



Indian Institute of
Technology Bombay



FOSSEE SUMMER FELLOWSHIP - 2026

Summer Fellowship Report

Graphics & Animation (Using Open Source Software) FOCAL project

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Acknowledgement

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I extend my heartfelt thanks to my mentor, **Mr. Khushalsingh K. Rajput, Focal project lead, Fossee, IIT Bombay.**, whose guidance, encouragement, and continuous support played a significant role throughout the fellowship. His workshops, doubt sessions, constructive feedback, and emphasis on practical learning helped me understand not only how to use different software applications but also how to approach creative problem-solving with discipline and confidence.

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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.

WEEK 1

CHAPTER 6

Week 1 – Orientation & Introduction to Inkscape

The first week of the FOSSEE Summer Fellowship 2026 marked the beginning of the learning journey. An orientation session introduced participants to the FOSSEE Project, the objectives of the FOCAL fellowship, the weekly schedule, assignment submission process, and the expectations from participants throughout the internship. This session helped establish a clear understanding of the fellowship workflow and encouraged active participation in workshops, assignments, and discussions.

Following the orientation, the first software introduced was Inkscape, an open-source vector graphics editor widely used for creating illustrations, logos, icons, posters, and other scalable graphic designs.

Learning Inkscape

The workshop began with the installation and setup of Inkscape, followed by an introduction to its interface and essential tools. Participants learned the difference between raster and vector graphics and understood why vector images are preferred for scalable designs.

The sessions covered the basic features of Inkscape, including:

- Understanding the workspace and toolbar
- Creating basic shapes
- Object transformation (move, rotate, scale)
- Working with fill and stroke properties
- Layers and object organization
- Alignment and distribution tools
- Bézier curves and path editing

These concepts formed the foundation for creating precise and editable vector illustrations.

Practical Exercises and Assignment

After the workshop sessions, practical exercises were conducted to reinforce the concepts learned. Participants created vector illustrations using different drawing and editing tools while applying alignment, colour management, and path-editing techniques.

The weekly assignment required participants to implement the concepts taught during the workshop and submit their work within the prescribed timeline, helping develop both technical skills and disciplined work habits.

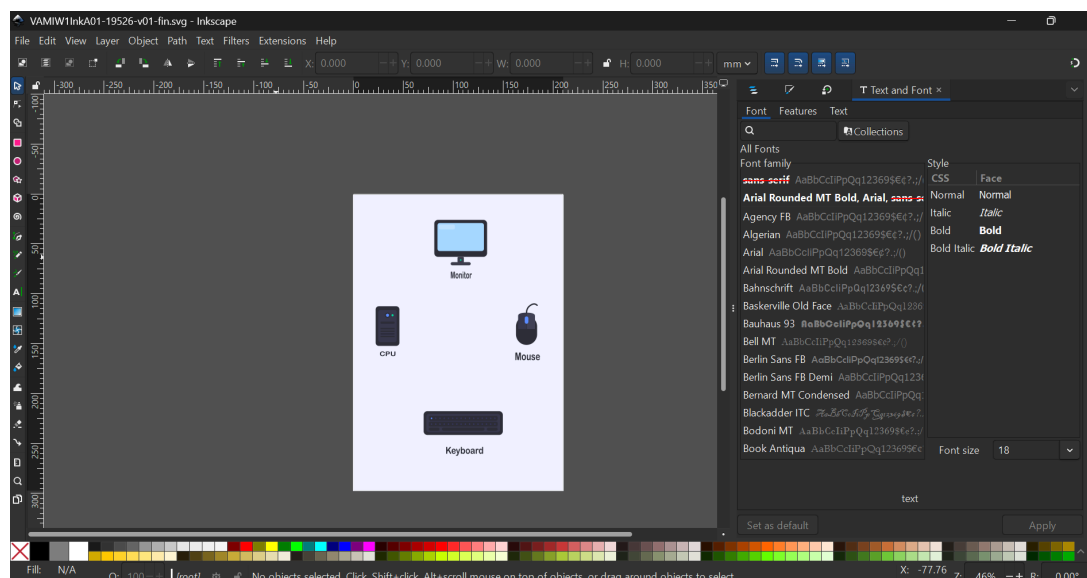
Challenges Faced

Since this was my first experience working extensively with vector graphics, understanding Bézier curves and path editing required regular practice. Initially, creating smooth curves and maintaining precision while designing illustrations was challenging. However, with continuous experimentation and guidance from the workshop sessions, I gradually became comfortable with the software and its workflow.

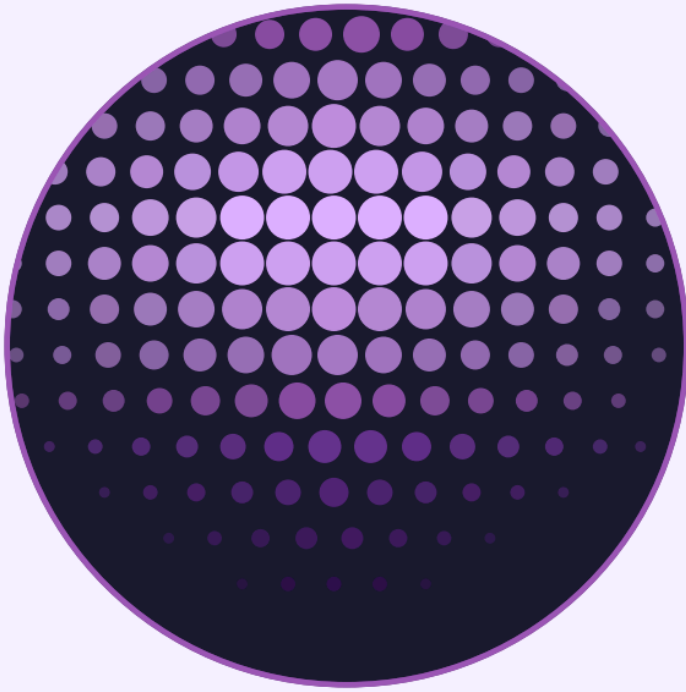
Learning Outcomes

By the end of the first week, I had developed a strong understanding of the fundamentals of vector graphics and became familiar with the Inkscape interface. I learned how to create and edit vector objects, organize design elements using layers, and apply essential tools for creating scalable illustrations.

