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e-Skills Institute

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National Electronic Media Institute of South Africa

Edition 17, August 2013

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innovative

responsive

developmental

enabler

collaborative

The Institute responsible for e-skills human capacity development is a national catalyst, facilitator and responsive change agent in the development of SA, within the globally evolving information and knowledge-based environment, by leading the creation of key e-skills development strategy, solutions, practices and the implementation thereof, to benefit the total population. The Institute focuses primarily on four components: research, teaching and learning, innovation and a monitoring and evaluation framework.

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Creating e-skills access for youth: developing a national e-skills action plan for FET colleges

Unite around a common pillar to fight poverty and inequality, leadership throughout society to work together to solve problems, and a capable developmental state

Further Education and Training (FET) colleges are well positioned to extend the reach of e-skills capacity building within the country. The existing e-skills interventions, conducted in collaboration with the Department of Higher Education and Training (DHET), provide a good base to develop a national e-skills action plan across all FET colleges.

There is now an opportunity to extend the programmes, capacitating the colleges and their staff further and opening up opportunities for unemployed youth with a particular focus on deep rural areas.

FET College e-Skills Action Plan Workshop

On the 14 August 2013, the Institute responsible for e-skills human capacity development, in collaboration with the Department of Communications (DoC) and DHET, brought stakeholders together for the FET College e-Skills Roadmap Workshop. Stakeholders included the business community.

The event provided a platform to share and to start the process of developing a roadmap for a national e-skills programme in FET colleges.

In general, the overall aims of the FET e-skills programme are:

- To build the capacity of FET Colleges to offer skills required for the information society and knowledge-based economy
- To grow the capability of learners and make them employment ready, especially for the creative media sector
- To offer new innovative courses that are aligned to industry and societal demands
- To facilitate multi-stakeholder collaboration
- To ensure integration of theory practice, and facilitate career pathing

e-Astuteness

e-Astuteness is defined as a knowledgeable capacity, based on personal and interpersonal skills, that involves:

- Understanding people and situations
- Building alignment and alliances
- An acute understanding of strategic direction
- Applying strategic behaviour

e-Astuteness allows individuals to take personal advantage of ICT through the appropriate e-skills in social or economic situations. (Building social connections is an example of a social situation and obtaining a job or starting a business is an example of an economic situation.)

e-Astuteness does not necessarily depend on formal education or high levels of literacy.

e-Social astuteness

e-Social Astuteness is defined as the use of ICT and e-skills for more astute ways of people interacting with others, which include:

- Social interactions
- A level of awareness and understanding of diverse social situations
- The various alternatives open to them for response

e-Astuteness focuses on individual benefit whereas e-social astuteness focuses on interacting with others for group benefit.

Aruna Singh (L) and Patsy Garza (R) from the Department of Higher Education and Training

Stakeholders gather for the FET College e-Skills Action Plan Workshop

[continued] Creating e-skills access for youth: developing a national e-skills action plan for FET colleges

Moving towards shifts in policy

The workshop was part of the process to investigate how e-skills can be made available at FET college level. Successful implementation relies on growing new competencies, such as mobile apps development, within the colleges.

College lecturers need to be kept abreast of emerging ICT trends through communities of practice. Students attending FET colleges should be exposed to the new skills required to participate in new job opportunities.

The business community is a strategic partner in the development of e-skills within FET colleges. There needs to be more involvement from business as they bring expertise and work placement experience for the youth, among other things.

For e-skills to be embedded, a policy shift needs to occur. The aim of this partnership is to place greater emphasis on e-skills capacity development at FET colleges, such as aligning the FET college National Certificate (Vocational) – known as NC(V) – and the e-Skills Competency Framework to meet industry and societal needs.

Through collaboration between the Institute and the DHET, there needs to be a balance as to how to address the e-skills gaps at FET colleges and how to pool resources to massify and open up opportunities.

Current FET e-skills programmes

Current e-skills programmes introduced through the Institute, as a catalytic and collaborative organisation, include new courses such as multimedia training, the Cisco Network Training Programme, and the Lecturer Competence Development Training Project.

The provincial e-skills knowledge production and coordination CoLabs have also been engaging with targeted FET colleges. Following are existing initiatives, as well as those at the negotiation phase:

- Working with FET colleges to host smart community knowledge centres
- FET colleges assisting with compiling a data centre of existing e-centres
- FET colleges as a permanent interface between local e-centres, smart centres, communities and the CoLabs
- Rolling out e-literacy courses through FET colleges
- Introducing e- and m-learning courses for FET lecturers and managers
- Establishing how e-skills can help to boost the profile and output of NC(V) in Primary Agriculture to increase its impact on rural development
- Employment and internships in innovation application factories
- Training smart centre managers

The FET turnaround strategy

The FET Turnaround Strategy is guided by the drive to develop a skilled and capable workforce to support an inclusive growth path.

