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Internet design node for Africa

K L Kumar
University of Botswana, Gaborone, Botswana

Abstract
The paper presents a methodology and a framework to create interactive design nodes for designers in general and the details of a design node for Africa in particular. Establishment of such nodes in different countries, eg, UK, Australia, Netherlands and Botswana and their networking would result in ease of local access on the one hand and global interaction on the other. The idea has a parallel with the increasing utilisation of the Internet for web publishing and web conferencing.

The structure of the design node for Africa has been conceived as a web site permitting uplinking of designs and design ideas in the African context, ie, in relation to the needs, art, culture, expectations and the state of technology in the continent. It will be enriched by providing linkages to the Museum of African Design in London and the Smithsonian Museum of African Aesthetics in Washington DC, among other sites in the world. The African design node will incorporate a number of features to promote creativity including the possibilities of uplinking and comparing of two or more alternative designs by a student for the same design brief, comparing several alternative designs conceived by individual students in the same class, evaluation of several different designs of artefacts by different design students in self-initiated projects, competition entries and analysing the design features of a given artefact. Such a provision is expected to lead to design innovations and product improvements as also exchange of designerly thoughts and collaboration across the geographical boundaries in the world.

Keywords: Internet node, Africa, Botswana, student, design

Introduction
The Internet has gained popularity in the processes of teaching, learning, evaluation, research and interaction in all spheres of life. It is also being used for design and some universities have started offering courses on 'Internet for Designers' or 'Design via Internet'. There is as yet no visible move on the use of the Internet for cross communication on designs. Student teachers undergo microteaching cycles in order to improve their teaching skills. Typically, a student teacher teaches a micro lesson to a set of 'students' and the peer student teachers offer their constructive criticism in respect of the elements of teaching methodology, causing the teacher to respond and, in turn, improve his/her teaching methodology. Likewise, researchers have started publishing on the Internet for ease of reaching out, perusing and passing their comments and criticism via the Internet. The idea of the Internet Design Nodes has been conceived with a view to exchanging ideas and information on designs and designing via Internet across the geographical boundaries. It is envisaged that the Design Node in Africa would motivate student designers to work out better designs: firstly, by virtue of the fact that the same should be made worthy of uploading on the internet and secondly, by receiving constructive criticism from other designers across the globe and from their peers. The website is expected to find another use, ie, student designers' designs being uploaded on the website without disclosing their identity and being evaluated by more than one evaluator or examiner and averaging their scores.

Design Nodes Worldwide
The proposal to install Design Nodes in different countries' Design and Technology institutions stems from the thought of providing access and benefits to all designers regardless of their locations. The Internet offers a possibility of interaction worldwide without any extra cost. However, if some countries decide to stay within their Intranets,
it would still benefit them in their own scenarios. The Internet Node for Africa has been conceived to be an open system of learning and improving designs by getting feedback from all parts of the world. It would, therefore, look to the other institutions to encourage their students to interact with African students and assist them to come up with better design practices and product outputs.

It is also proposed to design the nodes with multiple objectives, such as guiding the student designers, sharing information, teaching them via Internet, accessing several other sites, providing for instant email facilities and mail group discussions etc. It is neither possible nor desirable to lay down a structure for the same at one time: it must rather grow with the need of the learners on the one hand and with the advent of Internet technology on the other.

**Design Node in Africa**

The Internet Design Node in Africa is being designed with a long felt need of providing an opportunity to African student designers to learn how to employ the Internet for designing and improving designs. A proposal for an Internet Tutorial Room with 20 computer systems complete with Internet connectivity is currently being processed at the University of Botswana. It is expected to provide access to individual students in a typical class of 20 students. The students would thus be able to design via Internet and employ the Internet for several other tasks. Major functions such as uploading of designs, seeking criticism, analysing responses would constitute the hub of the node. The node would consist of some special features to educate the African students on how to get started on the Internet and some features for teachers and other users to bring about Internet Literacy, which may not be necessary in countries where students are already well acquainted with the Internet. Likewise, the node would incorporate considerable assistance like listing and contents of several useful websites. The site would thus consist of the following elements to commence with:

- Student Guide
- Teacher Guide
- Peer Guide
- Evaluator Guide
- Internet: What, Why and How?
- Power of Email
- Power of News Groups
- Useful World Wide Web Sites
- Uploading the Designs
- Downloading Files from Other Sites
- Upgrading the Design

