Internship Report
on
Development of Stylish and Functional Handbag Designs through 3D Printing

at
Sumskruta Vahini Foundation

Internship Duration: May 1, 2025 – June 12, 2025
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Acknowledgment

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1   Executive Summary

This report outlines my internship experience at Sumskruta Vahini Foundation from May 1, 2025, to June 12, 2025, where we contributed to the project "Development of Stylish and Functional Handbag Designs through 3D Printing" as part of Team 1 (3 members) focused on the tote bag model. The project involved three teams: Team 1 for tote bags, Team 2 (3 members) for sling bags, and Team 3 (2 members) for shopping bags. Our role included creating 3D models of the tote bag, sling bag, and shopping bag incorporating various material options, and ensuring the designs were both stylish and functional. Key achievements include successfully completing a 3D model, shared via a Google Drive link, and documenting the project on GitHub. The internship enhanced my technical skills in 3D modeling and my understanding of design principles through team collaboration. We faced challenges in material selection and design optimization, which were overcome through research, feedback, and group discussions. This experience has strengthened our problem-solving abilities and prepared us for future roles in innovative design and technology.

2   Introduction

The internship at Sumskruta Vahini Foundation was a significant opportunity to apply our academic knowledge from the Department of Information Technology at Stanley College of Engineering and Technology for Women (Autonomous). The project focused on leveraging 3D printing technology to develop stylish and functional handbag designs, with work divided among three teams: Team 1 (3 members) for tote bags, Team 2 (3 members) for sling bags, and Team 3 (2 members) for shopping bags. The internship spanned from May 1, 2025, to June 12, 2025, with the possibility of a 15-day extension, which we were prepared to accommodate. This report details our responsibilities, challenges, and learning outcomes during this period, emphasizing the collaborative team environment.

3 Company Overview

Sumskruta Vahini Foundation is an organization dedicated to fostering innovation and creativity through advanced technologies. SUMSKRUTA VAHINI FOUNDATION (CIN: U90004WB2023NPL263847) is a section 8 company registered with MSME and NGO Darpan. They are involved in training and developing various handicraft products with rural women. One of their major areas is leather/Jute/Juco combination hand bags and conference file folders for women employment. They are looking out for incorporating technology in designing the accessories. The organization collaborates with academic institutions to provide hands-on learning opportunities for students.

4   Internship Objectives

The objectives of my internship were:

- To develop proficiency in 3D modeling software for creating handbag designs.

- To explore and incorporate different material options suitable for 3D printing in collaboration with my team.

- To produce a functional and aesthetically appealing tote bag, sling bag, and shopping bag designs through team efforts.

- To enhance my teamwork and communication skills by collaborating with Team 1members and interacting with other teams.

- To document the project progress and outcomes effectively for future reference.

These objectives were set in consultation with the Sumskruta Vahini Foundation and aligned with my academic goals in information technology and design.

5   Description of Work/Tasks

The project was structured with three teams: Team 1 (3 members) for tote bags, Team 2

(3 members) for sling bags, and Team 3 (2 members) for shopping bags. As a member of the Team, our primary responsibility was to contribute to the design of a 3D model for a bag that balanced style and functionality. Our team's tasks included:

- **Researching 3D Printing Materials**: As a team, we investigated various materials compatible with 3D printing, to ensure durability and aesthetic appeal.

- **Creating 3D Models**: Collaborated using 3D modeling software (Blender) to design the bag, incorporating features like ergonomic handles and modular compartments.

- **Documenting Designs**: Compiled detailed measurements and design specifications, shared with the foundation members.

- **Project Documentation**: Maintained a GitHub repository (`https://github.com/Rishi23-02/Development-of-Stylish-and-Functional-Handbag-Designs-through-3D-Printing`) to document the project's progress and outcomes, with contributions from team members.

- **Collaborating with Teams**: Worked closely with Team 1 members to refine designs based on feedback and shared insights with Team 2 and Team 3 to ensure consistency across handbag models.

By May 29, 2025, we completed the initial 3D model of the tote bag, and shared it with the Director for review on behalf of the team.

6   Challenges and Solutions

Challenge 1: Material Selection

Selecting appropriate materials for 3D printing was challenging due to the need to balance flexibility, durability, and visual appeal across the team.

Solution: Team 1 conducted joint research on material properties and consulted with other teams for shared insights. We tested small-scale prototypes to evaluate material performance.

Challenge 2: Design Optimization

Ensuring the bag design was both functional and stylish required multiple iterations within the team.

Solution: Incorporated feedback from the Director and team members, adjusting the model's dimensions and features through group discussions. Used iterative testing in the 3D modeling software to refine the design collaboratively.

These challenges enhanced our problem-solving skills and highlighted the value of teamwork in overcoming design hurdles.

7   Conclusion

The internship at Sumskruta Vahini Foundation was a transformative experience that allowed us to apply our IT skills to a creative project within a collaborative team structure. As part of Team 1, completing the 3D model of a stylish and functional tote bag alongside contributions from Team 2 and Team 3 was a significant achievement. The challenges faced strengthened our problem-solving abilities and underscored the benefits of teamwork. This internship has prepared us for future roles in innovative design and technology, and we are excited to continue exploring 3D printing applications.

8   Appendices

Appendix A: 3D Model Files - Link to Google Drive: `https://drive.google.com/drive/folders/1k9qUg1-VGkIM35PfgGRWAfqQtJXZPbTG?usp=drive_link`

Appendix B: Project Repository - GitHub Link: `https://github.com/Rishi23-02/Development-of-Stylish-and-Functional-Handbag-Designs-through-3D-Printing`