Asia Pacific Forum on OER

Public Software Centre
IT for Change
April 23rd 2012
OER – the scope

► Knowledge commons

► Access, creation, co-construction, multiple representation

► Creating OER is closely linked to use and availability of open, public applications and tools

► Government needs to provide the framework
Key initiatives

- **Policy**
  - Adoption of open standards by GoI
  - ICT mediated teacher education curriculum
    - To prepare teachers to be resource creators
  - Development of ICT curriculum framework

- **Programmatic**
  - National Mission on Education through ICT (www.sakshat.in, www.spoken-tutorial.org)
  - IT@Schools - Kerala model
  - Subject Teacher Forum – Karnataka Model (http://rmsa.karnatakaeducation.org.in)
Notification

Policy on Open Standards

No. 2(32)/2009/EG-II WHEREAS, Department of Information Technology (DIT), Ministry of Communications and Information Technology, Government of India (GoI) is driving the National e-Governance Plan (NeGP), which seeks to create the right Governance and institutional mechanism, implement a number of Mission Mode Projects at the Center & State government

AND WHEREAS, Standards in e-Governance is considered priority activity, which will help ensure sharing of information and seamless interoperability of data across e-Governance applications and also creation of Institutional Mechanism under NeGP to evolve/adopt Standards for e-Governance

AND WHEREAS under NeGP, GoI is promoting the usage of Open Standards to avoid any technology lock-in

AND WHEREAS a well laid Policy on Open Standards would play a critical role in adopting / evolving the Standards for the rapid, effective and efficient growth of e-Governance in India

AND WHEREAS the Competent Authority on Standards has approved the Policy on Open Standards

NOW, this Department hereby notifies the use of Policy on Open Standards published on http://egovstandards.gov.in for the selection of Single and Royalty-Free (RF) Open Standard for a specific purpose with in a domain for e-Governance w.e.f the date of notification.
Open Standards on all applications

<table>
<thead>
<tr>
<th>St. No.</th>
<th>Interoperability Area</th>
<th>Standard / Specification</th>
<th>Standard Body</th>
<th>Status of Standard as per “Policy”</th>
<th>Maturity Level</th>
<th>Enforcement Category (M-Mandatory, R-Recommended)</th>
<th>For additional information, refer the Table No. in this column</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Document type for Complex, Strict Hypertext Web Content (XML or non-XML)</td>
<td>XHTML v1.1</td>
<td>W3C</td>
<td>O</td>
<td>M</td>
<td>M</td>
<td>5.2.14</td>
</tr>
<tr>
<td>3</td>
<td>Style Sheets (to define Look &amp; Feel of Webpage)</td>
<td>CSS 2</td>
<td>W3C</td>
<td>O</td>
<td>M</td>
<td>M</td>
<td>5.2.1</td>
</tr>
<tr>
<td>4</td>
<td>Extensible Style Sheets (to transform format and addressing parts of documents)</td>
<td>XSL 1.1</td>
<td>W3C</td>
<td>O</td>
<td>M</td>
<td>M</td>
<td>5.2.18</td>
</tr>
<tr>
<td>5</td>
<td>Document Type for Editable documents (with formatting)</td>
<td>ODF (OpenDocument) v1.0 (ISO/IEC 26300:2006)</td>
<td>ISO/IEC</td>
<td>O</td>
<td>M</td>
<td>M</td>
<td>5.2.4</td>
</tr>
<tr>
<td>6</td>
<td>Document Type for Presentation</td>
<td>ODF (OpenDocument) v1.0 (ISO/IEC 26300:2006)</td>
<td>ISO/IEC</td>
<td>O</td>
<td>M</td>
<td>M</td>
<td>5.2.4</td>
</tr>
<tr>
<td>7</td>
<td>Document Type for Spreadsheet</td>
<td>ODF (OpenDocument) v1.0 (ISO/IEC 26300:2006)</td>
<td>ISO/IEC</td>
<td>O</td>
<td>M</td>
<td>M</td>
<td>5.2.4</td>
</tr>
<tr>
<td>8</td>
<td>Document type for Non-editable documents</td>
<td>PDF 1.7 (ISO 32000-1:2008)</td>
<td>ISO/IEC</td>
<td>I</td>
<td>M</td>
<td>M</td>
<td>5.2.7</td>
</tr>
<tr>
<td>9</td>
<td>Graphics – Raster Image (Lossy Compression)</td>
<td>JPEG2000 Part 1</td>
<td>ISO/JPEG Commit</td>
<td>I</td>
<td>M</td>
<td>M</td>
<td>5.2.3</td>
</tr>
</tbody>
</table>
Use of public educational tools

Sub: Free educational software tools for the revised syllabus - Reg.
Ref: Letter from IT for Change dated 18th January 2012.

