

e-health in Low Resource Settings: the Path to Sustainability

30–31 March 2009
Stockholm Sweden

WORKSHOP PROGRAMME

ORGANIZERS



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Welcome to Karolinska University Hospital & Karolinska Institutet!

KAROLINSKA UNIVERSITY HOSPITAL is one of Scandinavia's premier medical centers. There are 67 departments, comprising of 250 professors, 2100 researchers, 2500 physicians, 6400 nurses and biomedical/lab technicians and totally about 15000 employees. Every year Karolinska has over 1.4 million patient visits and performs 7 surgeries per hour.

Together with Karolinska Institutet we represent the leading edge of medical science and patient care in Sweden. We believe that patient care, research, and education must play equally strong roles in our mission to extend and enhance people's lives. As a major teaching hospital we educate the medical specialists and healthcare professionals of the future.

We are proud of our vision – future health care based on science and development. A goal in achieving our vision is to be recognized as one of Europe's top five teaching hospitals by 2011.

Karolinska publishes more than 3300 articles per year in internationally recognized journals, making it one of the leading university hospitals in Europe.

KAROLINSKA INSTITUTET is one of the leading medical universities in the world and one of the largest in Europe, which was founded in 1810. Through research, education and information, Karolinska Institutet contributes to improving human health. Each year, the Nobel Assembly at Karolinska Institutet awards the Nobel Prize in Physiology or Medicine.

The vision of Karolinska Institutet is to become Europe's leading university in medicine and the health sciences, and the Nordic region's foremost innovation centre in the life sciences, by 2010, and to help bring scientific discoveries to the benefit of society and human health.

We welcome you to Stockholm and to the workshop "e-health in Low Resource Settings: The Path to Sustainability"

*Director of Karolinska University Hospital,
Birgir Jakobsson*

*President of Karolinska Institutet,
Professor Harriet Wallberg-Henriksson*

*Director of the Swedish Program for ICT in
Developing Regions (SPIDER),
Doctor Afzal Sher*

*Head WHO Collaborating Centre for
Telemedicine and e-health, Norwegian
Centre for Telemedicine
Tove Sørensen*



Workshop overview

Many developing countries are suffering from shortage of qualified health professionals to diagnose, treat and follow up on patients. The situation is especially critical in rural areas of developing regions, where a majority of the poor people is living. Factors such as lack of necessary infrastructure in rural areas limit the opportunities for accessing up-to-date and evidence-based health-related information and makes it difficult to build human capacity and promote exchange of experience between health communities.

e-health can be a major contributor to bring about changes in the delivery of healthcare services in developing regions, especially in poor rural areas. e-health is the use of information and communication technologies (ICTs) for health. However, making e-health solutions sustainable is a real challenge – especially in low resource settings. A sustainable e-health solution is the one that uses ICT resources to meet healthcare needs of the present without compromising the ability of future generations to meet their own needs.

Holistic and viable approach on these issues combined with innovative business models must be considered in order to make e-health solutions sustainable. Therefore, it is necessary to provide evidence on sustainable e-health solutions and to facilitate new knowledge on different ways of achieving sustainable e-health solutions in developing regions. In order to replicate these successful e-health projects to other regions the project must be critically evaluated.

The workshop will facilitate constructive discussions on sustainability of e-health proven practices in low resource settings.

The workshop will be focusing on sustainability through three e-health themes:

- Communication of health information, such as statistics, patient information and other medical information along the healthcare chain (Target groups: patients, health professionals, health authorities, WHO, etc)
- Interactive health services to the general population via ICT to citizens, patients, healthcare professionals and others
- Sustainable communication infrastructure as an enabler for rapidly leveraging mobile e-health services in underserved regions.

The workshop will have following benefits to participants:

- To learn from successful e-health projects that proved to be sustainable
- To gain fresh perspectives on different ways of achieving sustainability in e-health projects in developing regions
- To gain new knowledge on setting up e-health projects in developing regions with sustainability in mind
- Networking and meeting place for practitioners working with ICT4D issues
- Exchange of knowledge and information between participants
- Establishing new collaboration and new project ideas for development

Hotel Information

Hotel: Rica Talk Hotel
Address: Mässvägen 2, SE - 125 80 Älvsjö,
STOCKHOLM
Tel: +46 – (0)8 723 72 72

When travelling from Arlanda Airport to Stockholm City you can take the shuttle bus "Flygbussarna", departing from the main entry/exit. The journey takes approximately 40-45 minutes and costs SEK 110:- The bus will drop you off at the City Terminal/Central Station. Alternatively, you can also take the Arlanda Express Train, which will take 20 minutes from the Airport to the Central Station. Price: SEK 240:- one way.

