

User, Social and Location Context for IBM Business Analytics

Stephan Jou, M.Sc.

Office of the CTO, Business Analytics, IBM Canada

Gartner, in their Gartner Hype Cycle for Context-Aware Computing 2010, provides the following statement: “Context-aware computing is about improving the user experience for customers, business partners and employees by using the information about a person or object's environment, activities, connections and preferences to anticipate the user's needs and proactively serve up the most appropriate content, product or service. Enterprises can leverage context-aware computing to target prospects better, increase customer intimacy and enhance associate productivity and collaboration.”

Data availability is no longer an issue for Business Analytics applications. Now the challenge is to deliver the right information at the right time in a way that is relevant and understandable.

Without context more data from more sensors means ever growing piles of puzzle pieces. Harnessing the information explosion necessitates placing information into context. In a sense, the data must find the data before relevance/insight/action can be taken with confidence.

IBM Business Analytics started with support for location context when IBM Cognos 8.4 Go! Mobile shipped with location awareness built in (you can auto-filter your reports by your current location, as read in from your BlackBerry GPS). We also have a rich metadata repository in our models which we have begun to tap in recent versions of Go! Search and other parts of our portfolio. For example, in Go! Search 8.4 you can enter in a query like "Top sales for Tents in Japan", and -- if such a report does not exist which contains those terms, it will use the metadata that we have around the customer's models and dynamically construct a query or report that answers the question.

By focusing on support for embedded context information within the Business Analytics platform and other products areas, IBM is well positioned to provide our customers with scalable context-aware solutions in areas such as predictive analytics, search, content analytics, real-time monitoring, decision management, and many more.

As part of Smarter Planet and its related strategies, many parts of IBM are investing in technologies that enable us to provide context aware computing. This includes ongoing investments in linguistic analysis, social networking, semantics and relevance, etc. More specifically, there are specific strategic investments that can be made in the areas of user, social and location context.

User context, closely tied to the personal web, recognizes the fact that each user of our software is different and that our complex software can be made much more accessible by personalizing. Knowledge of who a user is, built up based on observations on user behaviors and stated preferences, can be used to provide appropriate subsets and

customizations of the interface, or even anticipate the user's requirements and needs. If a user runs the same report every morning at 10am, could our software not anticipate that and provide the report in advance?

Social context recognizes that a user does not operate as a single entity, but rather as part of a larger group of people in both formal and informal networks, and that these networks can be harvested for information that can provide value back to the user. If a user's boss finds great value in a specific financial report, then perhaps the user should too; if many of the user's peers express concern in a predicted budgetary figure, then perhaps the user should be alerted to a lack of trust in that figure on his or her report.

Location context goes beyond who the user is, extending into the realm of where the user is. The previous example of location-based filtering can be extended into more sophisticated forms of location intelligence within Business Analytics applications. Can a report be filtered not by the simple geometrical area around the user's current location, but rather by the region prescribed by less than 15 minutes drive distance from the user's current location, at the current time of day?

Information without context is akin to evaluating a stand-alone puzzle piece. Organizations that leverage information 'in context' will be substantially more competitive and they will also recognize opportunity and mitigate risk with new levels of prediction accuracy.

Context aware computing will revolutionize the entire spectrum on business analytics ranging from mobile, search, customer insight to fraud detection and advances in predictive analytics. We will continue to see context rich analytic capabilities integrated across IBM's portfolio, and our customers will use these advances in prediction to be more efficient and deliver high quality services to their customers.