

W3C INDIA WORKSHOP ON INTERNATIONALIZATION OF E-GOVERNANCE APPLICATIONS

Workshop Report

Organized by W3C India with close co-ordination with Opera Software



5-6 August, 2010

New Delhi, India



Workshop Overview

Web technology allows governments to serve its citizen in a better way by making available deployment spectrum of information to its citizen. In India, E-Governance services have gathered momentum through the sustained efforts of central and state governments. However the problem of last mile connectivity and reaching the larger section of society still persists due to limited availability of web based services with local language support.

In order to develop seamless web based services for better, E-Governance solutions, internationalization of applications is necessary in a holistic manner starting from development to the deployment phase. This will crystallize in easy localization of E-Governance solutions in multilingual environment with browser independence, and improved web search.

The (W3C) world wide web internationalization best practices is a basic building blocks for developing a truly internationalized web applications. W3C internationalization best practices coupled with other W3C standards in the areas of web services and web architecture needs to be addressed seamless web access.

In India due to accelerated growth of mobile penetration, mobile devices would become a prominent platform for service delivery to the citizen .Therefore, mobile access to E-Governance applications and its implementation in Indian languages is critical to reach wider segment of the society. The objective and focus of the workshop is to create awareness and training to the, E-Governance applications/ developers/ users and all associated stake holders about the necessity and benefits of using W3C web standards especially in the perspective of internationalization.

The workshop also aims at capturing the requirements for Indian languages implementation of e-Governance solutions. The workshop would also cover hands-on example/training by Opera Inc to develop and e-Governance solutions in Indian languages using W3C standards.

Objective

The Main Objectives Of this Workshop are:

- ❖ To provide training to the e-Governance developers to follow the internationalization practices while developing E-governance applications so that even if the application is currently being developed in English it can be easily localized later or as and when planned without having to re-write applications because of various encoding and rendering issues.
- ❖ There are many standards of W3C which have relevance for e-governance development and needs to be adhered to build seamless access of this application across browsers and across networks.
- ❖ W3C has provided Validators to check compliance with some of these standards such as CSS, XHTML, WAI, Mobile-Ok etc.

Workshop Agenda

S. No	Time	Topic	Name of the speaker
Day 1 : 05-08-2010			
	10:00am-10:30am	Registration	
1.	10:30am-10:40 am	Inaugural keynote speech	Shri N Ravi Shanker, JS DIT
2.	10:40am-11:00am	Importance of Internationalization in E-Gov	Mrs. Swaran Lata HoD TDIL, DIT
3.	11:00am-11:30am	Global Overview of State of Web Development: What the World is doing on the Web.	Mr. Shwetank Dixit Opera
	11:30AM-11:45AM	TEA BREAK	
4.	11:45am-12:30pm	Evolution and Importance of W3C Standards and guidelines: Why, Where and How it all began and Why is it Important?	
5.	12:30pm-13:30pm	HTML: Doctypes, and meaning and proper usage of major HTML elements.	
	13:30PM-14:30PM	LUNCH	
6.	14:30pm-15:30pm	CSS: The CSS Box Model and overview of major CSS Properties.	
7.	15:30pm-16:15pm	Web Development Techniques: Semantic Markup and Unobtrusive JavaScript.	

