

# Painting Music

Using Explainable AI to create music from live painting

## Painting Music

PAINTING MUSIC LIMITED is a company comprised of Artist & Filmmaker [Kate Steenhauer](#) and Artificial Intelligence (AI) developers [Dr Starkey](#) and [Jack Caven](#).

The team explores how cutting-edge AI techniques can facilitate multifaceted relationships between music and visual art. Most AI techniques that are used in artistic endeavors are off-the-shelf methods that are **black box** and cannot explain what they are doing.

Painting Music however uses algorithms that are **explainable**, which is **innovative** even in the field of AI, and the combination of AI, painting and music represents to the best of our knowledge a **world's first**.





## Painting Music Products

Painting Music requires the AI to be transparent in how it understands a piece of painted art and then converts this into a musical motif. The AI's application within Painting Music is therefore incredibly **exciting** and **ground-breaking**.

Painting Music offers a diverse production package of audience interactive Apps, live performance, audio-visual installations, **art/ STEM** workshops, documentaries & live talks, and artwork that spark **art-science-themed** inspired conversation.

Painting Music taps into the **public's fear** – or **excitement of AI** and the change that this will bring to all facets of society.

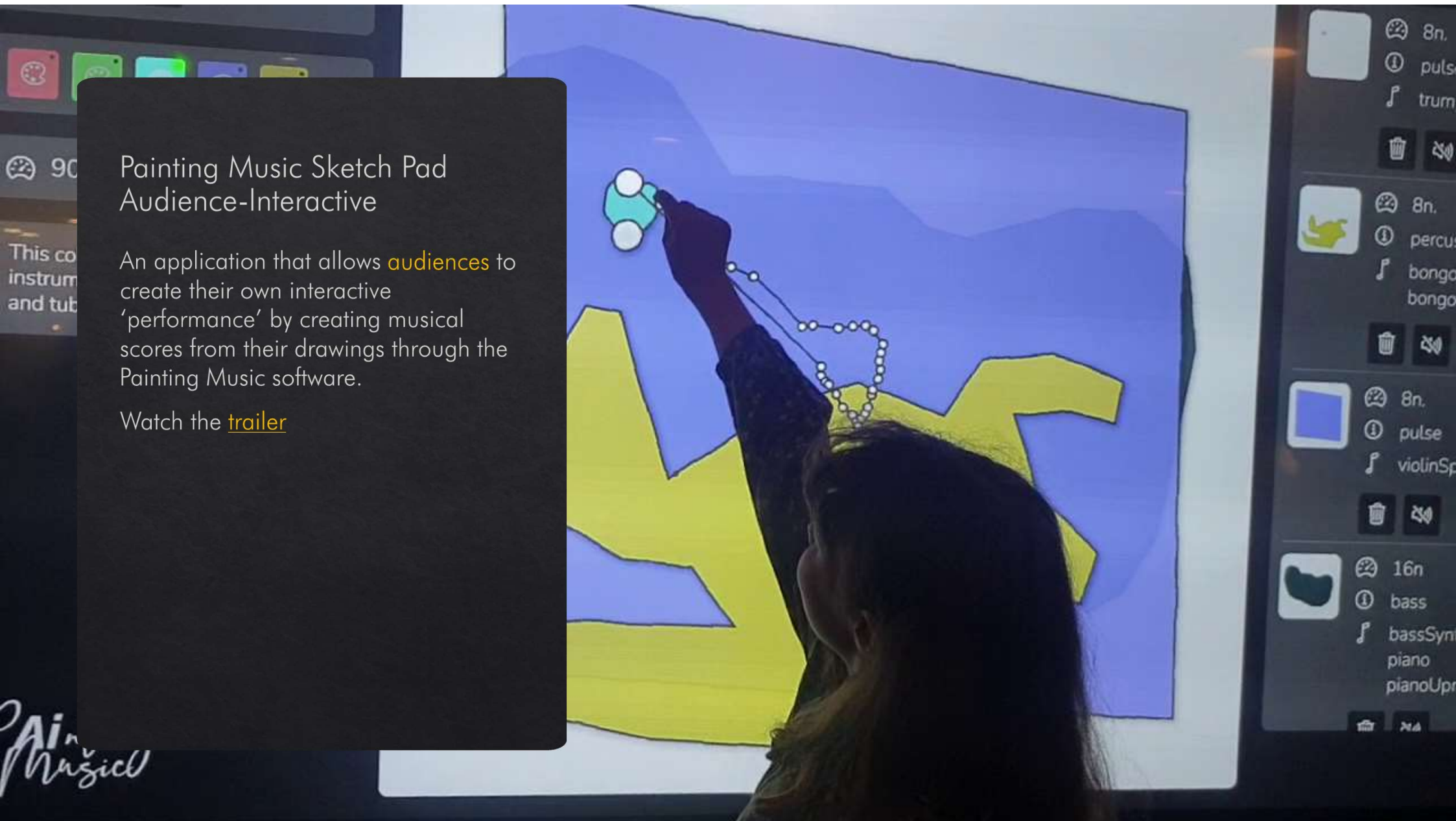
The production is centered around the question **Is AI good or bad?**.



## Painting Music Sketch Pad Audience-Interactive

An application that allows **audiences** to create their own interactive 'performance' by creating musical scores from their drawings through the Painting Music software.

Watch the [trailer](#)



## Painting Music Canvas Capture Live Performance

A bespoke streaming and performative station for artist Kate Steenhauer to conduct physical or remote [live](#) performances.

This setup could be made available to the public to undertake their very own performances.

