



Conference Report

6th -7th, May, 2010
Venue: The Lalit, New Delhi, India

TESTIMONIAL S



"I thought the launch conference was excellent. The level of dignitaries on the stage spoke well for the support we have in country. All of our colleague organizations: Nasscom, MAIT were excellent".

Jaffrey Jaffe, CEO W3C



"Thank you very much for all your effort for the W3C India Office launch and the international conference. No doubt it was an excellent start for the Office and a great success. So I'd like to congratulate you for this. I think me and my W3C team fellows learned a lot about the situation in India and especially about the work of TDIL in this context".

Klaus Birkenbihl, Head , W3C Offices World-wide

"The event seemed to be a grand success, and I hope that we will see a continuation of W3C sponsored technical events in Delhi".

Anupam Joshi , IBM



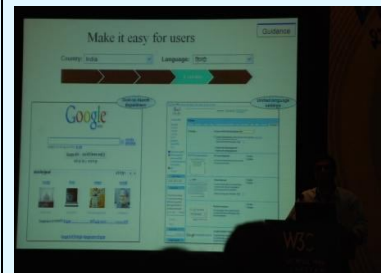
"Best Wishes to you for a successful running of W3C India Office. Please don't hesitate to ask me for anything I can contribute to your endeavours in W3C India. My company "Vishwak Solutions Pvt. Ltd." which is a member of W3C can contribute on Style Sheets, java script, Video & Mobile Web".

**T.N.C.Venkata Rangan ,
Vishwak Solutions Pvt. Ltd.**



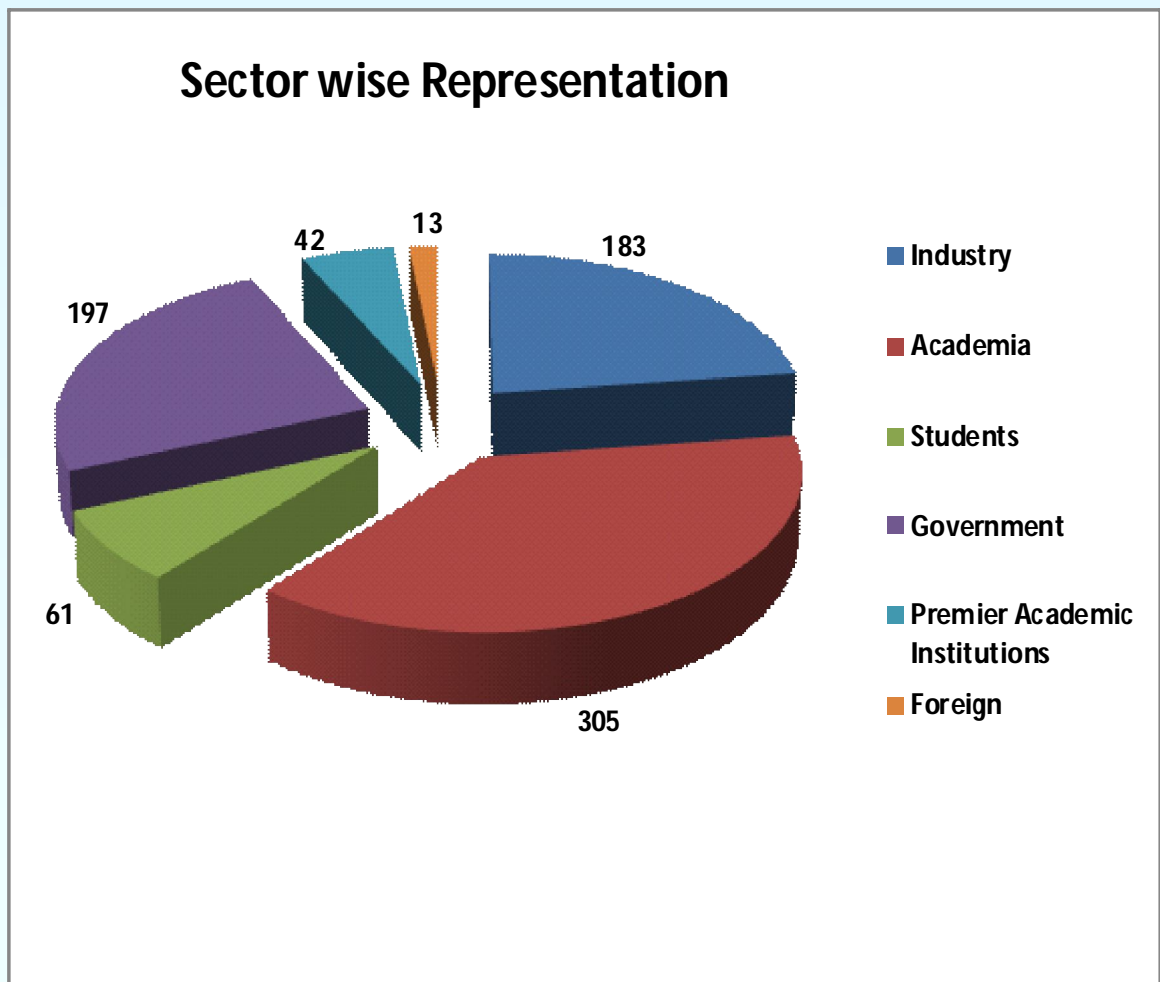
"Congratulations for the success of W3C conference. At last your vision is coming true".