Then you need to change to the commuter train to Södertälje or Västerhaninge/Nynäshamn. You go off at Älvsjö station. The journey will take 10 minutes. When you come out from the station in Älvsjö follow the signs to Rica Talk Hotel.

If you prefer to take a taxi from the airport, you should make sure to choose a taxi company with a fixed rate. Rica Talk Hotel has a special agreement with Taxi Transfer. The cost is SEK 515:-.

How to reach to the workshop

Workshop venue: Alfred Nobel's Alle 12,
room 263

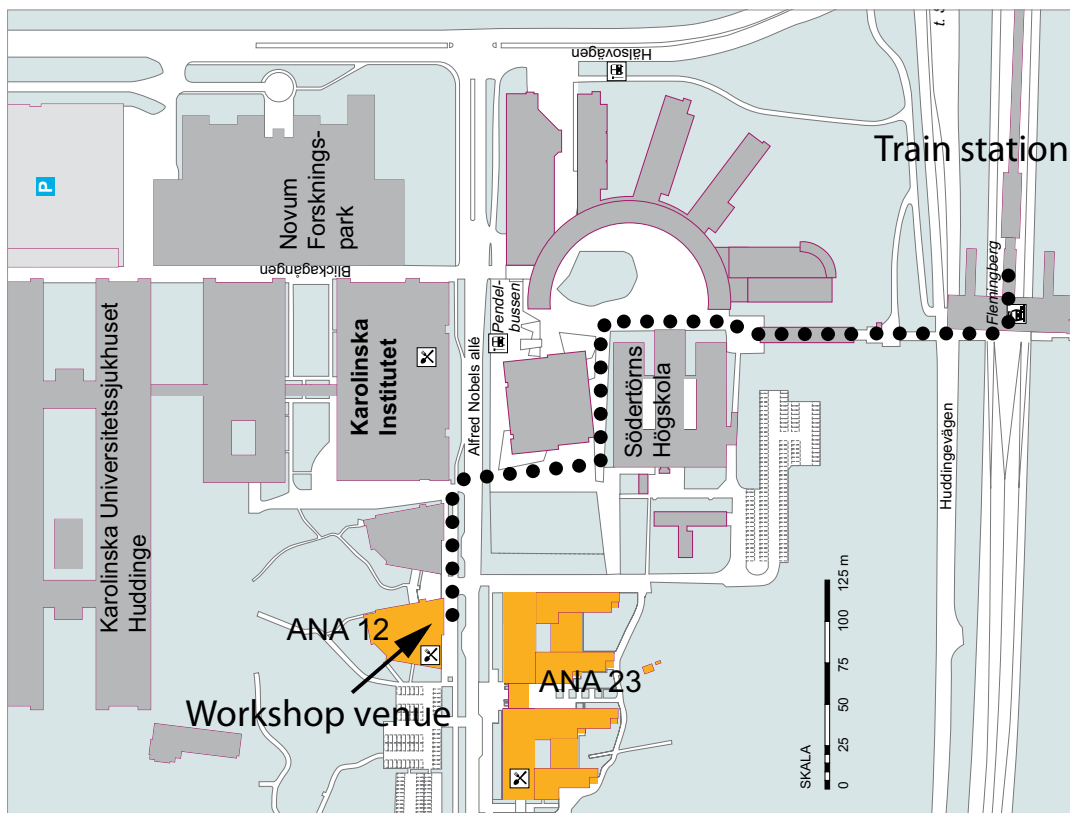
There will be a shuttle buss provided, during two workshop days to take the participants from the hotel to the workshop venue. The bus will depart from Rica Talk Hotel at 08.00. After completion of the workshop sessions, approximately at 17.30, the shuttle bus will take the participants to the Rica Talk Hotel.

Alternative is to take the public transportation. Take commuter train from Älvsjö Station towards Södertälje centrum (about 9 minutes). Go off at Flemingsberg Station.

