



Audio-Video Conferences in the Business and Educational Environment

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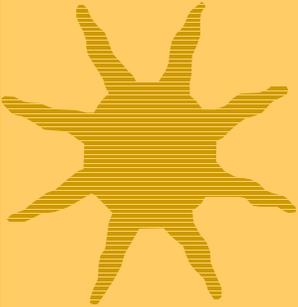
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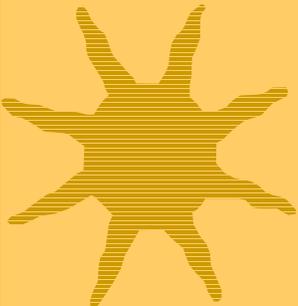
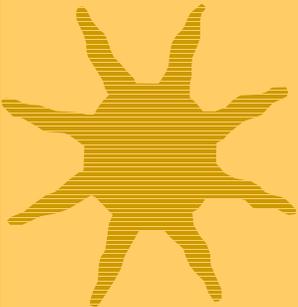
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Introduction

Audio-video conferences can be used for many common purposes such as:

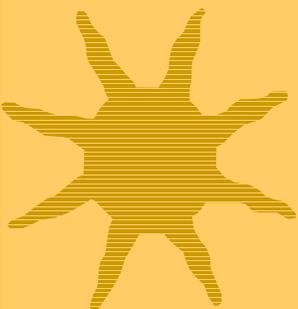
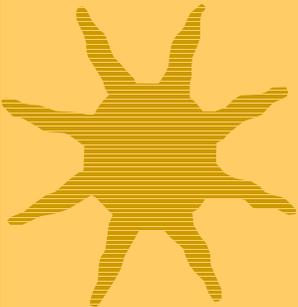
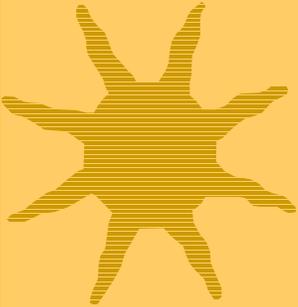
- business meetings
- briefings
- education and permanent education
- collaborative working (which is enhanced by the use of data transfer, shared whiteboards and shared applications)

or for more specialized purposes such as:

- telemedicine
- telecommuting (working at home while communicating with the coworkers)
- judicial system applications
- remote laboratories
- security purposes



Brief history

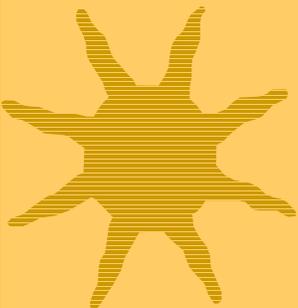
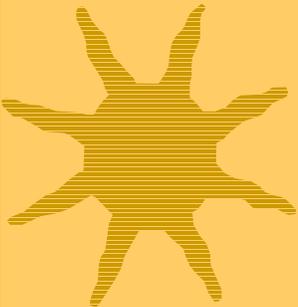
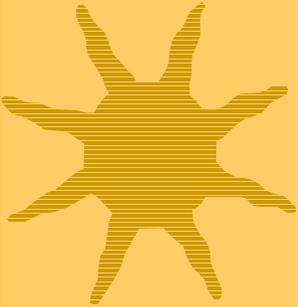


- ★ **1964** AT&T shows Picturephone, World's Fair, New York
- ★ **1982** Compression Labs begins selling \$250,000 VC system, \$1,000 per hour lines
- ★ **1986** PictureTel's \$80,000 VC system, \$100 per hour lines
- ★ **1991** PictureTel unveils \$20,000 black-and-white VC system, \$30 per hour lines
- ★ **1991** IBM and PictureTel demonstrate videophone on PC
- ★ **1992** AT&T's \$1,500 videophone for home market
- ★ **1992 Sep** CU-SeeMe v0.19 for Macintosh (without audio)





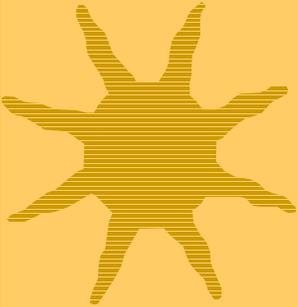
Brief history – cont.



