Visualizing Time-varying Twitter Data with *SentimentClock*

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Temporal dimension contains important information for sentiment analysis of microblog data such as tweets. *Previous works on sentiment visualization could not address the multidimensional nature of sentiment together with temporal information.* In this work, we introduce *SentimentClock* for visualizing the sentiment of time-varying Twitter data on 2D affective space. Our visualization enables various interesting tasks :

❖ Visualize and compare **temporal variations** of sentiments.
❖ Compare sentiments variations of tweets on **different topics.**
❖ Visualize the distribution of tweets on **2D affective space**.
❖ Visualize both dimensions of sentiments (*i.e.* **valence, arousal**) and their semantic meanings (*e.g.* elated, stressed).
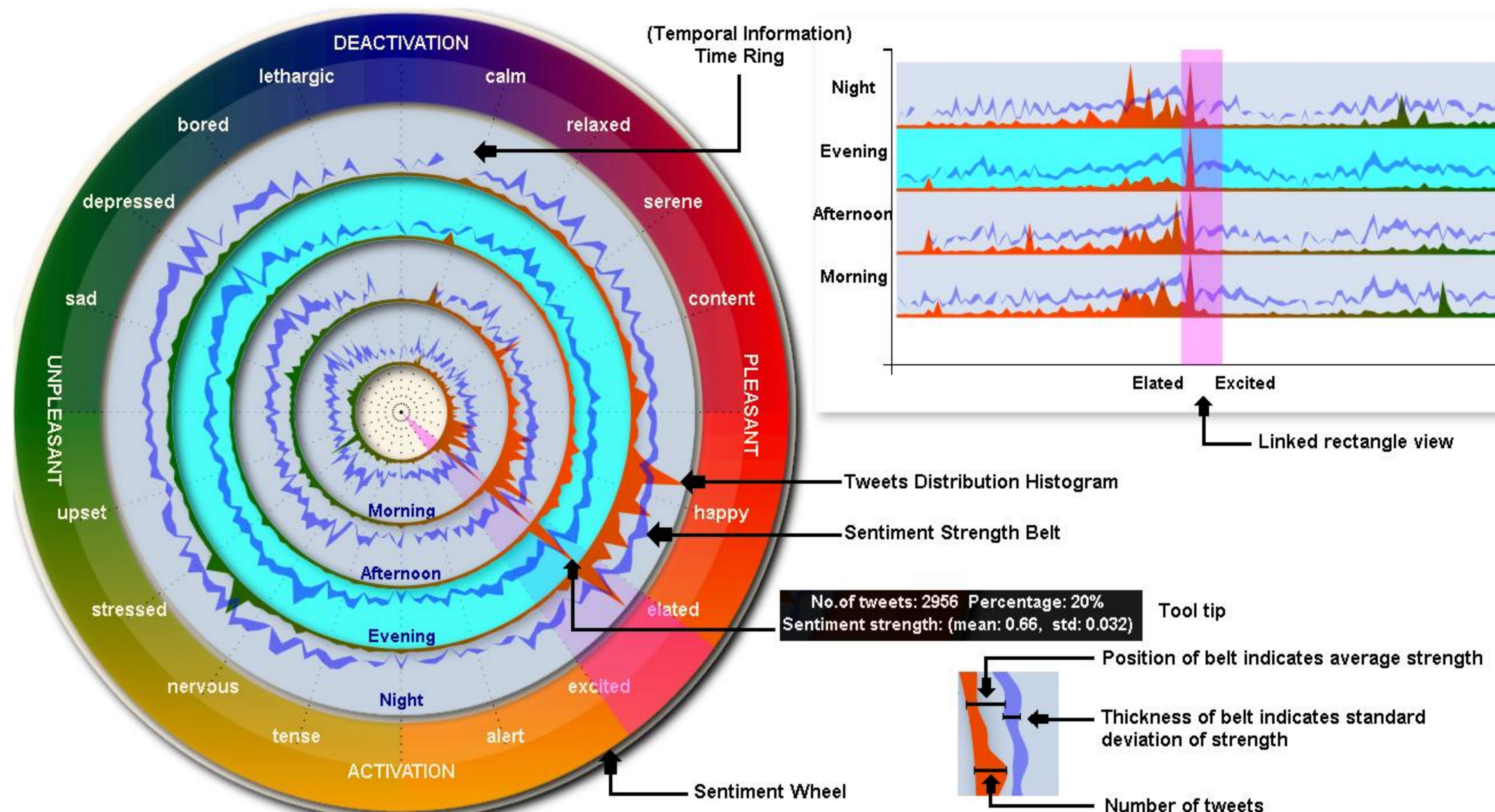
Fig.1 SentimentClock of the tweets collected on 2013 Australian election day (7-Sep-2013)

