



Indian Institute of
Technology Bombay



FOSSEE SUMMER FELLOWSHIP - 2026

Summer Fellowship Report

*Graphics & Animation
(Using Open Source Software) FOCAL project*

Submitted by:

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MIT WPU, PUNE

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Acknowledgement

I would like to express my deepest gratitude to the Indian Institute of Technology Bombay and the FOSSEE (Free/Libre and Open Source Software for Education) Project for granting me the opportunity to participate in this fellowship under the FOCAL initiative. This experience has broadened my horizons on the topic of open source software and has made me deeply passionate about the encouragement of the same in the professional and academic fields of our country.

It has also taught me the fundamentals and core skills of many such softwares and has shaped my practical skills greatly.

I am immensely thankful to my fellowship mentor, Mr. Khushal Rajput, for his unwavering patience and encouragement throughout the program . His mentorship helped me understand each software module in depth and encouraged me to improve the quality of my work with every task.

I would also like to thank the entire FOSSEE team at IIT Bombay for interactive and educational training sessions, providing us with challenging tasks and assignments to help us grow, and creating a nurturing and supportive environment where the fellows could thrive in.

With regards,
Sanchita Das

About FOSSEE

The FOSSEE (Free/Libre and Open Source Software for Education) project, based at IIT Bombay, is funded by the Ministry of Education (MoE), Government of India, under the National Mission on Education through Information and Communication Technology (NMEICT). The project promotes the adoption of Free and Open Source Software (FOSS) in education, research, and industry by encouraging the use of high-quality open-source alternatives to proprietary software. FOSSEE also develops, enhances, and supports open-source tools to meet the needs of academia and scientific research.

FOSSEE conducts a wide range of initiatives, including internships, fellowships, workshops, hackathons, training programs, and the development of educational resources such as tutorials and documentation. It supports several open-source projects, including Scilab, Python, eSim, Osdag, DWSIM, OpenFOAM, and FOCAL, enabling students, educators, and professionals to gain practical experience while contributing to the growth of the open-source ecosystem.

About FOCAL

FOCAL (Free and Open-source Creative Art Library) is an initiative of FOSSEE, IIT Bombay, dedicated to promoting the adoption of Free and Open Source Software (FOSS) for computer graphics, design, publishing, and animation. As an open-source community project, FOCAL encourages students, educators, and entrepreneurs to explore and create using professional open-source creative tools such as Inkscape (vector graphics), GIMP (image editing), Scribus (desktop publishing), Synfig Studio (2D animation), and Blender (3D animation). The project also provides a platform for publishing high-quality artwork and creative assets developed using these open-source applications, fostering collaboration and innovation within the community.

Vision and Activities

Through the FOSSEE Summer Fellowship, participants contribute to the growth of the FOCAL library by creating tutorials, documentation, graphics, animations, and other educational resources that help new users learn open-source creative software. FOCAL also aims to support the transition from proprietary design workflows to open-source graphics studios, promote industry adoption of FOSS tools, and organize online as well as hands-on workshops, exhibitions, and outreach programs. By building a rich repository of open educational resources and encouraging real-world project contributions, FOCAL creates opportunities for skill development, community collaboration, and future careers in the open-source creative ecosystem.

Internship Objectives

The primary objective of this internship was to gain practical knowledge and hands-on experience in *Graphic Designing and Animation using Free and Open Source Software under the FOSSEE Project at the Indian Institute of Technology Bombay*. The internship aimed to bridge the gap between academic learning and industry-oriented practice by providing structured training in professional open-source design and animation tools.

A key objective was to develop technical proficiency in software such as *Inkscape, GIMP, Scribus, Synfig Studio, and Blender* through mentor-guided sessions, practical assignments, and project-based learning. The internship also focused on strengthening creativity, visual communication, and problem-solving skills by encouraging the design of original graphics, image editing projects, publication layouts, 2D animations, and 3D models.