The FET e-skills programme aligns strongly with the turnaround strategy which focuses on creating sufficient levels of functionality across the 50 colleges and defining an FET college benchmark for optimal functionality. The Turnaround Strategy includes curriculum delivery, professional development of staff, and partnerships. The emphasis is on building capacity in the sector.

The DHET is also putting up new campuses with 20 new campuses already built. There is a particular focus on rural campuses.

Working groups at the FET College e-Skills Action Plan Workshop

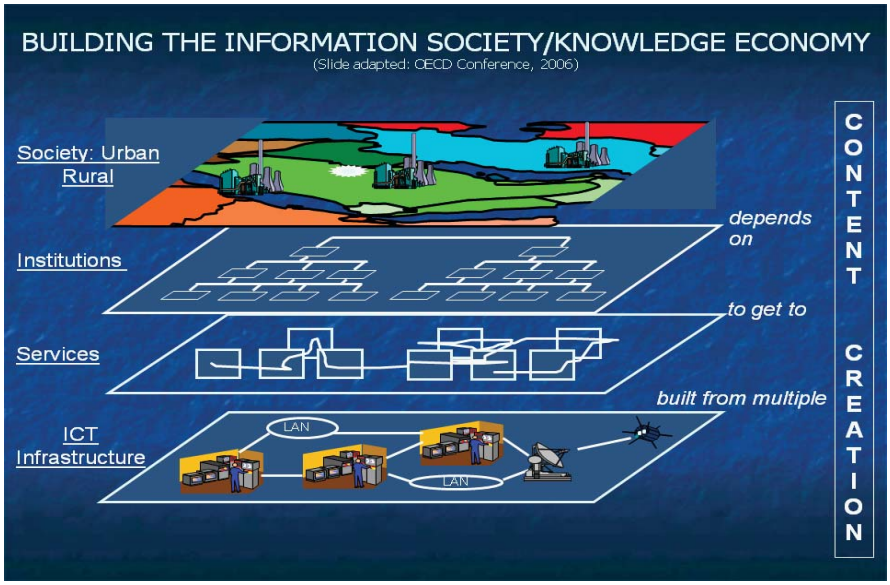
e-Skills to assist with driving the New Growth Path

An inclusive economy and a capable development state

The National Infrastructure Plan, adopted in 2012, was created to aid in the development of South Africa. It aims to transform the South African economic landscape, create a significant number of new jobs and strengthen the delivery of basic services. The plan also supports the integration of African economies.

As per the 2013 Budget Speech, over the next three years government will invest R827 billion in new infrastructure, as well as upgrading existing infrastructure. Infrastructure, according to the New Growth Path, is a key jobs driver and lays the basis for higher growth, inclusivity and job creation.

Eighteen Strategic Integrated Projects (SIPs) have been created. These cover social and economic infrastructure across all nine provinces, with an emphasis on lagging regions. The SIPs focus on various areas including energy, social infrastructure, water and sanitation, and knowledge.



Expanding access to ICT

SIP 15, one of the knowledge SIPs, focuses on expanding access to ICT. It has a number of core areas:

- Providing for broadband coverage to all households by 2020
- Co-investing in ICT infrastructure for township and rural access, as well as for e-government, school and health connectivity.
- Rolling out to schools, with an initial focus on those that target science and maths and district schools.
- Providing digital access to all South Africans through a migration to digital broadcasting

"While investment in infrastructure is essential, international examples... show that success is dependent on creating a broader ecosystem where there are networks, services, applications and users ."

Importance of an ecosystem

While investment in infrastructure is essential, international examples (including that of Kenya and Australia) show that success is dependent on creating a broader ecosystem where there are networks, services, applications and users. All of these need to be addressed for the benefits of infrastructure to be realised.

Numerous case studies show that a country doesn't benefit from ICT where the focus is merely on providing access to infrastructure. There needs to be a demand for the services and this demand needs to be stimulated.

The creation of demand occurs primarily through affordability, awareness and attractiveness. Awareness and attractiveness are achieved by developing e-literacy and e-astuteness across society. Furthermore targeted content also needs to be created to stimulate demand; content such as that for learning, health, government services etc.

In terms of the larger population that has been deprived of e-literacy and e-astuteness, regular market forces and personal motivation are not sufficient for these to develop. International country examples have shown that at least 10 to 15% of funding needs to be designated for e-skills capacity development as a part of the implementation of infrastructure.

The Institute involvement in SIP 15

The Institute responsible for e-skills human capacity development is involved with SIP 15 both on a national and provincial level. At a national level, the Institute's catalytic and collaborative function within SIP 15 talks to the NDP's focus on improving coordination within government.