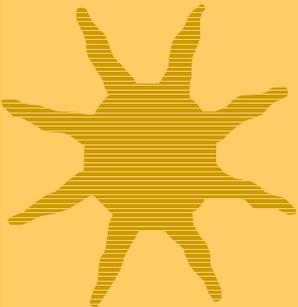
- ★ **1994 Feb** CU-SeeMe for Macintosh (with audio)
- ★ **1995 Feb** Vocaltec Internet Phone v1.0 for Windows (without video)
- ★ **1995 Aug** CU-SeeMe v0.66b1 for Windows (with audio)
- ★ **1996 Aug** Microsoft NetMeeting v1.0 (without video)
- ★ **1996 Oct** ITU (International Telecommunications Union) H.323 standard v1
- ★ **1996 Dec** Microsoft NetMeeting v2.0b2 (with video)
- ★ **1997** First academic lecture transmitted via video-conference link in Croatia (Zagreb – Osijek)
- ★ **1998 Apr** CU-SeeMe v1.0 for Windows and Macintosh (with color video).



Teleconferencing

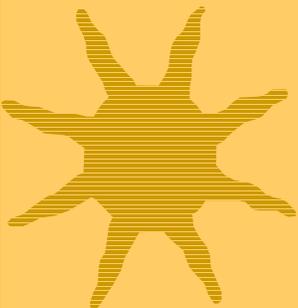


★ teleconferencing system can be defined as a system that enables its users to communicate at distance



★ communication can be:

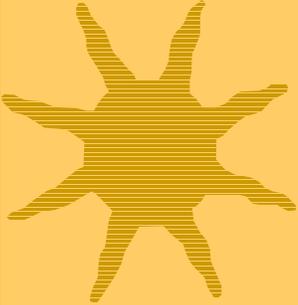
– *synchronous* (real-time) - participants can interact as if they were sitting together in the same room



– *asynchronous* (not in real-time) - conferences are recorded and viewed later

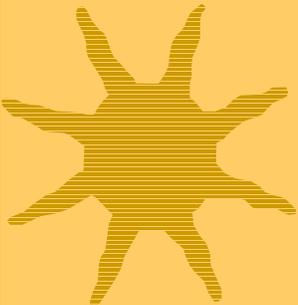


Forms of teleconferencing



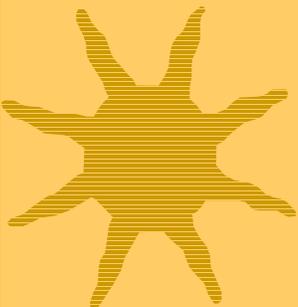
★ text-based conference

★ audio conference



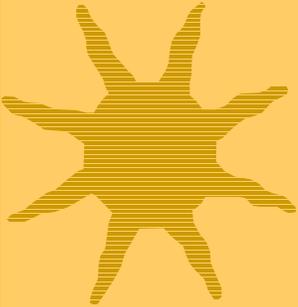
★ video conference

★ audio-video conference



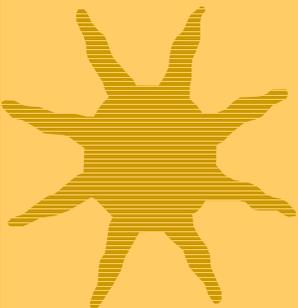
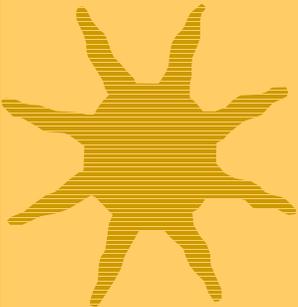


Types of audio-video conferences



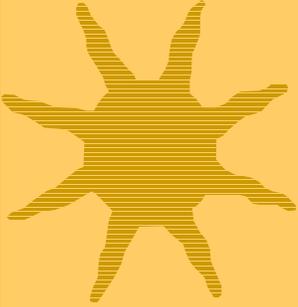
Communication in synchronous audio-video conferences can be:

- one-to-one (business meetings or one-to-one training)
- one-to-many (head of project-to-project team members or professor-to-students communication)
- many-to-one (project team or students question an expert in a subject matter on how to solve certain problems)
- many-to-many (two or more team branches or two or more groups of students or professors discuss problems)

