PERFORMING ARTS FORUM

Glossary of Terms for Session on AI as an Artistic Collaborative Tool

- **AI (Artificial Intelligence):** A branch of computer science that develops systems capable of performing tasks that typically require human intelligence, such as understanding language, recognising patterns, or creating art.

- **Algorithm:** A set of rules or steps followed by a computer to solve a problem or perform a task. Algorithms form the backbone of AI and creative tools.

- **AR (Augmented Reality):** A technology that overlays digital content, such as images or sounds, onto the real world using devices like smartphones or AR glasses. Commonly used in interactive performances and storytelling.

- **Chatbot:** A computer program designed to simulate human conversation. Often powered by AI, chatbots can interact with users via text or voice, offering creative collaboration or assistance in generating ideas.

- **Computer Vision:** A field of AI focused on enabling machines to interpret and process visual data from the world, such as identifying faces or objects in a scene.

- **Creative Coding:** The use of programming to create art, often involving visuals, sound, and interactivity. It's a key skill for artists collaborating with AI.

- **Cryonization:** The process of preserving a recently deceased person at very low temperatures (typically using liquid nitrogen) with the hope that future medical technology might be able to revive them and cure whatever caused their death. Also known as cryopreservation or cryonic preservation.

- **Deep Learning:** A machine learning technique using neural networks with many layers. It enables AI to learn from large datasets, producing human-like outputs, such as creating art or recognizing emotions.

- **Digital Twin:** A virtual representation of a real-world object, space, or system, often used in immersive environments to replicate real-world elements for creative exploration.

- **GAN (Generative Adversarial Network):** A type of AI where two neural networks work against each other to create realistic outputs, such as lifelike images or animations.

- **Generative AI:** A subset of AI that creates new content, such as text, images, music, or 3D models, based on patterns and training data. It is an innovative tool for artists to explore new creative directions.
- **Haptics:** Technology that simulates touch and physical sensations, often integrated into immersive experiences to enhance engagement.

- **Interactive Storytelling:** A form of storytelling where the audience actively participates in the narrative, often using immersive technologies like VR or AR.

- **Machine Learning:** A branch of artificial intelligence that focuses on developing computer systems that can learn and improve from experience without being explicitly programmed. These systems use algorithms to analyze data, identify patterns, and make decisions with minimal human intervention.

- **Motion Capture (MoCap):** The process of recording movements of objects or people to animate digital characters or objects. Frequently used in film, games, and interactive performances.

- **MR (Mixed Reality):** A blend of the physical and digital worlds, allowing real and virtual objects to interact in real time. This technology is widely used in immersive storytelling and performing arts.

- **Natural Language Processing (NLP):** A field of AI that focuses on the interaction between computers and human language. It's used in chatbots and text-based creative tools to generate or analyze language.

- **Neural Networks:** Systems inspired by the human brain's structure, used by AI to learn and make decisions. They are key to powering creative AI systems that mimic human-like artistic outputs.

- **Real-Time Rendering:** The process of generating images or animations in real time, often used in XR experiences to create interactive environments.

- **Spatial Computing:** The use of physical space as an interface for interaction between humans and digital systems. It's commonly used in MR and AR experiences.

- **Transhumanism:** The philosophical and intellectual movement that advocates for using advanced technologies to enhance human physical and cognitive capabilities. It envisions transcending current biological limitations through technology like genetic engineering, artificial intelligence, and cybernetic enhancements.

- **Unreal Engine:** A powerful real-time 3D creation platform (game engine) originally developed by Epic Games for first-person shooter games, but now used across multiple industries. It's used for: Game Development, Film & Television, Architecture & Design, Training & Simulation.

- **Virtual Being:** A digital entity or character that exists in digital spaces, often powered by AI, that can interact with humans in real time. These can range from AI chatbots to fully rendered 3D avatars with personalities and backstories. They may be used for entertainment, companionship, or commercial purposes.

- **Virtual Production:** A filmmaking method that combines real-time 3D computer graphics, motion capture, and real-world footage to create scenes that blend physical and digital elements. It allows filmmakers to visualize complex visual effects in real-time during filming, using technologies like LED walls and game engines (like Unreal Engine).

- **VR (Virtual Reality):** An immersive experience created using a headset that places the user in a completely virtual 3D environment. VR is often employed for creating artistic spaces where users can interact and explore freely.

- **XR (Extended Reality):** An umbrella term covering AR, VR, and MR technologies. It represents the broader field of immersive experiences used in artistic and creative practices.