Another important objective was to understand the complete workflow involved in creating digital design and animation projects, from concept development and planning to execution, review, and final presentation. Through regular mentor feedback and continuous improvement, the internship encouraged quality-focused work, attention to detail, and the ability to apply constructive suggestions effectively.

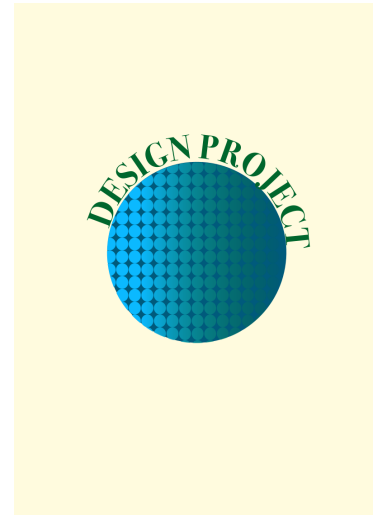
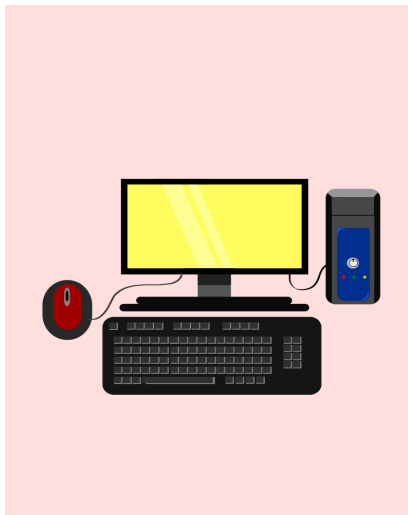
The programme further aimed to enhance essential professional skills such as time management, communication, teamwork, self-learning, and adaptability while working in a structured project environment. The later stages of the internship provided opportunities to apply acquired knowledge through an independent project, contribute to a FOSSEE introductory video, and conduct workshops for college students, thereby developing leadership and presentation abilities.

Overall, the objective of the internship was to equip participants with industry-relevant technical skills, practical experience with open-source software, and professional competencies that support future academic projects, creative work, and career opportunities in graphic design, animation, multimedia, and related fields.

Weekly Work Summary

WEEK 1 : INKSCAPE

Our first week at the fellowship we were taught to use the open-source vector graphics editor, inkscape. The defining quality of inkscape is that it does not lose its quality even when it is scaled across different sizes, which makes it a more efficient application than most.



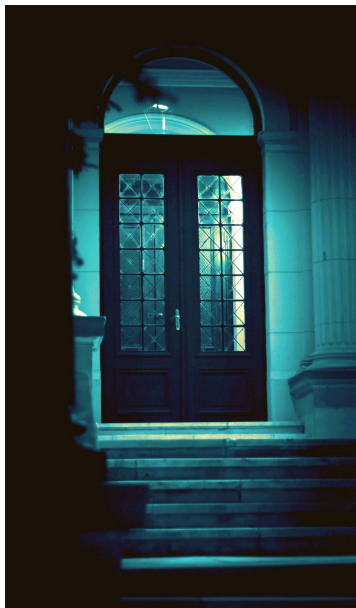
These assignments and tasks taught us the difference between raster and vector graphics, editable paths of objects, and the creation of almost any image imaginable by using the basic shapes provided.

 week 1 inkscape

all images were created using inkscape 1.4.4

WEEK 2 : GIMP

GIMP, standing for GNU image manipulation program, is a free open source photo re-touching and image editing application. In this week we learnt color correction, layer masking and image editing using selected paths and masking.



GIMP week 2

all images have been created using GIMP 3.2.4

WEEK 3 : SCRIBUS

Scribus is a desktop publishing software (DTP) made for layouts, type-settings and professional quality image setting equipment. Using this, we learnt precise formatting and how publications make their product layouts

Open Source Software in Education

*How Free and Open Source Software
is Transforming Learning*

Free and Open Source Software (FOSS) provides users with the freedom to use, study, modify, and distribute software. Educational institutions around the world are increasingly adopting FOSS tools because they are cost-effective, flexible, and community-driven.

