

NEIL GOGTE INSTITUTE OF TECHNOLOGY

"AI-Generated Storyboard" Revolutionizing Visual Narratives

Under the Guidance

of

Dr. M Mahender

Associate Professor

Bhuvan Arya Jarang – 245321733137

Denduluri Venkata Mahisri - 245321733145

Gaddam Krishna Adithya - 245321733148

Department of Computer Science & Engineering

<u>INTRODUCTION</u>

- Storyboards guide visual storytelling across films, games and ads, ensuring clarity and consistency.
- Traditional methods are time-consuming and require artistic skills, limiting accessibility.
- 3. All uses text or voice to auto-generate storyboards using NLP and generative models.
- 4. Faster and inclusive: This approach speeds up production and empowers all creators.

PROJECT ARCHITECTURE

- > BACKEND : FAST API
- > FRONTEND : HTML, CSS, JS
- > AI SERVICES LAYER :

IMAGE GENERATION : DALL – E

SCRIPT TO SCENE CONVERTER: NLP MODEL (TEXT - SPEECH CONVERSION)

> DATABASE LAYER : MONGODB

<u>MODULES</u>

- 1) Script Processing Module
- 2) Al-Based Image Generation Module
- 3) User Management Module
- 4) Storage & Export Module
- 5) Feedback & Revision Module

SCRIPT PROCESSING MODULE

- Breaks down ad scripts into visual scenes This helps map out the flow of an advertisement, translating text into a clear visual narrative structure.
- 2. Identifies key elements like characters, actions, and settings Ensures that every important detail in the script is visually
 - represented in the storyboard for precise ad planning.

AI – BASED IMAGE GENERATION MODULE

- Automatically generates visuals for each scene based on the script, saving time and eliminating the need for manual sketching.
- Helps advertisers visualize the final look of the ad early in the process, aiding in faster approvals and better creative decisions.

USER MANAGEMENT MODULE

- 1. Manages roles and permissions, allowing ad agencies to control who can create, edit, or review storyboards.
- Enables team collaboration, making it easier for copywriters, designers, and directors to work together on ad campaigns.

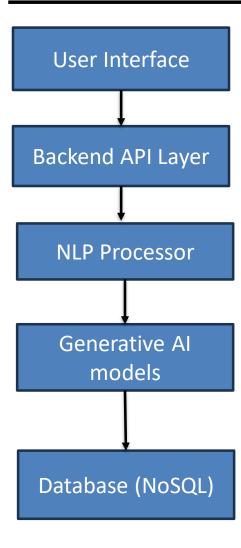
STORAGE & EXPORT MODULE

- Securely stores storyboard versions, making it easy to revisit, update, or reuse visual plans for future ad campaigns.
- 2. Allows export in multiple formats (PDF, images, presentations), making it easy to share with clients, directors, or production teams.

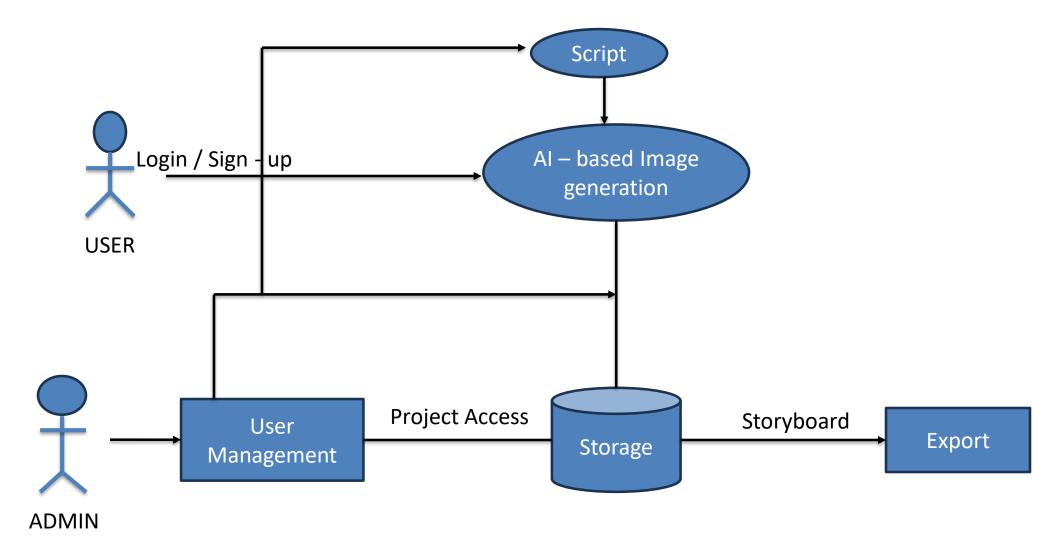
FEEDBACK & REVISION MODULE

- 1. Collects feedback from clients or team members directly on the storyboard, streamlining the review process.
- 2. Enables quick revisions, helping refine visuals and messaging to better match the brand's goals and audience expectations.

