



Envisioning E-Governance with W3C Standards

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GOALS



- ❖ **Wider access of e-government services with localization support**
- ❖ **How I18N guidelines can help in achieving targets**
- ❖ **Enhance adoption of W3C (World Wide Web Consortium) standards to reach all sections of society.**



Modalities for Government on the Web

- ❖ **Provide:** public services on the web, either transactional or information services or both.
- ❖ **Engage:** with citizens and businesses, on government terms or on the citizens terms.
- ❖ **Enable:** public sector information re-use .

Limitations



- ❖ **The localization will become inhibiting for the applications which are not internationalized at design and development stage**
- ❖ **Due to limited Language Support / Lack of language Support , applications will not be accessible to the full satisfaction to non-English literate population**
- ❖ **Non conformity with Global Standards may result in fragmented access**

Broad categories of current e-gov applications

- ❖ Applications completely in English.
- ❖ Applications having static content in local language but dynamic content in English.
- ❖ Applications with complete local language support
- ❖ Multi-lingual application but only in limited languages (e.g., English and only one local language)
- ❖ Applications successfully running in one or two states and their mass scale replication
- ❖ Complimentary applications by private sector such as e-choupal by ITC and knowledge network of NASSCOM foundation

Example e-gov application where registration forms are only in English

Document Registration
(Deed/PowerofAttorney/Lease etc.)

[FAQ](#)
[Office of Sub-registrar](#)



Marriage Registration

[FAQ](#)
[Apply On-line](#)
[Download Forms/Affidavit](#)



Nursing Home Registration

[Nursing Home Cell FORM](#)



Partnership Firm Registration

[FAQ](#)
[Form No.1](#)
[Specimen of Affidavit](#)



Sales Tax Registration

[FAQ](#)
[FORMS](#)
[NON-STATUTORY FORMS](#)



Online Submission of Applications

Applicant's Name	<input type="text"/>
Sex	<input checked="" type="radio"/> Male <input type="radio"/> Female
House No.	<input type="text"/>
Street/Sector/P.O. etc.	<input type="text"/>
Village/Locality*	Select Your Locality <input type="text"/>
District : Central	<input checked="" type="radio"/> New Delhi <input type="radio"/> Delhi

Click On Certificate You Wish To Apply ONLINE

- | | | |
|---|---|--|
| <input checked="" type="radio"/> Registration of Marriage Certificate | <input type="radio"/> Schedule Caste (SC) Certificate | <input type="radio"/> Other Backward Classes (OBC) Certificate |
| <input type="radio"/> Surviving Member Certificate | <input type="radio"/> Domicile of Delhi Certificate | <input type="radio"/> Orders For Birth Certificate |
| <input type="radio"/> Orders For Death Certificate | <input type="radio"/> HandiCap Certificate | <input type="radio"/> Income Certificate |
| <input type="radio"/> Nationality Certificate | <input type="radio"/> Solvency Certificate | |

[Click Here To Apply Online](#)

Static Content in Hindi but forms are in English

भारत

विदेश

आप यहां हैं: मुख्य पृष्ठ > विदेश > पासपोर्ट/वीज़ा

पासपोर्ट/वीज़ा

पासपोर्ट

भारतीय नागरिकों को भारतीय पासपोर्ट जारी करने के लिए जिम्मेदारी विदेश मंत्रालय के जाणिलय पासपोर्ट और वीज़ा (सोफो) प्रभाग की है। यह ट्रस्टसेज देश के 28 स्थानी और विदेशों में स्थित 160 भारतीय मिशनों से जारी किए जाते हैं। पासपोर्ट के लिए आप पासपोर्ट के उस महासंलय में आवेदन कर सकते हैं जिसके अधिकार क्षेत्र में आपका वर्तमान निवास स्थान है।

पासपोर्ट के लिए आवेदन करने के लिए आपको पासपोर्ट कबालय, नामजुद स्पेशल पोस्ट बंदो अथवा अपने शहर के किसी नामजुद बंद से आवेदन पत्र प्राप्त करना होगा। विधिवत भरे गए आवेदन फॉर्म के साथ आपको निवास-स्थान, जन्म-तारीख, नाम में परिवर्तन, वा प्रमाणपत्र और ईसीएनआर के प्रमेक, समाप्त पासपोर्ट (जदि कोई हो), पासपोर्ट आकर के फोटो आदि प्रस्तुत करने होंगे।