Tools such as Inkscape, GIMP, Scribus, Blender, and Scilab enable students to learn professional skills without expensive software licenses. FOSS encourages innovation, collaboration, and lifelong learning.



Figure 1: Students learning with Free and Open Source Software tools.



FOSSEE Summer Fellowship 2026

What is FOSSEE?

FOSSEE stands for free open source software for education. It helps us access a wide range of tools and resources and that are available to everyone for educational and training purposes. This project is an initiative that is based at the Indian Institute of Technology Bombay.

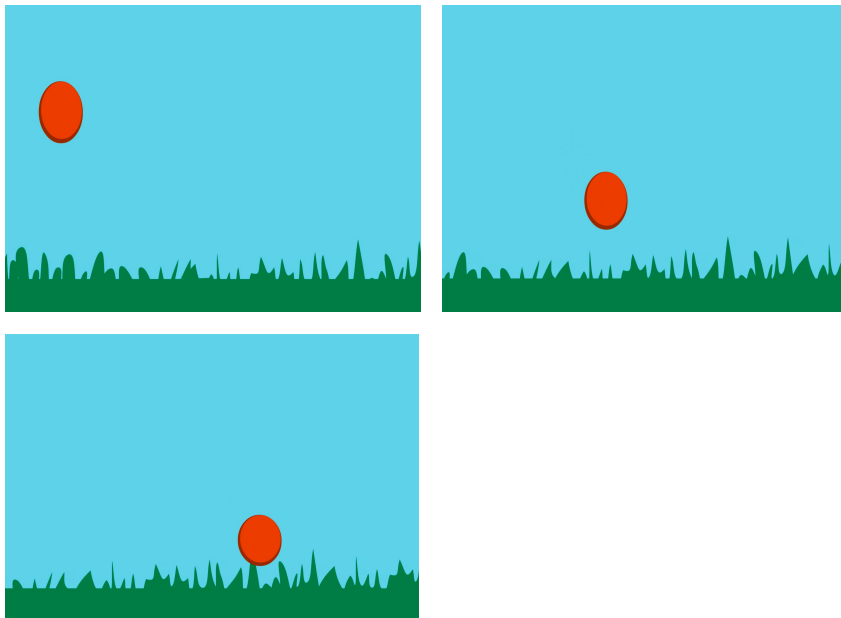


week 3 scribus

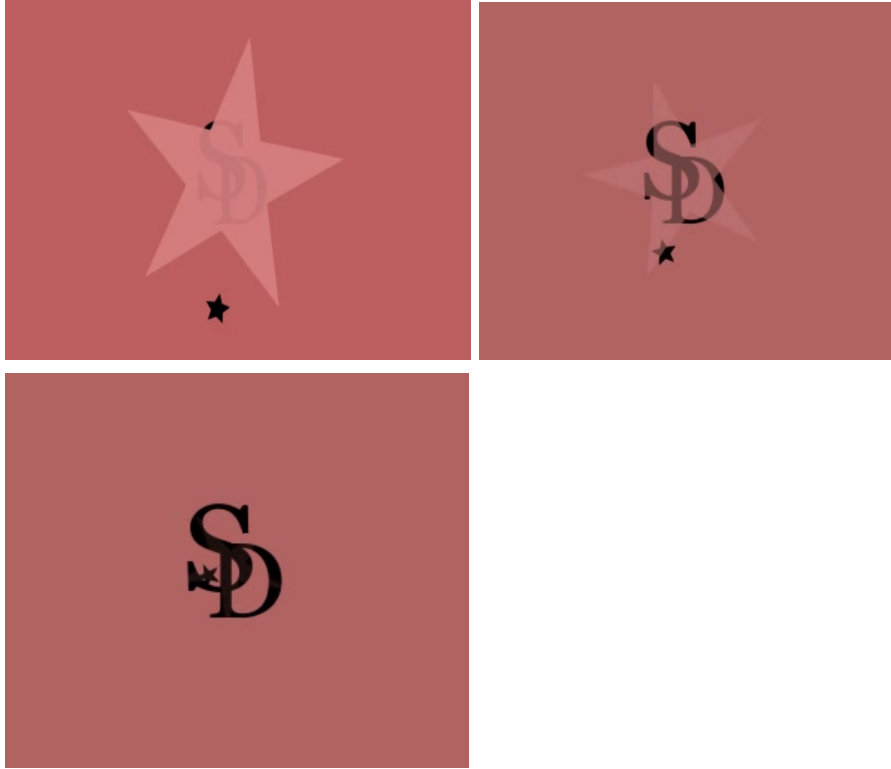
all images have been created using scribus 1.6.6