The week also introduced me to the structured workflow followed throughout the fellowship, including attending workshops, completing assignments, maintaining documentation, and meeting submission deadlines. Overall, Week 1 provided a solid foundation for the advanced software and concepts explored in the following weeks.



2. Halftone Pattern (Tiled Clones in Circle)



WEEK 2

Week 2 – Image Editing using GIMP

Introduction

The second week of the FOSSEE Summer Fellowship 2026 focused on GIMP (GNU Image Manipulation Program), a powerful Free and Open Source Software (FOSS) used for raster image editing and digital image manipulation. While the first week introduced vector graphics through Inkscape, Week 2 shifted the focus towards working with pixel-based images, allowing participants to understand the differences between vector and raster graphics and their respective applications in digital content creation.

The week began with a workshop that introduced the fundamentals of GIMP, its interface, and its role in image editing. Participants explored various tools used in professional workflows for photo editing, graphic design, and digital artwork. The workshop emphasized practical learning through demonstrations and hands-on exercises, enabling participants to become familiar with the software before attempting the weekly assignment.

Understanding Raster Graphics

One of the primary concepts introduced during this week was the difference between vector and raster graphics. Unlike vector images, raster images are made up of individual pixels and are resolution-dependent. This makes them suitable for editing photographs, digital paintings, textures, and scanned artwork but less effective for designs that require frequent scaling.

The workshop explained common raster image formats such as JPEG, PNG, TIFF, and GIF while discussing their practical applications. Understanding image resolution, dimensions, and colour depth helped participants appreciate how image quality is affected by resizing and compression.

This conceptual understanding provided a strong foundation before beginning practical image editing tasks.

Exploring the GIMP Interface

The workshop introduced participants to the overall layout of GIMP and the purpose of its various panels and tools. Initially, the interface appeared more complex than Inkscape due to the larger number of editing options available, but regular practice made navigation increasingly comfortable.

Some of the major interface components explored during the workshop included:

- Toolbox
- Layers Panel
- Brushes and Patterns
- Tool Options
- Colour Selection
- Image Canvas
- Navigation Window

Participants also learned how to customize the workspace according to individual preferences, making the editing process more efficient.

Image Editing Tools and Features

After becoming familiar with the interface, participants explored the fundamental editing tools available in GIMP. The workshop demonstrated how different tools could be combined to perform common image manipulation tasks.

Some of the important tools and features covered during the week included:

- Selection tools for isolating image regions.
- Crop and Resize tools for image composition.
- Move, Scale, Rotate, and Flip transformations.
- Brush and Eraser tools for painting and corrections.
- Clone and Healing tools for removing unwanted objects.
- Text tool for adding typography.
- Colour adjustment options such as Brightness, Contrast, Levels, and Hue-Saturation.

Special emphasis was placed on Layers, one of the most powerful features of GIMP. Participants learned how layers enable non-destructive editing by allowing multiple image elements to be edited independently. Layer ordering, opacity, visibility, and blending modes were demonstrated to show how complex image compositions can be created while maintaining flexibility during editing.

Practical Exercises and Assignment

Following the workshop sessions, participants completed practical exercises designed to reinforce the concepts learned throughout the week. These exercises involved editing images using different selection techniques, applying transformations, correcting colours, and organizing projects with multiple layers.

The weekly assignment required participants to apply these editing techniques to create a well-structured composition while following the fellowship's documentation and submission guidelines. Completing the assignment strengthened both technical proficiency and familiarity with professional image-editing workflows.

Challenges Faced

During the initial stages of learning GIMP, managing multiple layers effectively proved to be one of the more challenging aspects of image editing. Understanding how different layers interact and maintaining an organized project structure required careful attention.

Another challenge involved selecting objects accurately without affecting surrounding areas. Using selection tools efficiently demanded patience and repeated practice, especially while working with images containing complex edges and fine details.

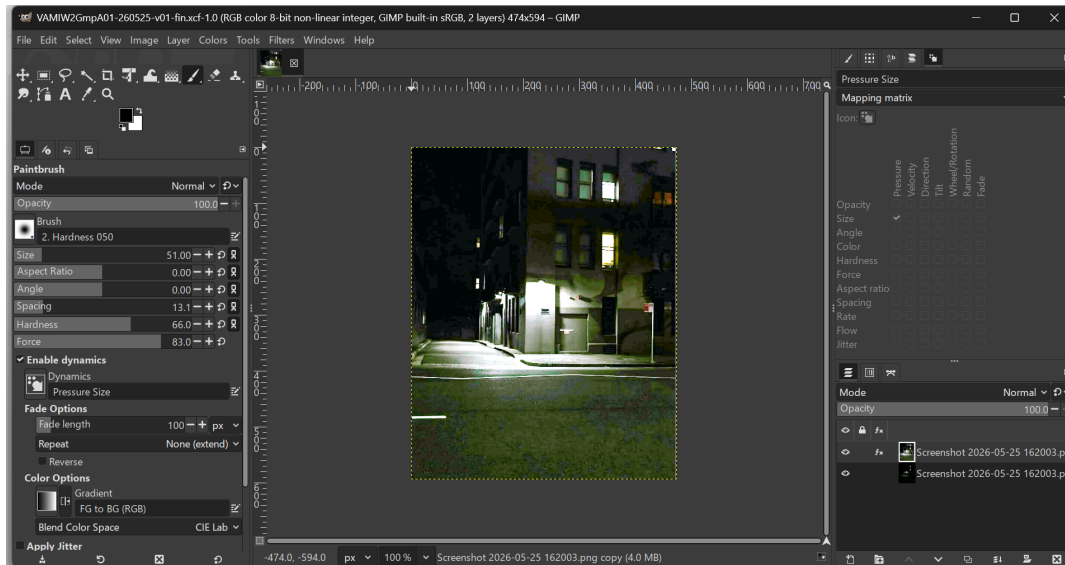
As the workshop progressed, these challenges became easier to overcome through regular experimentation and practical exercises.

Learning Outcomes

By the end of the second week, I had developed a solid understanding of raster image editing and the professional workflow followed in GIMP. I became comfortable using layers, selection tools, transformations, and colour adjustment techniques to edit and enhance digital images.

