



Decision Support with Text

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Spring 2010 Ubiquiti Meeting Agenda
(Tuesday 4th May 2010)

Ubiquiti will host its Spring 2010 Meeting at Dahlmann Campus Inn, Ann Arbor MI. As in the past, we will exchange ideas, user-experiences, understand how our software is used, demonstrate our new technologies, obtain inputs on improvements, run tutorials etc. Our Meeting will span the entire Tuesday 4th May 2010 – including new, basic and advanced material. **Register by email to team_ubiquiti@ubiquiti.net or at www.ubiquiti.com/registration/**

(Note: a different event of interest is the OESA-AIAG “Consumer-Centric Warranty Management”, on Wednesday 5th May 2010 – see <http://oesa.org/events/eventdetail.php?eventId=884>)

Ubiquiti Meeting participants include, or have included: OEMs, Suppliers, Fleets, Dealerships, and Researchers. Examples for OEMs – Nissan, Ford, Toyota, General Motors, John Deere, Chrysler, Navistar, VW-Audi; for Suppliers – ArvinMeritor, Asahi Glass, Autoliv NA, Lear Corp., Magna Inc., Bridgestone Firestone, Dura Auto, Yazaki NA, Freudenberg-NOK, Continental Corp., VisiCorp/SMR, Bosch, Denso, Visteon, Tenneco etc.; for Fleets – Northwest Airlines, Conway, US Army TARDEC/TACOM; for Dealerships – AutoNation etc.; for Researchers – Univ. Michigan, Univ. Florida, the Center for Automotive Research etc.

This Meeting is organized around some themes, where the over-arching theme is the increasing amount of data that is becoming available – from manufacturing, repairs, maintenance, warranty, on-board sensors via telematics etc. – and how we may leverage the information rather than be overwhelmed by a “data deluge”. Ubiquiti’s unique approach in using some novel and venerable techniques will be discussed. Additionally, several external speakers are to make presentations that will provide insight with their experiences and “war stories”.

We look forward to your attendance and participation.

The Ubiquiti Meeting is by invitation only, and is at no cost to the participants.

When: 8am to 4:30pm, including breakfast, lunch and breaks (provided by Ubiquiti)
Tuesday 4th May 2010

Where: Ann Arbor, Michigan

Venue: **Dahlmann Campus Inn**
615 East Huron Street
Ann Arbor, MI 48104
Phone: +1 734 769.2200
(Ample On-site Parking provided)

<http://campusinn.com>



(Continental Breakfast begins 07:30 am.)

Time (a.m.)	Morning Topics	
08.15 – 08.45	Introductory Remarks Discussion on the imminent “Data Deluge”	
08.45 – 09.45	<u>Applications 1</u> : Using Text Data Data Encoding – unstructured to structured “Self-Tagging” – to assign descriptors Basic Ontology-navigated Analytics	<u>Pragmatics 1</u> : Information Exchange Handling Global Languages “Customer Sentiment” / “VoC” Analysis Text Extraction & Statistical NLP
09.45 – 10.00	Break	
10.00 – 11.00	<u>Convergence 1</u> : Search & Analytics <i>External Speaker – Using Concept & Ontology based Search</i> <u>New Technology</u> : Browser-based Thin-client Search <u>New Technology</u> : IR-Search in Ubiquiti Analytics	
11.00 – 11.45	<u>Applications 2</u> : Analytics & Diagnostics Rapid Statistical Diagnostics Automating “ <u>Fixed Right the First Time</u> ”	<u>Pragmatics 2</u> : Re-using Technology Ubiquiti with 3 rd -party BI/reporting Data Mining for Targeted Use

Time (a.m./p.m.)	Lunch
11.45 – 01.15	Served in Huron Room <i>(Lunch Speaker – Prof. A. Galip Ulsoy, Univ. Michigan, Ann Arbor)</i>

Time (p.m.)	Afternoon Topics	
01.15 – 01.45	<i>External Speaker – Experience on managing an important OEM quality issue</i>	
01.45 – 03.00	<u>Applications 3</u> : More Analytics Exploratory Data Analysis Addressing “ <u>No Trouble Found</u> ” issues Weibull Analysis / Prognostics	<u>Pragmatics 3</u> : Early Warning Systems “Dynamic Record Set” usage Data Linkage from Diverse Sources Automated System Alerts
03.00 – 03.15	Break	
03.15 – 04.30	<u>Convergence 2</u> : Leveraging the “Data Deluge” – Modeling vs. IBL approach Search, Analytics & Diagnostics/Prognostics – coming together <i>External Speaker – Transferring Lessons Learned from Warranty to Product Development</i> Session on Best Practices & Wrap up	

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Short Descriptions for the Topics

Our Meeting will have parallel tracks, as shown in the Agenda. However, depending on feedback from attendees, Ubiquiti may choose to merge some of the sessions. Generally, the basic usage of Ubiquiti software will be discussed in parallel with some advanced aspects. Also, Case Studies illustrating significant cost savings and other benefits will be described in detail in both sessions.