WEEK 4 : SYNFIG STUDIO

Synfig studio is a 2D animation open source vector based animation app. This week we started our animation training and learnt about the basics of keyframing and the importance of each frame for an animated sequence to come to life. Synfig has a simple UI that allows beginners to understand the fundamentals of animation.



Frames from animation assignment 2



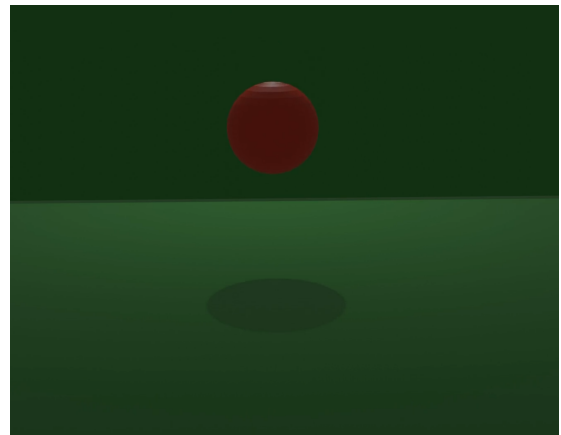
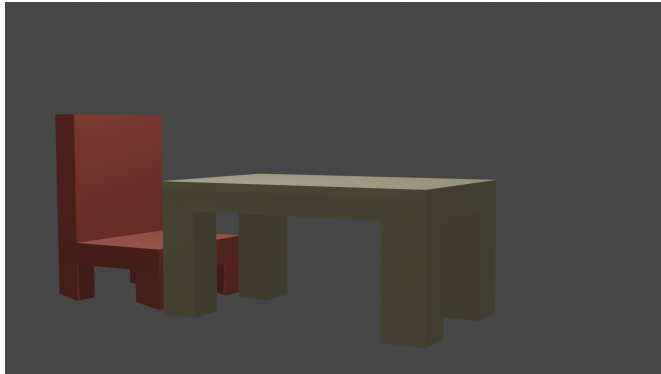
Frames from animation task 1