**Ashok Kappillil
Head-Operations, Maatra , Global**



PARTICIPANTS STATISTICS

More than 600 participants from different organizations involving industry, academia and Government sectors participated at the conference. The participants discussed about the challenges and issues involved in the implementation of the state of the art and future web technologies and their standardization shared experience with colleagues, made new contact and strengthened existing relationships, and honed their ideas and knowledge in web technologies related areas. Conference participants will how best to promote open standards participation and dissemination in India. The program begins with the formal opening of the new Office, then is followed by discussions on internationalization, mobile access, Web architecture, Semantic Web, Accessibility, and other areas of W3C work.



Major Participation from Industry:

- Microsoft
- Google
- Yahoo
- IBM
- TCS
- Infosys
- Wipro
- Opera
- Samsung
- Tata Teleservices
- Reliance
- Intel
- Nokia
- Red hat
- Nuance
- Mob me Wireless

Major Participation from Academia:

- IIT Bombay
- IIT Delhi
- IIT Madras
- IIT Hyderabad
- IIT Kharagpur
- IIITM Gwalior
- LNM IIT Jaipur
- Indian Institutes of Information Technology
- University of Delhi
- IP University, Delhi
- National Institutes of technology

Major Participation from Government

- Department Information Technology, Govt of India
- National Informatics Centre, Ministry of Communication & IT
- Departments of Information Technology from State Governments
- Department of Official Language, Ministry of Home Affairs
- Central Institute of Indian Languages
- Centre for Development of Advanced Computing (C-DAC)
- BHARAT ELECTRONICS LIMITED
- NISCAIR (INSDOC), CSIR
- Office Of CCA
- National Internet Exchange of India

Inaugural Keynotes



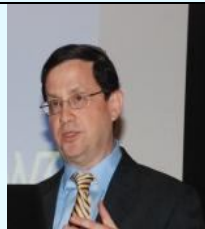
"I welcome the presence of W3C in India. The setting up of W3C India Office will go a long way in accelerating the growth of Web in Indian Languages. The engagement with W3C in building all the required standards will facilitate information access on World Wide Web regardless of languages, location, ability, generation, age and income. This will not only facilitate wider access of web by the people of this country but will also equip them to provide locally relevant content on the internet. Such initiatives will play a great role in reducing poverty, improving health care, education, spreading good governance and addressing all local challenges in the global context. "

Shri Sachin Pilot, Hon'ble Minister of State for Communications & IT



"World-Wide-Web standards activity is vital for promoting the development based on open standards, protocols supporting the various platforms for deployment of infrastructure. The internationalization activity is the back bone of implementation of IT solutions in Indian Languages. W3C India office will work closely with all other initiatives of the multi-stakeholders - Academia, Industry, Civil Society and Government to achieve the stated objective of 'Internet for All'. "

Shri R. Chandrashekhar, Secretary, DIT, MCIT



"Increased participation from India will strengthen W3C's international community," said Jeff Jaffe, W3C CEO. "I look forward to partnering with TDIL so that we build the W3C community in India, including drawing Membership from key industrial and academic leaders."

