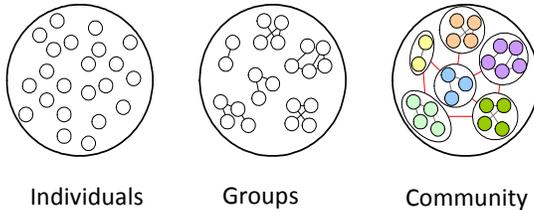


# Multi-scale Characterization of Social Network Dynamics in the Blogosphere

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## The Problem

A computational framework to characterize social network dynamics in the blogosphere at individual, group and community levels.



## Why is it important?



Advertising, Network resource allocation, Prediction of event events, Emergent semantics of a population...

## Background and Challenges

- A fine-grained, multi-scale, temporal analysis can help understand the evolutionary aspects of social networks as an emergent property of individual and group interaction.
- Identify salient characteristics of individuals; extract groups; characterize groups and determine 'types' of groups to represent a community.

## What is Multi-scale Characterization?

Characterization that captures the substantive, the structural and the dynamic aspects of how people communicate in social networks.

## Our Method

### Individual Characterization

- Extract three kinds of features for individuals – activity characteristics e.g. response time to blog posts, influence on local neighborhood and spatial graph based measures.

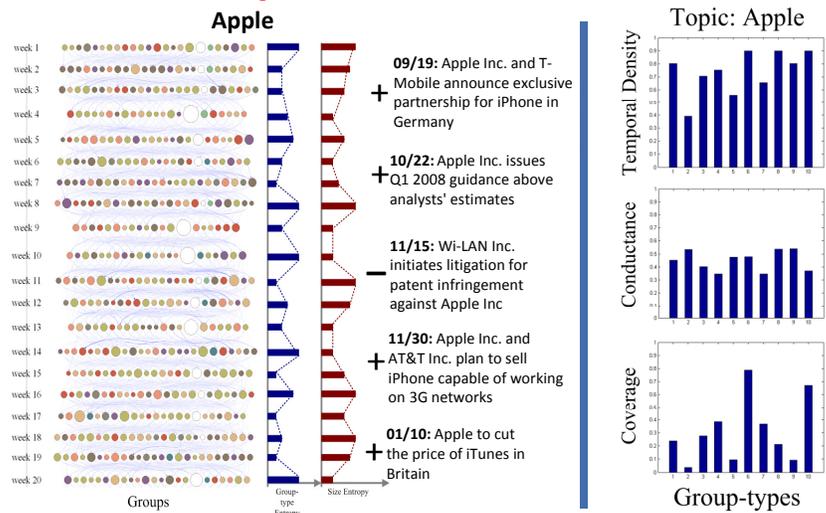
### Group Characterization

- Extract groups and their evolution using a temporal clustering technique based on mutual awareness expansion.
- Group features are then used to cluster groups into different 'types'.

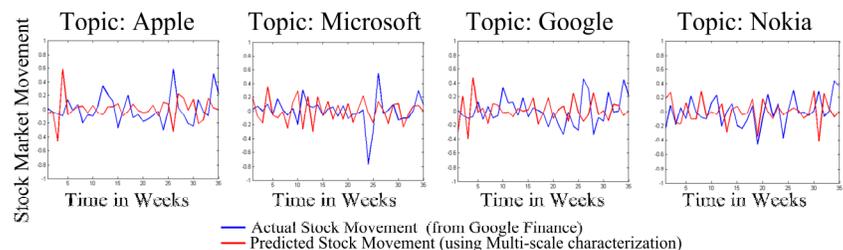
### Community Characterization

- Communities are characterized based on temporal and spatial measures.

## Experimental Results



## Usefulness of the Characterization



## Conclusions

- Community macro characteristics are indicators of different event types (positive / negative).
- Mined knowledge can be useful to predict external phenomenon (e.g. stocks).
- Future Work**
- Model sentiment states of communities and use it to determine "wisdom of the crowd" properties.