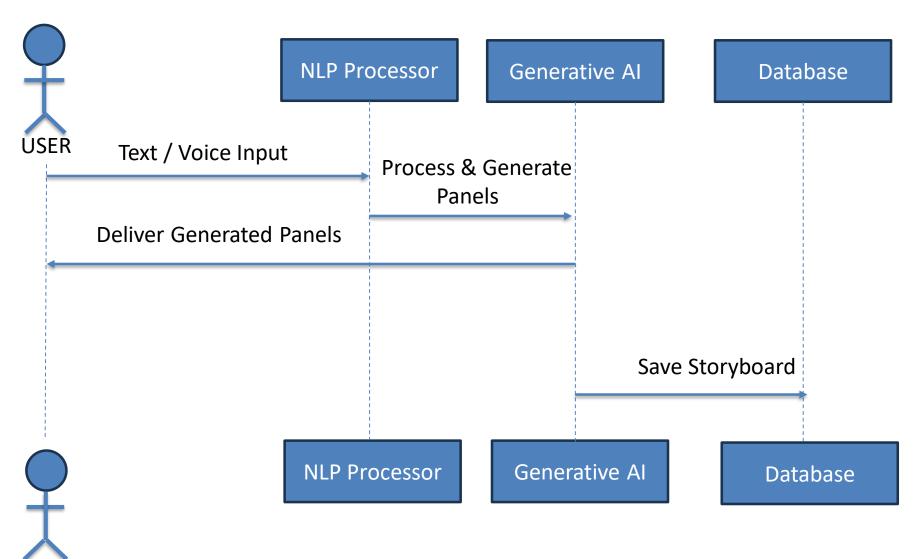
ARCHITECTURE



DATA FLOW DIAGRAM



SEQUENCE DIAGRAM

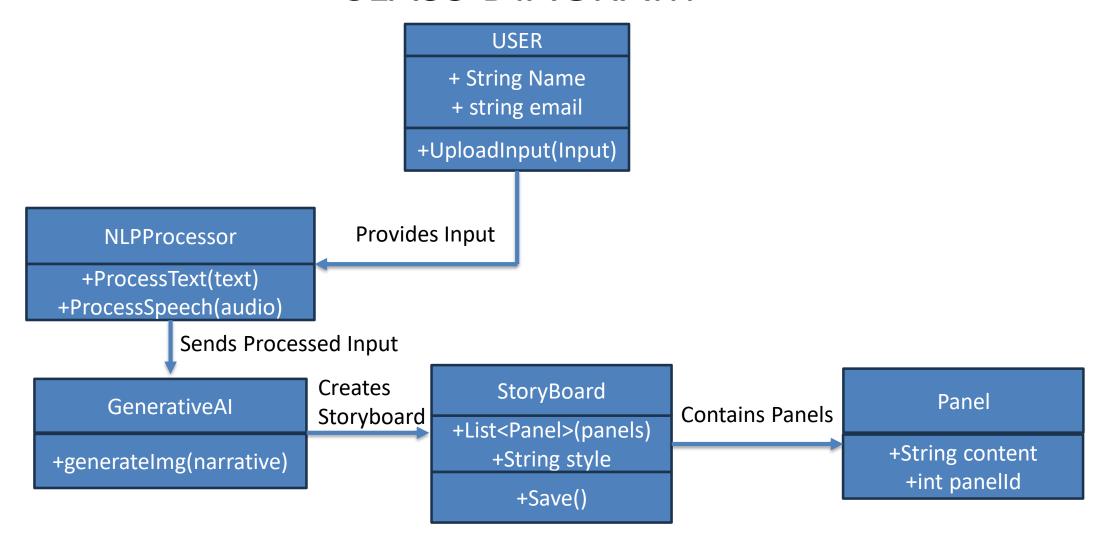


AI-Generated Storyboard

USER

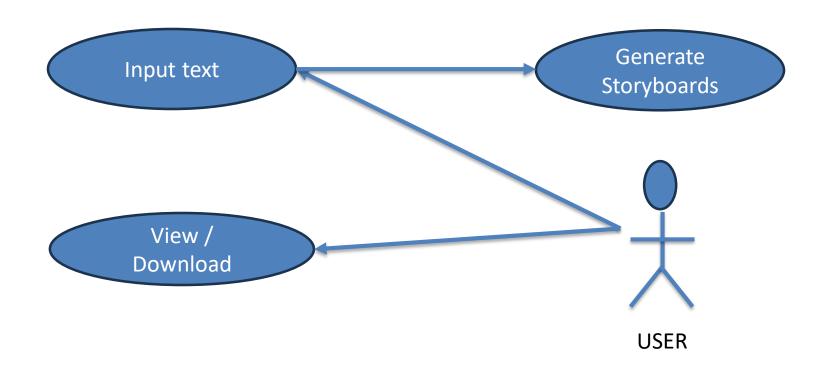
Dept. of CSE

CLASS DIAGRAM



ACTIVITY DIAGRAM Text / Voice Input Process I/P using NLP NO YES Valid I/P Generate Storyboard Show Error Message Allow User to Customize Save / Share

USE CASE DIAGRAM



<u>REFERENCES</u>

- 1. Zeng, A., et al. "StoryDALL-E: Aligning Large Language Models with Visual Storytelling." arXiv:2306.06692 (2023).
- 2. Jain, D., et al. "Comic Strip Generation from Natural Language using GANs and BERT." Proc. ACM Multimedia (2021).
- 3. Iyyer, M., et al. "The Amazing Adventures of the Malicious Author." NAACL (2017).
- 4. Li, Z., et al. "Sketch Your Story: Semantic Sketch Generation for Storyboarding." ACM TOG (2022).
- 5. Zhou, L., et al. "Visual Storytelling via Multi-agent Reinforcement Learning." ECCV (2020).
- 6. Xu, T., et al. "AttnGAN: Fine-Grained Text to Image Generation with Attentional GANs." CVPR (2018).
- 7. Zhang, H., et al. "StackGAN: Text to Photo-realistic Image Synthesis with Stacked GANs." ICCV (2017).
- 8. Ramesh, A., et al. "Zero-shot Text-to-Image Generation." OpenAl DALL·E (2021).
- 9. Ho, J., et al. "Denoising Diffusion Probabilistic Models." NeurIPS (2020).

QUESTIONS ??

Thank You