From a provincial perspective, the ICT for Rural Development CoLab: Eastern Cape has been invited to be a member of the provincial task team responsible for the roll-out of SIP 15. The CoLab is based at Walter Sisulu University.

The provincial task team is led by the Eastern Cape Socio Economic Consultative Council (ECSECC) and includes Mr Ayanda Madyibi, the provincial CIO and Chairperson of the Provincial Government Information Technology (PGITO) Council in the Office of the Premier.

The CoLab's role will be to assist with identifying and developing the skills necessary to support the various components of the project. Not only does this engagement strengthen stakeholder relations and align with the e-skills agenda but there will be engagement with other CoLabs (through their e-skills thematic areas) as well as with Further Education and Training (FET) colleges.

Knowledge and skills sharing for SADC digital migration

An inclusive economy and building capabilities

With the migration to Digital Terrestrial Television (DTT), there will be a new era of information-sharing in digital broadcasting. It is expected that the digital switchover will leapfrog existing analogue technologies to connect the unconnected in underserved and remote communities, and thus help close the digital divide.

In 2006, International Telecommunication Union member states agreed to the DTT switchover deadline of 17 June 2015. The South African Development Community (SADC) started the digital migration process in June 2009.

SADC Digital Terrestrial Television Project Management Office

The South African Development Community (SADC) Digital Terrestrial Television (DTT) Project Management Office is a special desk under the auspices of the SADC Secretariat. It was established to provide regional advice, co-ordination, monitoring, evaluation and reporting on the implementation of the SADC Roadmap for Digital Broadcasting Migration.

Its main aim is to assist all SADC Member States to meet the SADC deadline, and thus the international deadline for DTT broadcasting migration.

The SADC DTT Project Management Office is a key component for the effective, successful and smooth implementation of DTT broadcasting in the SADC region. The office is manned by experts seconded primarily from Angola, Botswana and South Africa.

Knowledge and skills sharing

Between 15 and 16 August 2013, experts from SADC DTT Project Management Office visited South Africa to draw on the country's experiences in DTT implementation.

During this visit, the Institute responsible for e-skills human capacity development made a presentation to members of the Project Management Office regarding its approach to capacity building on content development and the development of the creative industry.

There were also discussions on the opportunities for South Africa to play a bigger role in the SADC region, in particular assisting with capacity development around e-skills and DTT training.

DTT and e-skills

The Institute has a mandate to drive multi-stakeholder engagement for the development of e-skills training required for South Africa's Broadcasting Digital Migration (BDM). An integral part of the process is industry collaboration.

The Institute has been engaging stakeholders and developing curricula for DTT e-skills training. It actively supports the Department of Communications in its digital migration drive. This digital migration process includes, among other things, creating content, maintaining and supporting infrastructure, and developing technical and creative capabilities.

Positioning South Africa for the digital era

Through various forums, the Institute has been promoting the new opportunities offered by the DTT and BDM. In particular, it actively champions the training of installation technicians and community support field agents as a part of South Africa's BDM.

Just within the area of digital migration, South Africa needs to skill 3000 to 5000 people for set-top box installation and, overall, about 20 000 people need to be skilled.

This initiative forms part of the Institute's aim to e-skill 10 million people over the next five years.

In collaboration with industry and the MICT Seta, the Institute has developed a consolidated one-day course for existing installers and a five-day course for new installers – with specific career pathways to ensure job creation, cyber-preneurship and sustainability.

The Creative New Media Industries CoLab: Gauteng is based at the University of Pretoria. It is involved in creative industries such as advertising, art, design, film, music, publishing, games, crafts, tourism, TV and radio. With DTT delivering a minimum of six new television channels, content development will become a priority and e-skilling also needs to happen in this area.

This CoLab, along with the university, has also recently developed a postgraduate Diploma in Digital Innovation. It is in response to the need for creative content and to develop cyber-preneurs. This would serve those who have an active interest in music, publishing, multimedia and heritage studies. It allows them to broaden their skills set to include entrepreneurial skills, e-skills for the digital era and advanced skills related to their discipline.

CoLab thematic areas

Western Cape CoLab: e-Inclusion and Social Innovation

KZN CoLab: e-Enablement of Effective Service Delivery

Eastern Cape CoLab: ICT for Rural Development

Gauteng CoLab: Creative New Media Industries

Limpopo CoLab: Connected Health

Southern Gauteng/Northern Cape CoLab: e-Literacy and e-Business (knowledge economy and e-social astuteness)

Mobile app development for innovation

Unite around a common pillar to fight poverty and inequality, active citizenry and building capabilities

Mobile apps have become increasingly important. They are used for work, play, and for a host of entrepreneurial and service delivery purposes. (See block 'Mobile app trends'.) The Institute responsible for e-skills human capacity development has established mobile application development factories to serve as local platforms for innovation. This has been done in three provinces, namely the Eastern Cape, Gauteng and Western Cape.