This week also helped me understand the complementary roles of vector and raster graphics in creative projects. While Inkscape is better suited for scalable illustrations and logos, GIMP excels in photo editing, texture creation, and image manipulation. Learning both applications provided a broader perspective on digital content creation and established a stronger foundation for the desktop publishing and animation software that would be introduced in the following weeks.

Overall, Week 2 enhanced my confidence in working with professional image-editing software while reinforcing the importance of practice, organization, and non-destructive editing techniques in modern digital workflows.



WEEK 3

Week 3 – Desktop Publishing using Scribus

Introduction

The third week of the FOSSEE Summer Fellowship 2026 introduced Scribus, a Free and Open Source desktop publishing (DTP) software used for creating professional print and digital publications. After learning vector graphics in Inkscape and raster image editing in GIMP, this week focused on combining text, images, and graphical elements into structured page layouts.

The workshop highlighted the importance of desktop publishing in designing brochures, magazines, books, newspapers, reports, posters, business cards, and other publication materials. Participants were introduced to the workflow of preparing documents for both digital distribution and professional printing while maintaining consistency in layout and design.

Understanding Desktop Publishing

The workshop began by explaining the concept of desktop publishing and its significance in modern design workflows. Unlike graphic design software that primarily focuses on illustrations or image editing, Scribus is specifically designed for arranging content into well-organized page layouts.

Participants learned how typography, spacing, alignment, margins, and visual hierarchy contribute to making documents more readable and visually appealing. The session also emphasized the importance of planning page layouts before beginning a project, ensuring consistency throughout multi-page documents.

Understanding these principles helped participants appreciate that effective publication design depends not only on creativity but also on proper organization and attention to detail.

Exploring the Scribus Interface

Participants were introduced to the Scribus workspace and its essential tools. Initially, the software appeared different from the previously learned applications because of its focus on page

layout rather than illustration or image editing. However, as the workshop progressed, navigating the interface became more intuitive.

The workshop covered several key components, including:

- Document setup and page properties
- Text Frames
- Image Frames
- Properties Panel
- Layers
- Pages Panel
- Style Manager
- Alignment and Distribution tools

Participants also learned how to configure page size, margins, guides, and columns before beginning a publication, highlighting the importance of proper document planning.

Working with Text and Images

A significant portion of the week focused on managing text and images within a publication. Participants learned how to create and edit text frames, import formatted text, adjust fonts, paragraph styles, spacing, alignment, and apply consistent typography throughout a document.

The workshop also demonstrated how image frames work in Scribus. Unlike ordinary image editing software, Scribus uses linked image frames, allowing images to be resized and positioned without modifying the original files. Participants practiced importing graphics, adjusting image scaling, and positioning elements to create balanced page compositions.

The use of master pages and reusable styles was also introduced, demonstrating how professional publications maintain consistency across multiple pages.

Practical Exercises and Assignment

Following the workshop, participants completed practical exercises to reinforce the concepts covered during the sessions. These exercises involved designing page layouts using text and image frames, organizing content with proper alignment, and applying typography principles to improve readability.

The weekly assignment required participants to create a structured publication while following the formatting and submission guidelines provided during the fellowship. Completing the

assignment provided practical experience in document design and helped participants understand the workflow involved in preparing professional publications.

Challenges Faced

The primary challenge during this week was understanding how different layout elements interact within a publication. Managing text flow across multiple frames, maintaining consistent spacing, and achieving a balanced visual layout required careful planning and attention to detail.

Another learning curve involved using styles instead of manually formatting each text element. Although this approach initially required more planning, it became clear that styles greatly improved efficiency and consistency in larger documents.

Through repeated practice and guidance during the workshop, these challenges gradually became easier to manage.

Learning Outcomes

By the end of the third week, I had developed a clear understanding of desktop publishing principles and became comfortable using Scribus to design professional page layouts. I learned how to organize textual and graphical content effectively, create structured publications, and apply consistent formatting using styles and templates.

This week's learning demonstrated how vector graphics from Inkscape and edited images from GIMP can be integrated into complete publications, highlighting the relationship between different creative software in a professional production workflow.

Overall, Week 3 strengthened my understanding of publication design and introduced me to the importance of typography, layout planning, and document organization. These skills are valuable for creating reports, brochures, magazines, and other professional publications, and they provided a solid foundation for the animation-focused software introduced in the following weeks.

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.

Scilab

A Free & Open-Source Alternative to MATLAB

Powerful Numerical Computing · Scientific Simulation · Data Visualisation

Version 2025

What is Scilab?

Scilab is a powerful, free and open-source numerical computation environment designed for engineers, scientists, and researchers. Originally developed by INRIA and École Nationale des Ponts et Chaussées, it is now maintained by Scilab Enterprises. With a syntax closely resembling MATLAB, Scilab provides a seamless transition path for existing users while eliminating expensive licence fees. Whether you are solving linear systems, building simulations, or generating publication-quality plots, Scilab delivers.

```
/ Scilab Console Demo
> s = 1:10;
> b = mls + eye(5,5);
> disp(Eigenvalues);
> disp(special);
> plot(1:10, (1:10)^2);
> xlabel('x'); ylabel('y'); title('');
```

Key Facts

- **Licence:** GNU GPL v2 – completely free
- **Platform:** Windows, macOS, Linux
- **Language:** Scilab scripting + C/Fortran core
- **Toolboxes:** ATOMS repository with 400+ packages
- **GUI:** Integrated IDE, debugger & variable browser
- **Xcos:** Block-diagram modeller (Simulink equivalent)
- **Community:** 10 million+ downloads worldwide

Figure 1 – Typical Scilab console session

Why Choose Scilab?

Zero Cost
No licence, no subscription. Deploy across an entire organisation without budget constraints.

Full-Featured
Matrix algebra, signal processing, optimisation, statistics and symbolic math in one package.

Extensible
ATOMS package manager and C/Fortran/Python interop let you tailor Scilab to any domain.

