

# SCC.NRG.AI4ME: Self-optimising distributed encoding nodes.

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Acknowledgements

Dr Haris Rotsos, Prof Nick Race

Overview of Today's Presentation

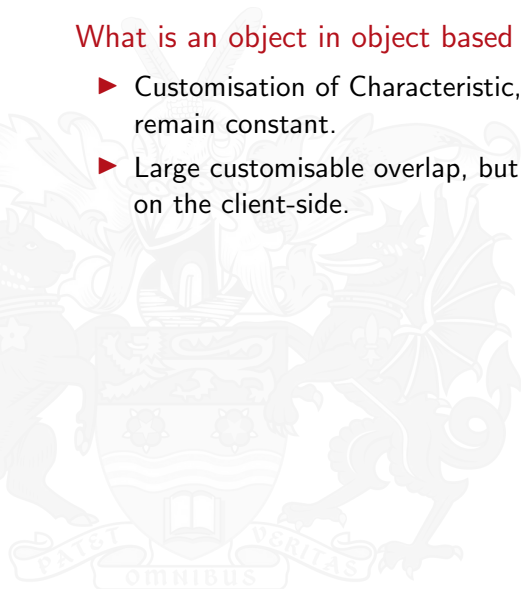
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Object Based Media  
Traditional  
Dynamic Objects



## What is an object in object based media?

- ▶ Customisation of Characteristic, but the meta characteristics remain constant.
- ▶ Large customisable overlap, but not computationally feasible on the client-side.



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Bring the Object Based Media (OBM) principle lower down the tool-chain.

Most Compression Algorithms, make use of the 2D DCT II/III as part of their compression/analysis (Think MPEG).

## Theorem

*let position be time-series like such that.*

$$A = \{S_0^A \cdots S_n^A\}, B = \{S_0^B \cdots S_m^B\}$$

*where for a given object  $S_x$  assume.*

$$S_x \in A, S_x \in B$$

$$A = \{S_x | \Sigma_1\}, B = \{S_x | \Sigma_2\}$$

*such that.*

$$\Sigma_1 \not\subset B, \Sigma_2 \not\subset A$$

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$$\Sigma_1 \not\subset B, \Sigma_2 \not\subset A$$

*But how do you identify  $S_X$ ? No idea.*



## Theorem

*Assume  $S_x$  is identified, and we remove signal  $S_x$  from the sets.*

$$A \neq \sigma(B) + \Sigma_1, B \neq \sigma(A) + \Sigma_2$$

*i.e.  $A$  and  $B$  are no longer correlated signals.*

*So take some other set  $C$ .*

$$C = \{S_0^C \cdots S_p^C\}$$

*assume  $S_y$  is such that,*

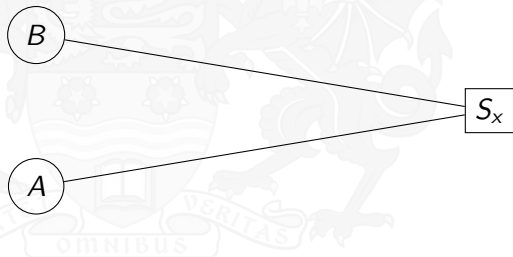
$$S_y \in B, S_y \in C, S_y \notin A, S_y \notin S_x$$