Jeffrey Jaffe, CEO W3C



"Development of W3C standards will complement these efforts further and will support all our ICT implementations enabled with Indian Languages such as Mobile technologies, Voice Browser, Web Accessibility and Web Services The journey on this path will require active support from all of you through formal and informal mechanisms and pooling of resources towards this national activity."

Shri N Ravi Shanker, IT Secretary & Group Coordinator, Language Computing Division, DIT



"The setting up of the W3C India Office at Department of Information Technology, New Delhi is symbolic of India's expanding role in global standards for the internet and exemplifies our commitment to shaping the future of the internet. In this effort it is critical to make the web more inclusive for all Indians irrespective of language barriers. Exploiting the web to its full potential and enabling it in Indian Languages is the mandate of W3C India. I thank all those that have made these contributions and hope that this initiative will draw experts from academia, government and business on a common platform for exchange of views. I wish the W3C conference 2010 all success."

S. Ramadorai, Vice Chairman, TCS India



"To enable all round development of web technologies, evangelization about the benefits of web technologies is required concerted effort."

Rajendra S. Pawar, Vice Chairman, NASSCOM



"I am currently focusing on projects related to application of information extraction, natural language processing, information retrieval, data analytics and machine translation to service delivery."

Raghuram Krishnapuram, Senior Manager, IBM India Research Lab



"The mission of W3C India Office is Web for all, Web on everything, leading the web to its full potential and enabling it in Indian languages. Its long term goal is to enable all W3C Recommendations with 22 Indian languages. The main objectives of W3C India office are to promote and proliferate W3C Standards. It acts as a nodal point of contact between stake holders and W3C Consortium. Some of the proposed activities to be undertaken taken by W3C India Office are Internationalization tag set, Mobile Web, CSS, Pronunciation Lexicon Specification, E-Government, XML etc".

Ms. Swaran lata, Head TDIL Prog., DIT & Country Manager, W3C India office

CONFERENCE PROGRAM

The programme for **World Wide Web: Technology, Standards and Internationalization Conference** , 2010 was a rich mix of plenary sessions featuring many well-known and thought-provoking keynote speakers to intense, highly interactive technical discussion session. A total of 41 eminent speakers were involved, making it the most extensive programme of W3C in India yet. The main agenda of this W3C conference is to involve industry and researchers, who are working in web related area, and to identify and invite leading experts and representatives from Industry, Academia and Government. The Conference schedule created as per the recommendations and views of National advisory committee of W3C India Office, under the chairmanship of Dr. S Ramadorai, Vice Chairman, Tata Consultancy Services.

The main conference was focussed with the following technology track sessions on following W3C domains:

- **W3C and future Web Technologies**
- **Internationalization aspects in W3C**
- **Web access through mobile and handheld devices**
- **Web architecture and semantic web**
- **Human machine interface for the web**
- **Web content accessibility in Indian language**
- **Web of Services and its issues**

TECHNOLOGY TRACKS

Session 1: Internationalization aspects in W3C



Chairperson: Ms Swaran Lata, Head TDIL Prog., DIT & Country Manager, W3C India office.

1.1 Internationalization & Its challenges

Presented By: Dr. Richard Ishida, W3C Internationalization Lead

Since the beginning, “Web for All” has been a fundamental goal of the World Wide Web Consortium (W3C). The W3C Internationalization Activity has the goal of helping to make it possible to use Web technologies with different languages, scripts, and cultures. He presented the areas in which internationalization is needed, and use case studies from recent work to illustrate how the W3C's Internationalization Activity goes about its work. He emphasized the Indian language requirements for CSS 3.0-Special reports for Indian Languages requirements production of Indian reports; Internationalization tag set requirements, Date and Time formats etc., Language Tag requirements

1.2 Internationalization and Localization : Indian Perspective and Requirements

Presented By: Ms. Swaran lata, Head TDIL Prog., DIT & Country Manager, W3C India office.

She talked about the requirements & challenges of Internationalization and Localization in Indian Perspective. She said that internationalization significantly affects the ease of the product's localization and is a process of generalizing a product so that it can handle multiple languages and cultural conventions without the need for re-design. Internationalization is the first step whose purpose is to make the second step (localization) easier. She told about the requirements of Internationalization and representation of information in a way that is easy to be localized. In her presentation the major issues in mobile web, cascading style sheet, PLS, E-Government are covered. W3C Internationalization Activity is to ensure that W3C's formats and protocols are usable worldwide in all languages and in all writing systems. The proposed activities taken by W3C India Office are Internationalization tag set, Mobile Web, CSS Level1, PLS 2.0 etc.