WEEK 4

Week 4 – 2D Animation using Synfig Studio

Introduction

The fourth week of the FOSSEE Summer Fellowship 2026 introduced Synfig Studio, a Free and Open Source Software used for creating 2D animations. After exploring vector graphics, image editing, and desktop publishing in the previous weeks, the fellowship shifted its focus towards animation principles and motion design. The workshop introduced participants to the fundamentals of digital animation and demonstrated how Synfig Studio can be used to create smooth animations using keyframes and interpolation techniques.

The sessions combined theoretical concepts with practical demonstrations, enabling participants to understand the complete workflow of creating simple 2D animated scenes.

Getting Started with Synfig Studio

The workshop began with an introduction to the Synfig Studio interface and its various components. Participants learned how to create a new project, configure canvas settings, organize layers, and navigate the workspace efficiently.

The software's layer-based workflow was explained, highlighting how different objects can be edited independently while maintaining a structured animation project. Participants also became familiar with the Timeline, Parameters Panel, Toolbox, and Layer Panel, all of which play an essential role in creating animations.

Understanding the workspace was an important first step before moving on to animation techniques.

Animation Principles and Keyframes

A major focus of the week was understanding the concept of keyframe animation. Participants learned that instead of drawing every individual frame manually, Synfig generates intermediate frames automatically by interpolating between keyframes.

The workshop covered concepts such as:

- Keyframes
- Timeline management

- Tweening (Interpolation)
- Object transformations
- Position, Rotation, and Scaling
- Layer animation
- Basic easing techniques

Participants observed how small changes in object properties over time could produce smooth and natural-looking animations. This introduced a more efficient workflow compared to traditional frame-by-frame animation.

Practical Exercises and Assignment

Throughout the workshop, participants practiced creating simple animations by applying the concepts demonstrated during the sessions. Exercises included animating basic shapes, moving objects across the screen, applying transformations, and controlling animation timing using the timeline.

The weekly assignment encouraged participants to create a short animation by combining multiple animation techniques learned during the week. The assignment reinforced concepts such as keyframing, layer management, and timing while helping participants gain confidence in using the software. Submission of the completed work followed the fellowship's regular documentation and evaluation process.

Challenges Faced

Transitioning from static graphic design to animation introduced a new way of thinking. One of the initial challenges was understanding how the timeline and keyframes interact to produce movement. Managing multiple animated layers and ensuring smooth transitions between keyframes also required careful observation and practice.

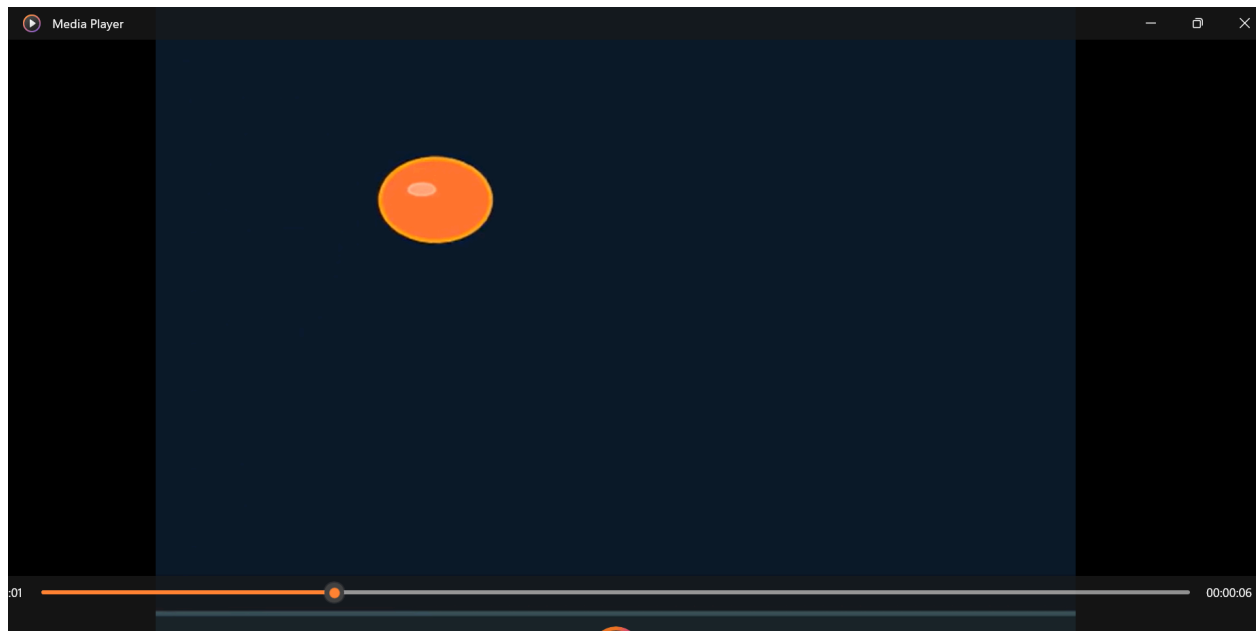
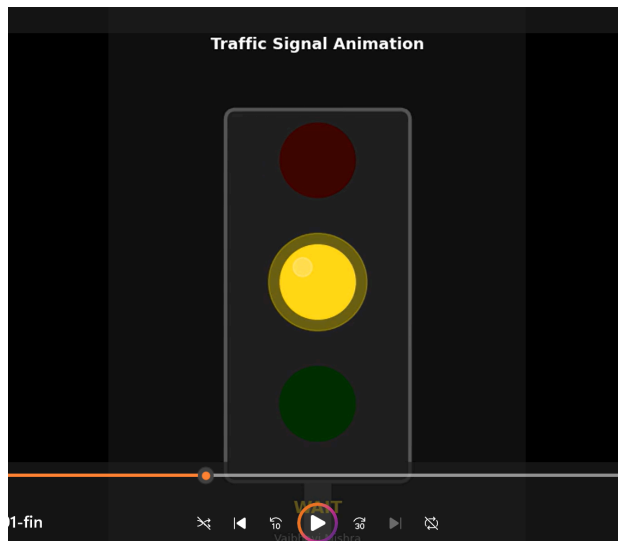
As I continued experimenting with different animation techniques, I became more comfortable adjusting timing, refining motion, and organizing animation projects efficiently.