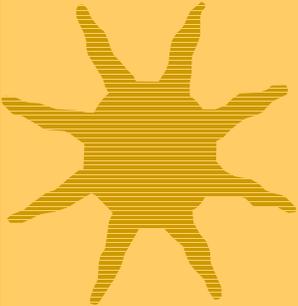




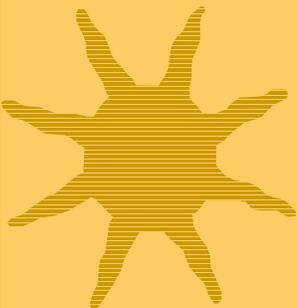
Formats of a-v conferences



★ *Traditional lecture* – presenter talks about a topic and later people from the audience ask questions

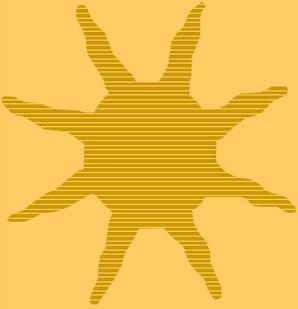


★ *Workshop/seminar* – requires the participants to have the same amount of “basic knowledge” so that the short lecture can be followed. The audience has to do certain exercises and discuss the given problem.

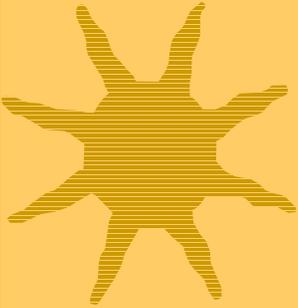




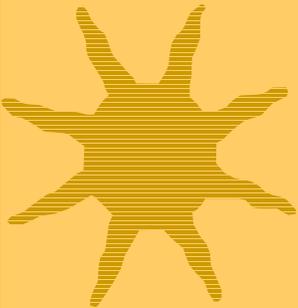
Formats of a-v conferences – cont.



★ *Panel discussion* – used when there is a need for a group of experts in a subject matter to present and discuss a problem before the audience

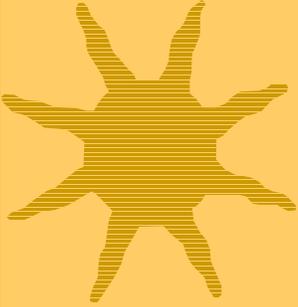


★ *Interview* – audience can ask questions after the interview



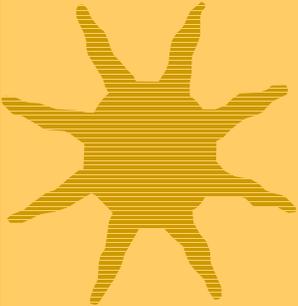


Applications of a-v conferences



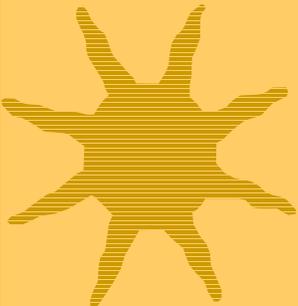
★ meetings

★ telecommuting



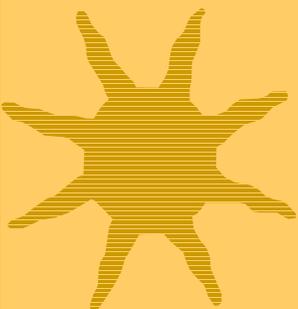
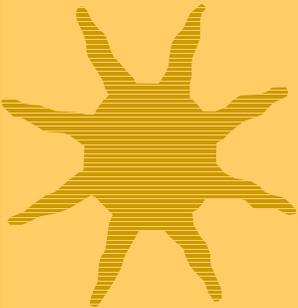
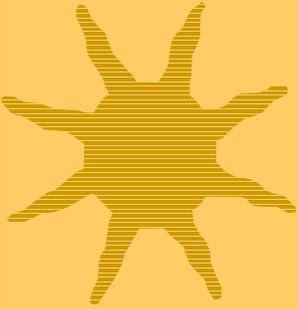
★ education