Walk approximately 750 metres, through Södertörns University College (Södertörns Högskola) towards Karolinska University Hospital Huddinge. Turn left on Alfred Nobels Allé (see the map below).



KI campus Huddinge



Social Events

- On 29th March at 19.00 there will be a "Get together party" at "Meet" Restaurant at Rica Talk Hotel. Early registration will be available during that time.
- A workshop dinner is organised 30th March at 19.00 at Restaurant "Fem Små Hus", Nygränd 10, Gamla Stan. The shuttle bus will take the guests from Rica Talk Hotel to the Restaurant at 18.30. At 22.30 the shuttle bus will take the guests back to the hotel.

Other information

- Registration and information desk will be available at all times during the workshop.
- The coffee breaks and lunches will be served near the conference hall (ANA 12) .
- Internet can be accessed in the Conference Hall and in the Group Rooms. Each participant will have a login and password information after the registration.

Presentation of Keynote Speakers

1. **Najeeb Al-Shorbaji**, Director, Knowledge Management and Sharing, World Health Organisation, Switzerland.



Dr. Najeeb Al-Shorbaji has been working for WHO since 1988 in different capacities and as a Regional Advisor for Health Information Management and Telecommunication and Coordinator for Knowledge Management and Sharing for WHO Eastern Mediterranean Region until August 2008. Since September 2008 he has been working as the Director of Department of Knowledge Management and Sharing at the WHO headquarter in Geneva. He is a member of a number of national and international professional societies and associations specialised in information management and health informatics. He has authored over 80 research papers and articles presented in various conferences and published in professional journals.

Keynote Presentation: **e-health in Low Resource Settings: Sustainability Issues**

2. **Richard E. Scott**, PhD, Associate Professor, Harkness Associate, Fulbright New Century Scholar, University of Calgary, Canada.



Dr. Scott Richard focuses his interests on examining the role of e-health (telehealth + health informatics) in the globalisation of healthcare, including aspects impacting the implementation and integration of e-health globally and locally ('glocal' e-health). He promotes the application of 'culturally sensitive and technologically appropriate' e-health solutions, and is pursuing collaborative research, capacity building, and implementation activities with colleagues in European, Asian, Australasian, African, and Latin American and Caribbean (LAC) countries. He also teaches a course called: 'Sustainable e-Health – From Business Case to Policy'.

Keynote Presentation: **'Sustainable' e-health Solutions: Getting it Right First Time!**

3. **Krishnan Ganapathy M.Ch (Neuro), FACS, FICS, FAMS Ph.D**, President and Head of Apollo Telemedicine Networking Foundation, India.



Dr. Krishnan Ganapathy is the President of the Apollo Telemedicine Networking Foundation, the largest and oldest multi specialty telehealth network in South Asia. He is a co-founder of the Telemedicine Society of India. He has published about 75 papers in regional/ national/ international journals on telemedicine and given about 175 talks at regional/ national/ international forums on telemedicine (www.kganapathy.com).

Presentation: **Innovative Business Models for Achieving Sustainable e-health Solutions in Low Resource Settings**

4. **S. Yunkap Kwankam**, Professor, Executive Director International Society for Telemedicine and eHealth (ISfTeH)



Prof. S. Yunkap Kwankam is CEO of Global eHealth Consultants, a Swiss consulting firm based in Geneva. He is also the Executive Director of the International Society for Telemedicine and eHealth (ISfTeH). From 2004 until August 2008 he was eHealth Coordinator, at the World Health Organization Headquarters in Geneva, where he was responsible for overall coordination of e-health work across the Organization.

Keynote Presentation: **Sustaining e-health Efforts in Low Resources Setting: The Role and Importance of Professional Societies**

5. **Uno GH Fors**, DDS, PhD, Professor, Chairman, Department of Learning, Informatics, Management and Ethics, LIME, Karolinska Institutet, Stockholm, Sweden.



Dr. Uno Fors is a senior researcher in medical informatics since 1980 with three PhD students currently under supervision in the field. He was awarded the Karolinska Institutet pedagogical price in 2000 and in 2002 he was awarded the European Academic Software Award for the eLearning system Svalsim. Dr. Uno Fors has authored more than 40 peer-reviewed papers and over 90 international conference papers.