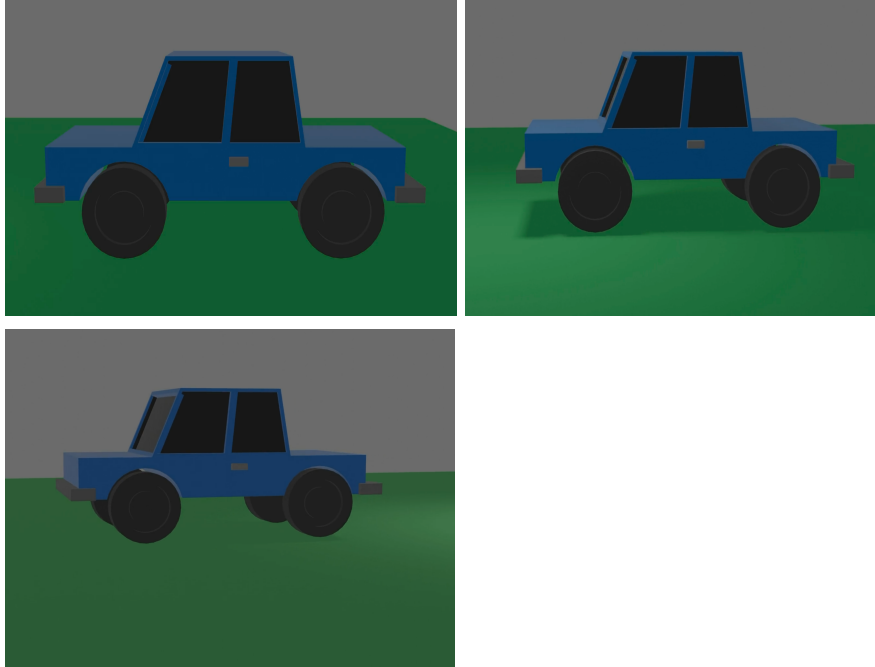
Synfig week 4

all images have been created using synfig studio 1.4

WEEK 5 : BLENDER

Blender is one of the most popular computer graphic engines ever made that is used in professional contexts. It is widely used for producing animated films, visual effects, 3D printed models, video games, motion graphics, and interactive applications, but it also has settings for 2d animation and simple video compiling/editing. With this we learn the many nuances of 3d modeling, sculpting, how to use the camera angles, light and shadows. Blender allows you to truly create every part of the scene from scratch which is as exciting as it can be challenging.





Scenes from animation task 2

blender week 5

all images have been created using blender 5.2

WEEK 6 : DESIGN PROJECT

Week 6 and 7 were for us to utilise the skills and training we received for in the past 5 weeks and implement them in a productive fashion.

The design project was split into 3 tasks, each having their own sub-task, all in regards to a FOSSEE project for our choice.

