# **Teledentistry – Online Multimedia in Dentistry**

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# TELEDENTISTRY

ZAGREBU

Teledentistry is a relatively new field that combines telecommunication technology and dental care



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# CAPABILITIES OF MODERN DENTAL EQUIPEMENT

- intraoral cameras
- chair side visualizion aids



# **Computerized diagnostics**

- EMG units
- axiography
- digitalized morphologic assessment (3D scanners, CAD/CAM)



### CURRENT DEVELOPMENTS IN FIELD OF TELEDENTISTRY

- Institute of Learning and Research Technology, University of Bristol, UK
- University of California, School of Dentistry, USA
- Department of Preventive Dentistry, Graduate School of Dentistry, Osaka University, Suita, Japan
- University of Texas-Houston Health Science Center, Huston, USA
- York Health Economics Consortium, University of York, UK
- Dental Health Services Research Unit, University of Dundee, Scotland, UK
- School of Dentistry, University of Louisville, Louisville
  USA CUC 2004

# Initialization of Teledentistry system

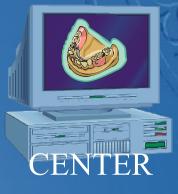
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- Five patients were examined
- Diagnostic procedures
  - medical histories
  - X-ray images
  - EMG recording and axiography recording
- Equipment & software
  - Netmeeting software
  - intraoral and extraoral cameraTransparency scanner

