Report on the UK – India workshop on Social Media research and launch of the Web Observatory node at IIIT-B

Organised by:
UK Science & Innovation Network, India
in partnership with

International Institute of Information Technology, Bangalore
on
17th February 2015, Bengaluru

Background

The International Institute of Information Technology - Bangalore (IIIT-B) launched India's first ever node of the global Web Observatory grid on 17th February, 2015. The Web Observatory (WO) is a globally distributed grid of computers that host, curate, analyze and interconnect data related to the web from across the world. The objective of the WO grid is to support research in Web Science and provide a test bed for algorithms, theories and models pertaining to the dynamics of the web.

The WO at IIIT-B is the sixth node in the grid. It is also the first functional node situated outside of the founding members of the Web Observatory project. Two more nodes are planned for Singapore and Australia and are expected to be operational in the near future.

Inauguration

The observatory was formally inaugurated by [Dame Wendy Hall,](Dame Wendy Hall) who is Professor of Computer Science at the University of Southampton (pictured below) and Professor S. Sadagopan, Director of IIIT-B.

The inauguration was followed by a series of research and technical talks by invited speakers (see full programme below) beginning with Professor Hall, who spoke of the importance of Web Science the role that WOs played. She described the WO grid and the different locations of the existing nodes and future plans for further locations across the world.

Prof. Krithi Ramamritham from IIT Mumbai was the next speaker. He introduced their Centre for Urban Science and Engineering (C-USE) emphasising that Web Science is a critical component of tomorrow's smart cities. His talk outlined a range of web data related challenges from real-time management of data streams from sensors to predictive analytics over urban phenomena, where expertise in Web Science is necessary.

Mr. Sunil Varkey from Wipro Ltd spoke about his company's efforts to use advanced techniques in Big Data analytics to improve incident management on their network infrastructure. He highlighted the growing incidences of zero-day attacks (which target previously unknown network vulnerabilities) and coordinated network intrusion efforts. These sorts of attacks drive the need for more collaborative research on smart approaches to incident management, by exchanging data and notes across different affected parties.

Mr. Gopinathan Padhmanabhan from Mphasis technologies, introduced his companies research program called Mphasis Next. He identified several issues pertaining to customer engagement and focused on how changing technologies were shifting conventional paradigms. He also outlined their work on social media analytics for business profiling and proposed several forms of engagement with the Web Observatory.

Prof. David de Roure from Oxford University introduced his research on the "Social Machines" paradigm. Web Science was viewed from this perspective as theory and practice of Social Machines. Prof. De Roure also addressed changing paradigms in scholarship with the emergence of a global Social Machine in the form of the participatory web.

Dr. Ramine Tinati from the University of Southampton addressed topics pertaining to visualization of datasets over the Web Observatory. His talk featured several real-time visualizations of social media activity in different parts of the web.

Dr. Prasad Deshpande from IBM Research India, talked about their project in semantic data integration, called the "data lake" problem. He presented techniques developed by their group that integrates datasets obtained from disparate sources into a semantically coherent whole.

Dr. Srinath Srinivasa from IIIT-B introduced the Web Sciences lab at the Institute and described one of the projects being pursued in the lab distinguishing between the spread of ideas or "abstractive content" with the spread of emotions or "expressive content" on the web. The characteristic differences between the two were shown to impact several issues like the collective intelligence of a group of people, or the free speech versus bad speech conundrum.

Workshops

After the talks, the workshop divided into two parallel sessions:

- In the first session, a focused group discussion (FGD) was conducted by **McGraw Hill Education (MHE)**, bringing together eight experts in the area of Web Sciences to debate on their vision of Web Science in education and industry. Several interesting perspectives were debated – including the changing face of pedagogy and the new kinds of job opportunities for graduates in Web Science.

- The other parallel session hosted a research scholar colloquium with five student presentations. The presentations were followed by a discussion on Web Science by the participants, moderated by the session chairs.

