



Semester Long Internship Report
on
Administrative Support for
IIT Bombay FOSSEE (GIS) Mapathon 2023 (Edition III)

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Acknowledgement

I extend my deepest gratitude to the Indian Institute of Technology Bombay, the FOSSEE-GIS project, and the National Mission on Education through ICT, Ministry of Education through ICT, Government of India for providing me with the opportunity to undertake the semester-long internship-focused on the IIT Bombay FOSSEE (Geospatial) Mapathon 2023 (Edition III). This invaluable experience has broadened my understanding of Geographic Information Systems and equipped me with practical skills that will undoubtedly shape my future endeavors.

I'm sincerely thankful to Prof. Kannan Moudgalya (Principal Investigator, FOSSEE, IIT Bombay), Prof. Pennan Chinnasamy (Co.P.I. & Lead FOSSEE(GIS) & Associate Professor, Centre for Technology Alternatives for Rural Areas, IIT Bombay), and Mr. Mohamed Kasim Khan M (National Coordinator - FOSSEE (GIS) & Senior Research Scientist, IIT Bombay) my internship guide, for their guidance, support, and expertise throughout the internship. Their insights and encouragement have been instrumental in my professional development, and I am truly grateful for the knowledge imparted during our collaboration.

In addition, I would like to thank all the people at the FOSSEE project, IIT Bombay, who have helped me develop as a professional. It would not have been possible without the kind support and help of many individuals and organizations. I want to extend my sincere thanks to all of them. The collective effort and dedication of the team have contributed significantly to the success of this internship.

This internship has been a transformative experience, and I am thankful for its opportunities for personal and professional growth. I look forward to applying the knowledge gained during this internship in my future endeavors.

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1. Introduction

Mapathon is a map-making competition for creating thematic maps, using open-source data and mapping software. It is a collaborative event where participants come together to develop new tools/methods that improve the accuracy and usefulness of maps for a community. The FOSSEE team at IIT Bombay, along with its partners (earlier partners were AICTE and ISRO) will invite all Indians - to produce maps using various data (e.g. observation data, remote sensing data, crowdsourced data, etc.). The primary objective is to understand the potential of remote sensing data and make maps for Indian regions using free open-source mapping software (e.g.: QGIS). The participants will collectively work in a crowd-sourcing method for jointly producing thematic maps of India.