पासपोर्ट जारी करने में सामान्यतया पांच से छह सप्ताह का समय लग जाता है। तथापि, इसकी तत्काल आवश्यकता होने पर आप 'तत्काल' योजना के तहत नए शिरे से अथवा दोहरे पासपोर्ट के लिए आवेदन कर सकते हैं। तत्काल योजना में पासपोर्ट आवेदन सामान्य शुल्क के अतिरिक्त और शुल्क का भुगतान करने पर पासपोर्ट जारी किया जा सकता है। 'तत्काल' योजना उन्ही मामलों में लागू होती जिनमें या तो पुलिस जॉब रिपोर्ट की जरूरत नहीं होती (15 वर्ष कम आयु वाले नावाजिन) अथवा जिनमें बाट में पुलिस जॉब किए जाने के आधार पर पासपोर्ट जारी किया जा सकता है (यहां में परिवर्तन किए बिना दोहरा पासपोर्ट/पासपोर्ट पुनः जारी किया जाना, अनापत्ति प्रमाणपत्र प्राप्त करने वाले सरकारी कर्मचारियों तथा उनके पति या पत्नी और सत्यापन प्रमाणपत्र युक्त आवेदन पत्र।

- पासपोर्ट जारी करने के संबंध में पूरा सूचना
- पासपोर्ट आवेदन पत्र
- अपने पासपोर्ट के आवेदन पत्र की स्थिति की ऑन लाइन जांच करें
- भारत के क्षेत्रीय पासपोर्ट कबालय

वीज़ा

भारत आने के इच्छुक विदेशी राष्ट्रिकों के पास अपने देश का वैध पासपोर्ट और वैध भारतीय वीज़ा होना जरूरी है।

भारत में 'पर्यटन पर वीज़ा' का कोई प्राधान नहीं है और हवाई अड्डों पर आपवास सुविधाओं के लिए कोई शुल्क प्रधारित नहीं होता। नेपाल और भूटान के राष्ट्रिकों जिन्हें भारत में प्रवेश करने के लिए वीज़ा की जरूरत नहीं होती और मालदीव के राष्ट्रिकों जिन्हें

Paste your cross signed recent colour photograph. size 3.5*3.5 cm

PERSONAL PARTICULARS FORM (In Duplicate)

1. Full name (Initials not allowed)
2. Sex: Male / Female / Others
- (a) Has the applicant ever changed name?
(b) If yes, previous name:
4. Date of Birth:..... 5. Place of Birth
6. Profession
7. a) Father
(Surname) (Name)
- b) Mother

English and local language application

English | বাংলা

বাংলার মুখ

Face of Bengal

Official site of Government of West Bengal, India.

Home | State | Government | Business | Citizen | Education | Tourism | Services | Documents | Register | Login



Pragati Pathe Ek Notun Suryoday | IT Security Policy 2009 | Admission for Courses in State labour Institute

Important Information

- Important Links
- Important Lists
- Marching Ahead
- Tenders
- Recruitment Information
- Causelist of Calcutta High Court
- Government of India Directory
- Right to Information (RTI)
- State Map
- Weather

Search

Google Custom Search



Bengali New Year 1417 was celebrated by the West Bengal Information & Cultural Centre, New Delhi through a cultural function.



English | বাংলা

বাংলার মুখ

Face of Bengal

Official site of Government of West Bengal, India.

প্রথম পাতা | রাজ্য | সরকার | ব্যবসা | নাগরিক | শিক্ষা | পত্রিকা | পরিষেবা | নথিপত্র | Register | Login



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প্রয়োজনীয় তথ্য

- প্রয়োজনীয় লিঙ্ক
- প্রয়োজনীয় তালিকা
- আমরা চলি সমুখানে
- দরপত্র
- নিয়োগ সম্পর্কিত তথ্য
- কলকাতা উচ্চ আদালতের

অনুসন্ধান

Google Custom Search



The sample e-gov data with specific reference to localization

Application	Monolingual/Bilingual/ Multilingual
Karnataka Bhoomi	Bilingual (English and Kannada)
India Portal	Bilingual (English and Hindi)
National Population Register	Multilingual (English, Kannada, Tamil, Gujarati)
Common Wealth Games Website	Monolingual (English)
Pay roll	Monolingual (English)
Financial applications (VAT, Accounts, e tendering)	Monolingual (English)

The sample test data for localized applications under implementation

- ❖ In many applications local language implementation is only around 50%.
- ❖ Many fields that are in local language are transliteration of English words (e.g, invoice written in Kannada, Malayalam etc.) and not translations.