- Task 1

FOSSEE PROJECT FOR TASK 1 : QGIS



5 custom icons

 5 icons



Email banner

 *banner*

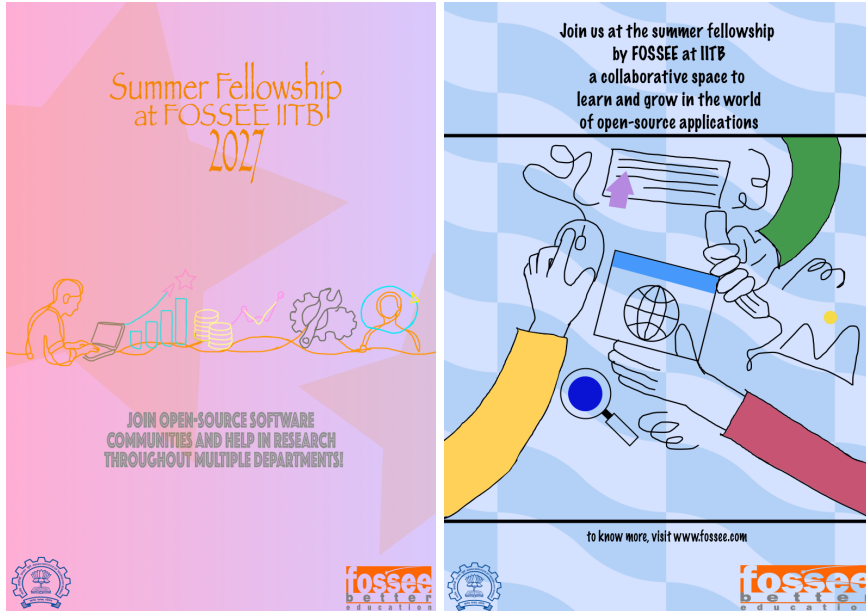


Custom border for certificate

 *border*

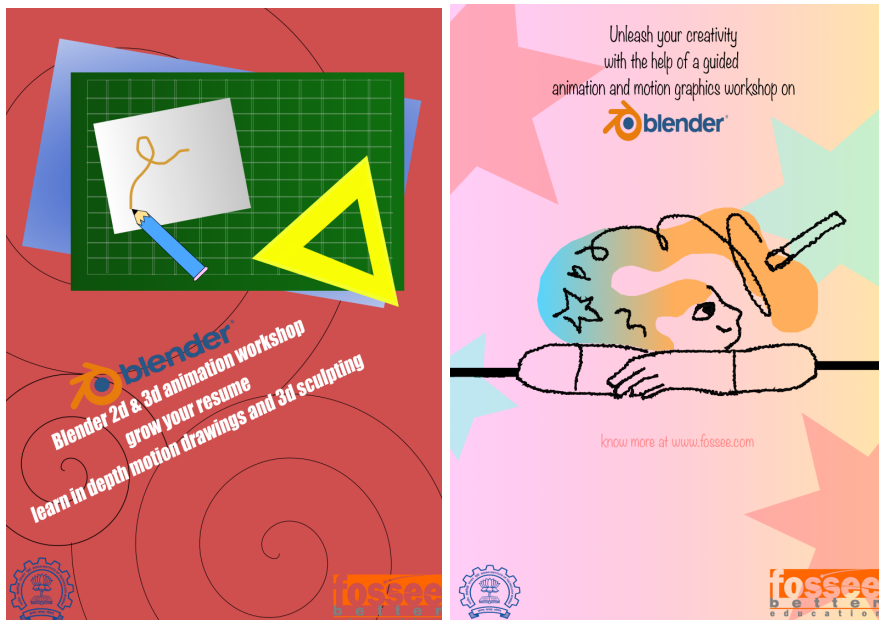
- Task 2

FOSSEE PROJECT FOR TASK 2 : fossee fellowship & blender



Social media post and poster for fossee fellowship

📷 fellowship



Social media post and poster for blender animation workshop

📷 blender

- Task 3

FOSSEE PROJECT CHOSEN FOR TASK 3 : Focal



Brochure for FOCAL project

 task 3

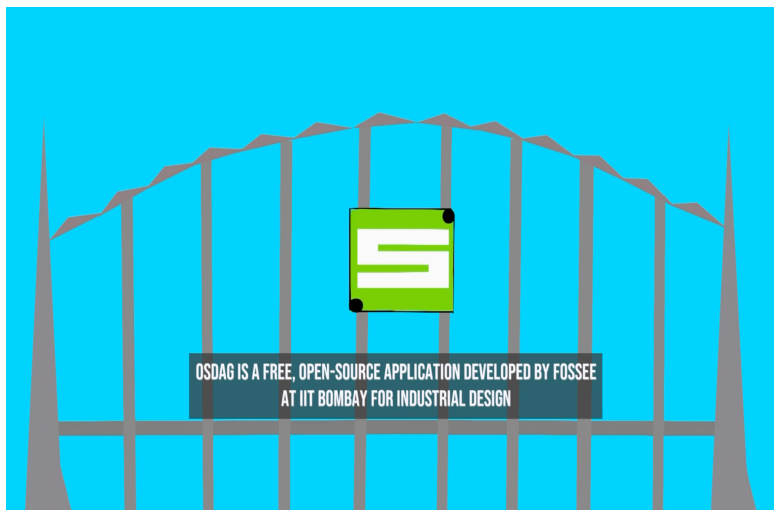
all images have been created using inkscape and gimp