Keynote Presentation: **Education and Building Local Human Capacity in Low Resource Settings: Virtual Patients and Virtual Scenarios for Learning, Assessment and Clinical Diagnostics in Medicine**

Presentation of Keynote Speakers

6. Maria Zolfo, Institute of Tropical Medicine, Antwerp, Belgium



Since 2003 Dr. Maria Zolfo has worked at the Institute of Tropical Medicine, Antwerp, in the HIV/AIDS unit, overseas subunit, responsible for the Telemedicine project, which provides remote-based advice on HIV/AIDS care to colleagues working in low resource settings. She is particularly interested in the topic of AIDS care in resource-limited settings, PMTCT, PEP, HIV-drug resistance and second-line antiretroviral therapy, remote consultations, and distance learning.

Keynote Presentation: **Telemedicine for HIV/AIDS Care in Resource-Limited Setting: The Sustainability of the Experts' Network**

7. Fred Kakaire, CEO, Uganda Chartered HealthNet



Fred Kakaire is currently the CEO of Uganda Chartered HealthNet, an affiliate of the Makerere University College of Health Sciences, at Mulago, Kampala. Uganda Chartered HealthNet is in the business of improving access to health information using Information and Communication Technologies. Fred has a Bachelors degree in Library and Information Science, and postgraduate training in Computer Science, and Project Management.

Keynote presentation: **HealthNet: Betterment of Health Information Flow for Empowerment of Communities in Uganda**

8. Hilmi Quraishi, Ashoka Fellow, Project Director Freedom HIV/AIDS & Co-Founder ZMQ



Hilmi Quraishi is the prime architect of various social initiative programs of ZMQ like Freedom HIV/AIDS and Connect2Climate. In January 2007, at ZMQ, Hilmi established an independent center for excellence - Mobile for Development, a lab for designing scalable and replicable development solutions and applications for BOP target group.

Presentation: **Freedom HIV/AIDS: Fighting Diseases in Developing Regions through Games**

9. Peter Håkansson, Research Engineer, Ericsson Research, Stockholm, Sweden.



Since 2005 Peter Håkansson has been with Ericsson Research in Stockholm where he currently holds the position of Senior Research Engineer. In his work he is focusing on mobile health and telemedicine solutions and he is involved in a number of telehealth related projects in both industrialized and developing regions. At Ericsson Peter coordinates most of the mHealth-related activities in the Millennium Villages Project.

Keynote Presentation: **Infrastructure for m-health in Developing Regions: Sustainable, Affordable and Reliable**

10. Deem Vermeulen, Team Leader, The International Institute for Communication and Development (IICD)



Since 2002 onwards Deem Vermeulen has been working for the International Institute for Communication and Development (IICD). His first responsibility at IICD was a country manager for Zambia and Uganda where he started up and guided the process of implementation of e-health projects. Among the ehealth projects there were Health Information System and peer-to-peer projects. In 2005 he started his job as the head of the department of International Programmes. A large part of his work is the development of public-private partnerships with other organisations involved in ICT4D of which ICT in health is part and parcel. In his present position he is also a member of the Management Team of IICD.

Keynote Presentation: **The Role of Northern Organizations to Foster Sustainable e-health Development in Low Resource Settings**