Role of I18N in E-Gov

I18N guidelines are key for following requirements

- ❖ **Browser Independent Application**
- ❖ **Easily Localizable Applications**
- ❖ **Improved Web search**
- ❖ **Effectively access Web content**

General architectural approach

- ❖ **Will develop a set of XML, HTML and CSS source files referred to as repositories**

Structure of the techniques repository

- ❖ **XSLT will be used to transform source files to XHTML in UTF-8 encoding**



“Localization and Adoption of Open Standards”

Local Language Interface is *“Not a desirable but an essential Component”*

- ❖ Language is the primary vector for communicating knowledge.
- ❖ Considering the multilingual and multi-script diversity in India thus it is imperative that, e-Governance applications need to be implemented with language framework.

- ❖ **Need to adopt and follow standards on the language technology components for successful localization and wider access of Information and knowledge**
- ❖ **Adoption of World Wide Web Consortium (W3C) standard in respect of Localization**
- ❖ **Web based applications need to be developed in such a way that applications should be interoperable for seamless access of knowledge. W3C develops such technologies with specifications, guidelines, software and tools**

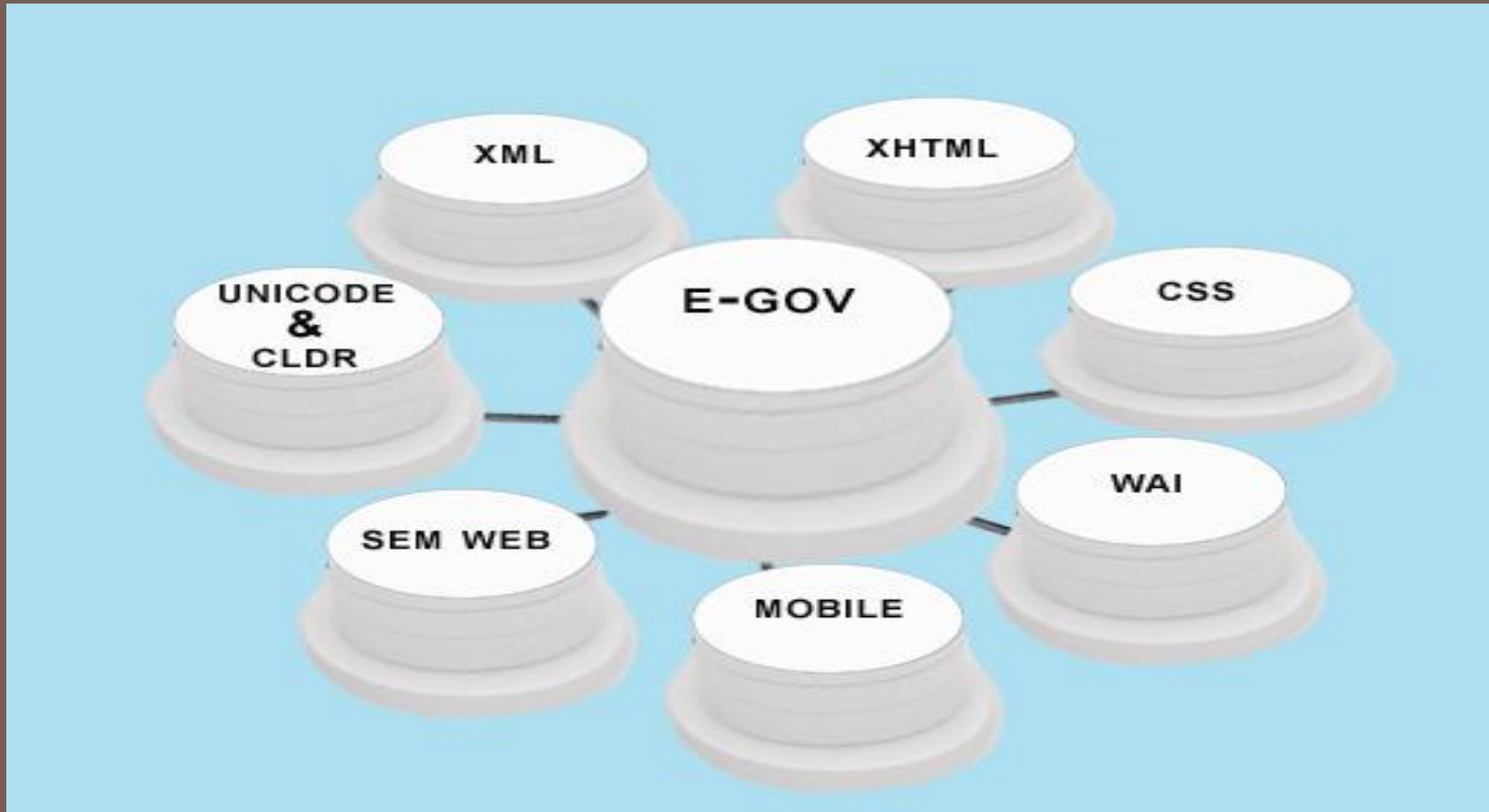
- ❖ In order to enable multi-locale operation of the Web services and to create the ability for locale negotiation, this specification describes a standardized method for identifying locales and locale and/or language tags on the web
- ❖ Indian Language Web-Browsers need to be W3C compliant

Adoption of Open Standards

“Ability to exchange information and mutually use the information which has been exchanged.”