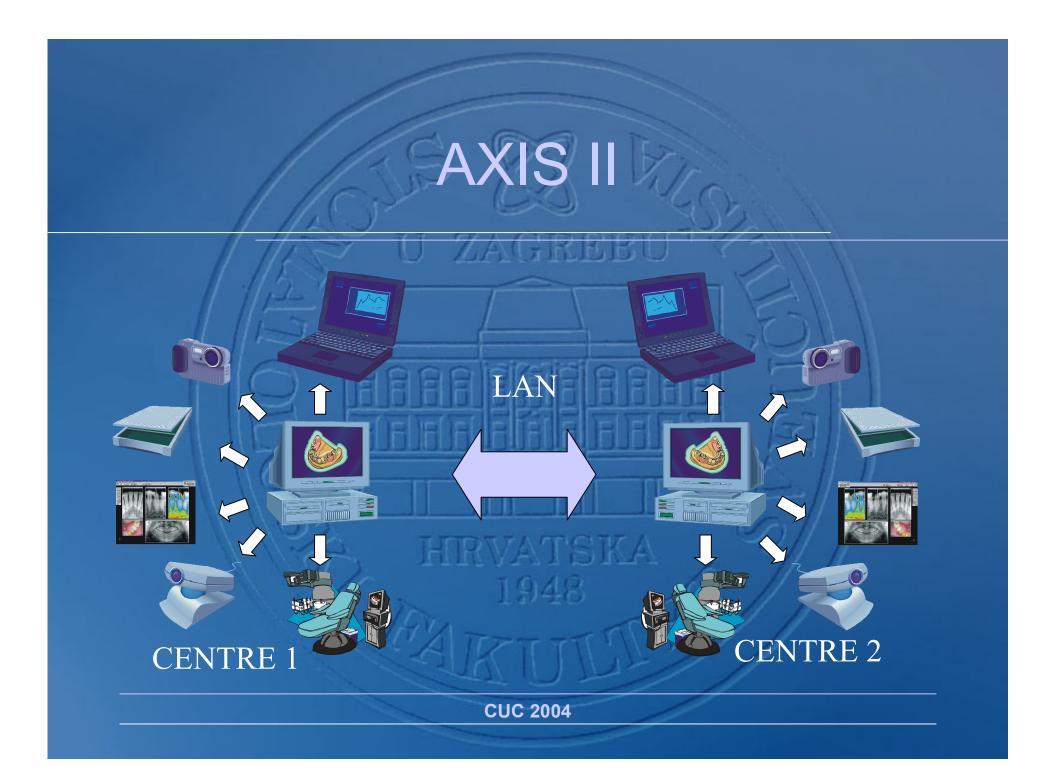
# AXISI

 For communication between distant dental offices and center of knowledge

ISDN



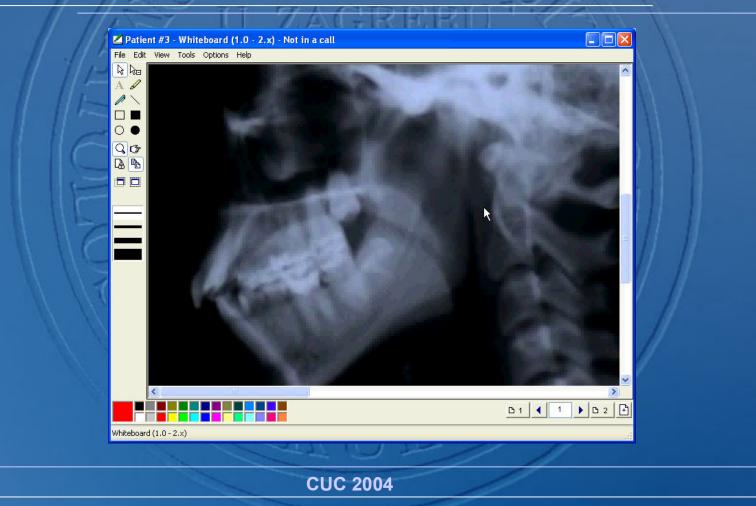




### Online radiographic analysis

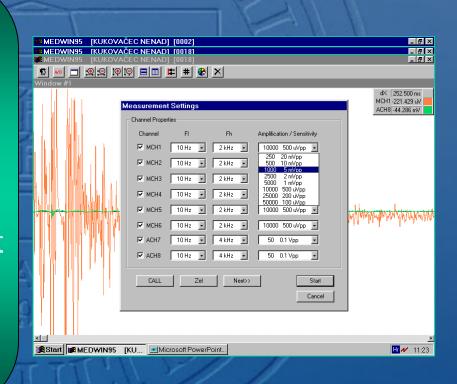
- **Digital images** offer huge advantages to dentistry in terms of the potential for :
  - lower exposure to patients,
  - absence of darkroom or processing problems,
  - convenience of image enhancement techniques and
  - capacity for remote teledentistry movie
- As technology continues to improve they may ultimately replace film as the medium of choice for dental imaging.

# Online radiographic analysis



### Online electromyography analysis

 Electromyography (EMG) is used in dentistry to assess the relationship between the activity of craniomandibular muscles during different functional and border movements and occlusal conditions



# Online axiographic analysis

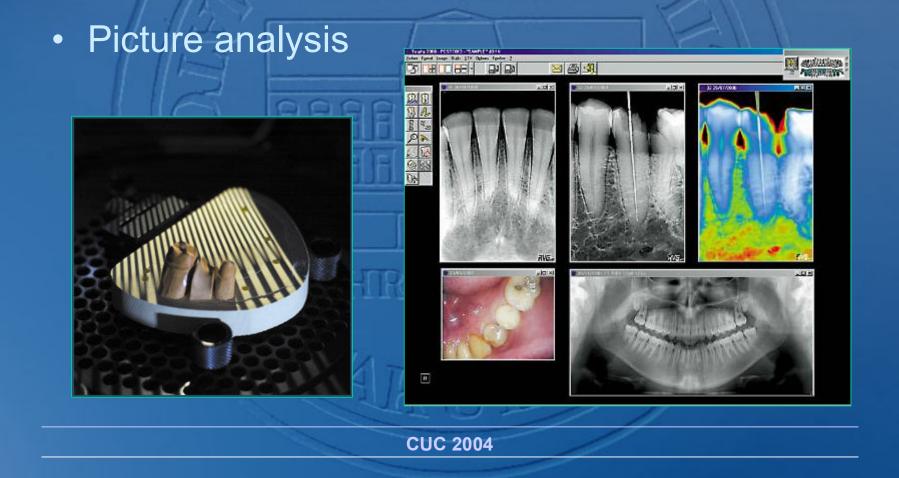


# Online intraoral diagnostics



# Online extraoral image analysis

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# Clinical trial

Two teams

#### Diagnostic data

### Password protected web site

#### Coincidence of diagnosis

# Conclusions

- AXIS I
  - Efficient
  - cost effective
  - highly beneficial for quality of dental care
- AXIS II
  - special software should be utilized and developed
  - standardization of data formats and diagnostic signs

# Teledentistry & Practice Based Dentistry

Practice Based Dentistry (PBD) - supply advanced students and newly graduated dentists with the diagnostic specialties of some unusual cases, offering through teledentistry insight in dental diagnosis, prognosis and therapy.