Developing an ecosystem for mobile apps creates a platform for developing local talent to fill South Africa's skills needs including developing entrepreneurs.

e-Inclusion and social innovation

For South Africa and the rest of the African continent, mobile app development is also a way to promote social innovation – a necessary mechanism for addressing the challenges that Africa faces.

Using mobile app development to address Africa's and South Africa's challenges talks to at least three of the National Development Plan's priority areas supported by the National e-Skills Plan of Action 2013:

- Uniting around a common pillar to fight poverty and inequality
- Active citizenry
- Building capabilities

The e-Inclusion and Social Innovation CoLab: Western Cape is based at the University of the Western Cape. It is currently running one of several Institute e-skills initiatives aimed at enhancing the e-skills competence of South Africa at large.

CodeJam 2013 is designed to provide a learning space for young people to develop the skills and know-how to translate innovative solutions for real-life challenges into mobile apps that can make a difference.

While the CodeJam aims to contribute towards the development of skills in mobile application development and in social innovation with a focus on addressing local socio-economic challenges (Apps that Matter), it also seeks to develop an ecosystem of South African mobile app developers and innovators to provide in the local market needs.

The CodeJam is one of the initiatives by the CoLab to create a developer community among students in higher education with the intention of opening up an innovation application factory. This will allow for increased mobile app development that aligns with national priorities and that facilitates apps development in the Western Cape region.

Apps that Matter

Stakeholders have identified social challenges that require innovative solutions. These range from support for start-up companies and support for unemployed jobseekers to providing community support for better access to public services. Other challenges include integrated information on transport systems within the Bellville area and support for maths and science learners and teachers.

Mobile app trends

There are over six billion mobile subscriptions worldwide, according to International Telecommunications Union (ITU). There are also twice as many cellphones as televisions and computers combined. And there are more than one billion active smartphones, a threshold which was crossed in the third quarter of 2012.

ABI Research noted that during Q3 2012, the 1.08 billion people living within the 54 countries on the African continent accumulated 821 million mobile subscriptions.

In 2013, Deloitte placed South Africa's mobile penetration rate of 128%. Deloitte has further predicted that smartphone growth will continue among device vendors supporting the Android operating system, with Blackberry maintaining its market share leadership in South Africa.

Students at the Creative and New Media Industries CoLab, Gauteng, recently showcased their newly developed apps.

Social innovation

Social innovation refers to new and innovative solutions that address social challenges. These innovations are more effective, efficient, sustainable or just than existing solutions.

ICT can be a powerful instrument or carrier of social innovation, even more so in the case of the new mobile technologies.

Some typical elements of social Innovation:

- It leads to new forms of participation and social integration and new social relationships or collaborations (social inclusion)
- The process is typically participative, involving a number of stakeholders
- The innovations are often directed towards vulnerable groups
- The 'newness' of the innovation can be in the ideas, the models, the products or the services
- The beneficiaries are empowered
- Learning and the development of skills are central

[continued] Mobile app development for innovation

Developing an ecosystem

Creating an app is just the beginning of the process. CodeJam has been set up so that the apps can be developed further through stakeholder involvement.

Stakeholders identified specific challenges and the teams that win in each category will be moved through to incubation spaces, such as the Bandwidth Barnyard (*www.bandwidthbarn.org*), where there will be further entrepreneurial training. This is part of building an ecosystem for entrepreneurship.

What is a mobile app?

A mobile application (or mobile app) is defined as a software application designed to run on smartphones, tablet computers and other mobile devices.

These apps are usually available through application distribution platforms, typically operated by the owner of the mobile operating system (such as the Apple App Store, Google Play, Windows Phone Store, and BlackBerry App World).

2013 Stakeholders

CodeJam 2013 runs from 25 July to 5 October. Participants are youth in the Western Cape between the age of 18-25, who are not in full-time employment. The initiative provides a platform to develop e-skills as well as network. Prizes will also be awarded and include internships.

CodeJam 2013 is a joint undertaking by The Institute responsible for e-skills human capacity development and the Department of Communications with the University of the Western Cape. Other stakeholders include:

- Kujali Innovation Hub from Cape Peninsula University of Technology (CPUT)
- Cape Activa (City of Cape Town)
- GTP
- Business Connexion (BCX)
- Core Group
- Immedia
- mobileUbiquity
- Primedia Digital
- BlackBerry
- HervNet

Winners, participants and stakeholders at the Mobile Application Development (MAD) Challenge - story on the next page. (Top right photo courtesy of BlackBerry.)

[continued] Mobile app development for innovation

Innovative MAD Challenge apps

The Mobile Application Development (MAD) Challenge was run for the second time by the Creative New Media Industries CoLab: Gauteng. A prize giving was held on 30 August 2013.