External Presentations: We are pleased to confirm two major Suppliers, a senior engineering Professor from Univ. Michigan, Ann Arbor, and an automotive sector veteran who held senior positions at Suppliers and OEMs, will speak at our Meeting. The topics include: use of concept-based Search, research projects, dealing with serious quality issues, and transferring lessons learned from warranty to product development.

Applications:

Using Text Data is a basic aspect of Ubiquiti software, and basic applications will be discussed – e.g. , automated encoding of repair records – e.g., fast, accurate and consistent submission of claims; encoding converts unstructured narrative text verbatims to structured “fielded” data amenable to analytics etc.; also, for newer codes and other cases, Ubiquiti has means to efficiently “self-tag” data manually, as will be shown; availability of structured data obtained from narrative text enables a useful and unique means to perform analytics guided by customized ontologies, or hierarchical information organizations, which will be explained.

Analytics & Diagnostics are enabled by large amounts of structured data, which form a *knowledge-base*, made available by pre-processing with Ubiquiti technologies – e.g., rapid statistical diagnostics becomes possible, wherein submission of verbally-conveyed symptoms or telematics-conveyed sensor data get used to identify the problem(s), and their fix(es); in fact, this novel approach helps automate getting to root-causes to enable the desirable “fixed right the first time” – which alleviates serious cost factors, as described next.

Advanced Analytics help address “no trouble found” issues by finding system-level problem patterns instead of just component-level failures – Ubiquiti, supported by the US gov’t National Science Foundation funds, has developed techniques which will be described; also, together with the use of “Dynamic Record Sets”, which apply standing query-constraints to all data, “exploratory data analysis” is seen to be made easier.

Pragmatics:

Information Exchange is essential to interact among multiple organizations, and handling global languages will be discussed for today’s geographically dispersed environment; interacting with the customer base, and gauging their “sentiment”, using “voice of customer” data sources will be shown; and the advanced means to exchange information by text extraction and statistical “natural language processing” will also be discussed.

Re-using Technology helps leverage investments made in IT infrastructure and research techniques – and Ubiquiti may be used with 3rd-party BI/reporting tools as will be discussed and shown; in a similar manner, research techniques in data mining – i.e., finding useful, previously unknown, patterns in large datasets – for specific uses with automotive data will be discussed, and in particular, for root-cause failure identification.

Early Warning Systems is of significant topical importance, given the considerable focus on safety & quality issues in the recent past – for doing so, data drawn from several sources, automatically and appropriately linked, can be used to obtain early signals on emerging problems by sophisticated alerting mechanisms; additionally, Ubiquiti can be used with existing tools for prognostics and reliability forecasting – which will be discussed and shown as well.

Convergence: Increasingly, a number of related technologies are coming together to help search, sort, and analyze data – and the “data deluge” can be leveraged rather than causing “information overload”.

Search & Analytics is an obvious convergence, given the frequency with which users need to find certain subsets of data, and would like to have a “Google-like” search-form to identify the needed data quickly – Ubiquiti will show new technology which enables such “IR Search” in analytics software, together with use of powerful concept & ontology based search; also, convergence of Web-technologies with Ubiquiti desktop software will be debuted with our Web-enabled Search software – which makes text technologies accessible via thin-clients and the Internet.

Leveraging the imminent “Data Deluge” is preferable to being overwhelmed by it – and in fact, by techniques whereby “similarity search” is used with “instance-based machine-learning”, existing knowledge can be used as available in large datasets being generated constantly. This will be discussed in Ubiquiti’s contexts.

Best Practices Session: With attendee-participation, several important approaches will be discussed – and we solicit participants’ inputs on possible topics of wider interest. Possible topics include automating Data Acquisition, “No Trouble Found”, maintaining “Lessons Learned”, Root Cause Analysis etc.

More on the Venue: The *Dahlmann Campus Inn*, Ann Arbor MI

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