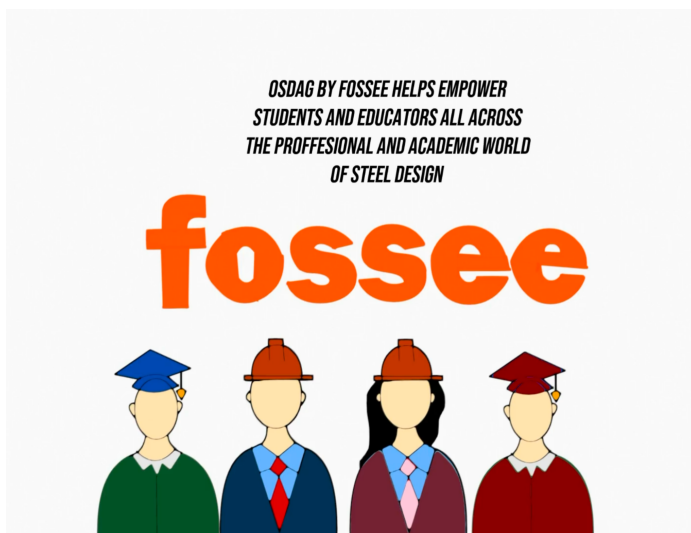
WEEK 7 : ANIMATION PROJECT

The animation project was meant to be a contribution to a FOSSEE outreach video, from each fellow. We were asked to choose a 60 second segment for the video, each segment required to demonstrate or explain the chosen fossee project

Chosen fossee project for week 7 : OSDAG (intro)

Open-source software used : Blender 2D





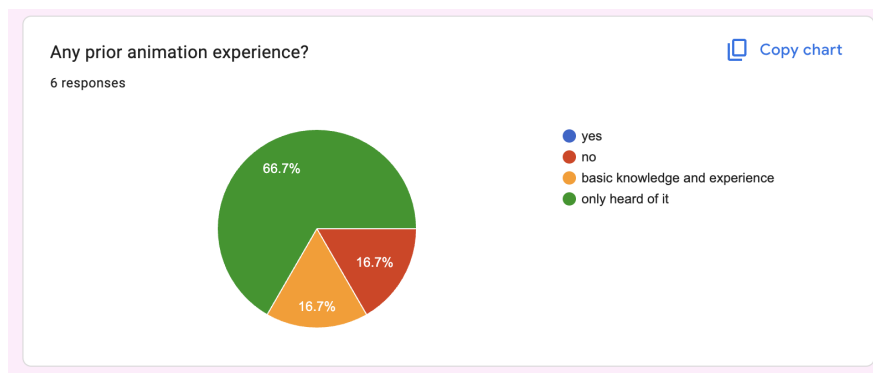
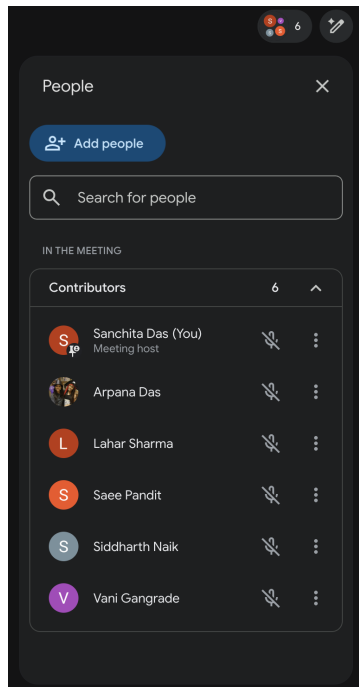
Scenes from animation project

 week 7 animation project

all scenes have been created and compiled using blender

WEEK 8 : LEADERSHIP WEEK

In our leadership week, which was the final week, we were instructed to host a workshop ourselves for students and peers our own age. I chose to talk about Blender and showed them how to use it for simple purposes like creating object references in 3D or creating short 2d videos. Hosting this workshop to teach others really feels like a full-circle moment considering we were learning about it ourselves a few weeks ago, but it helped me become even more well-versed in my own knowledge



Challenges & Solutions

During the fellowship, I encountered several challenges that contributed to my technical and professional development. The biggest challenge being learning five different open-source software applications within a limited period. Since each software had a unique interface and workflow, adapting to them required continuous learning and regular practice. I overcame this challenge through mentor guidance, self-learning, and hands-on experimentation with the tools.

