

Dear Think Tankee

We would like you to consider the following statement, and prepare a provocative/ position statement (5-7 mins) in advance of the EIM-Live Think Tank event at DMU 4-5<sup>th</sup> April.

Your provocation should contribute to the development of new ways of thinking about the co-operative relationship between human and thinking-machines. You can propose new ways-of thinking from any of the contributing fields detailed in the end diagram. We stress that we are not limited to these fields, nor wedded to the statement; the main aim of this event is to identify the key issues in this new field of study, and that is why we have brought this particular group together.

We would also like to post a brief summary of your provocation in advance of the meeting in April for us all to read. As such, would you send [cvear@dmu.ac.uk](mailto:cvear@dmu.ac.uk) your 50-word summary by EOP 24<sup>th</sup> March.

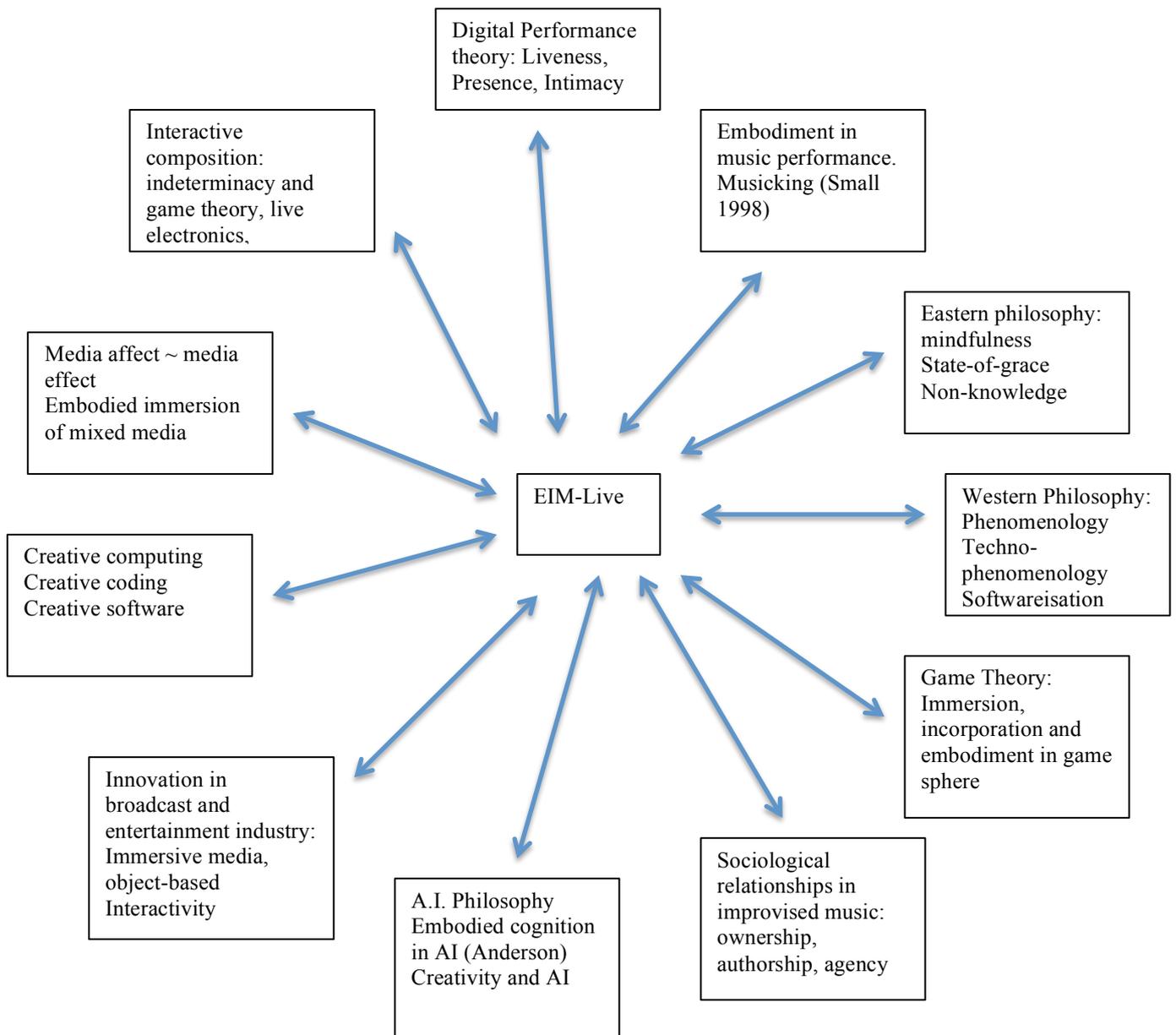
### **EIM-Live: Embodied Intelligence in Music**

Artificial Intelligence (AI) and music research mainly focuses on machines with the ability to 'behave liked skilled musicians' (Miranda 2000; Guerra 2002); to 'exhibit behaviours that unbiased observers would deem to be creative' (Colton & Wiggins 2014); to perform some analytics and synthesis, such as the autonomous composition in the style of x (Pachet, 2002; Rolland and Ganascia 2001), or some other operation in which the 'machine equals the brain' (Jefferson 1949).

This understanding of intelligence foregrounds thought and reason, and adopts approaches based on the creation of software or machine tools that focus on representation and the application of high-level cognitive skills such as problem solving, planning, or aesthetics (Anderson 2003, Miranda 2000, Roads 1985, Colton 2009, Moffat & Kelly 2006).

EIM-Live aims to develop an alternative way of thinking that incorporate the following main points:

1. Embodied music cognition (EMC) research (e.g. Nijs, Lasaffe, Leman (2013)) has found that an embodied interaction with music 'implies the corporeal attunement of the musician to the sonic event that results from the performance'. As such, the whole experience of participating within a music-making environment creates an 'optimal embodied experience (flow) when the musician is completely immersed in the created musical reality (presence) and enjoys himself through the playfulness of the performance'.
2. Live Algorithm research (e.g. Young and Blackwell, 2014) aims to place computer systems in a genuinely creative, social context. A live algorithm should generate output independently of performer and designer: demonstrable autonomy with a capacity to both react and contribute constructively.
3. For the past 60 years in philosophy, the nature of consciousness has been re-considered. The idea of the Cartesian mind-body duality is being challenged by an understanding that consciousness is embodied, and that cognition is a situated activity. The focus here is not on thought and reason, but on the wholeness of experience, and suggests that thinking beings should 'be considered first and foremost as acting beings', where agency and interactive coping occupy centre-stage (Anderson 2003).



### Proposed Schedule

#### April 4<sup>th</sup>

12:30-1pm arrive, lunch (sandwiches) Hugh Aston 2.33  
 1-4pm Roundtable 1, Think Tank provocations (w/ musicians)  
 4 Tea, Coffee, Biscuits  
 4-6 Musicians work in PACE 1 setting up / preparing for in-vivo workshop  
 Think Tank – explore the synthesis of ideas from provocations  
 6:30-8pm in-vivo workshop / performance with selected compositions (from call for scores – to be circulated)

#### April 5<sup>th</sup>

10-1 Roundtable 2, reflection on day 1 and in-vivo experience from musicians. Hugh Aston 2.33  
 1-2 Lunch  
 2-3 Wrap-up, next steps: joint article/ conference paper/ research grant