1.3 Localization Standards Vs Internationalization

Presented By: [Dr. A. Kumaran, Microsoft India](#)

He discussed about the need of localization and its requirements for developing a global product.

1.4 Web for all- Indic language Perspective

Presented By: [Mr. Manish Bhargava, Google Inc., USA](#)

His presentation included the challenges for widespread adoption of Indic web in India. He told that On-line Content is Key to improve relevance of the web to Indic language user. He said that how Google enable translation of internet content and make it easy to users.

1.5 Standardisation aspect of Internationalization in W3C

Presented By: [Mr. Pravin Satpute, Red hat India](#)

Today, many people are using web in their native language. This number is increasing day by day as W3C is trying to lessen the language barrier. But when it comes to accessing web or creating web documents in native language, few bits are still missing and unattended. His presentation covered an attempt that focuses on such left-out bits and request attention from W3C.

Summary from Session 1

The W3C Internationalization Activity has the goal of helping to make it possible to use Web technologies with different languages, scripts, and cultures. Internationalization significantly affects the ease of the product's localization and is a process of generalizing a product, so that it can handle multiple languages and cultural conventions. Language becomes important aspect when creating a world-ready software and making it available over web. Standardization of basic internationalization components via Open Source way is not only a cost-effective but also a collaborative approach.

Session 2: Web Access through Mobile and Handheld devices



Chairperson: Phil Archer, W3C

2.1 W3C Open Media Web

Presented By: Phil Archer, W3C Mobile Lead

He said that W3C's Mobile Web Initiative (MWI) has contributed significantly to bringing the Web to mobile users. He talked about some of MWI's major achievements such as the mobile Web Best Practices standard and the mobileOK checker tool. Moreover, it gave an overview of ongoing developments important for mobile such as the HTML5 family of standards, device APIs, widget standards, and support for geolocation. Finally, he talked about present MWI activities in the area of mobile Web access in developing countries launched by a Workshop in Bangalore in 2006.

2.2 Data enabling mass Market phones in emerging markets

Presented By: Mr. C. Kumar, Comviva

He talked about the Opera reports in 12 months from March 2010 in India according to which In terms of mobile Web traffic India is next to US. His presentation includes SMS Comparison with the Web on Mobile, Mobile web initiative, mobile best practises, mobileok Checker, Geolocation API. He talked about the close relationship between designing of mobile Web and making Web content Accessible. He addressed the scope of mobile web in India as mobile handsets outnumber PC in emerging markets by a huge margin. He said that how mobile widgets addresses the mobile web issues. He also addressed that How to take the benefits of Mobile Widgets to the mass market phone.

2.3 Design of Efficient Hindi Keypad for Mobile Hand-held Device

Presented By: Prof. Devendra Jalihal, IIT Madras

He said that mobile device with a small number of alphanumeric keys will be the primary means of access to the digital world. He also covered the technologies that support Indian languages on hand-held devices — such as a standardised keypad that maps the alphabet to 12 keys, an Indian language display engine for small-sized screens and some other

convenience tools such as dictionary-based predictive text systems that enable faster composition/editing of messages — are at various stages of development. He focused on the issue of designing keypad-mappings for Indian languages in general and Hindi in particular. In the absence of any national standard the handset manufacturers are at present using their own mappings which differ from each other.

2.4 A framework for secure communication using Hindi for web based and mobile application.

Presented By: Mr. Sarvesh Kumar, University of Delhi

He focused on development of a framework for carrying out secure communication in Hindi with the added facility of conversion of the text into Romanized English form and subsequently into its SMS code before encryption and transmission.

2.5 Indic Language Display issues & Challenge on digital Devices.

Presented By: Mr. Vivekananda Pani, Reverie Technology Pvt. Ltd, India

With the explosive growth of digital devices like mobile phones, computers and digital-TV in India, availability of Indian languages in such digital platforms has become an important need to address the diverse multi-lingual nature of India. He talked about the algorithms for composing and rendering the complex conjuncts and creation of clear and legible fonts for the target screen. The key challenges are display accuracy, legibility, logical cursor handling for editing and open type support on various embedded platforms. He covered the key challenges and issues plaguing support of Indic text display on digital platforms that provide access to WWW and recommended ways of addressing such issues.