Learning Outcomes

By the end of the fourth week, I had gained a solid understanding of the fundamentals of 2D animation using Synfig Studio. I learned how keyframes, timelines, and interpolation work together to create smooth animations without the need to draw every frame manually.

This week also demonstrated how the skills acquired in the previous modules could be integrated into animation workflows. Vector graphics created in Inkscape and edited assets from GIMP can serve as animation elements, making Synfig Studio an important link in the overall digital content creation pipeline.

Overall, Week 4 expanded my understanding of animation principles and introduced me to an efficient open-source solution for creating professional 2D animations. The experience strengthened both my technical skills and my appreciation for structured animation workflows, preparing me for the advanced 3D concepts introduced in the following week.



WEEK 5

Week 5 – 3D Graphics and Animation using Blender

Introduction

The fifth week of the FOSSEE Summer Fellowship 2026 introduced Blender, one of the most powerful and widely used Free and Open Source Software applications for 3D modeling, animation, rendering, visual effects, and digital content creation. Having previously explored vector graphics, image editing, desktop publishing, and 2D animation, participants were now introduced to the fundamentals of three-dimensional graphics and the workflows involved in creating 3D assets.

The workshop provided an overview of Blender's capabilities and demonstrated how it is used across industries such as animation, game development, architecture, product visualization, and visual effects. Through hands-on sessions, participants gained an understanding of the software's interface and basic 3D workflows, laying the groundwork for further exploration of computer graphics.

Getting Started with Blender

The workshop began with an introduction to Blender's workspace and navigation system. Since 3D software differs significantly from the applications covered in previous weeks, participants first learned how to move around the 3D Viewport and interact with objects in a three-dimensional space.

The session introduced several essential components of Blender, including:

- 3D Viewport
- Outliner
- Properties Editor
- Timeline
- Scene Collection
- Toolbar
- Transform Gizmos

Participants also learned basic viewport navigation techniques such as orbiting, panning, zooming, and changing viewing perspectives, which are fundamental skills for working efficiently in any 3D environment.

Basic Modeling and Object Manipulation

Once familiar with the interface, participants explored the fundamentals of 3D modeling. The workshop demonstrated how simple geometric primitives can be used as the building blocks for more complex models.

Topics covered during the sessions included:

- Adding primitive objects such as cubes, spheres, and cylinders.
- Moving, rotating, and scaling objects.
- Understanding object origin and transformations.
- Using Edit Mode to modify geometry.
- Basic mesh editing techniques.
- Introduction to materials and viewport shading.

These concepts helped participants understand how three-dimensional objects are created and manipulated within Blender.

Practical Exercises and Assignment

The workshop included practical exercises that allowed participants to apply the concepts learned during the sessions. Participants created simple 3D scenes by placing and transforming objects, modifying their geometry, and organizing them within the workspace.

The weekly assignment encouraged participants to use these basic modeling techniques to create a simple project while following the fellowship's documentation and submission guidelines. Completing the assignment reinforced the understanding of Blender's interface and introduced participants to the structured workflow followed in professional 3D production.

Challenges Faced

For many participants, Blender was the most technically demanding software introduced during the fellowship due to its extensive feature set and three-dimensional workflow. Understanding viewport navigation, object transformations, and the relationship between Object Mode and Edit Mode required consistent practice.

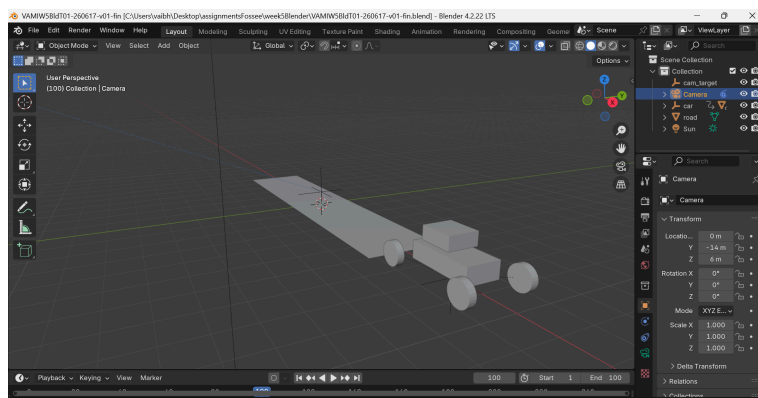
Initially, visualizing and manipulating objects in three-dimensional space was challenging. However, regular hands-on exercises and workshop demonstrations gradually improved my confidence in navigating the software and performing basic modeling tasks.

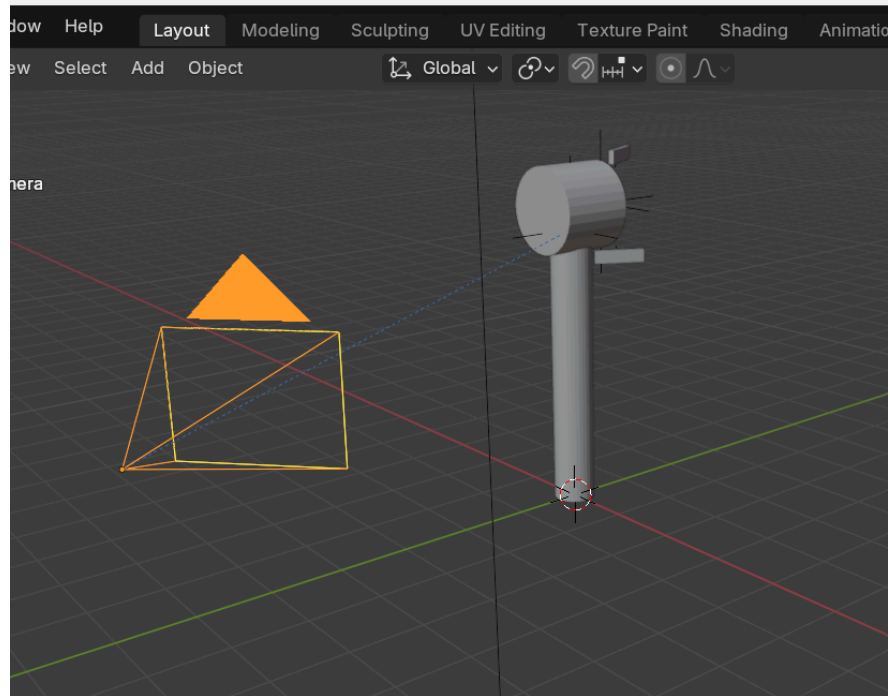
Learning Outcomes

By the end of the fifth week, I had developed a strong understanding of Blender's interface and the fundamentals of 3D graphics. I learned how to navigate the 3D workspace, create and modify simple models, organize scenes, and apply basic transformations effectively.