★ permanent education





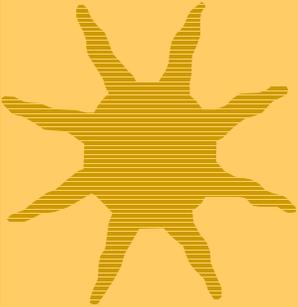
Initial results of the research in the leading Croatian companies



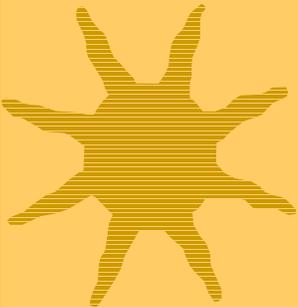
- ★ The results obtained so far show that:
 - audio and audio-video conferences are equally used
 - they are used on the daily or weekly basis
 - they are used mostly for the business and educational purposes
 - they are used either only by managers or by all employees who need them for their daily work



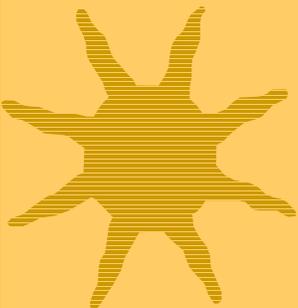
Initial results – cont.



“Absolutely useful, because it enables meetings of the distant team members. Communication costs force people to prepare the meetings in a more effective way which is usually not the case with the regular meetings. We are also using Internet for collaborative working (workrooms) and education (Lotus Notes-Domino based applications).” - *IBM Croatia*

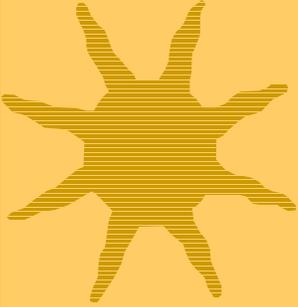


“Very useful, saves money (e.g. Ericsson often organizes conferences for several hundred people at the same time), fast etc.” - *Ericsson/Nikola Tesla*

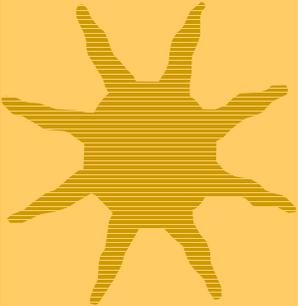




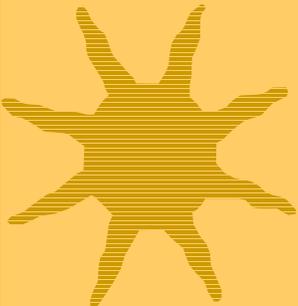
Applications of a-v conferences in the educational system



Application in the university education
from the aspect of participants:

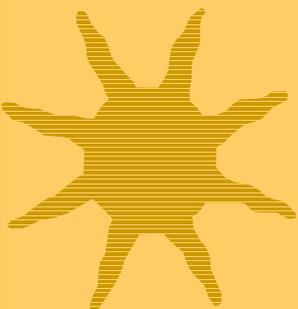
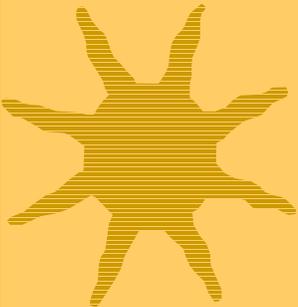
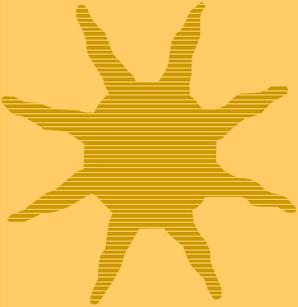


- guest lecturer or expert
- remote instructor or professor
- attendee or student