Watch the [trailer](#)





## Painting Music Community Outreach

Painting Music's workshops **impacts**:

- ▣ to increase knowledge of **Ada Lovelace** and her connection to AI
- ▣ to raise awareness of **limitations** & **possibilities** of AI
- ▣ to inspire engagement between art and **STEM**
- ▣ to meet an artist and engineer
- ▣ to inspire more young people, especially girls into choosing further study in both art and science subjects.



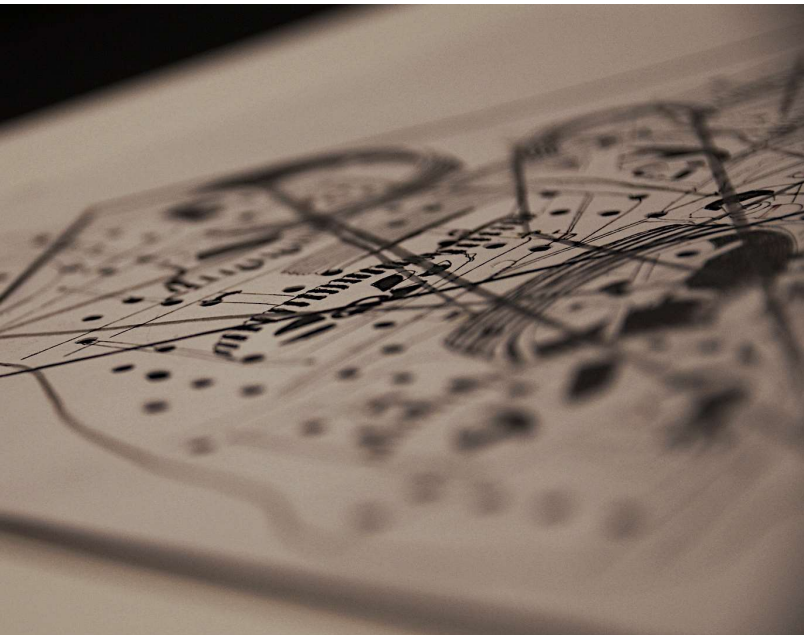
## Painting Music Live Talks

Artist & AI engineers' talks that spark **art-science-themed** inspired conversation focused on the visionary **Ada Lovelace**, AI, and Painting Music's fundamental concept & products, wherein audiences are encouraged to explore the realm of AI and its impact on our world.

Watch [Interviews](#) and [Artist Talk](#)







## Painting Music The Landscape of Intelligence

THE LANDSCAPE OF INTELLIGENCE  
KATE STEENHAUER

The **Landscape of Intelligence** is a **multi-media exhibit** based on a limited-edition hand-made artist book with **sound and video**, that pays tribute to computer pioneer Ada Lovelace.

Painting Music is a machine intelligence that interprets visual stimuli to inspire musical composition, and the very embodiment of what **Ada Lovelace** talked about nearly 200 years ago.

The multi-media exhibit binds together a set of multi-layered prints based on drawings of machinery, punch cards, neural networks and quotes from Ada and her mother Annabella Byron, using etching and screen-printing, moving imagery, music and spoken word from actors animating Ada, Annabella Byron, Ada's tutor and friend

**Multi-media display:** Artist book in glass cabinet, film screen & headphones/speakers.

1-min [Landscape of intelligence](#)





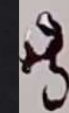
## Painting Music Documentary

Painting Music is [live painting with AI](#). It uses cutting-edge AI techniques to create music from live painted drawings.

The software translates tangible painted marks into audible sounds, in real time and unique for each performance.

This 20-minute film interweaves interviews with visual artist and AI engineers in-between live painting and AI music

Watch the [trailer](#)





## Painting Music

### What makes Painting Music different?

The unique selling point of Painting Music is that we use AI models that are **explainable**, to drive the decision-making and creative process of the AI.

A lot of largescale models used in industry are known as "**black box**", in other words, we are unable to see why the AI model made its decision. This is an ongoing and real issue, with countries across the globe increasingly introducing legislation to control the use of unexplainable AI models and to mitigate their perceived harm on ordinary citizens.

There are no other products in the market that **mine artistic characteristics** from visual objects and use the data to drive the production of music that is intuitive and compositionally sound.

Painting Music raises questions and stimulate conversation around **AI ethics**, the datasets used for training AI models, the techniques (black box or explainable) that are applied within the AI, and the application of AI itself in our world and the subsequent impact that AI has on our society.

Painting Music rises above the general offering of '**just live painting**', as it taps into the forefront of a vibrant art movement showing live painting as part of an interactive story.

Painting Music uses **Green AI** techniques based on low computational costs.



# Painting Music

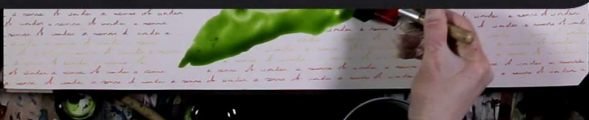
## Services & Collaboration

### Painting Music Products :

- Audience-Interactive App
- Physical & Digital (remote) Live Performances
- Audio-Visual Installations
- ART & STEM Cross-over Workshops
- Documentaries & Live Talks on **AI** and **Ada Lovelace**

### For application in & collaboration with:

- Creative & Tech Sectors
- Healthcare providers interested in providing creative means for their patients and people with additional needs
- Educational Institutions, e.g., Schools & Learning Centers
- Individuals & Organizations looking to communicate complex issues through art/music to a variety of audiences
- Museums & Galleries & Festivals
- Academic & Multi-Media Platforms



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@PAINTINGMUSIC\_

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## Composing with Intelligence



Creative Edinburgh



CREATIVE  
INFORMATICS



RAY INTERACTIVE



Supported by  
**The National Lottery**  
through Creative Scotland



Macrobert Arts Centre