This week also demonstrated how Blender complements the software introduced earlier in the fellowship. Assets created in applications such as Inkscape and GIMP can be incorporated into 3D projects, illustrating how different open-source tools work together within a complete digital content creation pipeline.

Overall, Week 5 provided an excellent introduction to 3D modeling and animation using Blender. It expanded my knowledge beyond 2D design and animation while strengthening my understanding of professional creative workflows. The experience further reinforced the versatility and potential of open-source software for producing high-quality digital content.





WEEK 6

Week 6 – Advanced Practice, Documentation and Skill Enhancement

Introduction

The sixth week of the FOSSEE Summer Fellowship focused on strengthening the knowledge and skills developed during the previous weeks. Rather than introducing a completely new software application, this phase emphasized consistent practice, refinement of previously learned concepts, documentation, and timely completion of assignments. Participants were encouraged to revisit earlier topics, improve their work based on mentor feedback, and prepare their documentation according to the fellowship guidelines. The fellowship also continued with regular announcements, assignment updates, and submission activities to ensure steady progress toward the final evaluation.

Revisiting Previously Learned Software

This week provided an opportunity to strengthen my understanding of the software applications introduced during the fellowship. I revisited the core features of Inkscape, GIMP, Scribus, Synfig Studio, and Blender by practicing the tools and techniques covered in earlier workshops.

Instead of learning new concepts, the focus shifted towards improving accuracy, speed, and overall confidence while using these applications. Repeating practical exercises helped reinforce the workflows and enhanced my familiarity with each software.

Documentation and Assignment Management

An important part of this week involved maintaining proper documentation of the work completed throughout the fellowship. Participants were encouraged to organize project files, maintain records of assignments, and ensure that submissions followed the prescribed guidelines.

This process highlighted the importance of file management, documentation, and systematic organization—skills that are essential in both academic and professional environments.

Regular assignment updates and communication with mentors also helped ensure that all tasks were completed within the specified deadlines.

Continuous Learning and Practice

The workshop encouraged participants to continue exploring the software independently beyond the topics demonstrated during the live sessions. Self-learning through experimentation allowed me to better understand the capabilities of each application and improve my overall workflow.

Practicing repeatedly also increased my confidence in using keyboard shortcuts, organizing projects efficiently, and selecting the appropriate software for different creative tasks.

Challenges Faced

The primary challenge during this week was balancing practice across multiple software applications while ensuring that assignments and documentation remained up to date. Since each application follows a different workflow, switching between them required careful planning and organization.

With regular practice and better time management, I was able to improve both the quality of my work and the efficiency of my workflow.

Learning Outcomes

By the end of the sixth week, I had significantly strengthened my understanding of the software introduced throughout the fellowship. Continuous practice improved my confidence in using different tools, while maintaining proper documentation helped me develop better organizational and professional work habits.

This week reinforced the importance of consistency, self-learning, and disciplined project management. Rather than focusing solely on learning new software, it emphasized refining existing skills and preparing for the successful completion of the fellowship.

WEEK 7

Week 7 – Project Development and Skill Enhancement

Introduction

The seventh week of the FOSSEE Summer Fellowship marked an important stage in the learning process, where the focus shifted from learning new software to strengthening the skills developed throughout the previous weeks. By this point, participants had gained hands-on experience with Inkscape, GIMP, Scribus, Synfig Studio, and Blender, making it possible to approach creative tasks with greater confidence and independence.

The week emphasized continuous practice, refinement of assignments, project organization, and documentation. Rather than introducing new concepts, participants were encouraged to revisit previous work, improve its quality based on feedback, and develop a more structured and professional workflow.

Applying Previously Learned Skills

Throughout the week, I revisited the concepts and techniques learned during the earlier workshops. Practicing across multiple software applications helped reinforce my understanding of their individual strengths and how they complement one another within a complete digital content creation pipeline.

Working with different software also improved my adaptability. Instead of focusing only on software-specific features, I began understanding the importance of choosing the right tool for a particular task. Whether it involved creating vector graphics, editing images, preparing layouts, designing animations, or working with 3D objects, each application served a unique purpose within the creative workflow.

Repeated practice also helped improve my speed and confidence while working on projects, allowing me to complete tasks more efficiently than during the initial weeks of the fellowship.

Project Refinement and Documentation

One of the major activities during this week involved reviewing and refining previously completed assignments. By revisiting earlier work, I was able to identify minor errors, improve design consistency, and apply better organizational practices that I had developed throughout the fellowship.

Alongside practical work, equal importance was given to documentation. Maintaining organized project files, following proper naming conventions, and preparing work for submission helped me understand the significance of professional documentation in collaborative projects. These practices not only simplify project management but also make future revisions and evaluations more efficient.

The experience highlighted that technical skills alone are not sufficient in a professional environment; proper organization, documentation, and presentation of work are equally important.

Independent Learning and Professional Growth

As the fellowship progressed, greater responsibility was placed on self-learning. I spent time exploring additional features within the software applications beyond those covered during the workshops. Reading documentation, experimenting with different tools, and trying alternative approaches helped deepen my understanding of the software.

This independent exploration improved my confidence in solving problems without relying entirely on guided demonstrations. It also encouraged me to develop the habit of learning through experimentation, which is an essential skill for anyone working in creative and technical fields where software and workflows continue to evolve.

Challenges Faced

Managing multiple assignments while ensuring proper documentation required careful planning and effective time management. Revisiting previous work also required a critical approach, as identifying areas for improvement often involved reworking portions of completed projects.

