

Note for Resource Persons

South India Regional workshop on

'Software Principles for the Public Sector, with focus on Public Education'

Since the workshop seeks some specific outputs that can help practice and policy in the area of 'software for the public sector', resource persons/ panelists have a special responsibility in this workshop. Over and above sharing from their own experiences and perspectives, the workshop seeks that they work together to **co-create the workshop's output - 'Guiding principles for public sector software'**. This note attempts to facilitate alignment to the workshop goals by providing a paragraph on each session, outlining sessions objectives and expectations from the resource persons.

Day 1 – Public Software for Public Education

Session 1 - Context setting - objectives and methodology

Outlining the objectives and methodology of the workshop

Objectives

1. The primary workshop goal is to collaboratively evolve principles / policy guidelines for 'public sector software' proceeding from specific orientation and requirements of the public sector , such as upholding public interest, producing public goods, universal access to public goods as well as guaranteeing entitlements, transparency, accountability, participation, equity and social justice, etc. The idea is not to just speak of abstract principles but relate them closely to real issues that are faced regarding software in the public sector, especially in the public education system.
2. Methodology – Intense open dialogue
3. Panelists make initial submissions for around 10 minutes, followed by discussions amongst panelists on the themes outlined in their initial submissions. The Chair would moderate the discussions, pose questions/share thoughts etc as required.
4. Post panel discussion, the remaining (half of the session) time will be used for an open house. Workshop participants will interact with the panelists on the issues that got discussed, with the chair facilitating the process.
5. Chair will make some substantive comments at the end, or during the proceedings, and will sum up the discussions.

Session 2 – Scenario Building: Requirements of public education system by 2020

Building a scenario of the digital needs of the public education over the next decade, towards appropriate planning for policy and practice

The pace of technological change is such that programs are usually reactive to developments. This session would require panelists to do **a scenario-building exercise - given the pace of ICTs impacting societal processes, including those of learning and schooling, what would be the role of ICTs in schools and classrooms in 10 years from now?** The exercise should look at aspects such as audio visual materials, internet resources, educational software tools, computing/ digital skills, collaborative tools like wiki, blog and portals, co-creating learning resources, and processes like constructivist learning, teacher training and decentralized planning. Such a scenario for the public education system is best built by also considering how 'good' private schools will integrate computers/ICTs into their curriculum and teaching-learning processes. The latter will set a kind of benchmark for parents expectations and government's responsibility vis a vis ICTs aspects of the public education system.

The session will also examine the role of ICTs in distance learning, vocational education (such as desktop publishing or design), language learning, learning for children with challenges (such as 'text to reader' software for visually challenged children) and the special responsibilities of public systems towards the marginalized sections. The discussion in this session would help outline the **near-future 'requirements'**

for the public education system, in terms of various digital tools and systems, for subsequent sessions to address.

Session 3 – Sharing experiences to identify principles for software in public education

Case study presentation of Kerala IT@Schools program and a subsequent discussion among representatives of different states on different ICT in school approaches/ models, and imperatives and principles underlying each

This session seeks to share some insights on how the IT@Schools program of Kerala state has attempted to (1) keep the the key objective, imperatives and values of the public education system in the forefront, (2) taken a holistic approach taking view of all ICT aspects and processes involved in public education system, (3) strengthen the system rather than 'substitute' it and (4) plan with the future in mind. The case study will provide a point of reference to critique and/ or to build upon for the subsequent discussions on different themes of the public education system, like curriculum and teacher training

In the subsequent panel discussion, while government representatives will certainly speak from their experience, the purpose is not to defend or praise specific approaches or models, but be constructively critical with an eye to evolve elements of an approach that will be best for all, in view of the specific imperative of public education, and with the future in mind. This is the objective of the workshop, and this session should set a purposive tone for the two day deliberations which can hopefully culminate into a set of principles for policy and practice in this area.

The discussion while addressing here-and-now practical issue will take cognizance of the the near-future scenario developed in the earlier session and look at policy and practice options that are adequate to this scenario.

Session 4 – Digital learning material: Implications for policy and practice

An examination of current and required digital content practices, towards appropriate polices and practices to meet future needs of the public education system

Curriculum for computer aided learning is a new mutation of learning materials, with more possibilities, given the nature of digital systems enabling easy sharing and co-creation. This session would explore the role of and processes for digital learning material. A good point of departure for the discussions is the rigorous set of processes laid down for developing text book based curriculum. But of course there are much more possibilities, like creating local content, co-creating content through communities of teachers, constructivist content etc. Balancing higher level curriculum 'controls' with local flexibility is a new challenge in the digital context.

When can the point of inflexion can be expected to be reached when providing near unlimited learning material on e-readers and such devices will get more cost effective than only providing text books? How do we move towards that point? What kind of programs and policies for content creation, software, hardware, connectivity, teacher capacity etc are needed to move towards that point? What are the challenges in this new form of accessing content and learning?

Full public ownership of content created for public education system is another key issue, so that it can be freely shared by the government with millions of children in thousands of schools, year after year. What are the issues regarding the production, ownership and use of digital material, covering both sharing and ability to make modifications? The session would thus cover the creation and use of e-content in the context of these principles and processes.

Session 5 – ICTs for Teacher Education and Capacity Building: Implications for policy and practice

An examination of current and required practices in ICTs for teacher education and capacity building, towards appropriate polices and practices to meet future needs of the public education system

A naïve approach to use of ICTs in education is to seek replacement of the role of the teacher, who is often,

of course erroneously, held responsible for all the ills of our education system. In fact one of the the most important uses of ICTs would be to build and sustain a professional cadre of teachers. The teacher is the most important resource for the public education system and is key to its rejuvenation, provided her agency is supported. This session will look at the new possibilities and challenges for teacher education and capacity building in the digital era of public education. How can ICTs help in building of networks of learning possible amongst teachers and teacher educators? Networks such as USRN (University School Teachers Network – see www.eledu.net) aim to support teacher networking and professional development, even allowing teachers across different levels of education – elementary, secondary, tertiary to connect and learn.