- ❖ All the standards of W3C for multilingual and multi-modal interfaces such as HTML, XHTML, XML, CSS, and VOICE XML 2.0 are open standards.
- ❖ W3C offers a host of validation services using these standards.
- ❖ Adopting these open standards and localization process following W3C guideline may easily ensure interoperability between storage, display and access to service even in the multilingual paradigm.

How Standards help in achieving target



<http://www.w3.org/>



Unicode

- ❖ Seamless data storage and search if data is stored in UNICODE
- ❖ All 22 Officially recognized Indian Languages including Vedic Sanskrit represented in UNICODE
- ❖ Declared as Text Encoding Standard for All E-Governance Applications
- ❖ Most of the e-gov applications are intranet/internet based, hence, the need to migrate to Unicode is necessary, so that data can be seamlessly ported and accessed across the platforms which is not possible using ISCII
- ❖ The path W3C follows to making text on the Web truly global is Unicode



Common Locale Data Repository

- CLDR is by far the largest and most extensive standard repository of locale data.
- Provide locale data in the XML format for use in many e-gov applications
- Locale Data for Indian Languages are in the process of modification
- Six Languages in CLDR Hindi , Nepali, Bengali , Assamese, Malayalam and Gujarati are finalized and uploaded to UNICODE CLDR
- Other languages in process.

```
<localeDisplayNames>  
<language type="aa">अफ़र</language>  
<language type="aa" alt="proposed-x1001"  
draft="unconfirmed">अफ़र</language>  
<language type="ab">अब्खाज़ियन्</language>  
<language type="ach">अकोली</language>  
<language type="ae"  
draft="contributed">अवेस्तन</language>  
<language type="af">अफ्रीकी</language>  
<language type="afa">अफ्रो-एशियाई भाषाएँ</language>  
<language type="afa" alt="proposed-x1001"  
draft="unconfirmed">अफ्रो-एशियाई भाषाएँ</language>  
<language type="afh">अफ्रीलीयाई</language>
```



WAI – Web Accessibility Initiative

- ❖ An example of a successful education and outreach program that helps governments achieve compliance goals.
- ❖ WCAG 2.0 has 12 guidelines that are organized under 4 principles:
 - perceivable,
 - operable,
 - understandable, and
 - robust.
- ❖ **NIC has developed guidelines with the aim to assist the IT Managers of Government Departments in managing their websites in an effective and efficient manner.**



WAI – Web Accessibility Initiative

SUGGESTIONS

- ❖ Use of Unicode and Open Office fonts for Indian Languages
- ❖ Different color Selector for the people suffering from Color Blindness
- ❖ Use W3C Slide maker Tool to read and listen content slowly by user preference for easier understanding of the disable people
- ❖ Conversion Tools should be used like Text to Speech and Speech to Text for Blind and physically challenged people



CSS - Cascading Style Sheet

- ❖ It's important to design a website for a wide range of audiences. This includes people with
 - disabilities,
 - people using mobile devices,
 - people with outdated technology.
- ❖ CSS standards *will avoid many of the accessibility issues*

ISSUES IN INDIAN LANGUAGES

Bullets and Numbers

- ❖ Number schemes/ bulleting needs to be supported in Indian languages as well.



CSS - Cascading Style Sheet

Underlining of the characters

There is some examples of Indian languages in which Matra's are not readable due to underlining of characters.

- ❖ Hindi - _____
- ❖ Punjabi - _____
- ❖ Bengali - _____
- ❖ Guajarati - _____
- ❖ Marathi- _____



CSS - Cascading Style Sheet

Suggestions

- ❖ Implementation of CSS standards developed by W3C regarding Indian languages
- ❖ Standards however need to be provided to those developing CSS so that user could have the facility to use bulleting in his own Indic languages.



XHTML

- ❖ XHTML was developed to make HTML more extensible and increase interoperability with other data formats.
- ❖ Websites should be designed and operated in accordance with the needs of users.
- ❖ Represent an important shift in Web applications, replacing complicated, hard-to-maintain scripting with declarative markup, and fully separating content from presentation.