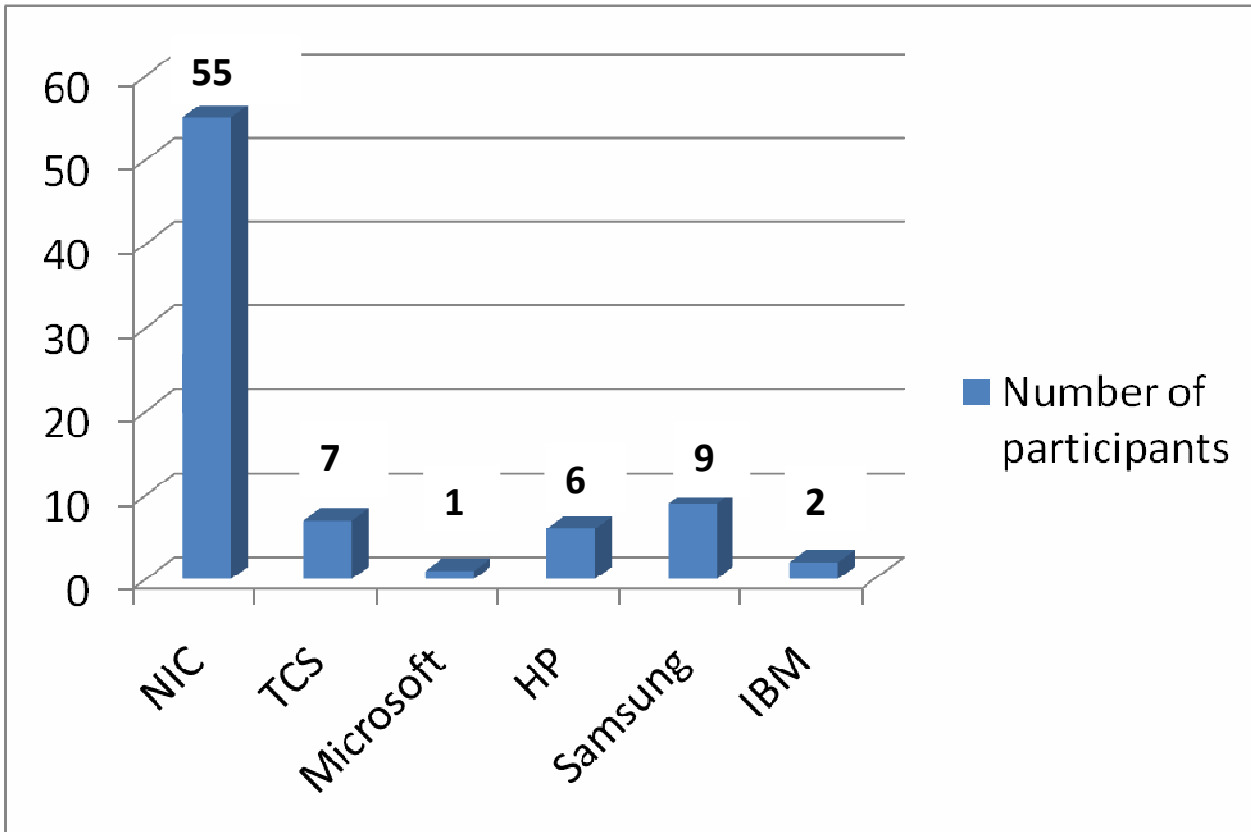
	16:15PM-16:30PM	TEA BREAK	
8.	16:30pm-17:30pm	Browser Testing: Cross-browser Testing, Graceful Degradation and Progressive Enhancement Techniques.	Mr. Shwetank Dixit Opera
Day 2 : 06-08-2010			
9.	10:30am-11:15am	1. Unicode & CLDR: What Every Developer Should Know 2. Fonts for Localization of E-Gov Applications	Mrs. Swaran Lata HoD TDIL, DIT
	11:15am-11:30am	TEA	
10.	11:30am-12:00pm	W3C Mobile Web Development Best Practices	Dr. Somnath Chandra,DIT & Mr. Shwatank Dixit,Opera
11.	12:00pm-12:45pm	Implementation challenges of W3C I18N for Indian Languages-Case study	Mr. Gopal Venkatesan ,Yahoo
12.	12:45pm-1:15pm	Introduction to W3C W18N Best Practices & Localization Challenges	Mr. R.K.V.S Raman, CDAC Bangalore
	13:15PM-14:00PM	LUNCH	
13.	14:00pm-14:45pm	XML Internationalization	Mrs. Swaran Lata,DIT
14.	14:45pm-15:15pm	Brief Overview of Upcoming Web Standards: HTML5, CSS3, SVG, and more.	Mr. Shwetank Dixit,Opera

15.	15:15pm-16:00pm	X-Forms in Indian languages	Mr. S.C Gupta,NIC
	16:00PM- 16:15PM	TEA	
16.	16:15pm-16:45pm	W3C Validators.	Mr. Shwetank Dixit,Opera
17.	16:45pm-17:30pm	Conclusion: Take Home Points and Additional Discussion.	Mrs. Swaran Lata,DIT Mr. Shwetank Dixit,Opera Mr. S.C Gupta,NIC Mr. R.K.V.S Raman,CDAC Mr. Gopal Venkatesan,Yahoo Mr. Vijay Kumar,DIT Mr. Manoj Jain,DIT Dr. Somnath Chandra,DIT

Major Participation

Organization	Location
National Informatics Centre (NIC)	New Delhi
	Chennai
	Jaipur
	Chandigarh
	BANGALORE
Opera Software	Chandigarh
Tata Consultancy Service	Gurgaon
	Chennai
	Mumbai
Hewlett Packard India Sales Ltd	Gurgaon
IBM	Bangalore
Microsoft Corporation	Gurgaon
Yahoo! Software Development India Pvt Ltd	Bangalore
Samsung Data Systems India Pvt. Ltd.	Noida
MobMe	Kerala
Accenture	New Delhi

MAJOR PARTICIPANTS STATISTICS



Testimonials

The workshop was very useful and I look forward to participate in more such initiatives.

