

TOWARDS INTERACTIVE, INTELLIGENT, AND INTEGRATED MULTIMEDIA ANALYTICS

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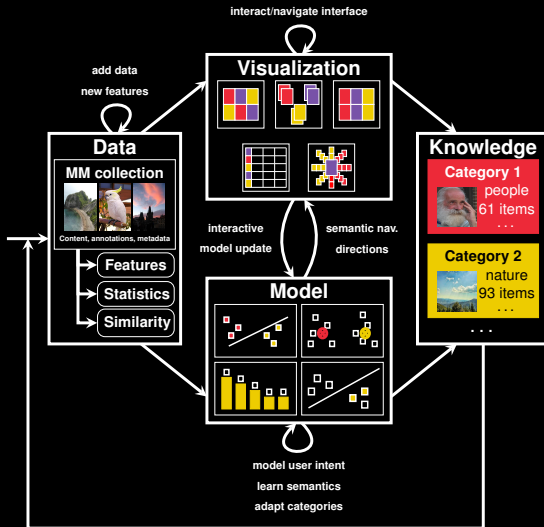


INTRODUCTION

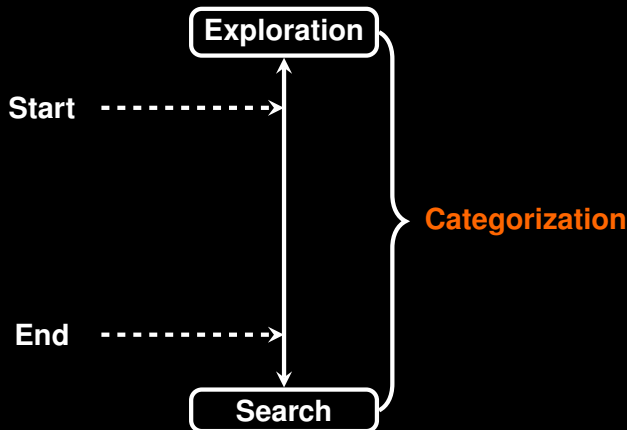
- ▶ **Multimedia analytics** = visual analytics + multimedia analysis¹
 - ▶ Using large-scale multimedia collections as **sources of knowledge** in applied domains
 - ▶ Forensics: evidence for crimes
 - ▶ Medical science: incidence of cancer
- ▶ **Our work:**
 1. Survey of related work in multimedia analytics and related fields since 2003
 - ▶ Catalogue of related work available online:
`staff.fnwi.uva.nl/j.zahalka/maal.html`
 2. Multimedia analytics model and research agenda

¹Chinchor et al. 2010, TCGA

MULTIMEDIA ANALYTICS PIPELINE



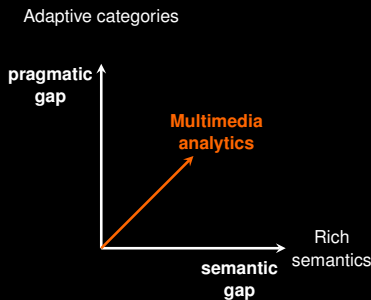
TASK MODEL



- ▶ **Exploration**: uncovering the overall structure
- ▶ **Search**: finding particular items
- ▶ **Exploration-search axis**: E-S ratio changes dynamically
- ▶ Mental model attributes: semantic → **categorical**

THE GAPS

- ▶ **Semantic gap**²: richness of semantics
- ▶ **Pragmatic gap**: flexibility of the category model
 - ▶ New categories on the fly
 - ▶ Non-exclusive categories
 - ▶ Dynamic category semantics



²Smeulders et al. 2000, PAMI

CONCLUSION

- ▶ Multimedia analytics **possible** with current state of the art
- ▶ **Model** established in our submission based on an extensive survey
- ▶ **Future**: closing the semantic and pragmatic gaps