This is part of further developing the ecosystem for mobile apps in South Africa where learners have the opportunity to create and market their own mobile applications.

This initiative introduces grade 10 and 11 secondary school learners to mobile technology as a stimulator of entrepreneurial potential and interest in ICT as a career and study choice. Following are the mobile apps that were developed, including the winners.

G4ming_RSA (1st place – tie) By Johan Nel, Hoërskool Garsfontein	The app keeps you up to date with the latest news and happenings around the world of games and technology. It was the only complete client-server app submitted.
Flexie (1st place – tie) By Eben du Toit and Gustav Du Preez, Afrikaans Hoër Seunskool	This flexi-time calculator doubles up to keep track of work time and overtime. It removes the need for signing a log book thus saving time and confusion about dates. It uses reverse geolocations.
Driver's Guide (3rd place) By Fanisa Mlangeni and Kamogelo Ramakgadi, Pretoria Girls High	The app assists people with a learner's license who want to get their driver's license. It provides video tutorials on the various aspects covered during a driver's test.
Mr Delivery (4th place) By Wian Crous, Afrikaans Hoër Seunsskool	The app makes it easier, mobile and more affordable to order food using wifi or free data bundles.
Panic Button (5th place) By Marco Linde, Afrikaans Hoër Seunsskool	'Panic Button' is a simple-to-use mobile application created for all age groups to secure personal safety with the press of one button.
Life Sciences app By Kapish Nana and Nabeel Makkan, Laudium Secondary School	The application is based on Life Science. It provides information on a particular topic. This app is for high school learners, using images with notes for a better understanding of the specific topic.
Mmeni's Job Finder By Ezile Evander Gcasamba, Pretoria Secondary, and Innocent Nyama, Bokgoni High School	'Mmeni's Job Finder' provides descriptions of different kinds of jobs, qualifications needed and more information regarding where you can apply for the job.
Pregnancy App By Percival Edward, Pretoria Secondary School	The app is based on reducing teenage pregnancy in a fun but serious way. Organisations focused on stopping teenage pregnancy will be advertised on the apps web site and it also supports community projects that address this social issue.
Student Timetable/Register By Gericke Zondagh and Johan Ubbink, Hoërskool Waterkloof	Schools often use a timetable with more than five days and this timetable app can show you that data. The app enables you to create a custom timetable that supports a maximum of 30 periods and 10 days.
School Information System By Victor Llunga, Pretoria Secondary School	This app allows students to access the resources at their schools, like textbooks, emergency numbers and announcements. It also allows them to ask questions on tasks and assignments.
Scheduler By Herman Chong, Pretoria Boys High, and Evans Shi, Pretoria Girls High	'Scheduler' is designed to help students at school and university level to use their study time wisely by creating a timetable.
Career Guidance By Kapil Nana and Zubair Moosa, Laudium Secondary School	This is a guidance application for the youth around career path choices. It covers areas such as finances and choosing the correct institution.
Master Physics By Meet Trivedi, Laudium Secondary School	The app helps to learn the basics of physics. It contains several topics from high school physics.
Reci-Berry Food Finder/Meal Builder By Jaco Vorster and Tihan Pelser, Hoërskool Garsfontein	The app plans the evening meal for the whole family. It includes selecting ingredients from drop-down lists and finding a recipe with these ingredients. You can also enter the maximum price you are willing to pay for the entire meal and the app will search the database for recipes.

Showing SA's talent by creating a platform for human capacity development

Active citizenry and building capabilities

With digital migration, 23 new television broadcast channels will become available and there is a need to develop local content around this. It's important to build capacity around this opportunity across the country, particularly among the youth. This will also create an environment for entrepreneurship.

However, there is space for transformation in the broadcasting industry. More investment needs to be made back into the ecosystem and into the primary participants. Another challenge is the expense of producing local content.

Capacity development and job creation

The Creative New Media Industries CoLab: Gauteng has been running an e-skills project 'SA Undocumented' focused on developing young people in the television industry. It is part of the larger National Digital Repository (NDR), a youth heritage project run by the Department of Communications (DoC) and managed by the Creative New Media Industries CoLab: Gauteng. The aim is to collect, digitise and promote South African heritage as seen by its youth, primarily through the online archive portal *www.ndr.org.za*.

The youth mainly come from townships and rural areas. The 'SA Undocumented' project allows young people to tell heritage stories within their own communities using documentaries.

From 2009 to 2011, 355 young people were trained in ICT skills relevant to the television and film industry. An additional 14 were further trained with web development skills.

The project focused on job creation and promoting SMMEs, as well as skills transfer and capacity development. Of the participants, 98% were under the age of 35. Furthermore 294 jobs were created and 14 native languages were represented.

