What you want to want
What you want
+

- Who you biologically are
  (Brain, Messy Cheetos)
- Who you think you are
  (Mind, Clean Cheetos)
- Who you want to be
  (Imagination, Carrots?)

Different aspects of one self?
or
Independent identities bundled together as one?

Information Retrieval from **Brain** Signals

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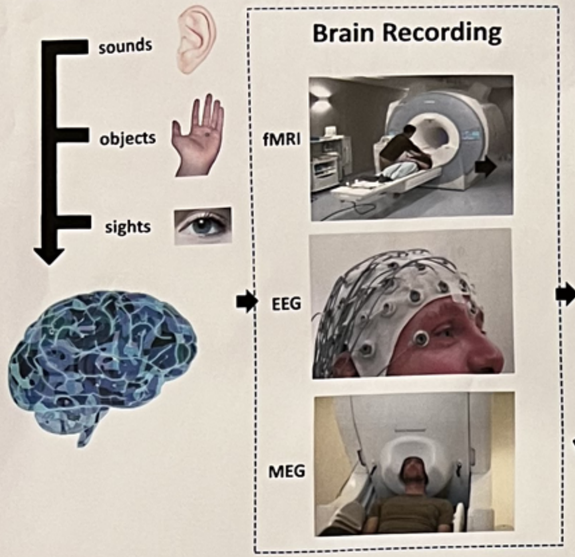
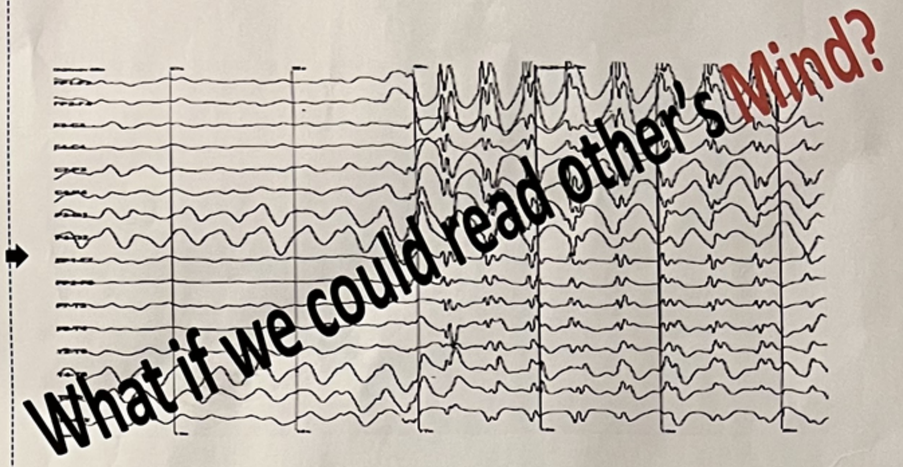
MHUG



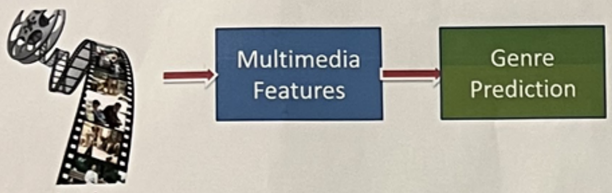


Applications

- Neurorehabilitation.
- Cognitive improvement.
- User-state monitoring.
- Communication by thought.
- Gaming and entertainment.
- Safety and security.

1 - Towards Movie/Music Recommender systems using Brain Signals

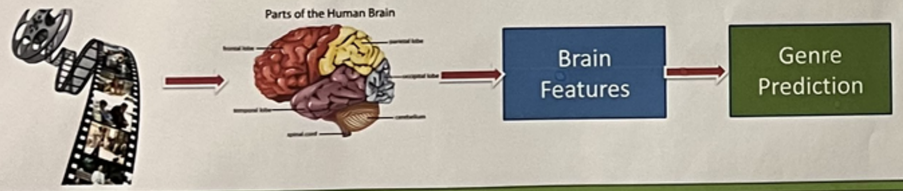
➢ **Content-centric approach**



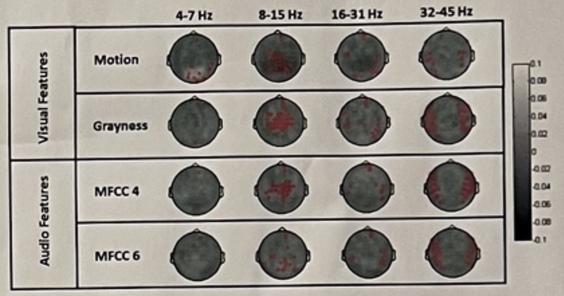
Drawback:

- Multimedia features may fail to capture the personal preferences of the human viewer.

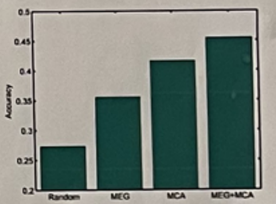
➢ **User-centric approach**



➢ **Correlation between MEG sensors and multimedia features.**



Single-subject level accuracy based on the brain **MEG** features, Multimedia features (**MCA**) and random numbers.