Fig.1 shows the sentiment visualization of *36016* related tweets posted on 2013 Australian election day. In the **evening** (18:00 to 22:00), which is the vote counting and result releasing period, tweets are found to have both high arousal and valence, primarily falling into the **elated and excited** range with high strength.
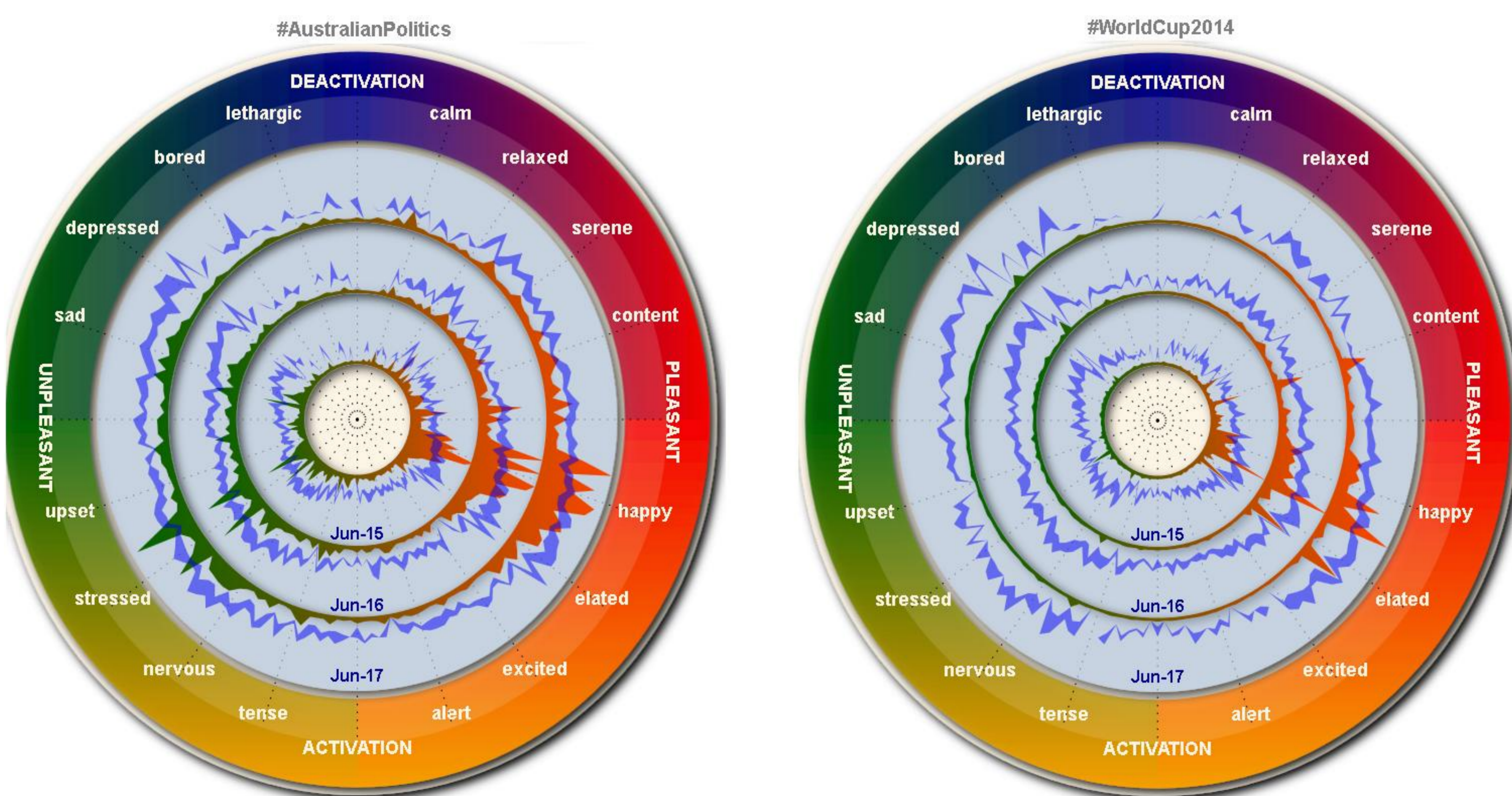
Fig.2 SentimentClocks of tweets on two different topics: Australian Politics (left) and World Cup 2014 (right)

Fig.2 shows the sentiment visualization of *71200* tweets on two topics. Tweets on the topic "**Australian Politics**" are more spread out along the sentiment wheel and express more negative sentiments, *e.g.* **upset and stressed**. However, tweets on the topic "**World cup 2014**" are mainly concentrated within the range of **content and elated**.

YouTube Video   Online System

YouTube Demo Video: http://youtu.be/JvQFAFW-VbI
Online System: http://rp-www.cs.usyd.edu.au/~ywan7763/sentiVis2/vis.html