Crew from 'Izwe Lethu' filming the documentary.

Local documentary makes festival selection

Out of these documentaries, the film 'Izwe Lethu' has been selected to be part of the Tri-Continental Film Festival Wits Showcase 2013. The Festival, which focuses on social issues, takes place from 13-29 September 2013 in Johannesburg, Pretoria and Cape Town.

The main cinema festival shows mostly feature length films. 'Izwe Lethu', a short format film, will be part of the outreach cycle at Wits University and be made available for various outreach screenings and discussions across the country.

The film deals with the history and legacy of the 1913 Land Act. It highlights the challenges the country faces today stemming from this act both in the urban and rural areas.

NDP Priority Areas supported by NeSPA 2013

Pillar 1: Unite around a common pillar to fight poverty and inequality

Pillar 2: Active citizenry

Pillar 3: Inclusive economy

Pillar 4: Build capabilities

Pillar 5: A capable developmental state

Pillar 6: Leadership throughout society to work together to solve problems

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Towards embedding e-astuteness

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Uniting around a common pillar to fight poverty and inequality and leadership throughout society to work together to solve problems

Stakeholder engagement is essential to drive the e-skills agenda forward. Embedding e-astuteness and e-social astuteness within the nation requires a multi-stakeholder approach with key partners and an ongoing effort to engage broader society across all levels. (e-Astuteness and e-social astuteness are explained in more detail on p1.)

'Leadership throughout society to work together to solve problems' is one of the pillars of the National Development Plan (NDP). The Institute responsible for e-skills human capacity development continues to inform and engage wider leadership stakeholders through conferences, journals and other initiatives. This is on a provincial, national and international level.

It is also necessary to promote the work done by the Institute. As a catalytic organisation that channels initiatives, more and more organisations and individuals need to be aware of the Institute and its mandate in order to align with the multi-stakeholder collaborative model. This will result in a more integrated effort with less duplication around e-skills initiatives, among other things.

International engagement

A representative from the Creative New Media Industries CoLab: Gauteng presented a paper at the 19th Americas Conference on Information Systems. This was done in collaboration with a colleague from the University of Pretoria. The CoLab is based at the university.

The conference was held in Chicago, USA, from 15-17 August, 2013. The paper title is: 'Exploring the Role of ICT in the Transition from a Small Business Owner to an Entrepreneur: A Dynamic Capabilities Perspective in a Developing Context'.

National engagement

The director from the e-Enablement of Effective Service Delivery CoLab: KwaZulu-Natal presented at the ETDPSETA/HESA Skills Development Facilitators' Meeting, held from the 22-23 August 2013.

The Education, Training and Development (ETD) SETA is mandated to promote and facilitate the delivery of education, training and development. This is in order to enhance the skills profile of the ETD sector and contribute to the creation of employment opportunities, especially for those previously disadvantaged.

Higher Education South Africa (HESA) is the voice of higher education leadership in South Africa.

The meeting is a forum of skills development facilitators of all South African universities. The CoLab presented on the e-skills agenda, the Institute and the role of the CoLab. It included areas for engagement.

The KZN CoLab director was also recently appointed to the editorial advisory board for the Institute of Electrical and Electronics Engineers' (IEEE) African Journal of Computing & ICTs.

Training and courses update

- The e-Enablement of Effective Service Delivery CoLab: KwaZulu-Natal held training discussions with the Mayor of Newcastle. **A one-day e-government seminar was agreed upon** and will involve key stakeholders in the Midlands. The strategy, advocacy and education session will focus on e-government and the role it plays in people's lives. Furthermore, **'Digital Lifestyle' training will be provided to 61 councillors**. These sessions will educate councillors on how to use technology. The premise is that once the councillors live the digital lifestyle they can cater better serve their communities and progress towards better service delivery. Dates for all sessions and training are still to be decided.
- **Siyafunda Community Technology Centres** is one of the Institute's partners. The organisation is progressing towards developing smart community knowledge centres. Siyafunda is **currently conducting pilot training on e-literacy**. The e-Literacy and e-Business (knowledge economy and e-social astuteness) CoLab: Southern Gauteng/Northern Cape and the Creative New Media Industries CoLab: Gauteng are involved in this project.
- There will be a **presentation on 'Safe Internet for Parents' to 80 school principals** on 4 September 2013. This is being held by the e-Enablement of Effective Service Delivery CoLab: KwaZulu-Natal.
- The Creative New Media Industries CoLab: Gauteng is in the process of **developing an online entrepreneurship course and DTT courses**.

e-Literacy training at a Siyafunda Community Technology Centre

News flash

The e-Enablement of Effective Service Delivery CoLab: KwaZulu-Natal continues to spread awareness around e-skills. The director was interviewed on 27 August 2013 on Radio Hindvani, focusing on 'Safe Internet for Parents'. The station requested that this is repeated four time a year. Radio Hindvani has a listenership of 100 000.

