E3

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Project Website

www.celticplus.eu/project-e3

www.hipermed.eu

E-health services Everywhere and for Everybody

E3 aims to design an E2E platform able to allow everybody access to e-health services everywhere

Main focus

E3 exploits & extends the results from CELTIC projects HDVIPER (https://www.celticplus.eu/project-hdviper/) "High Definition Videoconferencing over IP Environment" that generated a full HD video quality videoconferencing open source solution and HIPERMED (https://hipermed.wordpress.com/about/) "HIgh PERformance teleMEDicine platform" that adapted the HDVIPER Solution to tele-medicine.

E3 focus on 3 main scenarios: Professional to Professional (will contribute to facilitate crucial collaboration between doctors for maintaining an increasing expertise & then ensuring a high quality of care for everybody everywhere), Patient to Patient that will allow to intercommunicate among them and with their friends & relatives using the E3 videoconference solution and Professional to Patient (working 3 main areas):

a) Design, implement & demonstrate prototypes of applications supported by the platform integrating new eHealth services into a unified user interface based on Smart TV, Mobile and Virtual Wall,

b) Move current eHealth services from the health care centre to the Patients' home & Remote doctor office without losing quality

c) Add a secure reliable residential gateway with support for monitoring the network connection between the hospital & patient's home. Patient to Patient Scenario will allow communicating among them and with their friends & relatives using the E3 videoconference solution.
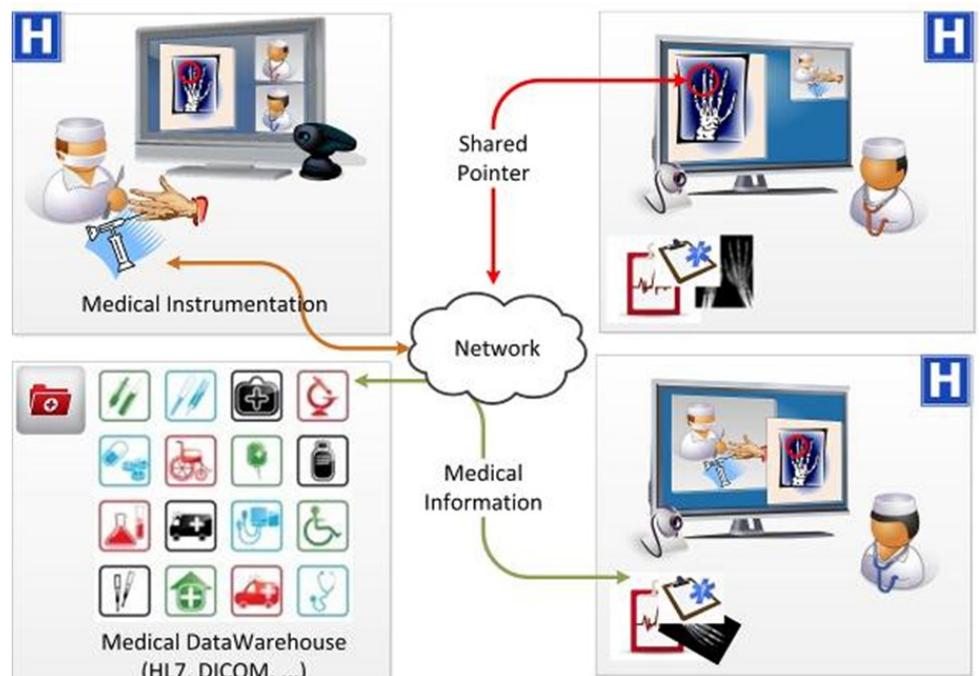
Approach

Telemedicine is not a specific technique or piece of equipment; it is a process of delivering healthcare services. It involves combining traditional medical care with the efficiency of current telecommunications technology to deliver health care on a global scale. The union of health care and ICT provides the opportunity to expand the availability and affordability of health care services, particularly access to specialists.

Telemedicine's benefits include: improved quality of care, more educational opportunities for health care providers, lower costs and the potential for economic growth.

The services that the E3 project is covering are features on the client, recording service, marker service, multiparty service, reporting tool service, secure sessions, medical image sharing service, marker service, cards sharing, sensors integration, SIP register, broadcast control service as well as HIPERMED and HDVIPER legacy services

Main results

E3 has deployed the First 3D tele-surgery: transmission of both ENT and heart surgeries at the "Ecole de Chirurgie de Nancy Lorraine, Université de Lorraine, CHRU de Nancy" last 29th September 2015.

The image shows Multisite videoconference solution and video summary and indexing solution.
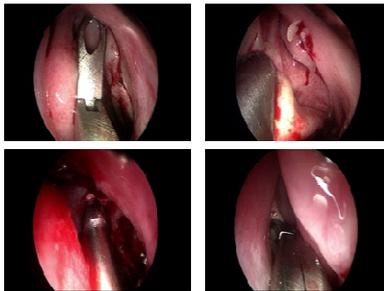
This image shows the sequence that is used by MPEG standards.

The image shows multiside videoconference solution and video summary and indexing solution on the First 3D tele-surgery transmission of both ENT and Hearth surgery

E3 project has been awarded "eVIA INNOVA Bronze Award" last 4th November 2015. eVIA is the Spanish Technological Platform for both eHealth and independent and active life (Plataforma de Tecnologías para la Salud y la Vida Activa e Independiente). (http://ametic.es/es/innovaci%C3%B3n/plataformas-tecnol%C3%B3gicas/evia/premio-evia)

E3 aims at improving HD and 3D video quality HIPERMED developments to UHD-4K while at the same time reducing by 4 (4Mbps to 1Mbps) the bandwidth requirements to use E3 videoconference solutions saving quality on medical videos for doctors to take a medical decision.

E3 multiside connection aims to allow both SD and HD/3D connections simultaneously as well as to allow doctors to connect from "Everywhere" with their mobile devices overcoming HIPERMED lacks of mobility in the Professional to Professional HIgh PERformance scenarios.

Impact

The expected impact is **improved productivity** based on both **lower services costs** and **higher productivity per doctor in the healthcare chains affected**, new products from equipment manufacturers, new eHealth applications, increasing traffic volumes and a better utilization of the communication infrastructure due to resource sharing.

About Celtic–Plus

Celtic-Plus is an industry-driven European research initiative to define, perform and finance through public and private funding common research projects in the area of telecommunications, new media, future Internet, and applications & services focusing on a new „Smart Connected World" paradigm. Celtic-Plus is a EUREKA ICT cluster and belongs to the inter-governmental EUREKA network. Celtic-Plus is open to any type of company covering the Celtic-Plus research areas, large industry as well as small companies

or universities and research organisations. Even companies outside the EUREKA countries may get some possibilities to join a Celtic-Plus project under certain conditions.

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