SUNDAY, March 29, 2009

19.00 Get together party and early registration of participants

MONDAY, March 30, 2009

MODERATORS: Heikki Teriö and Tove Sørensen

- 08.30 – 09.00 **Registration and Coffee**
- 09.00 – 09.30 **Opening and Welcome Speeches**
Birgir Jakobsson, Director of Karolinska University Hospital
Li Tsai, Chairman CLINTEC, Karolinska Institutet
Afzal Sher, Director of The Swedish Program for ICT in Developing Regions (SPIDER)
Elaine Weidman Grunewald, Vice President, Sustainability and Corporate Responsibility, Ericsson AB
- 09.30 – 09.40 **Workshop Objectives and Practical Information**
Moderators
- 09.40 - 10.20 **e-health in Low Resource Settings: Sustainability Issues**
Najeeb Al-Shorbaji, Director, Knowledge Management and Sharing,
World Health Organisation, Switzerland
- 10.20 – 10.40 **Coffee Break – sponsored by Ericsson**
- 10.40 - 11.20 **“Sustainable” e-health Solutions: Getting it Right First Time!**
Dr. Richard E. Scott, Associate Professor, University of Calgary, Canada
- 11.20 - 12.00 **Innovative Business Models for Achieving Sustainable e-health Solutions in Low Resource Settings**
Krishnan Ganapathy, Professor, President and Head Apollo Telemedicine Networking Foundation, India
- 12.00 – 13.00 **Lunch – sponsored by Tandberg AB**
- 13.00 – 15.00 **Group Discussions on the Topic of Sustainability, Based on Presented Case Studies**
- 15.00 – 15.20 **Coffee Break – sponsored by Ericsson**
- 15.20 – 17.00 **Presentations from Group Rapporteurs and Questions from the participants**
- 17.00 – 17.15 **Summary of the 1st day**
- 19.00 **Workshop Dinner – sponsored by Ericsson**
Restaurant Fem Små Hus, Nygränd 10, Gamla Stan

MODERATORS: Tove Sørensen and Heikki Teriö

- 08.30 – 09.00 **Sustaining e-health Efforts in Low Resources Setting: the Role and Importance of Professional Societies**
Prof. S. Yunkap Kwankam, Executive Director International Society for Telemedicine and eHealth (ISfTeH)
- 09:00 – 09:30 **Education and Human Capacity Development in Low Resource Settings: Virtual Patients and Virtual Scenarios for Learning, Assessment and Clinical Diagnostics in Medicine**
Uno Fors, Professor, LIME, Karolinska Institutet, Sweden
- 09.30 – 10.00 **Telemedicine for HIV/AIDS Care in Resource-Limited Setting: the Sustainability of the Experts' Network**
Dr. Maria Zolfo, Institute of Tropical Medicine, Antwerp, Belgium
- 10.00 – 10.30 **Coffee Break – sponsored by Ericsson**
- 10.30 – 11.00 **HealthNet: Betterment of Health Information Flow for Empowerment of Communities in Uganda**
Fred Kakaire, Project Coordinator, Makerere University, Uganda
- 11.00 – 11.30 **Freedom HIV/AIDS: Fighting Diseases in Developing Regions through Games**
Hilmi Quraishi, Project Director, ZMQ Software Systems, India
- 11.30 – 12.00 **Infrastructure for m-health in Developing Regions: Sustainable, Affordable and Reliable**
Peter Håkansson, Research Engineer, Ericsson Research, Sweden
- 12.00 – 13.00 **Lunch – sponsored by Lekab Communication Systems AB**
- 13.00 – 13.20 **The Role of Northern Organizations to Foster Sustainable e-health Development in Low Resource Settings**
Deem Vermeulen, Team Leader, The International Institute for Communication and Development (IICD)
- 13.20 – 14.20 **Panel Discussions on the Topic of e-health Sustainability, Lessons Learned from the Past and Future Perspectives**
- 14.20 – 14.50 **Conclusions from the Workshop and the Way Forward**

POST-WORKSHOP ACTIVITIES

- 15.10 – 17.00 **Experiencing Karolinska University Hospital**

ADVANCED MEDICAL SIMULATION

Imitation of Real Patient Environment for Diagnostics and Treatment Interventions
Hands on Training of Students and Healthcare Staff for Patient Safety
Host: Lars-Gunnar Andersson and Team

CLINICAL CHEMISTRY LABORATORY

Medical Technology and ICT Support for Industrializing Clinical Chemistry Laboratory
Workflow overview in Clinical Chemistry Laboratory
Host: Carl-Gunnar Höglund and Team

X-RAY DEPARTMENT

Human Resources, Technology and Organization, Successful cooperation for ongoing transformation of work routines at the Radiology Department
Host: Sven-Ove Johansson and Team

TELEMEDICINE IN SURGERY

Decision-making by consensus conferences supported by telemedicine in highly specialized surgery
Host: Prof. Johan Permert, Ass.Prof. Nils Albiin and Mr. Ola Gran

