SPEEDD Project

SPEEDD develops a system for proactive event-driven decision-making. Decisions are triggered by forecasting events - whether they correspond to problems or opportunities - instead of reacting to them once they happen. The decisions are made in real-time and require on-the-fly processing of Big Data, i.e. extremely large amounts of noisy data storming from different geographical locations as well as historical data.

The effectiveness of the SPEEDD solution will be evaluated in:

- **Proactive traffic management**, aiming to forecast traffic congestions and, as a result, act in order to attenuate them.

- **Proactive credit card fraud management**, aiming to significantly improve fraud detection accuracy, without compromising detection efficiency, and forecast various types of fraudulent activity, which are constantly evolving, in order to mitigate the effects.

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SPEEDD

Scalable ProactivE Event-Driven Decision-making

February 2014 - January 2017

http://speedd-project.eu

SEVENTH FRAMEWORK PROGRAMME

Aims

SPEEDD will develop a suite of systems that are capable of processing extremely large and noisy event streams and historical data, in order to recognise and forecast opportunities and threats, make decisions to capitalise on the opportunities and mitigate the threats. Through user-interaction, the systems will help human operators to facilitate correct decision execution.

The SPEEDD methodology for proactive event-based decision-making comprises the following steps:

1. Big Data is continuously acquired from various types of sensor and fused in order to recognise, in real-time, events of special significance. To allow for sub-second recognition, SPEEDD minimises communication volume by moving as little data as possible from one place to another.
2. The events recognised are correlated with historical information to forecast problems and opportunities that may take place in the near future.
3. The forecast events along with the recognised events are leveraged for real-time operational decision-ma-king.
4. Visual analytics tools prioritise and explain possible proactive actions, enabling human operators to reach and execute the correct decision.

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Architecture