Another important dimension, ‘Teaching and Learning Strategies’, has been provided on the Internet Design Node for Africa. This is very important in order to educate the students about ‘how to learn’ and to educate teachers on ‘how to make students learn better’. The significance of this aspect of the site is that the students should be receptive to open criticism from others. Traditionally, African students are more comfortable in interacting with the teacher individually and not so in an open environment. Bringing them up to be free and frank and learning through different methods is basic to the objective of the website. Further, such an input would enable them to learn better in and outside the classroom for all subjects, most of which are directly or indirectly related to design. A structure for the Teaching Learning Strategies component of the node has been prepared. It consists of such elements as follows:

- Learning Processes
- Mechanics of Learning
- Information Technology
- Learning Networks
- Information Processing
- Web Surfing
- Audiovisual Resources
- Microteaching Cycles
- Autonomous Learning
- Thinking and Problem Solving
- Methods of Discussion
- Instructional Design
- Effective Communication
- Transfer of Learning
- Learning How to Learn!

The above elements are not arranged in a linear order because the students and teachers...
are expected to click on different hyperlinks to gain more information and widen their horizon of learning on their own accord.

Possible Functions
The following functions are possible on the Internet Design Node for Africa:

For Student Designers: They may
- upload their interim designs to seek feedback from other designers, peers and end-users.
- upload their alternative designs together with design briefs for possible ratings and selection by other designers
- upload their final designs for viewing by others and for final evaluation
- communicate with students and staff and other Internet nodes in respect of their designs and design ideas.

For Peer Designers: They may
- access the designs and send their comments by emails to the student designers
- notice ideas and problems faced by student designers and offer their assistance
- send emails asking and responding to questions on designs.

For Design Teachers: They may
- lay down the ground rules for students and others accessing the designs
- prepare and upload the checklists and rating scales appropriate to the category of designs
- direct students to upload their designs, interim or final, with necessary background information.
- communicate with examiners and other evaluators to evaluate some designs against the checklists.
- send emails to students, peers, evaluators and examiners as and when necessary
- communicate with other Internet Design Nodes and exchange information
- update the Internet Design Node for Africa with the advent of Technology.

For Design Evaluators and Examiners:

They may
- look up the desired designs posted for their evaluation and response
- rate the designs according to the rating scales and checklists and assign scores
- critically evaluate the designs and give their constructive suggestions
- evaluate the web site and offer suggestions to improve the same.

Web Sites for African Arts and Aesthetics
One of the special features of the Internet Design Node for Africa is the ready availability of several web sites and other information directly related to the African arts and aesthetics. There are several well-known museums and art galleries on African arts and aesthetics throughout the world, including:
- African Design Museum, London
- Smithsonian Museum of African Arts
- Bayly Art Museum, Virginia
- African Culture Gallery and Kum Kumbu
- African Arts warehouse
- Durban Arts Museum, South Africa
- Witwatersrand Arts Gallery, South Africa
- South African Virtual Art Gallery
- Art and Life in Africa: Iowa Centre for Advanced Studies

All the museums have web sites and depict a great deal of information on artefacts and environment in different parts of Africa. There are also a number of web sites specially created for design studies. The following web sites are, therefore, included for ready access and reference at the Design Node for Africa:
http://www.Africanartfoundation.org
http://www.sfoma.org
http://www.uiowa.edu/ africart/index.html
http://www.echoyc.com
http://www.wits.ac.za/museum/art_gellery
http://www.sva.edu/moma
http://www.wits.ac.za/mus
http://www.ergoweb.mech.utah.edu
http://www.durbanart.azrec.co.za/exhib
http://www.core77.com/resource
http://www.core77.com/design.edu
http://www.mech.gla.ac.uk
http://www.dh.umu.se/exam
http://www.lu.ac.uk/

It is often possible to find some very useful
information from such web sites. For example, the Bayly Art museum brings out the Elements of African Aesthetics as follows:
- Resemblance to human beings
- Luminosity
- Self-Composure
- Youthfulness
- Clarity of form and detail
- Complexity of composition
- Balance and symmetry
- Smoothness of finish

The above elements have also been described and illustrated at the same site. There are several other well known and useful sites for design related activities across the globe. The same have also been hyper-linked at the design node.

Some newsgroups to which students would be introduced and encouraged to participate are as follows:
- comp.cad.autocad
- comp.cad.pro-engineer
- alt.design.product
- humanities.design.misc

The newsgroups are better accessed through altavista.digital.com or dejanews.com search engines although one may employ alternative means.

Conclusion
The paper outlines the concept, a practical methodology and a framework for the network of Internet Design Nodes in different parts of the world. It also spells out the provisions at the Internet Design Node for Africa, which has been designed and is currently being experimented at the University of Botswana.