If the main focus is on computer aided learning, what are the respective roles of the regular teachers and of specialist computer teachers. If at all required, should the latter be an in-house cadre or be outsourced? The sessions will focus on all ICT processes that centre around the teacher, and how these processes can be employed to give a new role to the teacher, support her professional development, end her professional 'isolation', help teacher-centric local planning etc.

Session 6 – Outlining critical principles for software in public education

Discussion wrap-up - Evolving a framework for software policy in public education system from earlier discussions.

This concluding session on the first day would seek to outline the principles for software/ digital architecture for the public education system. Are our current programs and polices adequate to address the challenges that will confront us in the near future? How can universal access to digital learning opportunities (computers, internet, software and tools, learning material) be ensured? How can computer learning and computer aided learning be integrated fully within the school system. What would be methods of building capacities of teacher educators and teachers to support the integration of CL and CAL into the school system? What are the issues with outsourcing core pedagogical processes such as teacher training ? How can digital learning materials be created?

The overall question is; what kind of vision, structures and processes are required in the public education system to address the imperatives that the earlier sessions discussed, generally, and with respect to specific areas like content, teacher education etc?

Day 2 - Public Sector Software Policy and guidelines

Session 1 - Software for the public sector: key characteristics and requirements

Exploring concepts, requirements and issues of a Public Sector Software policy, extrapolating from sessions of the previous day on principles of ICTs in the public education system and deriving from concrete examples

Public sector software is building a new architecture of governance processes. Each piece of software developed or procured contributes to this architecture. Building of this new architecture not only requires that long-standing canons of public and governance systems are protected, but it also provides a new, and perhaps transformational, opportunity to make India's governance more transparent (RTI compliant in true spirit), accountable(enabling community monitoring) and participative (participatory democracy and collaborative governance).

What are our expectations for governance reform through digital systems, and how does these expectations provide basic principles for developing public software. What issues – like full public ownership, share-ability across public sector, full interoperability, transparency of digital processes to all people, verifiable conformity to all rules-based/ legislative/ constitutional requirements, use of local language, possibilities of co-creation, easy possibility of changes as requirements, including legal/ audit, evolve, ensuring equity and people's rights etc – are important to keep in mind while developing public sector software? These requirements may be seen against the context of software development for the private sector, to highlight key overall principles for software in the public sector.

Participants in this session will use their knowledge of and experience in the governance processes to set out general expectations and concerns regarding development of software for the public sector. The accent will be on core areas of governance that are of highest priority and directly concern disadvantaged sections – like health, education, livelihood, social welfare etc (whereas easier to digitalize areas like passports, tax collection, bill payments etc are typically more prominent in e-governance). They may draw from direct examples but will seek to lay out general issues and present general principles regarding software in the public sector.

This session draws from the 'wrap-up' session of the first day, where the 'guiding principles' for software for the public education system have been discussed, extrapolating it for the wider public sector.

Session 2 – Software for the public sector: Sharing experiences from the field

Discussing issues in current program designs and software development / implementation for public sector in the context of public software principles.

This session essentially takes the discussions of session 1 forward, (1) through more detailed examinations of specific issues faced in different areas of governance activities, and (2) build on this discussion to suggest a framework of practice and policies for public sector software. It will also examine why, if at all, any such policies are needed. There is a good amount of overlap between session 1 and 2 which is deliberate in order to give enough time for an open discussion on these important issues. Apart from an exchange of ideas, the purpose is also to work towards developing principles for practice and policies in this area.

Session 3 - Digital architecture for an inclusive Knowledge Society

Reflecting on larger role of digital policies for developing the required public goods for a more inclusive knowledge society

This session expands the concepts and principles that may be seen to be emerging from the discussions in the first two sessions in two ways. (1) Looking at public content and public information systems as expanding the public sector digital ecology beyond just software, and (2) expanding the role of public sector digital policies beyond core governance work to supporting wider societal collaborative activity, like in local content production. This corresponds to the role of governments to provide public goods, which has a completely new context in the digital arena. Appropriate public policies are essential if we are to ensure an inclusive knowledge society, knowing that relying only on commercial platforms of collaboration etc, however useful they may be initially, will certainly lead to inequitous outcomes. Like in all other public goods areas like education, health, livelihood and small industry support, employment services etc, considerable public effort to complement private sector facilities will be needed. Some such examples, like development of a Kannada Wikipedia, will be presented. At the same time, governments can open up the vast amounts of information/ data it possesses/ produces for private - commercial or public interest - systems to make it available to people in different ways. Some such possibilities, drawing from considerable work going on in both developed and developing countries, will be presented.

Session 4 - Action Planning – Document on principles, architecture of public sector software

Evolving concrete principles relating to program and policy in the area of software for the public sector on the basis of the two days deliberations.

This session will seek to bring the strands of the day's discussion together to propose how we can proceed forward towards developing appropriate frameworks of policy and practice in the area of software in the public sector. Which key parts of the governments, and other involved actors, should take up different roles in this regard? The session can also propose some initial outlines of a possible framework of principles/ policy/ practices. In this respect, the session does mostly take forward the discussions of the morning. Once again, the effort is to give enough time for intense interaction and dialog on this scantily explored area, which however may be in urgent need of appropriate policy and practice frameworks.