures and figures (OPTAGE for Business, 2023)".

The biggest advantage is that anyone in the world can **intuitively understand the content easier and more memorably**. We actively use the system to summarize the content of weekly classes and to keep a record of individual work.



QGIS: Localization and Accessibility

QGIS is a widely used desktop GIS software known for its versatility in geospatial data visualization and analysis. Despite its popularity, the documentation for QGIS remains predominantly in English, posing challenges for non-English speaking users. This project addresses this issue by translating key sections of the QGIS user guide into Japanese, increasing accessibility and usability for Japanese-speaking users.

Participants begin by familiarizing themselves with QGIS functionalities through practical exercises. These activities help them understand the software's core capabilities, such as data layering, spatial analysis, and map creation. Equipped with this knowledge, participants engage in the translation process using Transifex, ensuring consistency and accuracy.

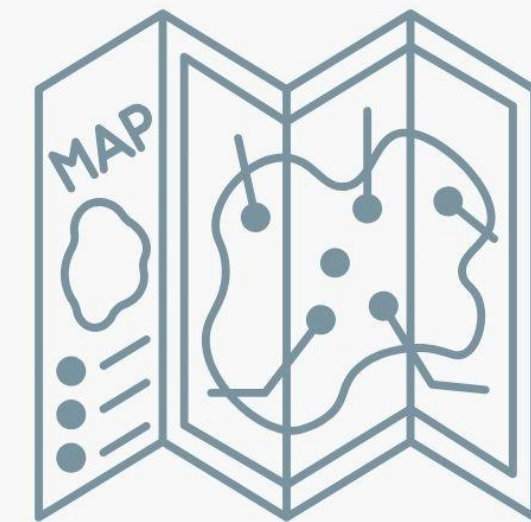


To streamline translation efforts, a "QGIS Documentation Japanese Translation Manual" was created. This guide includes step-by-step instructions for translation workflows and is hosted on GitHub, providing an open platform for collaboration and continuous improvement. By leveraging this manual, participants contribute to a growing repository of Japanese-language GIS resources, empowering a broader user base.

JOSM Hackathon

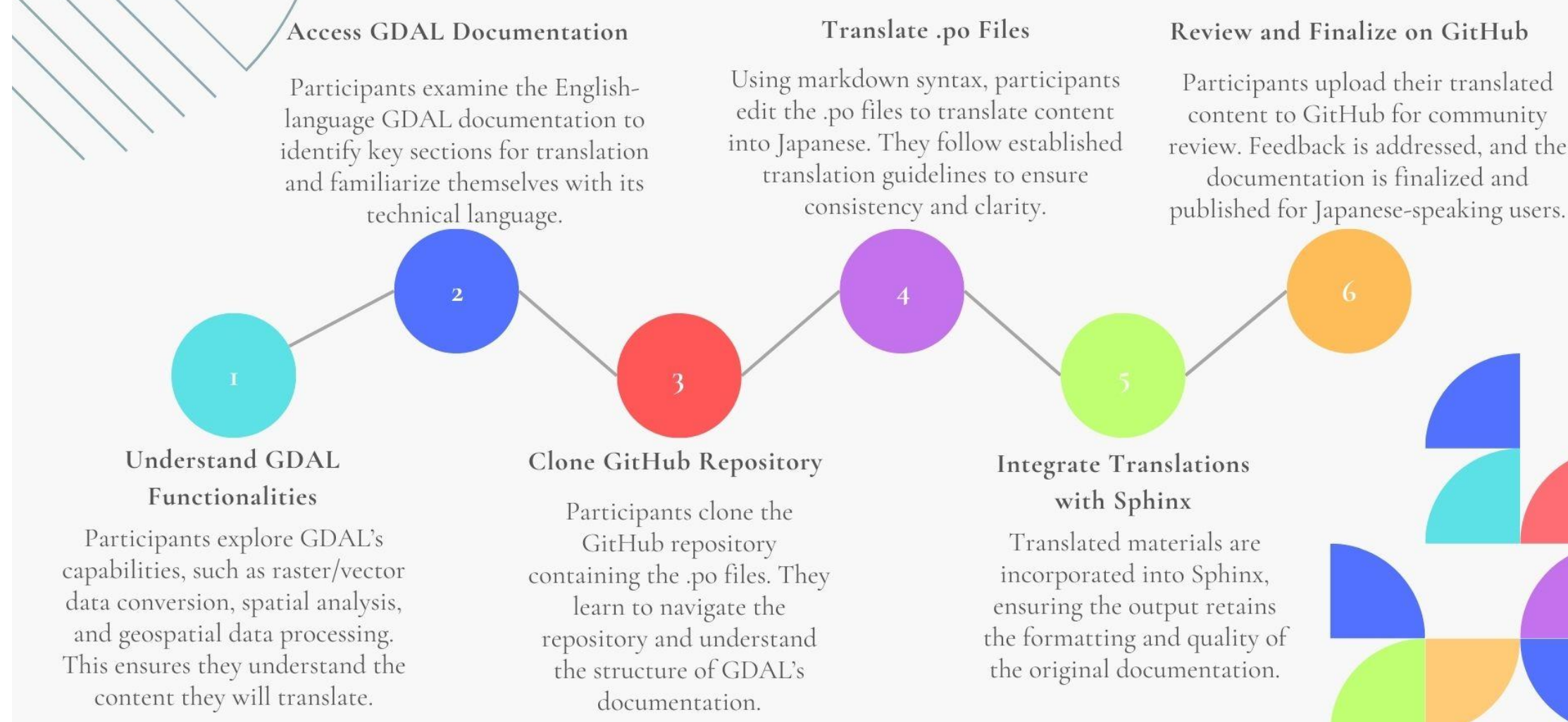
UN Mappers:
We participated in the "OSM Data Validation Training Proposal" organized by UN Mappers. 12 students attended the lectures for 2 months from March to May.