Summary from Session 2

There exists a huge opportunity in Indian scenario to enable the first time Mobile Internet users to experience the Mobile Internet; and to help it evolve using Mobile Widgets. The key challenges are display accuracy, legibility, logical cursor handling for editing and open type support on various embedded platforms. . The lack of a unified Indian language support infrastructure has kept the usage of SMS to a minuscule number despite India witnessing an explosion in the number of mobile connections. Due to a lack of standard or a uniform guideline on the above aspects, the development of functional and uniform display technologies for multiple platforms remains a big challenge.



3.1 Some steps from the web to semantic web

Presented by: [Mr. Klaus Birkenbihl, Chief W3C Offices world wide](#)

He discussed about steps and process that need to be followed from the web to a semantic web. He presented some of the problems that occurred when we want to locate something on the web like flight booking, hotel etc. He said that we would like to have applications that can combine all the data in the different Web sites in a useful way and extend the current web with a “Web of Data”. He defined the Semantic web as a collection of standard technologies to realize a Web of Data. He talked about the W3C standards for semantic web eg. RDF,OWL and SPARQL.

3.2 Semantic Information retrieval from Enterprise data

Presented By: [Dr. C Anantaram, TCS Innovation Lab Delhi](#)

He talked about the technological architecture to enable semantic information retrieval for enterprise data that is spread across data sources and applications each having their own data. In order to search and query such enterprise data effectively, the different applications and data sources that contain relevant data will need to be semantically tagged and their semantic cross-relationship identified. As a first step towards semantic enrichment, the basic data can be converted to a common data format with semantic labels (such as RDF) from its relational data store. Some of the data will be ingested into the Ontology and some will consist of that data that will be referred from the applications on a “when-needed” basis.

3.3 MOWI: An ontology language for semantic multimedia

Presented By: [Dr. Hiranmay Ghosh, TCS Innovation Lab](#)

He proposed a new multimedia ontology based scheme for semantic multimedia data processing on the web. The ontology language “Multimedia Web Ontology Language” (MOWL), is designed as an extension of OWL, the W3C recommended ontology language

for the web. MOWL supports creation of and reasoning with perceptual modelling of concepts, and probabilistic evidential reasoning.

3.4 High performance data intensive computing related issues.

Presented By: Dr. Vipin Chaudhary, CRL India

He talked about the sensors that have been increasingly adopted by a diverse array of disciplines, such as meteorology for weather forecasting, medical sciences for patient care using biometric sensors and homeland security for radiation and biochemical detection. Such Sensor around the globe currently collect avalanches of data and the rapid deployment of sensor technology is intensifying the existing problem of too much data and not enough knowledge. He said that sensor data can be annotated with semantic metadata to increase interoperability between heterogeneous sensor networks, as well as provide contextual information essential for specific domain. In his talk he covered some of the emerging data intensive high performance computing techniques for doing analytics on such large data.

3.5 Multilingual IndoWordnet in Semantic Web

Presented By: Prof. Pushpak Bhattacharya, IIT Bombay

He presented rules and ontology for Web applications is reflected in the World Wide Web Consortium's proposal for the layered architecture of the semantic web, including the ontology layer and the rule layer. One definite trend in the way web is developing is the movement from human centred information to more machine processable data. "Web 2.0", "Semantic Web", "Linked Data"- these are manifestations of this trend. At IIT Bombay the Hindi Word net was built and made publicly available in 2006. Since then the creation of wordnets in 16 Indian languages and their interlinking is going on, giving rise to the "IndoWordnet". In the present talk he discussed the IndoWordnet structure, the ontology supporting it, its linkage with the Princeton Word net for English and also with Eurowordnet, its internal uniformity in data representation, its role in the evolution of national standard for machine readable multilingual dictionaries and finally its multifarious applications like word sense disambiguation.

3.6 Bridging the Language Divide using Machine Translation: Advances in English to Hindi Translation

Presented By: Dr. Nandakishore Kambatla, IBM India

The Internet is a very rich source of information and the number of users of such information is growing rapidly. While non-English content on the web is on increase, English is still the primary language on the web. He said that automatic translation of the

English content to Indian languages will help in making the information available to a large number of non-English speakers in India. He talked about some of the challenges of machine translation from English to Hindi and our approaches to each of those challenges.