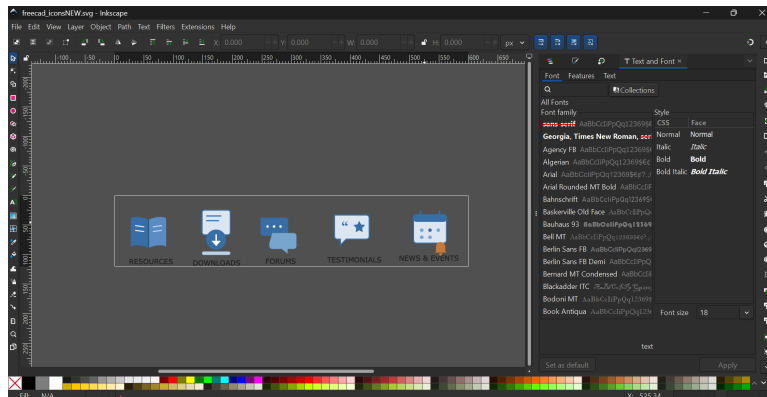
Another challenge was maintaining consistency across different software applications, as each program follows a unique interface and workflow. However, continuous practice gradually reduced these difficulties and made switching between applications more comfortable.

Learning Outcomes

By the end of the seventh week, I had developed a much stronger understanding of professional creative workflows. The knowledge gained throughout the fellowship became more interconnected, allowing me to apply concepts learned in one software application while working in another.

This week reinforced the value of continuous improvement, organized documentation, and independent learning. It also demonstrated that mastering creative software requires regular practice, patience, and attention to detail rather than simply completing assignments.

Overall, Week 7 strengthened both my technical abilities and my professional approach towards project management. The experience prepared me for the final stage of the fellowship, where the focus shifted towards completing all deliverables, organizing documentation, and reflecting on the knowledge and skills gained throughout the internship.



WEEK 8

Week 8 – Final Submission, Documentation and Fellowship Completion

Introduction

The eighth and final week of the FOSSEE Summer Fellowship marked the successful conclusion of the internship. This week was dedicated to completing all remaining assignments, organizing documentation, verifying submissions, and ensuring that every fellowship requirement had been fulfilled. It also provided an opportunity to reflect on the knowledge, practical skills, and professional experience gained throughout the eight-week learning journey.

Unlike the earlier weeks, which focused on learning new software applications, the final week emphasized consolidation of knowledge, project completion, and preparation for the fellowship's final evaluation. Participants were encouraged to review their work carefully, incorporate any necessary improvements, and ensure that all submissions complied with the prescribed guidelines.

Final Review and Completion of Work

During this week, I reviewed all the assignments and practical work completed throughout the fellowship. Revisiting earlier projects allowed me to identify areas for improvement, verify the quality of my submissions, and ensure that every task had been completed according to the fellowship requirements.

I also organized all project files, maintained proper folder structures, and ensured that documentation was complete and easy to navigate. This process reinforced the importance of maintaining a systematic workflow, especially when working on projects involving multiple software applications and numerous deliverables.

The experience highlighted that careful review and organization are as important as the creative process itself, as they contribute significantly to the overall quality and professionalism of a project.

Reflection on the Fellowship Journey

The final week provided an opportunity to reflect on the progress made since the beginning of the fellowship. Starting with vector graphics in Inkscape and gradually moving through image editing, desktop publishing, 2D animation, and 3D graphics, each week contributed to building a comprehensive understanding of open-source creative software.

Throughout the fellowship, I not only learned how to use different applications but also developed a better understanding of creative workflows, project planning, and problem-solving. The structured sequence of workshops allowed me to recognize how these software applications complement one another and can be integrated into complete digital content creation pipelines.

The fellowship also encouraged continuous learning and experimentation, motivating me to explore software features beyond the workshop demonstrations and develop confidence in learning independently.

Professional Growth

Beyond technical knowledge, the fellowship helped me develop several professional skills that are valuable in both academic and industry environments. Regular assignment submissions, workshop participation, documentation, and adherence to deadlines improved my discipline and time management.

Working within a structured schedule also strengthened my organizational abilities and taught me the importance of maintaining consistency in documentation and project management. These experiences provided valuable insight into professional work practices and collaborative learning environments.

The guidance provided by mentors and coordinators throughout the fellowship also encouraged a problem-solving mindset, helping me approach challenges more systematically and confidently.

Challenges and Their Resolution

The primary challenge during the final week was ensuring that all assignments, documentation, and project files were complete, properly organized, and submitted within the prescribed

timeline. Reviewing work completed over several weeks required careful attention to detail and effective time management.

By following an organized workflow and revisiting previous submissions, I was able to address minor improvements and successfully complete all fellowship requirements. This process reinforced the importance of planning, consistency, and thorough review before final submission.

Learning Outcomes

The completion of the FOSSEE Summer Fellowship marked a significant milestone in my learning journey. Over the course of eight weeks, I gained practical experience with a range of open-source creative software, including Inkscape, GIMP, Scribus, Synfig Studio, and Blender. More importantly, I learned how these applications can work together within professional design, publishing, animation, and 3D production workflows.

The fellowship also strengthened essential professional skills such as independent learning, effective communication, documentation, project organization, and time management. These competencies are equally important as technical knowledge and will continue to support my academic and professional growth.

Overall, the FOSSEE Summer Fellowship was an enriching and rewarding experience. It enhanced my technical capabilities, introduced me to the philosophy of Free and Open Source Software, and encouraged a mindset of continuous learning and collaboration. The knowledge and experience gained during this internship will serve as a strong foundation for my future studies and career in the field of animation and digital content creation.

Challenges & Solutions

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Learning Outcomes

Introduction

The FOSSEE Summer Fellowship 2026 provided an excellent opportunity to develop both technical and professional skills through a structured learning environment. Over the course of eight weeks, I explored a variety of Free and Open Source Software applications, completed practical assignments, and participated in workshops that emphasized hands-on learning. The fellowship not only enhanced my software proficiency but also helped me develop essential workplace skills such as problem-solving, time management, documentation, and independent learning.

Technical Skills Acquired

One of the most significant outcomes of the fellowship was gaining practical experience with multiple open-source creative applications. Each software introduced a different aspect of digital content creation and collectively provided a comprehensive understanding of creative workflows.