Results of the Validation Training:
None of them could attend all of them and understand the contents. The reason was that the lectures were given in English and the content was for advanced students.



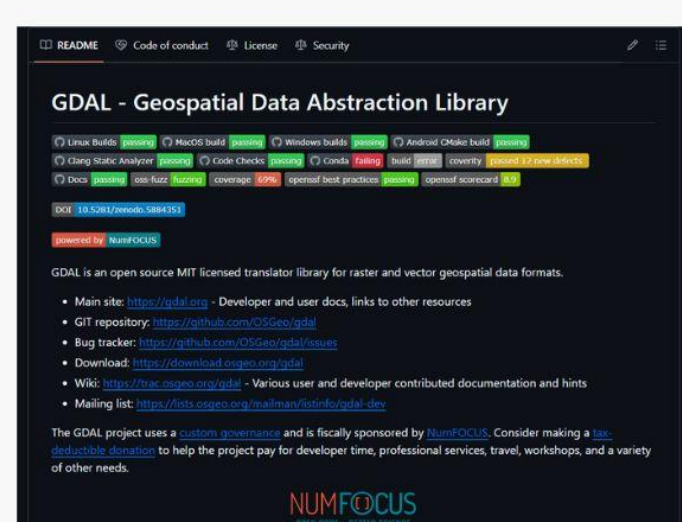
Purposes and Methods:
After all lectures were finished, in June, we held a "UN Mappers Validation JOSM Follow-up Hackathon" to summarize the lectures in our lab, with the goal of summarizing how to use JOSM for validation purposes in graphic recording and publishing them on Git Hub. The 12 students were divided into 4 teams. The materials used for reference were the UN Mappers online lecture archive videos and the JOSM Validation document stored in the [UN Maps Learning Hub](#).

GDAL TRANSLATION PROCESS



GDAL: Bridging Language Barriers

GDAL (Geospatial Data Abstraction Library) is a powerful library and command-line tool widely used for geospatial data processing. It supports a variety of data formats and offers robust tools for raster and vector data conversion. However, similar to QGIS, much of its documentation is available only in English, limiting its accessibility for non-English speakers. This project seeks to bridge this gap by translating GDAL documentation into Japanese.



Participants work on translating .po files, which are essential for localizing the documentation, using GitHub as the primary collaboration platform. By utilizing GitHub's version control and issue-tracking features, contributors can ensure consistency and accuracy while managing translation workflows efficiently.

The project also emphasizes the integration of GDAL's translations with other tools like Sphinx to maintain a professional structure and high-quality outputs. Through these efforts, the initiative not only enhances the usability of GDAL for Japanese-speaking users but also fosters a deeper understanding of geospatial data processing and analysis among participants.

Discussion

There was an obstacle in making the graphic recording public. The resolution of the first graphic recording was low, and except for the JOSM. Therefore, the lectures were redrawn, and the corrected versions are now available to the world.

Thus, all 12 students passed the JOSM Validation verification test provided by UN Maps! This result, which could not have been achieved by lectures in English alone, was made possible by the fact that graphic recording helped the students learn by extracting and organizing the necessary information.



Conclusion

This experience shows that graphic recording is a useful visualization tool in Japanese university education for understanding content explained in languages other than Japanese and in fields outside one's own expertise.

We are planning to hold a Mappathon in the future. A project to develop and update tools to support graphic recording has also started.

Graphic recordings
upper: Mihiro Takizawa, cc-by 4.0
lower: Kouma Fukuda, cc-by 4.0