Summary from Session 3

As a first step towards semantic enrichment, the basic data can be converted to a common data format with semantic labels (such as RDF) from its relational data store. The ontology language "Multimedia Web Ontology Language" (MOWL), is designed as an extension of OWL can be taken up for further deliberations by W3C.

Session 4: Human Machine Interface



Chairperson: [Dr. Anupam Joshi, IBM India](#)

4.1 3G and Speech: connect the message to the web

Presented By: [Dr. Manjunath, Nuance India](#)

He presented about how new technologies and speech interfaces can change the way of life for the masses. The use of speech as the primary interface to access the web through mobile phones and handheld devices, in combination with 3G in India, can bring a new phase in the way people will access services, content and social networking sites. Moreover, e-Governance can ride on speech and other multi-modal interfaces as India has a significant proportion of people who are illiterate, semi-literate, and the impatient 'tweeting' younger generation. Speech interfaces will accelerate, enrich and simplify in connecting these masses to the web.

4.2 Standards Requirements for Speech Recognition

Presented By: [Dr. S. Umesh, IIT Madras](#)

He talked about standards versus research aspects of Automatic Speech Recognition (ASR). To begin with, there are completely different set of ASR engines (e.g. HTK, Sphinx etc) used in academia versus that used in industry (e.g Nuance, IBM via Voice etc). Then, there are inter-operability problems even within engines used by academia or that used by industry. Further, there are very different standards when ASR is used over internet (VXML etc.), distributed computing (MRCP) or over a desktop application (SAPI). Finally, these standards have to be compatible with other speech technologies such as speech synthesis, speaker identification etc.

4.3 Spoken Web

Presented By: [Mr. Nitendra Rajput, IBM India](#)

The Spoken Web is a voice-based equivalent of the World Wide Web (WWW), developed by IBM Research Laboratory, India, primarily designed for rural and semi-urban people to

provide information of value to them through their mobile or landline phones. It will also help the government / industry / micro business to reach out to rural population with their offerings and help the people at the Bottom of the Pyramid. The vision is to create an information ecosystem that helps provide Internet-like information services through phones.

4.4 Requirements of W3C Standard in Text to Speech Development

Presented By: Dr. Kalika Bali, Microsoft India

She talked about the commonly faced issues while interpreting text for Indian Languages. Spelling variations, lack of a standard for transliteration schemes as well as the existence of code-mixed multilingual text can pose a problem for developers of speech technology with little specialized knowledge of speech and/or linguistics. She also discussed on how these can be resolved through proper support in common standards for all Indian Languages.

4.5 Indian Language Phonemes and Creation of Pronunciation Lexicon in W3C Framework

Presented By: Dr. Shyamal Kumar Das Mandal

His presentation included requirement of the development of Speech technology such as Text to Speech Synthesis and Automatic Speech Recognition. He talked about multiple pronunciations for the same orthography, Need of morphological information, Features of the above developed IDE for PLS creation in Indian languages, Standardization of Phonetic Representation of Indian language Phonemes. He said that Speech Synthesis and Speech Recognition are considered to be of primary need not only to empower disabled people, but also to functionally literate population.

Summary from Session 4

A lot of Efforts need to be initiated to actually implement speech standards to allow inter-operability between speech engines, and between various environments (i.e. internet, desktop etc.). Speech interfaces will accelerate, enrich and simplify in connecting these masses to the web. We should create an information ecosystem that helps provide Internet-like information services through phones. There should be a support in speech standards for all Indian Languages.

Session 5: Web Content Accessibility in Indian Languages



Chairperson: [Dr. Ajay Kolhatkar, Infosys Set Lab](#)

5.1 [Guidelines for Indian Govt. Web sites](#)

Presented By: [Ms. Neeta Verma, NIC](#)

She talked about the Guidelines for Indian Government Websites (GIGW), which have been formulated to assist Government departments, organisations to improve upon the quality of Information & Service delivery through the electronic media, making the websites & web enabled applications Usable, Universally Accessible and Citizen Centric. By complying with these Guidelines, departments would be able to ensure high degree of standardization & uniformity across the government web space apart from enhancing the user experience.