Research Questions

Some of the open research questions discussed during the workshop included the following:

Distributed management of the Web Observatory grid: The Web Observatory grid is expected to span all continents across the world and host disparate datasets. As the number of nodes and datasets grow, there will be a pressing need for distributed management, provenance tracking, credibility management and access control for these datasets. This problem is exacerbated by potential churn in the teams from the participating organizations and users. Any distributed management scheme should be agnostic to specific users of the system and implement trust assertions to identify the veracity of any uploaded dataset or access.

Dimensions and cataloging of web objects and events: In the physical world, celestial objects and events are cataloged with well known frameworks of calibration. For the web however, it is unclear what are the different dimensions that would characterize any object or event of interest. A news story for example, would be calibrated by the type of news, its location of occurrence, the time of its occurrence, the people involved and so on. Such calibration would help users browse the datasets in the web observatory and support semantic neighbourhood searches.

Real-time visualizations: Web phenomena are variegated and dynamic. Visual analytics over such phenomena are critical to understand the different ways in which some event or situation is unfolding. Many open problems exist in the area of visual analytics over web data. The problem is even more complex if it has to address requirements of real-time data and actionable insights.

Social machines theory: Web Science is seen as the theory and practice of Social Machines – an abstraction to describe vast computational spaces molded by both human and algorithmic activity. The web is the biggest social machine ever to be created. For Web Science to mature as a real science, there is a pressing need to develop the theory of Social Machines to an extent that some form of axiomatic basis for Social Machines are visible.

If you have any queries about this report, please direct them to Sunil Kumar

Social Media Research and Web Observatory launch programme

0830 – 0930 Hrs – Registration

0930 – 1000 Hrs – Inauguration and Official Web Observatory Launch

1000 – 1030 Hrs – Coffee Break

1030 – 1110 Hrs – Research Talk 1, **Speaker – Prof. Wendy Hall, University of Southampton**
Title – The Importance of Web Science and Web Observatories for Web Science Research

1110 – 1140 Hrs – Research Talk 2, **Speaker – Prof. Krithi Ramamritham, IIT-Mumbai**
Title – Web and the Smarty City

1140 – 1210 Hrs – Research Talk 3, **Speaker – Mr. Sunil Varkey, Wipro Ltd**
Title - Leveraging Big Data for Incident Response

1210 – 1240 Hrs – Research Talk 4, **Speaker – Mr. Gopinathan Padmanabhan**, **Mphasis Ltd**

Title – Services Innovation and Automation: Mphasis Experience

1245 – 1345 Hrs – Lunch Break

1345 – 1415 Hrs – Research Talk 5, **Speaker – Prof. David De Roure, University of Oxford**
Title – Shifts in Scholarship: The Social Machines Paradigm

1415 – 1445 Hrs – Research Talk 6, **Speaker – Ramine Tinati, University of Southampton**
Title – Social Analytics of Social Machines

1445 – 1515 Hrs – Research Talk 7, **Speaker – Prasad M Deshpande, IBM**
Title – Bridging the Data Lake

1515 – 1545 Hrs – Coffee Break

1545 – 1615 – Research Talk 8, **Speaker – Srinath Srinivasa, IIIT-B**

1615 – 1815 Hrs – Focused group discussion, **Venue: Board Room**
Curricula of Web Science Education (By: McGraw Hill Education)