Abhishek Mahanty,
Technology strategist, HP India

“Very good, within two days of time, all important & relevant topics were covered to a good detail”

Sajjad akhtar ,Joint Director,NIC

“Very good, the topics covered during the workshop were very useful. It will help us in development of multilingual website.”

Rajesh Kumar Srivastava, Scientist C, NIC

“Good as programming aims for bringing up awareness for implementation of Indian regional language into web domain.”

**Aman Ahi ,Lead Engineer,Samsung SDS
.Noida**

“Efforts & Quality of programme is appreciable. It educates well on web technologies & Internationalization ”

**Pradeep Reddy,Group Co-ordinatorSamsung
SDS ,Noida**

“very useful tips/hints were provided w.r.t standardization in creating web application/Unicode Encoding”

Ragyi Singh , Joint Director,NIC

“Presentation made by various speakers was really good. Also the content of presentation is quite enriching. In a nutshell, quality is good enough for the people involved with the development of e-gov application.”

**Latika,Member Technical staff , CDAC
Hyderabad**

“Content was upto the mark and I personally find it very useful in terms of its quality.”

Kapil dev Karma , C-DAC Gist, Pune

Session Summary

1. Importance of Internationalization in E-Gov

By: Swaran Lata

In her presentation, She addressed about the better access to e-government services with the help of localization and W3C standards. She talked about role of I18N in E-Government and need For Internationalization in E -governance and requirement for implementing application in Indian Language. She also addressed UNICODE is the universal character encoding scheme for 22 Indic languages. She defined the role of W3C standards in implementing multilingual e-governance solutions.



2. Evolution and Importance of W3C Standards and guidelines: Why, Where and How it all began and Why is it Important?

By : Shwetank Dixit, Opera

He talked about what exactly a standard is, and what it means in the context of the web. He told that it will also go through the history of the W3C and the Web Standards Movement amongst developers in the early 2000s. Finally it will go through the importance of web standards and what could happen if they are not adopted in the right way.



3. HTML: Doctypes, and meaning and proper usage of major HTML elements.

He told that doctypes are important to understand when doing web development. He explained what they are as well as concepts of quirks mode and standards mode in browsers. Apart from this, he also talked about some important and often used tags in HTML, and describes how to use them correctly in HTML markup. Particular focus will be on the intention and meaning behind the tags and attributes, so that the developer could produce proper

semantic markup.

4. CSS: The CSS Box Model and overview of major CSS Properties

He talked about that CSS Box Model is very important in the visual design of websites. He focused each aspect of the model, including bugs in certain browsers which make their interpretation of it different, especially in the previously discussed quirks mode. His talk also shed light on certain important CSS properties, as well as how to use them to make multi-column fluid designs.

5. Web Development Techniques: Semantic Markup and Unobtrusive JavaScript

He talked about the semantic markup and the benefits it has on various aspects such as accessibility, usability, search engine optimization and more. He also discussed about other techniques, such as use of unobtrusive java-script coding.

6. Browser Testing: Cross-browser Testing, Graceful Degradation and Progressive Enhancement Techniques

In this presentation he talked about the tools and a technique used to ensure that web content is presentable and usable across a range of browsers and devices. He also discussed about User Agents Strings, and layout engines of different. Techniques such as graceful degradation and progressive enhancement will also be introduced as possible coding approaches towards cross browser and device design.

7. Unicode & CLDR: What Every Developer Should Know and Fonts for Localization of E-Gov Applications

By: Swaran Lata

In her presentation she talked about the script that it is a set of symbol used to depict different sounds spoken in any language and script may serve to write dozens of languages. She also talked about different types of Encoding. She told us that Unicode is not bunch of character and can support over 65,000 characters and it required for Internationalization document and data interchange .She talked about the Principals and Properties



of Unicode standard and Unicode Collation algorithm provides a specification for how to compare two Unicode strings and also told that algorithm that can be efficiently implemented, both in terms of performance and in terms of memory requirements .She also talked about Normalization that algorithm that can be efficiently implemented, both in terms of performance and in terms of memory requirements. On this she also focused on Fonts and their different types.