5.2 [Use of Simplified UI increase usage of Internet Computing](#)

Presented By: [Mr. Sachin Kelkar, Intel India](#)

He talked about the status of total market size of PC connected to Internet. At the same time, mobile subscriber base has crossed 500 million. Though Personal Computers have become a part of daily life and are increasingly used by consumers across India, its widespread adoption across India is still yet to happen. He said that the Personal computers is often limited to technology savvy and English literate users. He discussed about the research done by Intel team showed that there is a need to simplify the PC user experience and this will directly result in more usage of PC and Internet. He talked about the fundamental design principles of the simplified UI initiative (Project Darpan). He discussed about the assumptions and data pertaining to this research, field activities to validate these assumptions, Challenges faced while developing the Simplified UI framework and opportunities for the ecosystem in following this approach.

5.3 Understanding and Implementing Web Content Accessibility Guidelines (WCAG) 2.0

Presented By: Dr. Srinivasu Chakravarthula, Yahoo R&D Bangalore, India

He talked about the sites which are still not accessible, and do not comply with Web Content Accessibility Guidelines (WCAG) 2.0 of the World Wide Web Consortium (W3C). The reason for this is a lack of awareness. Many within the developer community believe that addressing accessibility is a difficult task, and that it involves a lot of additional effort; this is not true. Additional effort, such as offering different viewing options like High Contrast etc., are actually enhancements, and not core accessibility needs. To make a website / web application accessible, one must code semantically and use various accessibility techniques such as Accessible Rich Internet Applications (ARIA) for Ajax-based applications. He talked about how one should understand and implement WCAG 2.0 and its four sections –

1. **Perceivable**
2. **Operable**
3. **Understandable**
4. **Robust** ,with examples of how we achieve this at Yahoo!. There will also be a live demonstration of the new Yahoo! homepage.

5.4 WAV: Voice Access to Web Information for Masses

Presented By: Dr. Om Deshmukh, IBM India

One of the main reasons for a large section of the world population to be left out of the internet revolution is, limited or no access to a computer due to economic, educational, cultural and age factors. Enabling masses to extract information from the web via voice will bring the Internet revolution to additional billions of people. In his presentation, he talked about the system called WAV (Web Access via Voice), that is a step in this direction. Departing from the traditional approaches of manually building a VoiceXML based site, the WAV system uses information from existing web sites to serve the user. Challenges to overcome include extracting contextually relevant information from the user and also from the pages returned by websites, reducing amount of information relayed to user over phone and maintaining the context of the conversation for easy refinement based on feedback from the user. Our prototype system not only shows successful integration of many different technologies such as automatic speech recognition, scripts for web navigation, text to speech conversion, but also introduces a novel way of extracting

information from web via voice in a programmatic manner. We describe initial solutions developed to tackle above challenges and demonstrate the feasibility of the system by describing prototype implementations on two popular web sites in India.

5.5 Web content Accessibility: A step towards inclusion

Presented By: Ms. Shilpi Kapoor, Barrier break Technologies

She said that World Wide Web can assist people who are marginalised such as Persons with disabilities to live an empowered life. The Web Content Accessibility Guideline (WCAG) is such a step towards inclusion of these people. She discussed about the need and the impact of WCAG and Accessible Rich Internet Application (ARIA) in the India Scenario.

Summary from Session 5

World Wide Web can assist people who are differently able to live an empowered life through different assistive technologies. The Web Content Accessibility Guideline (WCAG) is such a step towards inclusion of these people. Use of local language for content Internet content consumption and availability of relevant usage models will increase the Internet and PC penetration in the country. Challenges to overcome include extracting contextually relevant information from the user and also from the pages returned by websites, reducing amount of information relayed to user over phone and maintaining the context of the conversation for easy refinement based on feedback from the user.



Chairperson: [Dr. S.R.Rao, Additional Secretary \(e-Gov\), DIT](#)

[6.1 How HTML5 will interact with other standard CSS3, Web SQL, Canvas, Web Storage.](#)

Presented By: [Mr. Charles McCathieNevile & Mr. Shwetank Dixit, Opera India](#)

HTML5 is one the verge of making web applications more powerful and easier to code. However, there are other W3C standards which are also, in their own way, trying to make web applications more powerful, aesthetically better and easier to code for. Hence it makes sense to take a look at how all these standards could be used by developers in combination, and what it could mean for the future of the web. He discussed about upcoming standards such as CSS3, W3C Web Storage, Web SQL DB, Web Workers API, Canvas 2D API and others and see how these could work with HTML5 and its features in order to make the next generation of web applications.

