

MIT SCHOOL OF COMPUTING

Class: TY AIA 1 Group ID: TYAI102

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Gen-Al in Blender

AI-driven prompt-based image generation *Team members : Harkeerat Singh Dhunda, Vilakshan*

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Ideation:

Sr. No.	Requirement	Proposed Solution
1.	Consistent Style Interpretation	
	Available Solutions- Enhance model's ability to	Proposed Solution- Explore neural architecture
	consistently interpret and apply diverse artistic styles	improvements for style consistency and research state-of-the-art style.
2.	Expanded Prompt Diversity	
	Available Solutions- Increase the diversity of prompts for generating a wider range of images	Proposed Solution- Analyze user behavior to understand prompt preferences and implement a prompt suggestion system
3.	Optimized Image Resolution	
	Available Solutions- Further optimize algorithms for generating even higher-resolution	Proposed Solution- Explore distributed computing for parallel image generation

Problem statement

Current limitations in Blender's integration for AI-driven image generation create a positive opportunity to enhance the user experience, enabling a smoother and more accessible incorporation of AI-generated content in 3D design projects.

Proposed system:

Empathy Map:

CLIPText Autoencoder & decoder Input Text 77 tokens Token Text Encoder Processed Information Decoder **Embeddings** Image Info Creation 512 width x 512 height Think and Feel Observing a more dynamic and Potential of blending Al with 3D diverse range of visuals in Blende design. Listen to user exper 4:3.1 Hear Witnessing the impact of Al-driven New Al driven design generation How can I easily incorporate Algenerated images into my scenes? I want a user-friendly Al add-on for Say and Do **Pain** Gain Difficulty navigating addo Enhancing creative process

Proposed Solution

Blender's integration for AI-powered image production by strategically incorporating powerful Generative AI technology. The major goal is to create a novel, user-friendly prompt-based add-on that works smoothly with Generative AI algorithms, overcoming existing problems and pushing the frontiers of 3D design.

Scope and Feasibility

By providing artists with a sophisticated tool, it facilitates the effortless integration and stylization of AI-generated content into their designs. The approach is not merely about addressing current hurdles but actively reshaping the landscape of 3D designs.