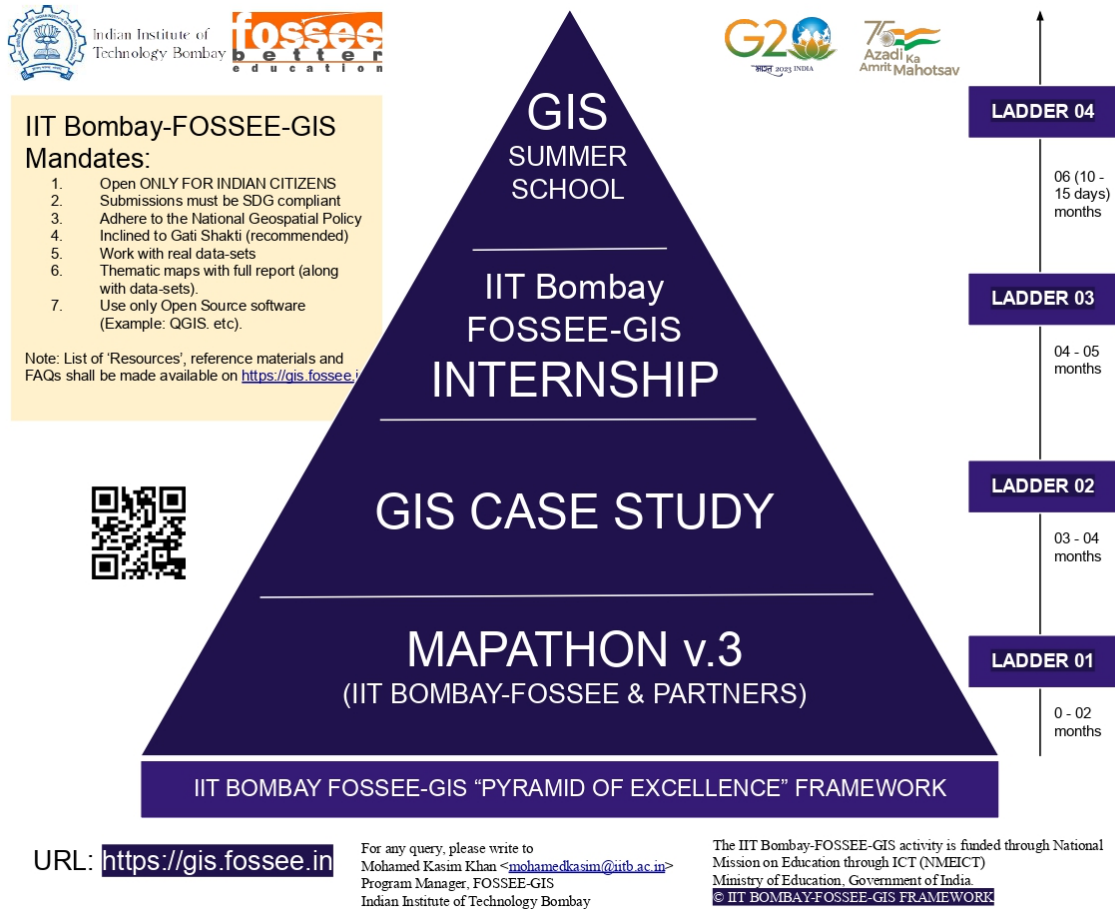
The data collected from various platforms have tremendous potential in mapping India's resources, agriculture, climate and disaster management, rural and urban planning, and in identifying pathways for future development. Such maps can be created using Free Open Source platforms (such as QGIS). Let us join together to create such maps through the Mapathon.

Mapathon also aims to develop indigenous capacity to customize and employ mapping to resolve societal challenges and create new opportunities for young India.-. The primary objective is to understand the potential of open-source mapping and maps for Indian regions and to build capacity for the same.

The IIT Bombay-FOSSEE-GIS team has conducted three editions of Mapathon. All three of them are coveted nationally and are considered to be the world's biggest geospatial mapping competition using Free/Libre Open Source Software.

Typically, a minimum of 10,000+ team registrations out of which ineligible entries are set aside. The final list of qualified teams/ individuals is prepared, and orientation/ Q&A sessions are conducted after which the participants submit thematic maps based on the problem statement in the Indian context.

The FOSSEE-GIS Pyramid of Excellence created by Mr. Mohamed Kasim Khan (National Coordinator - FOSSEE(GIS) & Senior Research Scientist, IIT Bombay) shows the steady phase of growth and exposure to the participants in a bottom-up approach.



The IIT Bombay FOSSEE GIS 'Pyramid of Excellence' Framework (C) Mohamed Kasim Khan 2023

The winners of the IIT Bombay FOSSEE (GIS) Mapathon 2023 (Edition III) get cash prize from the organizing partners. In addition, they get automatically qualified/ eligible for the higher level offerings of the FOSSEE(GIS) team like National Level FOSSEE GIS Summer Fellowship, GIS Internship, GIS Case Study, etc.

2. Admin support for IIT Bombay FOSSEE (GIS) Mapathon 2023 (Edition III)

For the administrative support role, I had spent around 200 man-hours from February to June 2023. This includes supporting Mr. Mohamed Kasim Khan (National Coordinator - FOSSEE(GIS), IIT Bombay) with the (a). Registration process, Preparing the final (b) schedule as instructed, supporting the team in (c). consolidating the (submission) entries received via Moodle and also via GoogleForms, (d). assisting in creating social media posts, (e). Cross-checking the statistics for accuracy, and (f). assisting in the final report preparation.