Creating a knowledge base for a hyperconnected world

Building capabilities and a capable developmental state

The national Research Network for e-Skills (ReSNeS) was established to evaluate the impacts of e-skills related activities. This is within the framework of the objectives of the Institute responsible for e-skills human capacity development, the Medium Term Strategic Framework (MTSF), Millennium Development Goals (MDG) and community needs.

ReSNeS follows a multi-stakeholder model that allows for innovative research collaboration to support the national e-skills agenda. It continues to build a network of researchers across higher educational sector, private sector, government, business and civil society.

The aim of ReSNeS is to provide a large professional coordinating space for all researchers in academia, business, civil society, government and donor agencies with professional interest in applying the e-skills agenda to national priorities. As part of the ReSNeS vision, Honours Degree, Masters Degree and Doctoral Degree students engage in diverse research topics related to the e-skills agenda.

The following research topics are from the e-Enablement of Effective Service Delivery CoLab: KwaZulu-Natal:

Connected government

- What constructs can be used to measure the status of e-government readiness across municipalities in South Africa?
- What constructs can be used to evaluate citizen satisfaction of the quality of South Africa e-government services?
- What is the current practice of performance management in South Africa municipalities and how can performance management be improved using technology?
- What is trust in relationship to e-government, how can trust be created, increased and measured in the e-government space?
- What is the impact of trust relationships on the take-up of e-government when different cultural settings are considered?
- What assurance can be received by voters to trust e-voting election results, but not so much that voters can prove to a potential coercer how they have voted?
- What frameworks, methods, models and metrics are required to monitor, evaluate and communicate costs and benefits of e-government?
- What internal and external factors influence the value of e-government for different stakeholders?
- What are social and technical dimensions of participatory democracy and what are the barriers encountered by citizen when using technology to engage with government?
- What organisational and procedural performance management changes are required to implement mission-oriented e-government with a proper planning, spending and controlling management?
- What policies and strategies are required to ensure seamless integration and accountability of e-government services?
- What kinds of human capabilities and skills will be needed to properly steer government networks to foster innovation in the society?
- What technology framework can help empower elderly people and people with disability to stay connected with e-government?
- What common reference model of ontology can be built for e-government and e-participation?
- How can Hippocratic principles be explored for effective data sharing within e-government space?
- How can emerging information technologies assist to reduce time delay with cross verification of citizen data across government departments?
- How can information technology be better explored to improve interactivity between government and citizens?
- How can information technology be better used to inform and engage citizens in governmental decision-making processes?
- How can social network analysis be used to systematically determine the levels of internet usage in South Africa?
- How can semantic web, domain ontology and emerging information technology assist in e-government to resolve the challenges of cultural interoperability?
- How can consistent e-government services be effectively provided across diverse cultures and languages to improve accessibility?
- How can social networks technologies be used to ensure the quality of services that are delivered by government departments?
- How can efficient, reliable and sustainable e-governments services be guaranteed in a highly dynamic and competitive market setting?
- How can ontology and knowledge management models, such as search, retrieval, visualisation and intelligent reasoning, be explored to achieve efficient service delivery and support knowledge management processes in e-government settings?
- How can government support communication, action and services across traditional borders using information technology?
- How can information and communication technologies help to transform government administrative systems?

Connected education

- What is the impact of the e-skills intervention programme at Durban University of Technology?
- What are the factors affecting the adoption of blackboard technology among students at a University of Technology?
- What are the perceived usefulness and ease of use of a selected computer game in expanding vocabulary in English among second year accounting students at the Durban University of Technology?
- What are the factors affecting the adoption of cloud computing technology among students at a University of Technology?

[continued] Creating a knowledge base for a hyperconnected world

- What are the effective practices and exemplars in using emerging technologies such as cloud, wireless, mobile, blackboard, Facebook and gaming interface for teaching and learning?
- What are the innovative uses of virtual environments for collaborative forms of teaching, learning and research?
- What are the impacts of institutional policy on the capacity of practitioners to engage with new innovative technologies at work?
- What are the factors influencing the effective integration of emerging educational technologies into curricula?
- What technology platforms can support personalised education for children requiring special attention, such as deficit hyperactivity disorder and autism?
- What skills do learners need to acquire to make effective use of a personalised virtual learning environment?
- What is the extent that educational technologies, such as Moodle, Blackboard and Sakai, support personalised education for children desiring special attention?
- What is the process of skills development that engages dialogue, reflection and collaboration in social networks of learners?
- How can technologies foster diverse cultural settings, collaborations and social interactions for teaching and learning?
- How can multimedia educational data be integrated to improve quality of educational services?
- How are emerging educational technologies changing the learning experiences of learners in higher educational institutions?
- How can emerging technologies better capture the dynamic process of collaborative learning?
- How can the novelty of e-learning technologies be extended to rural communities to mitigate sustainability challenges?
- How can veteran teachers be better supported to effectively integrate emerging educational technologies into curricula?
- How can the research capacity of students in South African tertiary education be enhanced through the virtual research environment realm?
- How can structural design of virtual research environment support socially shared research concepts among students of tertiary education in South Africa?
- How can Web 2.0 technologies be used to create a collaborative student research environment?
- How can online peer programming model be developed to improve the computer competence of information technology students?

