Contextual Synchronization for Efficient Social Collaborations: a Case Study on TweetPulse

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Contextual Synchronization

- Difficult to be aware of contexts of all users
- Supporting ad hoc collaboration
- Building context-based communities

How are they communicating?
TweetPulse

- Tweeting the current contexts (what people are doing)
- Monitoring several major contexts (i.e., events)
- SME (70-80 users) as a main target
TweetPulse

Personal Ontology & Ontology Processor

Context Matcher (C₀, Cᵣ, Cₛ)

Training Dataset (Named entities labelled by users)

Twitter Social Network Analyzer

Twitter Crawling Indexer

Lexical Database

NER Engine
DEMO
Context formalization

• Named entity recognition
• Semantic approach
  • Ontologies for annotation
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Context Mapping

- Mapping by similarity measures
- Community identification
Ontology

Context

Similarity \((c, c,)\)

Context'

Ontology
Dynamic Comm. Id

- User's contexts are dynamically changing over time.
- Need to decide when the communities are re-organized.
Evaluation

• Collaborative searching and browsing platform
• During a month, 30 users have joined to this experiments.
• The proposed system shows efficient collaboration performance.
Conclusion

• Social media (e.g., Twitter) is an important communication channel to support collaboration among users.

• Communities has been precisely re-organized over time.

• The system has been more suitable in “event-dependent” tasks.
Future work

• Scalability testing is more needed.
• Efficient NLP modules are needed.
• Contexts can be expressed not only textual information but also location & time.
Thank you~!@#