1615 – 1815 Hrs – Research Scholar Colloquium, **Venue: Room# 307**

List of participants

Name	Affiliation	Designation
Aastha Madaan	IIIT-B India	Postdoctoral Research Fellow at IIIT Bangalore
Abhijit Choudhury	Azureiken Technologies Private Limited	CEO
Abhijit Mangalgiri	MIT, USA	Chief Data Scientist
Akash	Nasscom	Developer & UX and UI expert
Anand Tirthgirikar	IIITB	1st year MTech
Anupama Rohit	Minacs Ltd	Asst. Manager - L&D
B Sumith Reddy	IIITB	Student
BN PAL	Srishti ESDM Pvt Ltd	Founder and CEO
Chandrashekar Ramanathan	IIIT- B	Faculty Member
Chinmay Jog	IIIT-B	Research Scholar
Dr. Jai Ganesh	Mphasis	Vice President
Gopinathan Padmanabhan	Mphasis,	President - Global Delivery & HP Channel Sales at Mphasis Ltd. an HP Company
Harsha	Fields of View	Researcher
Honnur	Startup	architect
I N Murty	Accenture	Vice President
Jane Morgan	Univ. of Southampton, UK	Academic-related staff in Administration Group
Kiran Rudrappa	GladMinds	Founder and CEO at GladMinds
Mandar Mutalikdesai	DataWeave, India	Head, Data Semantics Group, DataWeave
MS Srinivasan	IBM, IIIT-B	Architect and Research Student
Nikhil Kabbin	Gramener	Data Specialist
Nithin. K	People's Action for Social Service	MIS Executive
Prasad M Deshpande	IBM Research, India	STSM and Manager, Information Analytics
Prof. David De Roure	Oxford University, UK	Director of the Oxford e-Research Centre
Prof. Kirthi Ramamritham	IIT Mumbai	Professor of Computer Science at IIT-B
Prof. Wendy Hall	Univ. of Southampton, UK	Professor of Computer Science at the University of Southampton, UK
Raghav	GE	Strategic Initiatives Leader
Ramesh Kumar Manickam	Verisign Services India Private Limited	Senior Manager
Ramine Tinati	Univ. of Southampton, UK	Research Fellow at the University of Southampton
Rishabh Manoj	IIIT Bangalore	Student

Saksham Khandelwal	Wipro Ltd	Senior Executive Innovation
Sandeep Bhagat	Genpact	Big Data Technology Strategist
Sanket Patil	DataWeave, India	Head of Products and Strategy at DataWeave
Sateesh Kavuri	None	Senior Architect
Sreekanth SR	Mahiti.org	CEO
Srikanth	Technology	Director
Srinath Srinivas	IIIT-B India	Associate Professor at IIIT Bangalore
Srinivas Padhmanabhuni	Infosys, India	President at ACM India
Sujit Kumar	C L Infotech	Director
Sujit Kumar Chakrabarti	IIIT - B	Assistant Professor
Sumant Kulkarni	IIIT- B	Research Scholar
Sumanth Prabhu	IIIT- B	Student
Sumanth Sarkar	Nanobi analytics	software engineer
Sunil Kumar M	UK Science and Innovation Network	Senior Science and Innovation Adviser
Sweety V Agarwal	IIIT-B	Research Scholor
T.B. Dinesh	Janasthu,	Founder, Janastu
Thanassis Tiropanis	Univ. of Southampton, UK	Prof. of Electronics and Computer Science
Vikram Bammanhalli	IIIT - B Alumni	Project Lead
Zachariah Thomas	Edelman India	Account Director
Annasaheb Sunthe	Minacs Ltd	Senior Architect
Suresh Ponnaswamy	Minacs Ltd	Senior Architect
Ipshita Sen	Edelman India	Director
Venkatesh Babu	Minacs Ltd	Junior Architect
Rajeev Singh	IIIT- B	Student
Suvid	StatLabs	Director - Decision Management Platforms
Anuja	IIIT-B	Student
Tobby Simon	Synergia Foundation	President
Raghu Nambiar	Seimens	AVP, STS - Siemens Technology and Services Pvt. Ltd.
Rahul Venkat	GE Global research	Edison Engineer
DV Krishna Chaitanya	Infosys, IIIT-B	
Badrinath	Ericsson	Principal Engineer

Prof Mohan Sundararajan		
Vivek yadav	Infosys	Systems Engineer
Akshatha Holla	Infosys	Systems Engineer
Humamehatis	Infosys	Systems Engineer
Nikita jain	Infosys	Senior System Engineer
Vidya P R	Infosys	Technology analyst
Ram Kumar C	Infosys	System Engineer
Purneshweta	Infosys	System Engineer
Ginna Yadav	Infosys	software engineer
Anand Parthasarathy	India Tech Online	Editor
Sunil Varkey	Wipro Ltd	Ciso
Navneeth Mehra	Mcgraw Hill Education	Senior Edit researcher
Kanu Pathania	Wipro Ltd	
Pankaj Anand	Wipro Ltd	
Sudha Yellapantula	Mphasis	VP & Head Delivery Excellence & Quality
Vijay V	Mphasis	AVP
Saikath mukherjee	Siemens	