a. Registration

Two different registration forms were created for the third edition of the IIT Bombay FOSSEE (GIS) Mapathon 2023. My first role started here in helping the National Coordinator organize the entries and to filter out invalid inputs, as per policy.

b. Schedule

As part of my role as an administrative intern I assisted the National Coordinator in preparing a comprehensive schedule for the IIT Bombay FOSSEE (GIS) Mapathon 2023 (Edition III) which can be found at <https://gis.fossee.in/schedule>

c. Submission and Evaluation

Every team lead was provided with a Moodle Link and registration number to submit the team's work from April 11, 2023. Details on how to submit will also be sent to the registered email ID of the Team Leader. The total attachments should be capped at a max of 100 MB per team.

The submission is a two-step process (a) submit a map/maps and (b) submit a one-page document about your map.

a) Map submission:

1. For your problem statement, the maps can be created at National/State/District level boundaries using any 'open source' data. Resources).
2. Make the maps for your study area (For boundary data/materials, you may visit the Survey of India portal. Note: The user is liable for the correct use of Indian national boundaries if represented in the maps. [Survey of India portal link](#)).
3. GIS learning materials were provided. To know more click [here](#).
4. While preparing the maps (The teams were instructed to)
 - Make sure to add a title to the map.
 - Make sure to add legends to the map along with the North arrow.
 - Make sure to add your details on the map (e.g. in a text box).
 - Make sure to add the SDG/ theme.

Since the IIT Bombay-FOSSEE-GIS team will be archiving and promoting these maps for public use on its official portal, the teams were asked to add their contact details so that anyone interested may contact them regarding the map (e.g. email, name). This will give more visibility to your work. The teams were given the option to submit any number of maps, as long as their total submission file size is within 100 MB. The acceptable file types are JPG or PDF format only.

b) A brief report:

1. In the report submitted, the teams were asked to make sure they add the source of data, steps, and methodology (which can include but are not limited to):
 - Mention the data used.

- Specific steps in GIS.
- Complexities, if any are involved. (this carries a significant percentage of marks)

2. Please add a paragraph on the application and use of these maps.

A model submission format was also provided (click [here](#) for the format), and the [template](#).

NOTE: ONLY the "Team Lead" was allowed to upload the submission on Moodle.

The submission link was sent to the Team Lead's registered email ID.

Evaluation:

The maps received were evaluated for 100 marks based on the following criteria:

- Methodology/ Data/ GIS steps/ Complexity used (60 marks).
- Potential application of the map (40 marks).

As a part of my responsibility as an intern (FOSSEE Semester Long Internship 2023), I organized the valid submissions obtained through the Moodle interface and GoogleForms in a shared spreadsheet for the evaluation committee to award the grade and categorize the selected teams as (i) Champions (>90 marks); (ii). Winners (between 80 to 89 marks); and (iii). Notable Participants (between 70 to 79 marks).

d. Confidentiality Clause

I followed the confidentiality clause at all times by keeping all the information made available to me private and discarded all mapathon-related content from devices once the declaration of the result was done (June 09, 2023).

e. Publicity

Based on the inputs from the team, I created social media posts promoting the mapathon and periodically followed up on activities. The infographics approved were published on all the official social media handles of the FOSSEE project.

f. Compiling Reports

At every stage of the internship, reports were prepared for internal use. I assisted the team in compiling such reports till the results declaration phase.

g. Statistics

A comprehensive fact-sheet for press and media was prepared every month by the team with up-to-date statistics. I assisted in cross-verifying the figures mentioned.

The following is the overall statistics of the IIT Bombay FOSSEE (GIS) Mapathon 2023 (Edition III):

IIT Bombay FOSSEE (Geospatial) Mapathon 2023: Overall statistics as on June 09, 2023	
Total number of (eligible) Participants	5151
Total number of Teams competing	1780
Total number of Team Members	4356
Total number teams with Mentors	795
Total number of Institutions (Universities/ Colleges/ Institutions) participating	573
Total number of Industries participating	16
Total number of Individuals/ Freelancers participating	49
Number of States covered	26
Number of Union Territories covered	2
Number of IITs participating	14
Number of NIT's participating	15
Number of Central Universities participating	12

Number of State Universities participating (including Affiliating, Unitary, Deemed and Private category Universities)	209
Number of International Universities participating	4

h. Support in Publishing of Results

Based on the instruction from the team, I assisted in getting the spreadsheets ready to be shared with the FOSSEE web-team for the publication of results.