Understanding advanced features in software such as Blender and Synfig Studio was another challenge. Concepts like 3D modelling, rendering, keyframes, and animation were new to me and required additional effort to master. Consistent practice, official documentation, and mentor feedback helped me improve my understanding and complete the assigned tasks successfully.

Managing multiple assignments within weekly deadlines also required effective planning and time management. Creating a structured work schedule, prioritising tasks based on complexity, and maintaining consistency in completing and submitting assignments on time was the solution to not falling behind.

The independent project and contribution to the FOSSEE introductory video required greater responsibility, creativity, and attention to detail. Breaking the work into smaller tasks, discussing ideas with my mentor, and reviewing progress regularly helped me complete these activities effectively.

During the Leadership Week, conducting workshops for college students was initially challenging as it required clear communication and confidence in explaining technical concepts. Careful preparation, practical demonstrations, and interactive sessions enabled me to deliver the workshops successfully.

By overcoming these challenges through continuous learning, practice, and mentor support, I gained valuable experience that will benefit my future academic and professional career.

Learning Outcomes

The FOSSEE internship under the FOCAL initiative provided valuable hands-on experience in graphic designing and animation using open-source software such as Inkscape, GIMP, Scribus, Synfig Studio, and Blender. Through structured training and practical assignments, I developed skills in vector illustration, image editing, desktop publishing, 2D animation, and basic 3D modelling, gaining a clear understanding of the complete design and animation workflow.

The internship strengthened my knowledge of design principles, including colour theory, typography, layout composition, visual hierarchy, and motion design by completing projects such as posters, brochures, certificate designs, illustrations, image enhancement, animations, and 3D models,

The project-based learning approach encouraged independent learning, experimentation, and problem-solving. Regular mentor feedback helped me continuously improve the quality of my work while developing confidence in applying theoretical concepts to real-world projects.

Beyond technical knowledge, the internship improved my professional skills, including communication, teamwork, time management, organisation, and adaptability. Working under deadlines taught me to plan tasks effectively, while contributing to the FOSSEE introductory video and conducting workshops for college students strengthened my leadership, presentation, and mentoring abilities.

The internship also deepened my understanding of the importance of Free and Open Source Software (FOSS) in providing accessible, cost-effective, and industry-relevant tools for education and creative work. All of this has helped me to aspire for an even more flourishing career in animation, UI/UX and multimedia all while persisting upon the use and importance of FLOSS tools.

Feedback

The FOSSEE–FOCAL Graphic Designing and Animation Internship at IIT Bombay was a valuable and enriching learning experience. The internship was well-organized, combining mentor-led training, practical assignments, and regular feedback that helped me steadily improve my technical and creative skills.

The guidance provided by my mentor played a key role in my learning journey. Constructive feedback on each task encouraged me to refine my work, improve design quality, and develop a professional approach to problem-solving. The structured assignments enabled me to gain hands-on experience with open-source tools such as Inkscape, GIMP, Scribus, Synfig Studio, and Blender while understanding real-world design and animation workflows.

Working on an independent project, contributing to the FOSSEE introductory video, and conducting workshops for college students further enhanced my creativity, communication, teamwork, and leadership skills.

I sincerely appreciate the support and encouragement provided by my mentor and the entire FOSSEE team throughout the internship. Their guidance, well-planned training sessions, and positive learning environment made the programme highly productive and enjoyable. Overall, this internship has helped provide a strong foundation for my future academic and career goals.

Declaration

I hereby declare that this internship report entitled "**Graphic Designing and Animation Fellowship under the FOSSEE–FOCAL Initiative, IIT Bombay**" is a genuine record of the work carried out by me during the internship from **15 May 2026 to July 2026**. The work presented in this report has been completed under the guidance of my mentor and has not been submitted, either wholly or in part, for the award of any other degree, diploma, or certification.

I further declare that all the information presented in this report is true to the best of my knowledge and that appropriate acknowledgment has been given wherever necessary.

Sanchita Das