8.W3C Mobile Web Development Best Practices

By: Dr. Somnath Chandra

In this Session he talked about that Mobile media has increasingly becoming the preferred medium of communication and he also talked about the Multiplicity of Standards.In this session he covered fragmentation of mobile standard and their fall-outs and their disadvantages of mobile devices .He also addressed the Complexity and Challenges for Indic Languages as well for the Indian language .He also cover



the what are challenges and Issues in Mobile Web for their development in a Indian Language and he also talked about what are the initiative taken by the world wide consortium and about their challenges and issues for developing Mobile Web in a Indian language .

9. Implementation challenges of W3C I18N for Indian Languages- Case study

By: Gopal Venkatesan ,Yahoo

In his presentation he talked about that Unicode is a international standard for written language in a computers and new version of Unicode i.e. Unicode 5.2 adds 6648 new character including support for Vedic Sanskrit language. He also talked about the needs of localization and internationalization in developing the document in a local language. He also addressed the font problem i.e. the system does not have right font for display the images. He told that Java also supports Unicode and a “char” in a java is UTF -16 code unit not a code point. He addressed that PHP5 does not understand the characters and encodings and also does not provide any linguistic sorting.



10. Introduction to W3C W18N Best Practices & Localization Challenges

By: R.K.V.S Raman, CDAC Bangalore

He talked about the application which can adapted by different language without changes in codes .He addressed the ASCII codes which cover all character and symbol for English alphabet and Fonts that it is a set of images representing the character from the particular character. He told that character encoding is the key that maps about particular byte for a particular character He said that the language used in making web page should be properly accessible and it can easily searched by the user. He talked about multi- lingual sites may need to serve the content in a language preferred by user and also told the user can set their own language which is sent to the web site with the request and also some common guidelines can be drawn for the user .



11. XML Internationalization

By: Swaran Lata

In this presentation she talked about Internationalization and Localization and how they are different from each other. She explained about what DCR (Data Category Register) and DCS (Data Category Selection) and how they are related to each other. She also addressed about the data element and data model that can be represented in the form of a data element, described independently of any particular representation. She also talked about DCIF (Data Category Interchange Format) that is used for archiving and exchanging all or part of the DCR within TC 37. She also explained about how XML work and what is the advantage of XML over Database .She also addressed the need and principal of XML schema and ITS (Internationalization Tag Set) that is used for finding proposals for attribute and element names to be included in their new schema and she also talked about XML Metadata and benefit of XML Metadata and Post Tag and use of Post tag in XML .



12. Brief Overview of Upcoming Web Standards: HTML5, CSS3, SVG, and more

By : Shwetank Dixit, Opera

He talked about new standards that have been proposed and have already been implemented in part by various browser makers. He talked about the various standards like HTML5, CSS3, SVG and more. He addressed new inclusions introduced in these standards and why are they needed in the first place.



13. W3C Validators

He talked about the various validators provided by W3C like Mobile, XHTML/HTML, CSS, and WAI validators etc. He explained the importance and working of each of the validators.

14. X-Forms in Indian languages

By: S.C Gupta, NIC

In his presentation he talked about the e-forms and open standards recommendation for e-forms. He talked about the X-forms and its framework. He also addressed the plug-in required for Unicode support in XForms. He talked about the Internationalization and Localization in Xforms.



Outcome of the Workshop

- ❖ There is a requirement of W3C standards for implementing E-Governance application in Indian Languages
- ❖ Need of semantic markup on various aspects such as accessibility, usability, search engine optimization and more.
- ❖ Requirement of W3C Validators and testing tools to ensure that web content is presentable and usable across a range of browsers and devices
- ❖ Mobile Web best practices need to be adapted for developing mobile applications for mobile based citizen services.
- ❖ Adaption of Unicode Universal Encoding and CLDR
- ❖ There is a need of XML schema and ITS (Internationalization Tag Set) for data storage
- ❖ Adaption of new upcoming Web Standards like HTML 5,CSS 3,SVG etc. for developing E-Gov applications

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