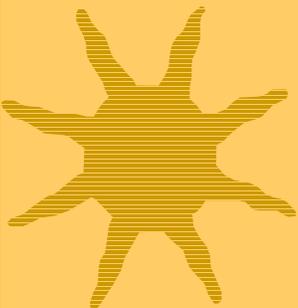
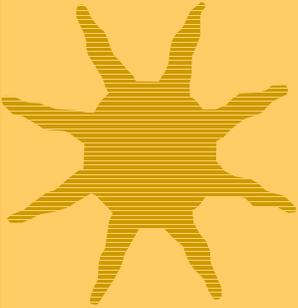
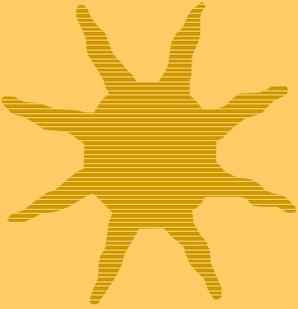
Guest lecturer or expert



- ★ expensive to cover all the expenditures for speakers travelling, accomodation and time spent
- ★ students can learn about certain topics only from the professor teaching that subject
- ★ a-v conferences enable students to to listen and talk to the well-known experts, ask questions, see how the theory works when it is applied to the real-world problems, see how are the things done in the different countries or different universities, etc.



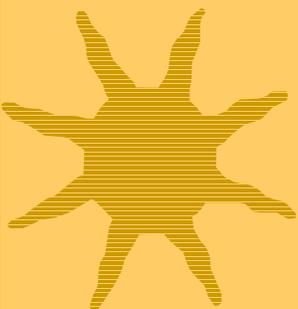
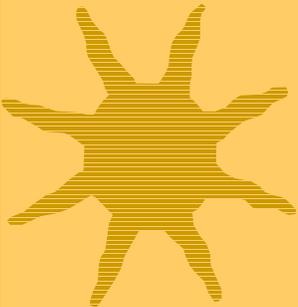
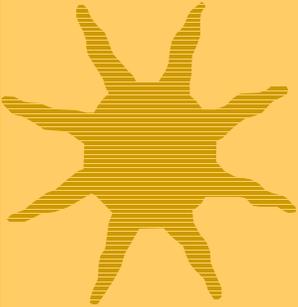
Remote instructor or professor



- ★ a-v conferences can be used to aid students that are unable to physically attend a lecture for various reasons or as a form of distant learning
- ★ professor can also offer lectures in the form of video-on-demand so that the students can access them whenever they want to



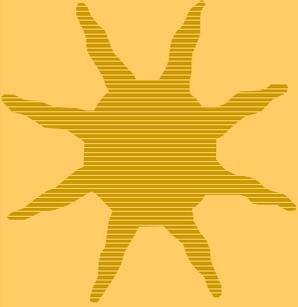
Attendee or student



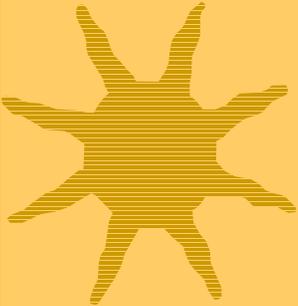
- ★ By having the possibility to attend lectures which are not held on the same faculty or university but are organized in the form of a-v conference student can study at the distant university and does not have to travel there.
- ★ Audio-video conferencing is also useful for the students participating in international projects.



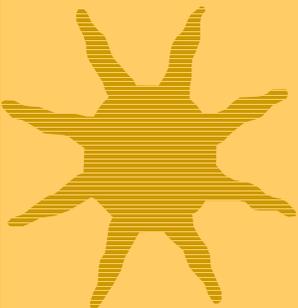
Audio-video conferences in the educational system in Croatia



- ★ 1997 - the first audio-video conference in the educational system in Croatia between the Faculty of Electrical Engineering and Computing in Zagreb and Faculty of Electrical Engineering in Osijek

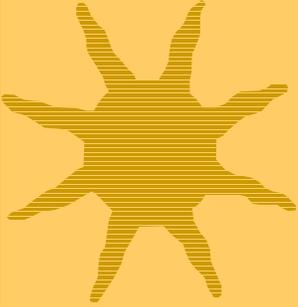


- ★ CUC 1999 tutorials and workshops transmitted via audio-video conference line to several other Croatian academic centers

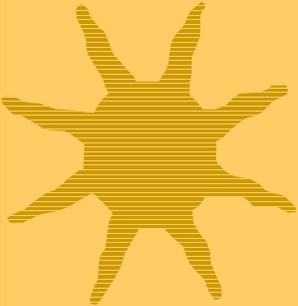




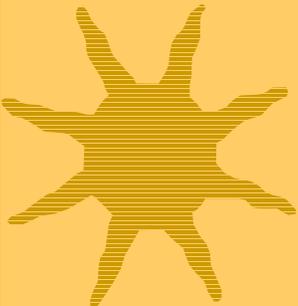
A-v conferences in the educational system in Croatia – cont.



