Graph-based User Modeling through Real-time Social Data Streams

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Research Challenges

- Some Media Industry Research Challenges

    - Decentralized / Distributed user modeling to preserve user's privacy

    - Metrics for giving to user the control of his/her privacy

    - Near real-time semantic aggregation of user models/ profiles

    - Automatic Incremental learning of user behaviour

    - User's context of interactions to better adapt social experiences in real-time (empathetic profiling)

    - Heterogeneous, massive and distributed structured and un-structured data from multiple sources

Research Challenges

- Some Media Industry Research Challenges

  - Real-time ETL to better adapt the user personalization of media services
  - Event social data stream processing software for multi-screen media content
  - Real-time relationship analytics and social network analysis
  - Real-time recommendation, advertising and location-aware services

Our Focus

- Graph-based User Modeling for Social Media Ecosystems

    - Very large-scale distributed database system for user modeling based on graph theory for developing accurate user models in real-time

    - ETL of unstructured and structured data in real-time

    - Several user information spheres (domains)

    - Automatic discovery of new trends in on-line customers interests

    - Noise reduction on social data streams

Smarter Social Media Ecosystems

- ## MEDIAPRO

  - Spanish business group in the communication industry with talented scientific, technical and creative people working in the overall value-chain of media sector

- ## Potential collaborations with LDBC EU Project

  - Set-up a collaborative framework on *Smarter Graph-based User Modeling for Social Media Ecosystems* (Football, TV Series, Mobile Apps, Movies, Digital News)

    - A distributed adaptive graph-based system with self-organizing properties. It's should be designed with holistic user-centric approaches

  - Current Mediapro's Social TV Ecosystem

    - TV consumption anywhere and generation of social feeds for reading, watching, playing, buying media experiences in interactive way

    - Corpus, content and critical-mass of users in several entertainment domains

Our Approach

- **Personal + Social Data Streams:**
  - Hybrid Intelligence (Artificial Intelligence + Emotional Engineering + Collective Intelligence) for creating accurate methods for personalization in Non-linear Social TV and Social Media Ecosystems
  - Currently we have social data streams from multiple Social Media Ecosystem that includes:
    - Football players fans SNs (FB)
    - Sports channels
    - Thematic channels
    - Digital news
    - Mobile TV channel
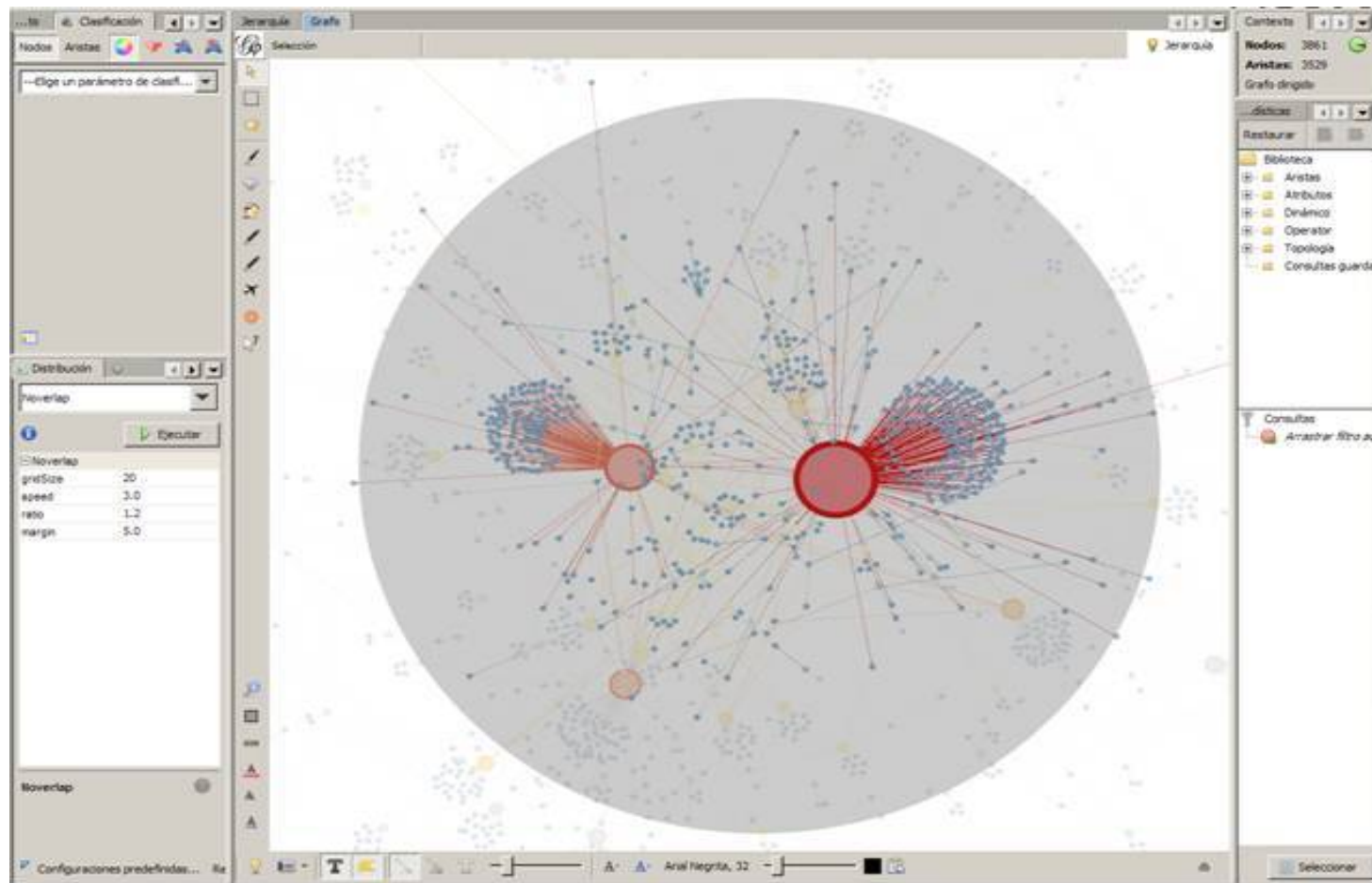   - Movies
    - Second-screen Football Apps