During the fellowship, I developed practical knowledge of:

- **Inkscape** for creating vector graphics, illustrations, and scalable designs.
- **GIMP** for raster image editing, photo manipulation, and colour correction.
- **Scribus** for desktop publishing and professional document layout.
- **Synfig Studio** for creating 2D animations using keyframes and timeline-based animation.
- **Blender** for basic 3D modeling, scene creation, and understanding three-dimensional workflows.

Learning these applications broadened my understanding of open-source software and demonstrated that professional-quality creative work can be accomplished without relying on proprietary tools.

Professional Skills Developed

In addition to technical knowledge, the fellowship helped me strengthen several professional competencies that are essential in both academic and industry environments.

Throughout the internship, I improved my ability to:

- Manage time effectively while handling multiple assignments.
- Organize project files and maintain proper documentation.
- Follow structured workflows and submission guidelines.
- Learn new software independently through experimentation and practice.
- Apply problem-solving techniques while overcoming technical challenges.
- Maintain consistency and attention to detail in creative work.

These skills contributed significantly to my overall growth and will be valuable in future projects.

Understanding Open-Source Workflows

One of the most valuable lessons from the fellowship was understanding the philosophy and practical benefits of Free and Open Source Software. Before joining the program, my experience was primarily limited to commercial creative tools. The fellowship demonstrated that open-source applications are capable of supporting professional creative workflows while promoting accessibility, collaboration, and continuous innovation.

This experience encouraged me to explore open-source communities further and strengthened my appreciation for knowledge sharing and collaborative development.

Personal Growth

Beyond technical achievements, the fellowship helped me become a more confident and disciplined learner. Working consistently over eight weeks taught me the importance of patience, continuous practice, and adaptability. Each week's assignments presented new challenges that encouraged me to think critically, improve my workflow, and approach problems systematically.

The structured nature of the fellowship also improved my confidence in learning unfamiliar software independently, a skill that will remain valuable throughout my academic and professional career.

Overall Learning Outcomes

The FOSSEE Summer Fellowship provided a well-rounded learning experience by combining technical education with practical application. It enhanced my understanding of digital design, animation, publishing, and 3D graphics while strengthening essential professional skills such as organization, documentation, communication, and time management.

Overall, the fellowship expanded my technical knowledge, encouraged independent learning, and introduced me to the value of open-source software in creative industries. The skills and experience gained during this internship have established a strong foundation for my future studies and career in animation, design, and digital content creation.

Feedback

Introduction

Participating in the **FOSSEE Summer Fellowship 2026** was a rewarding and enriching experience that significantly contributed to my technical knowledge, practical skills, and personal development. Over the course of eight weeks, I had the opportunity to explore a diverse range of Free and Open Source Software applications through structured workshops, practical assignments, and continuous guidance from mentors.

The fellowship was much more than a software training program. It provided an environment that encouraged discipline, independent learning, collaboration, and continuous improvement. Each week introduced new concepts that gradually expanded my understanding of digital content creation and demonstrated how different creative tools work together within a professional workflow.

Learning Through Practice

One of the most valuable aspects of the fellowship was its emphasis on practical learning. Every workshop was followed by assignments that encouraged participants to apply the concepts immediately. This hands-on approach helped reinforce theoretical knowledge and improved my confidence in using the software effectively.

Regular practice allowed me to become familiar with different creative workflows and taught me the importance of experimentation, patience, and continuous improvement. Rather than simply learning software features, I developed a deeper understanding of how these tools can be used to solve real-world creative problems.

Growth Beyond Technical Skills

The fellowship also helped me develop several qualities that extend beyond technical expertise. Managing weekly assignments, maintaining documentation, meeting deadlines, and organizing project files taught me the importance of discipline and professional responsibility.

Interacting with mentors and fellow participants created a collaborative learning environment where knowledge was shared openly. This experience reinforced the value of teamwork, effective communication, and seeking guidance whenever required.

Another important lesson was the importance of self-learning. The fellowship encouraged participants to explore software independently and continue learning beyond the workshop sessions, helping me become more confident in adapting to unfamiliar tools and technologies.

Impact on My Future Goals

As a student interested in animation and digital content creation, this fellowship provided valuable exposure to professional open-source creative software. Learning applications such as Inkscape, GIMP, Scribus, Synfig Studio, and Blender broadened my perspective on the creative pipeline and demonstrated how different software applications complement one another.

The experience also strengthened my confidence in exploring new technologies independently. I now have a better understanding of structured creative workflows and the importance of choosing the right tools for different stages of a project. These skills will support my future academic work and contribute positively to my professional career in the creative industry.

Reflection

Looking back, the FOSSEE Summer Fellowship was a meaningful learning experience that combined technical education with professional development. Every workshop, assignment, and interaction contributed to my growth as a learner and as a future creative professional.

The fellowship not only introduced me to powerful open-source software but also inspired me to appreciate the philosophy of open knowledge, collaboration, and continuous learning. I believe the knowledge, experience, and confidence gained during these eight weeks will continue to benefit me in my future studies and career.

Overall, the fellowship has been an important milestone in my learning journey, and I am grateful for the opportunity to be a part of this initiative. The experience has motivated me to continue exploring open-source technologies and apply the skills I have acquired to future creative and professional projects.

Declaration

I hereby declare that this internship report entitled "**FOSSEE Summer Fellowship 2026 Report**" is a genuine record of the work carried out by me during the **FOSSEE Summer Fellowship 2026** under the **FOCAL (Free and Open Source Creative Art Library)** project at **IIT Bombay**.

I further declare that the work presented in this report has been completed by me during the fellowship period under the guidance of the assigned mentor and in accordance with the fellowship guidelines. The information, observations, and learning outcomes documented in this report are based on my participation in the workshops, practical assignments, and activities conducted throughout the fellowship.

I understand the importance of academic integrity and affirm that this report has been prepared solely for the purpose of fulfilling the requirements of the FOSSEE Summer Fellowship. Wherever reference has been made to official fellowship resources or learning materials, appropriate acknowledgment has been given.

I take full responsibility for the authenticity of the work presented in this report.

Name of the Student:	Vaibhavi Mishra
Course:	Btech(CSE)
Institute:	VIT Bhopal
Fellowship:	FOSSEE Summer Fellowship 2026
Signature:	