IIT Bombay FOSSEE (GIS) Mapathon 2023 (Edition III) Results page

URL: <https://iitb-fossee-mapathon.fossee.in/results>

3. Learnings

The following are my experience from the FOSSEE Semester Long Internship.

Professionalism:

- The manners and professional greeting styles are not learned in class-room but by observing people who are working in the professional world. The IIT Bombay-FOSSEE-GIS team had given many orientation sessions to keep me upto the pace.
- Cultivating a professional demeanor in communication, punctuality, and adherence to work standards was taught to me.
- Learning how to represent the organization and project positively and respectfully.

Project Management:

- Understanding how to plan, organize, and execute administrative tasks for the world's biggest IIT Bombay FOSSEE (GIS) Mapathon 2023.
- Gaining experience in coordinating and managing timelines to ensure project milestones are met.

Data Entry and Organization:

- Develop accurate data entry skills to avoid errors/ redundancy during the data input stage.
- Learn techniques for organizing data efficiently, including the use of spreadsheets or databases.
- Understand the importance of maintaining data integrity and consistency. This learning was gained during the registration and evaluation phase of the Mapathon 2023.

Data Confidentiality and Privacy:

- Understanding the importance of data confidentiality and privacy.
- Learn about best practices for handling sensitive or confidential information.

Technical Exposure:

- Acquiring familiarity with unexplored features in Open Source based GIS tools and process flow used in the Mapathon 2023 (Edition III).

Documentation Skills:

- Improving documentation skills by preparing reports, infographics, record keeping, and other support documents for Mapathon 2023.
- All the documents prepared were using LibreOffice Writer. On shared environment, GoogleDrive tools were used.

Remote Work Skills:

- Developing effective strategies for remote work, including communication tools, virtual collaboration, and time management in an online mode.

4. Challenges

The following were some challenges that i encountered during the course of my internship.

- Meeting the project deadlines and ensuring timely completion of activities.
- Dealing with the incomplete and/ or inaccurate data while processing the registration forms, and moodle submissions.
- Coordinating with the team during the peak phase of evaluation and result publication.
- Adapting to the new work environment and understanding the requirements at the initial stage. Thanks to the support extended by the team, I was able to pick up faster.
- Remote internship related issues: Poor network connectivity,

5. Conclusions

Being an administrative assistant in the National Level Semester-Long Internship for the FOSSEE-GIS team at IIT Bombay has been a transformative journey, providing a rich tapestry of experiences that have significantly contributed to my professional growth. This opportunity allowed me to develop into the intricate realm of Geographic Information Systems (GIS) administration, where I not only honed my administrative skills but also developed a profound understanding of the dynamic and collaborative nature of GIS projects. The exposure to project management, and communication has been instrumental in broadening my skill set and enhancing my adaptability in a professional setting. The key learnings from this internship spanned various dimensions. I deepened my understanding of project management by meticulously planning and executing administrative tasks, ensuring the smooth progress of the Mapathon project. Communication skills were refined through regular interactions with the team emphasizing the importance of clarity and precision in conveying information. The technical aspects of GIS administration became more familiar as I engaged in tasks related to data handling, analysis, and documentation. Working with GIS tools and technologies offered insights into the intricacies of spatial data management. The challenges encountered during the internship, such as data quality issues and technical hiccups, served as valuable learning experiences. The FOSSEE GIS Mapathon internship has not only enriched my academic journey but has also instilled a deep appreciation for the power of GIS in addressing real-world challenges. I am excited to apply these newfound skills and insights as I embark on the next chapter of my professional journey.

6. References

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