Connected business

- What are the effects of an enterprise level management system on staff at a University of Technology?
- What are the factors affecting the use of electronic filing system at eThekwini Municipality?
- What technology framework can be developed to effectively support the documentation of daily business transactions of very small enterprises?
- What are the critical factors driving people to choose online social network for their business needs?
- What is the extent that factors driving people to choose online social network for business needs predict their continued intention to use the network?
- What is the impact of e-commerce on small businesses towards influencing economic growth in South Africa?
- How can subsistence farming benefit from information technology to overcome food insecurity, eradicate poverty, hunger and diseases as well as reduce the high costs of foods and unemployment?
- How can work seeking services be better enhanced in South Africa using emerging technologies such as mobile and cloud?
- How can a mobile device be used to help a person locates the nearest shop to find an item to procure at affordable price and to access relevant information on the item?

Connected health

- What framework on ICT policy development can be developed for healthcare service delivery in state-controlled hospitals in South Africa?
- What technology model can be developed for an effective monitoring of telecentres?
- How can information technology be explored to reduce maternal mortality rate in South Africa?
- How can quality healthcare services be made affordable and accessible using emerging technologies such as sensors, actuators, cloud and mobile devices?

Cybersecurity

- How can fine grained role-based access control (RBAC) be explored to enhance the legacy system security model in a web based environment?

Other research topics

Other research topics can be found in previous newsletters:

- Edition 11, p9 – Creative New Media Industries CoLab: Gauteng and e-Enablement of Effective Service Delivery CoLab: KZN topics
- Edition 16, p6 – Creative New Media Industries CoLab: Gauteng and e-Inclusion and Social Innovation CoLab: Western Cape topics

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Taxonomy for e-skills

An e-skills taxonomy is more than just definitions. The e-skills agenda requires a shift in thinking with outcomes such as changes in policy. The terms used are part of creating the environment for this shift. Following are definitions to some of the words that form part of the e-skills taxonomy.

e-Astuteness	The capacity to continuously appropriate the technology into personal work, education, business, social and family contexts for both personal and collective benefit. (A more detailed explanation is given on p1.)
e-Literacy	e-Literacy is the ability of individuals to use digital tools and facilities to perform tasks, to solve problems, to communicate, to manage information, to collaborate, to create and share content and to build knowledge, in all areas of everyday life and for work.
Computer literacy (computer skills)	Computer skills refer to the ability to use the software and hardware of the computer. These skills do not necessarily include the ability to use these skills towards the achievement of specific purposes and within the context of the information society and knowledge economy.
e-Skills	The ability to use and develop ICTs within the context of an emerging South African information society and global knowledge economy, and associated competencies that enable individuals to actively participate in a world in which ICT is a requirement for advancement in government, business, education and society in general.
e-Education	e-Education involves e-teaching and e-learning along with the various administrative and strategic measures needed to support teaching and learning in an Internet environment. In South Africa, the designation 'e-education' is largely used with reference to the school environment.
e-Learning	e-Learning refers to structured learning opportunities mediated through the use of digital resources (usually combinations of text, audio and visual/video files) and software applications. E-learning may be offered on-line and synchronously (eg real-time conference), online and asynchronously (eg text-based discussion forum) or off-line (eg interactive CD/DVD/flash drive). E-learning can be employed in both contact and distance programmes.

Survey - creating an International Network of Social Innovators for Human Development

The United Nations Development Programme (UNDP) and Motorola Solutions have entered into a partnership to harness the potential of mobile technologies in fostering human development, empowering people and building resilient societies.

As part of this work, UNDP will launch an International Network of Social Innovators for Human Development (INSIHD). It aims to address some of the current challenges that development practitioners face.

Part of the work to create the network involves developing an inventory aimed at mapping organisations, determining target group needs, identifying trends and finding out more about available mobile solutions for human development.

To assist, please participate in a 7 minute online survey posted at: *www.undpegov.org/INSIHD/survey/en.*

The survey will be available online until Monday 16 September 2013.

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Please note that this list will be extended as there are Memorandums of Understanding in progress across all sectors.