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Cacophony: A Framework for Next Generation Software Sensors

Tech ID: 24847 / UC Case 2013-011-0

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BRIEF DESCRIPTION

The technology is a software architecture for providing robust predictions for software systems from cloud sourced data points. Properties include:the ability to “wrap” existing software sensors with additional services. The technology is used by executing software on a cloud based server and manipulating data points from user update systems, such as Waze, and provide predictive services around these data points.

FULL DESCRIPTION

Cacophony is software that adds additional services to existing software sensors. The added services include predictions based on correlations from data collected by software sensors across the internet. The fundamental principle of Cacophony is to assign a small web-server to each software sensor that will add additional value to the sensor. These web-servers are then chained together to support statistical correlations between the values. Predictions can be made based on these correlations within the collected data.

One example of use for Cacophony is to predict wait times at restaurants. Using a smartphone app as the software sensor where people manually indicate their current wait time for a table at a restaurant, Cacophony could interpolate the data between manual updates and predict the wait time for other users. Additionally it could provide wait times when there are no users updating the app and predict wait times in the future.

The proposed framework can be applied to any sensor that makes its values publically available and would act as an abstraction layer so that many different sensor sources can be utilized.

“Crowd-sourcing” information in order to gather current traffic data or theme park and restaurant wait times has become a popular and useful tool. Users manually update a software sensor with information and the data is used to display current information. A more predictive layer would be beneficial in this context, where software will also interpolate and predict information in between manual updates. Currently, implementations for predictions of sensors are always controlled by the individual sensor owner and they provide predictions using their own technology. A framework that includes data from multiple software sensors would allow for more accurate predictions and correlations with other sensors.

SUGGESTED USES

- » Adding value-added services to existing software sensors

ADVANTAGES

- » Enables predictive services to scale
- » Provides predictive services where they may have not been previously available

LEAD INVENTOR

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