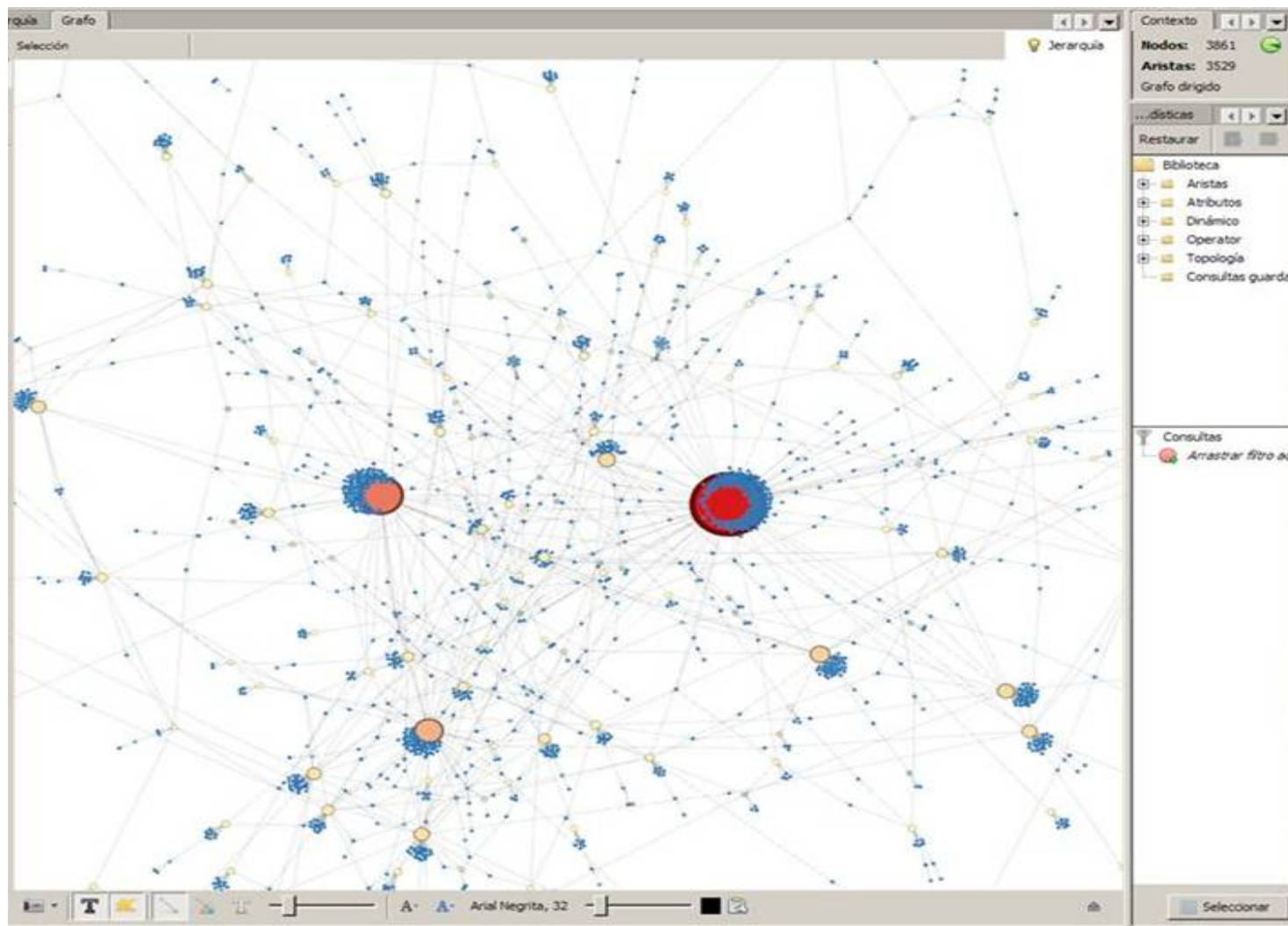# Platform Components
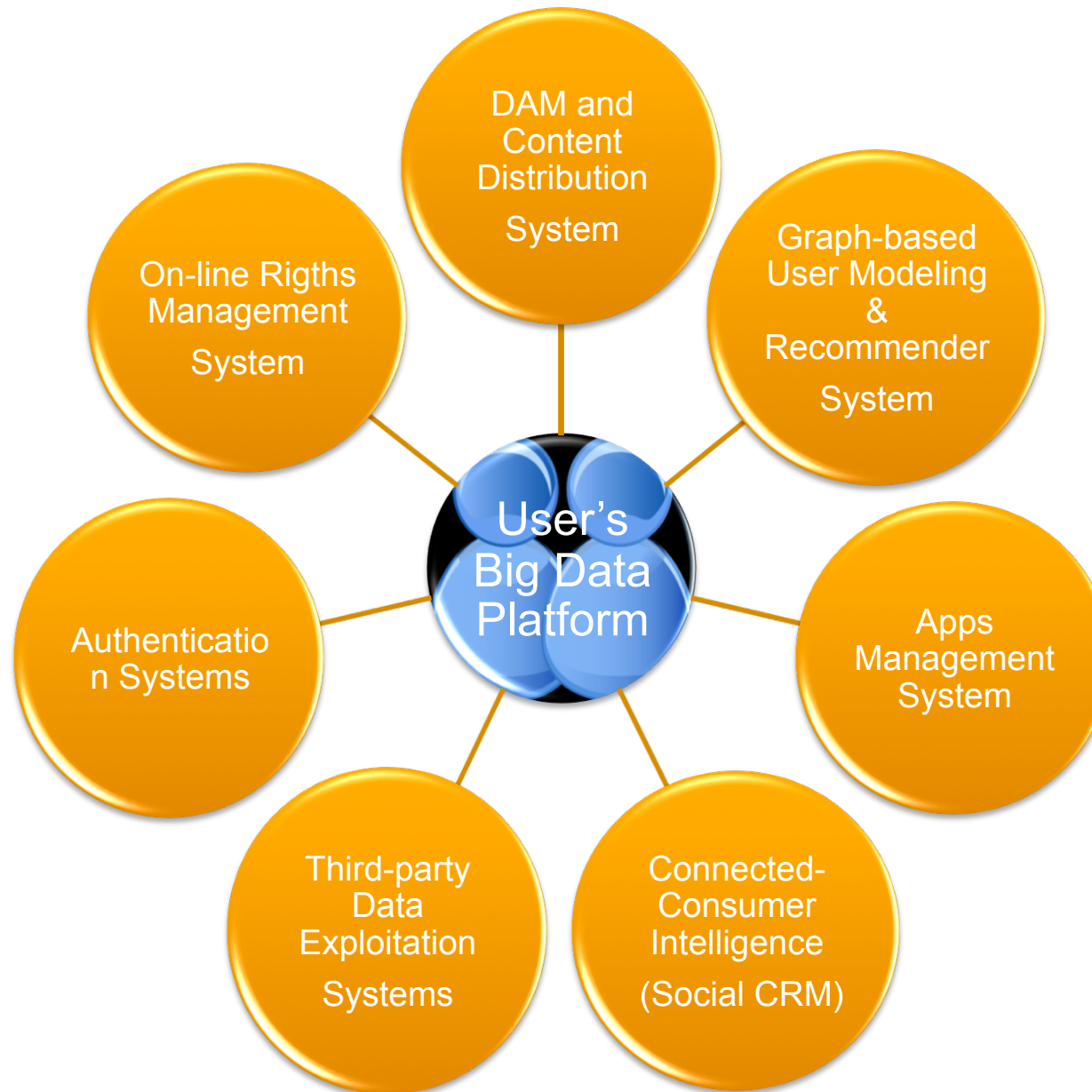
Some components

- Social Converter Explorer: Reach analysis

Some components

- Clustering of influencers in a FB fan page:

Some related publications

A. Kaltenbruner, **González, G**., Y. Volkovich, R. Ruiz de Querol. Comparative Analysis of Articulated and Behavioural Social Networks in a Social News Sharing Website. New Review of Hypermedia and Multimedia. Vol 17, Nr. 3 (2011). pp. 243 - 266. Taylor and Francis Eds. ISSN: 1361-4568. London, UK.

-**González, G**., J. LL. de la Rosa, M. Montaner. Embedding Emotional Context in Recommender Systems. Proceedings of The 20th International FLAIRS Conference. Special Track on Context in Artificial Intelligence Tools and Applications (CAITA-2007). May 7-9, 2007. AAAI Press. Florida. USA.

-**González, G**., J.LL. de la Rosa, M. Montaner. Smart Prediction Asssistant: An Innovative Customer Intelligence Platform for Next Generation Ambient Recommender Systems In Exploiting the Knowledge Economy: Issues, Applications and Case Studies. P. Cunningham and M. Cunningham (Eds.) pp. -- October 25-27, 2006. IOS Press. ISBN: 1-58603-682-3. Barcelona, Spain.

Thank you!
Questions?

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