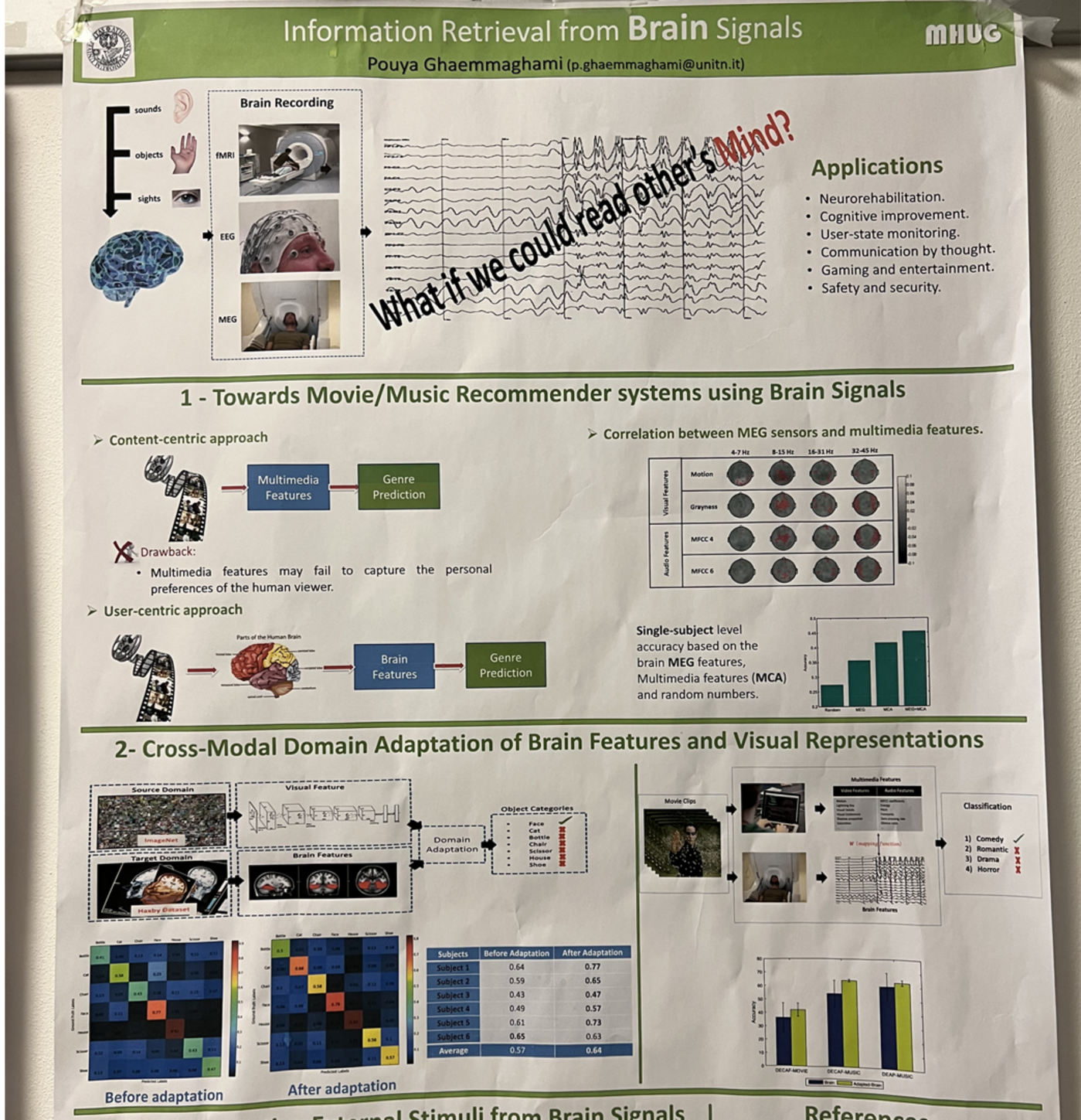
Ethics evaluation...

What do you report?

Argument...

In favor of accelerating this technology? Slowing it?

Other frame..?



Ethics & evaluation

- **Autonomy (Aristotle)**
  Self-determination
  Do what you want… up to point where interferes with others' autonomy (Freedom limited only by freedom)
- **Dignity (Kant)**
  Treat others and ourselves as ends, not only as means
  You are protected from exploitation as instrument, and have the right to accountability
- **Privacy (Westin)**
  Control over access to your personal information
  You have the right to your own identity, and to change it
- **Fairness (Aristotle)**
  Treat equals equally and unequals proportionately unequally within decision domain
- **Solidarity (Rawls)**
  Max/Min - Greatest advantage to least advanataged
  No one left behind/out/apart: Inclusiveness
- **Social wellbeing (utilitarianism)**
  Greatest good to greatest number
  Happiness calculation
- **Explainability/Accountability**
  Describe why/how output was produced in languages of the various stakeholders
- **Safety**
  AI dependably operates in accordance with designers' expectations even when confronted with unexpected changes, anomalies, and perturbations.
  (Robust and resilient)
- **Performance**
  How well the machine serves its purpose