XHTML

Issues in Indian languages

Browser Dependency – Display problem in some browser

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html xmlns="http://www.w3.org/1999/xhtml" xml:lang="hi" lang="hi">

<head>
<meta http-equiv="Content-Type" content="text/xhtml+xml; charset=utf-8"/>
<meta http-equiv="Content-Language" content="hi" />
<title>हिन्दी </title>
</head>
<body bgcolor="#FFFFFF" link="#000000" text="red">
<p>वाराणसी, जागरण टीम। जिले में जहरीली शराब पीने से बुधवार को 16 लोगों की मौत हो गई। एक मौत
एक मौत मंगलवार रात हो गई थी। दो दर्जन लोग विभिन्न अस्पतालों में इलाज करा रहे हैं।
पुलिस ने मामले की जांच शुरू कर दी है। इसमें अभिसूचना इकाई की टीम को भी लगाया गया
है।सर्वाधिक मौतें सोएपुर (कैंट) में हुई हैं। यहां मृत लोगों ने गांव में ही रहने वाली एक महिला से
शराब खरीदी थी। अकथा [सारनाथ] में दो मौतें हुईं। इसी थाना क्षेत्र के बेनीपुर इलाके में दो अन्य
लोगों की जान गई।</p>
</body>
</html>
```

XHTML Code

Tested in IE

वाराणसी, जागरण टीम। जिले में जहरीली शराब पीने से बुधवार को 16 लोगों की मौत हो गई। एक मौत
अस्पतालों में इलाज करा रहे हैं। पुलिस ने मामले की जांच शुरू कर दी है। इसमें अभिसूचना इकाई की र
(कैंट) में हुई हैं। यहां मृत लोगों ने गांव में ही रहने वाली एक महिला से शराब खरीदी थी। अकथा [सारन
इलाके में दो अन्य लोगों की जान गई।

**Less vertical alignment
between last two lines**

Tested in Mozilla

वाराणसी, जागरण टीम। जिले में जहरीली शराब पीने से बुधवार को 16 लोगों की मौत हो गई। एक मौत मंगलवार रात हो गई थी। दो दर्जन
लोग विभिन्न अस्पतालों में इलाज करा रहे हैं। पुलिस ने मामले की जांच शुरू कर दी है। इसमें अभिसूचना इकाई की टीम को भी लगाया ग
है।सर्वाधिक मौतें सोएपुर (कैंट) में हुई हैं। यहां मृत लोगों ने गांव में ही रहने वाली एक महिला से शराब खरीदी थी। अकथा [सारनाथ] में दो
हुईं। इसी थाना क्षेत्र के बेनीपुर इलाके में दो अन्य लोगों की जान गई।

Alignment is Proper

Continued



XML

“XML is used to develop e-Government frameworks, architectures and services and improve interoperability between systems.”

E-Forms for E-Gov : The Use of XML Standards based Applications.

- ❖ **Enrolment for services**
 - Health
 - Employment etc.

- ❖ **Regulatory compliance and reporting**
 - Environmental reports etc



XML

❖ E-Filing

- revenue documents,
- court documents etc

❖ Law enforcement reporting

- arrest,
- transfer or
- release reports etc

❖ Licenses and permits

- Vehicle registration
- Driver's licenses
- Professional licenses



Accessing e-gov services through mobile devices

“Making Web access from a mobile device as simple as Web access from a desktop device.”

Issues in Indian Languages

❖ Messaging Issues

- Lack of availability for all characters.
- Issue of Multiple Script

❖ Device Limitations

- Mobile browsers often do not support scripting or plug-ins, which means that the range of content that they support is limited.



Accessing e-gov services through mobile devices

❖ Mobile Keypads

- Multi-tap issues
- Dictionary Based issues
- Transliteration issues

Suggestion

Standardization of mobile media also required to be addressed taking into consideration of specific requirements of each of Indic languages.

Continued



Semantic Web Implementation in E-governance

- ❖ Improving access of resources.
- ❖ Enable people to create data stores on the Web, build vocabularies, and write rules for handling data.
- ❖ Linked data are empowered by technologies such as RDF, SPARQL, OWL, and SKOS.
- ❖ **E-Government agencies can share and exchange information through semantic web**

Conclusion

- ❖ E-Governance can transform citizen services, provide access to information to empower citizens, enable their participation in government and enable access to economic and social opportunities
- ❖ The issues that primarily affect the e-governance applications are, interoperability between the heterogeneous systems and data repositories, absence of standard taxonomy, absence of compliance to best practices for seamless web-accessibility and lack of internationalization & localization of the multimodal application interface
- ❖ 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



!! QUESTIONS !!



😊 THANK YOU 😊