$$B = \Sigma_2 = \{S_y | \Sigma_3\}, C = \{S_y | \Sigma_4\}$$

*Figuring out if  $S_y$  is not in  $A$  or  $S_x$ ? No Idea.*

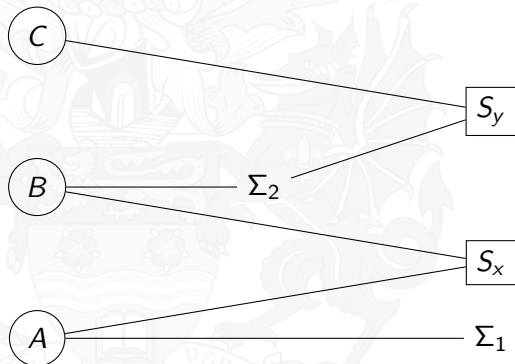
# Object Based Media

Encoder streams as Objects



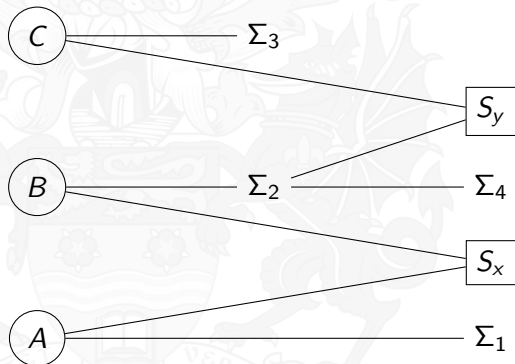
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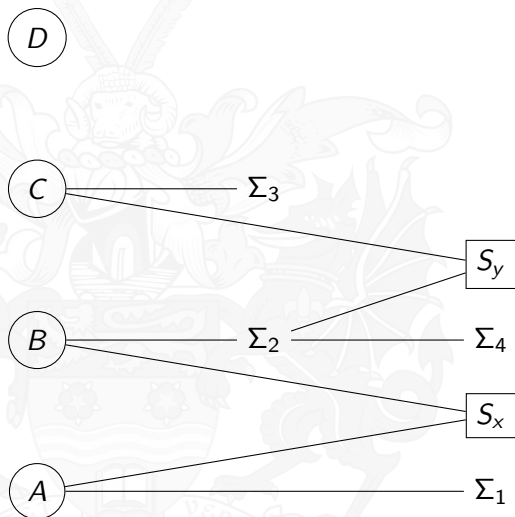
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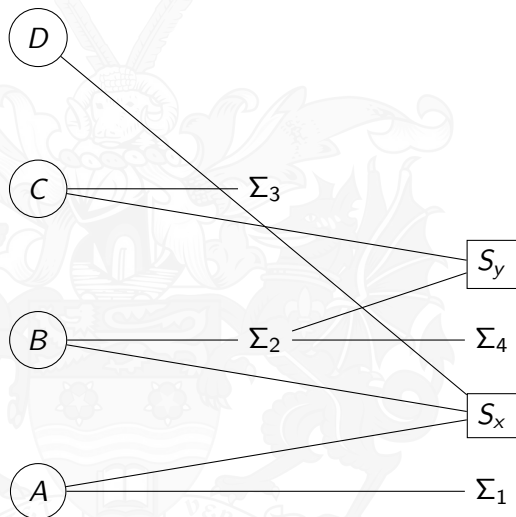
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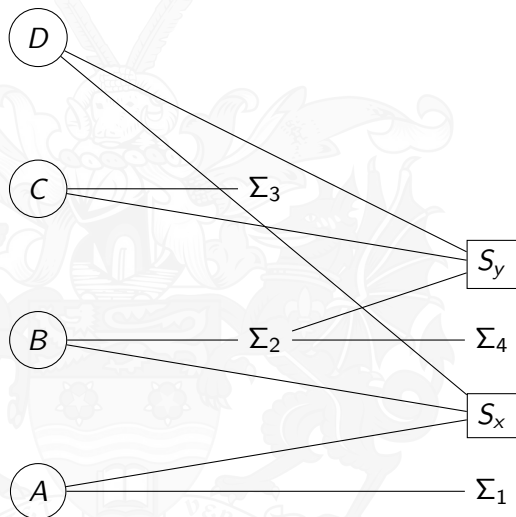
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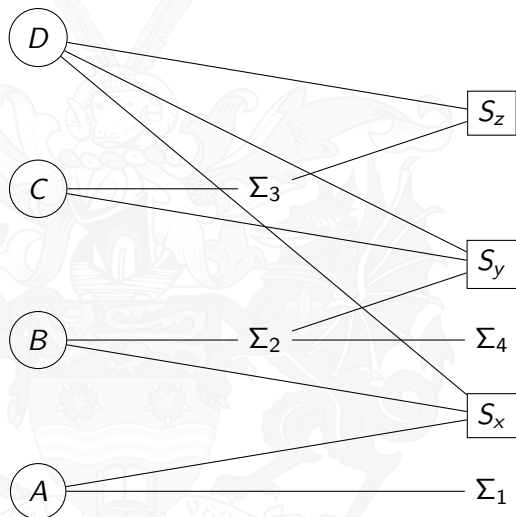
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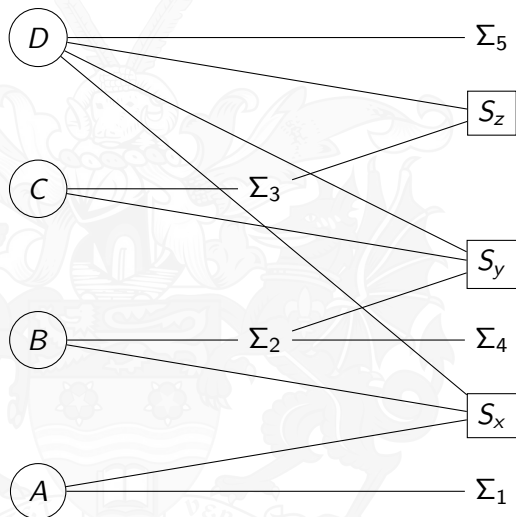
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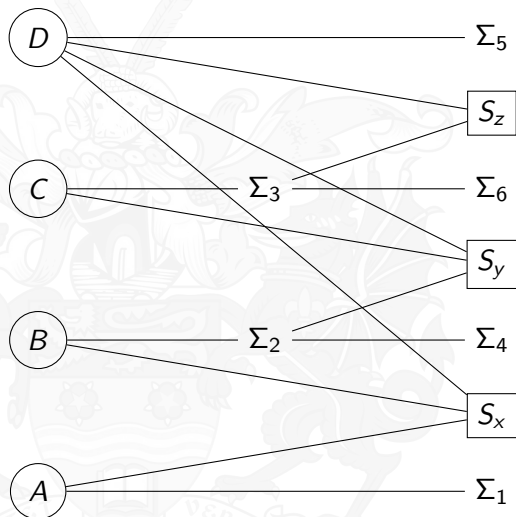






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