[6.2 E-Governance use cases scenarios](#)

Presented By: [Mr. Tanmoy Chakrabarty, TCS India](#)

He discussed about the E-Gov use Cases Scenarios, E-Gov services provided my Madhya Pradesh online Ltd (MP Online) and **mKRISHI** – Mobile Based Agro Advisory System. He presented the issues faced by farmer for which they have to depend on knowledge and experience of each other.

[6.3 Envisioning e-Governance with W3C standards](#)

Presented By: [Ms. Swaran Lata, Head TDIL Prog. , DIT & Country Manager, W3C India office](#)

She addressed about the better access to e-government services with the help of localization and W3C standards. E-government applications implementation in English alone is not going to be sufficient. Considering the multilingual and multi-script diversity in India, it is imperative that, e-Governance applications need to be implemented with

language framework. The sample test data for localized applications under implementation are also presented in this paper. She also investigates the role of W3C standards in implementing multilingual e-governance solutions. Implementation of W3C Standards will be a prime factor for seamless and interoperable solutions to achieve the goal for all 22 constitutionally recognised Indian languages.

6.4 Role of IPR in W3C consortium – Boon or Hindrance

Presented By: [Dr. Mohan Dewan, R. K. Dewan & Co.](#)

He discussed about the Intellectual Property Rights (IPR) including Copyright, Patents, Trademarks, Geographical Indication being negative rights pose restrictions on how information is shared and accessed on W3. He presented the broad vision envisaged by W3C may be hindered by issues of protecting trademark or domain names globally, ensuring that copyrights are not violated, ensuring that e-commerce takes into consideration geographical indications and does not propagate low cost replicas of patented products. He said that IPR plays an important role in W3C as the burden of developing standards for the Internet is reduced. He pointed numerous standards that are patented for interoperability of information over the Internet, one such standard which is patented is XML. In the absence of IPR, individuals would not be motivated to channelize their efforts towards development of such standards as there would be no incentives.

6.5 The Kerala mobile governance experience and road map for a comprehensive M-Governance Strategy

Presented By: [Mr. Sanjay Kumar, Mobme Wireless Solutions](#)

He presented M-Governance project in Kerala is a comprehensive Mobile Governance project covering ninety odd Government Departments. He talked about the objective of the project is to integrate the advancements in mobile technology with various Government departments with an aim to create cost effective, efficient and round the clock Government information systems. He discussed about the three channels of mobile communication (Voice, Signalling and Data) and a wide range of technologies (Voice Applications, Applications using signalling channel and data service based Applications) are being used for this purpose. He presented the various challenges faced while trying to implement M-Governance, and the solutions devised to address some of those challenges, with relevant case studies. The Service Delivery models for various M-Governance Services, some of which have already been frozen, and others that are being considered are also being discussed.

Summary from Session 6

Considering the multilingual and multi-script diversity in India, it is imperative that, e-Governance applications need to be implemented with language framework. The broad vision envisaged by W3C may be hindered by issues of protecting trademark or domain names globally, ensuring that copyrights are not violated, ensuring that e-commerce takes into consideration geographical indications and does not propagate low cost replicas of patented products. The core platforms being used for M-Governance are based entirely on Open Source Technologies. The M-commerce project is to integrate the advancements in mobile technology with various Government departments with an aim to create cost effective, efficient and round the clock Government information systems.

Outcome of the Conference

1. W3C Standards requires industry involvement because technology intensive standards require industry inputs for its adherence and their implementation.
2. Setting up Core mission and priority areas as per national interest
3. Special Focus on Mobile Web Initiative and its requirements for implementations in Indian languages
4. Formation of Special Interest Groups in areas of national interest
5. Software Industry involved in development of various web services such as E-governance implementation and adherence to W3C standards
6. Increased membership from India in W3C Consortium
7. So far from India, there is minuscule participation in W3C SIGS, WGs in W3C process- Requires greater participation from industry in W3C standard process.
8. More and More catalytic role by software , IT and Telecommunication Industry associations
9. Evolution of Roadmap for W3C India Initiative and India-Specific requirements for inclusion in W3C Standards.