Exno.8-Exploration of Prompting Techniques for Audio Generation

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Aim:

To perform the Exploration of Prompting Techniques for Audio Generation

Algorithm:

Explore how various prompting techniques can be used to generate and manipulate audio content (e.g., music, sound effects, voice narration) using AI model

AI Tools Required:

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AudioCraft (music & sound effects generation)
ElevenLabs (voice narration synthesis)
Suno AI (ambient music generation)
```

PROMPTS & OUTPUT:

Audio 1: Dynamic Sci-Fi Soundscape

Prompt:

"Generate a 3-minute futuristic sci-fi ambient soundscape featuring low-frequency drones, intermittent mechanical whirrs, and occasional robotic beeps. The atmosphere should evoke exploration of an alien spaceship corridor, mysterious and tense, with distant echoing footsteps."

Output Link:

https://drive.google.com/file/d/1zjevF33Fo7NSzKocK9uORXR-Gj4f9kb1/view?usp=sharing

Audio 2: Warm Storytelling Narration with Background Jazz

Prompt for ElevenLabs Narration:

"Tell a short story in a warm, soothing voice about a cozy evening in a jazz café where two friends reconnect after years apart. Use voice style 'Emma', medium stability, expressive tone." Background Music Prompt for AudioCraft or Suno AI:

"Generate a 2-minute soft jazz instrumental featuring smooth saxophone, upright bass, and brushed drums."

Output Link:

https://drive.google.com/file/d/1REY0J-q9zLR1TxakrexSVMogvkmNkCoN/view?usp=sharing

Audio 3: Nature Sound Effect Mix

Prompt:

"Create a 5-minute nature soundscape with morning forest sounds including birdsong, rustling leaves, flowing stream water, and occasional insect chirps. The audio should gradually transition to midday with increased bird activity and light wind."

Output Link:

https://drive.google.com/file/d/1wjsEEbYEqXrPZWzJK7vbl0_bvg1KRSZp/view?usp=sharing

PROCEDURE

1. Using AudioCraft & Suno AI for Non-Speech Audio

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Visit the AudioCraft or Suno AI platform.
Enter descriptive prompts specifying mood, instruments, sound effects, and duration.
Generate audio clips and download in your preferred format.
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2. Using ElevenLabs for Voice Narration

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Log in to ElevenLabs (https://elevenlabs.io).
Navigate to "Speech Synthesis."
Paste storytelling text or narration prompts.
Choose a suitable voice (e.g., Emma, Rachel, or custom voices).
Adjust voice parameters: stability, style, and expressiveness.
Generate and download the narration audio.
```

3. Mixing Audio Layers

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Use free DAW software like Audacity or GarageBand.
Import background music, ambient sound effects, and narration files.
Balance volumes and apply fades to create smooth transitions.
Export final mixed track.
```

AUDIO ANALYSIS REPORT

Feature	Audio 1 (Sci-Fi Soundscape)	Audio 2 (Jazz Narration)	Audio 3 (Nature Soundscape)
Duration	3 minutes	2 minutes	5 minutes
Primary Elements	Drones, mechanical sounds	Voice narration + jazz instruments	Birds, water, wind sounds
Mood	Mysterious, tense	Warm, nostalgic	Calm, natural
Amplitude Variation	Moderate	Low, smooth	Gentle fluctuations
Frequency Range	Low-mid frequencies dominate	Mid-high frequencies (voice & sax)	Broad range (birds, water sounds)
Usage Suggestions	Sci-fi films, games	Podcasts, storytelling	Meditation, relaxation apps

SUGGESTIONS FOR USE

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Sci-Fi Soundscape: Perfect for background ambiance in science fiction videos or
immersive VR experiences.
Jazz Narration: Ideal for podcasts, audiobooks, or relaxing storytelling sessions.
Nature Soundscape: Great for mindfulness, meditation, or sleep aid audio content.
```

Tools Used for Analysis

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Python libraries (pydub, librosa, matplotlib) for waveform and spectral analysis.
Audio editing software for mixing and final production.
```

Result:

The Prompt for the above process executed successfully