Guidelines for Group Discussions

- The objective of the group discussions is to gain and share fresh perspectives on different ways of achieving sustainability in e-health projects in low-resource settings
- The group discussions will be conducted in Alfred Nobel's Alle 23 (ANA 23, see the map in the section "Practical Information")
- Five groups are organized each with 10-12 participants
- There will be a facilitator in each group who will present a project case scenario with sustainability challenges to discuss within the group
- The Facilitator will be responsible for Planning and Preparation of a project case scenario, Opening the Session, Presenting the Topic, Facilitating the Discussion, Summarizing the insights of the group about the sustainability model
- The group members will assign a Rapporteur who will present the summary of the group discussions about the sustainability model to the audience
- Totally 2 hours are devoted for group discussions. Suggested utilization of time is as following: 10 minutes for Introduction of the project case scenario by facilitator, 60 minutes for the discussions, 30 minutes for conclusions and 20 minutes for preparing the presentation
- Totally 20 minutes are devoted for each group rapporteurs, from which 10 minutes are distributed for the presentation and 10 minutes for questions

Group 1 room N° 302, Facilitator Dr. Mengistu Kifle, Ethiopia

Group 2 room N° 303, Facilitator Dr. Eddie Mukooyo, Uganda

Group 3 room N° 304, Facilitator Dr. Adesina Iluyemi, Nigeria

Group 4 room N° 305, Facilitator Dr. Mannan Mridha, Bangladesh

Group 5 room N° 306, Facilitator Professor Oleg Medvedev, Russian Federation

Organizers

Karolinska University Hospital/Karolinska Institutet, Stockholm, Sweden:



Heikki Teriö,
Research Manager, Secretary General, Int. Union for Physical and Engineering
Sciences in Medicine



Rustam Nabiev,
Project Coordinator / Research Engineer



Sven Jonsson,
Certified Clinical Engineer, Area Manager Telemedicine & e-health, PhD Candidate



Nargis Rakhimi,
Project Coordinator / Quality Assurance Developer

Norwegian Centre for Telemedicine, Tromsø, Norway:



Tove Sørensen,
Head, WHO Collaborating Centre for Telemedicine and e-health

Swedish Program for ICT in Developing Regions, Stockholm, Sweden:



Dr Afzal Sher,
Director



Lotta Rydström,
Project Manager / ICT4D advisor

SPIDER

The Swedish Program for Information and Communication Technology in Developing Regions, SPIDER, was constituted in 2004. The mission is to assist developing countries with promotion and deployment of ICTs for combating the digital divide and reducing poverty, in line with the UN Millennium Development Goals. SPIDER is a national resource centre created to pool Swedish ICT expertise to assist developing countries in harnessing the benefits of ICTs.

The uniqueness of SPIDER lies in the innovative collaboration between a national donor agency (the Swedish International Development Cooperation Agency, Sida) and a centre of excellence in ICT (The Royal Institute of Technology in Stockholm). Through a vibrant ICT4D network, SPIDER draws on resources from several important actors, including the academia, private and public sectors, governmental and non-governmental organizations.

The strengths of SPIDER

- A unique commitment between the national development cooperation agency and a centre of excellence in ICT.
- A dynamic network including individuals, academia, private and public sectors, governmental organizations and NGOs.
- Extensive knowledge of development cooperation and developing regions.
- Access to expertise within all sectors of ICT.
- Active promotion of North-South, South-South and North-North cooperation in ICT4D.
- A comprehensive ICT4D Helpdesk function for Swedish authorities and Swedish Embassies.

Address: The Swedish Program for ICT in Developing Regions (SPIDER)

The Dept. of Computer and System Sciences, SU-KTH, Forum 100, 164 40 Kista, Sweden

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ERICSSON

Ericsson is the world's leading provider of technology and services to telecom operators. The market leader in 2G and 3G mobile technologies, Ericsson supplies communications services and manages networks that serve more than 250 million subscribers. The company's portfolio comprises mobile and fixed network infrastructure, and broadband and multimedia solutions for operators, enterprises and developers. The Sony Ericsson joint venture provides consumers with feature-rich personal mobile devices.

Ericsson is advancing its vision of 'communication for all' through innovation, technology, and sustainable business solutions. Working in 175 countries, more than 70 000 employees generated revenue of USD 27 billion (SEK 209 billion) in 2008. Founded in 1876 and headquartered in Stockholm, Sweden, Ericsson is listed on OMX Nordic Exchange Stockholm and NASDAQ.

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