With respect to the above subject cited above, the Directorate has pioneered the inclusion of free software tools in the revised syllabus that are implemented in our polytechnic diploma courses. This move is in line with the policies of the government to provide access to a wide variety of software applications to students and teaching staff and avoid vendor lock-in to select proprietary software tools. All free software tools can be installed, learn and build their skills and knowledge without needing to pay any license fees etc. The list of such public software applications/educational tools are given below and advised to make use of it in our revised curriculum.

<table>
<thead>
<tr>
<th>Course/Programme</th>
<th>Proprietary application currently used</th>
<th>Public Software Applications /Educational tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Computer Skills Lab.</td>
<td>MS Office</td>
<td>Open Office/LibreOffice</td>
</tr>
<tr>
<td>C Programming Lab</td>
<td>Turbo C</td>
<td>GCC compiler</td>
</tr>
<tr>
<td>Data Structure Lab</td>
<td>Turbo C</td>
<td>Dev C++ and WX Dev C++</td>
</tr>
<tr>
<td>Visual programming</td>
<td>Visual Basic</td>
<td>Gambas</td>
</tr>
<tr>
<td>Java</td>
<td>Text editor</td>
<td>Netbeans IDE can be used</td>
</tr>
<tr>
<td>Semiconductor Devices Lab</td>
<td>Not Available</td>
<td>Ktech Lab</td>
</tr>
<tr>
<td>Mechanical/civil/Instrumentation</td>
<td>Auto CAD</td>
<td>QCAD/Blender/CollabCAD</td>
</tr>
<tr>
<td>Maths Lab</td>
<td>MAT Lab</td>
<td>SciLab</td>
</tr>
<tr>
<td>Applied Science &amp; Maths</td>
<td>Not Available</td>
<td>Geogebra, STEP</td>
</tr>
<tr>
<td>Design (Desktop Publishing)</td>
<td>Corel Draw, Photoshop</td>
<td>Scribus/GIMP/Inkscape</td>
</tr>
<tr>
<td>Computer Science (Content Management)</td>
<td>Not Available</td>
<td>Drupal</td>
</tr>
</tbody>
</table>
NMEICT – Virtual Labs

NMEICT mission that provides simulated microwave instrumentation for students at remote locations as a part of Sakshat Virtual Laboratory. This site provides a platform for real experience through simulation experiments to a distant student from Microwave Physics group, Dayalbagh Educational Institute, Agra. The virtual microwave laboratory offers the following support to its remote students:

- Step by step instructions
- Simulations and multimedia experiences
- Better use of software
- Awareness building on handling of mistakes

Read More

Featured Experiments!

Design, analysis & measurement of microstrip line

Theory: Microstrip line is one of the most popular types of planar transmission line, preliminary because it can be fabricated...

News & Events

Microwave technology successfully treats liver cancer read more

First Microwave Image of the Complete Moon read more

Researchers have come up with a new way of sterilising medical equipment read more

Mobile scanner could detect guns read more
Subject Teacher Forum
ITfC - Our work

- Member of policy development committees for the State and the Centre
  - National Council of Educational Research and Training (NCERT) – ICT curriculum
  - Ministry of Human Resources – Teacher Education curriculum and policy
  - Department of State Educational Research and Training
    - ICT mediated curriculum for teacher educators
    - Development of ICT integrated resource book for high school teachers
ITfC - Our work

- Subject Teacher Forum (School)
  - An ICT-enabled model of teacher education
  - With Rashtriya Madhyamik Shiksha Abhiyan and DSERT

- NMEICT
  - Creation of OER on various FOSS educational applications

- College Education
  - To build capabilities in FOSS tools to create OERs

- Community informatics
Critical success factors

- Public ownership is important, policy support
- Building of a network of practitioners who will support, create, curate, maintain the knowledge resource
- Infrastructure constraints
- Training and capacity building
Thank you!