★ most of the primary and secondary schools are still not well enough equipped to be able to organize audio-video conferences



★ agency “F” from Cres / Cres - lectures of Croatian language to the English speaking students and pupils





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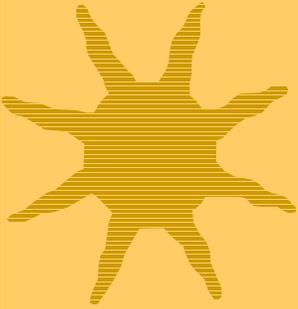
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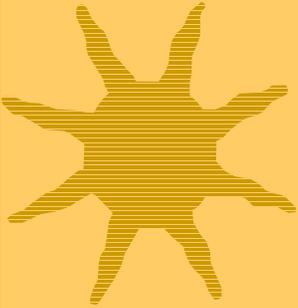
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Application of teleconferencing on the Faculty of philosophy in Zagreb

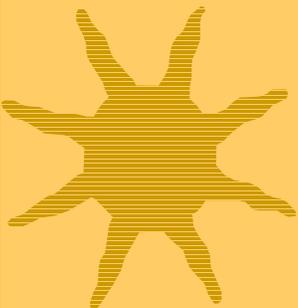


- ★ Department of information sciences initiated experimental phase of distant learning (text-based teleconferencing)



- ★ summer semester 2000/2001

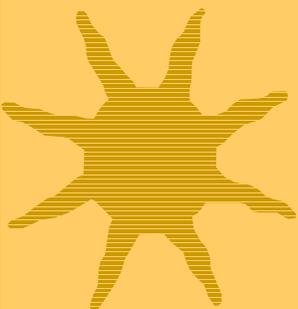
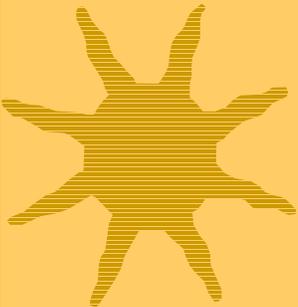
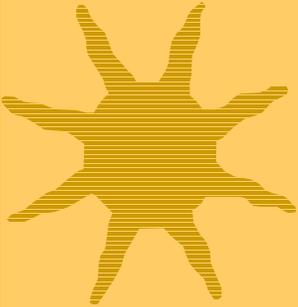
- ★ a group of students attended elective course “School libraries”



- ★ audio-video conferences are planned for the academic year 2001/2002



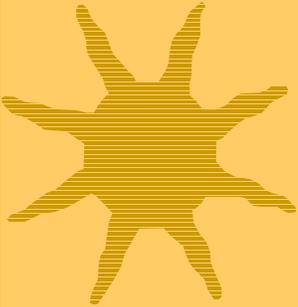
Conclusion



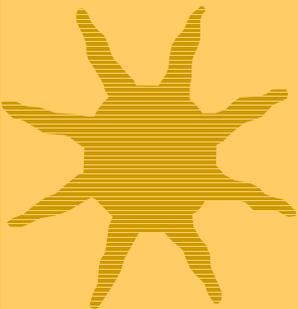
- ★ Although some faculties are already using audio-video conferences their full potential is still not reached.
- ★ Students should be given a chance to listen and talk to the subject experts and professors from other universities.
- ★ The fact that Croatia has many islands and many small villages its educational system should grasp the potential of audio-video conferences in order to provide better education for the people living there.
- ★ In order to learn something from the past we give an example of how was the “new technology” considered when it appeared.



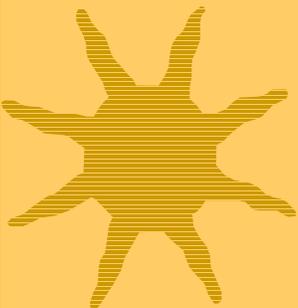
We should be able to do better than that!

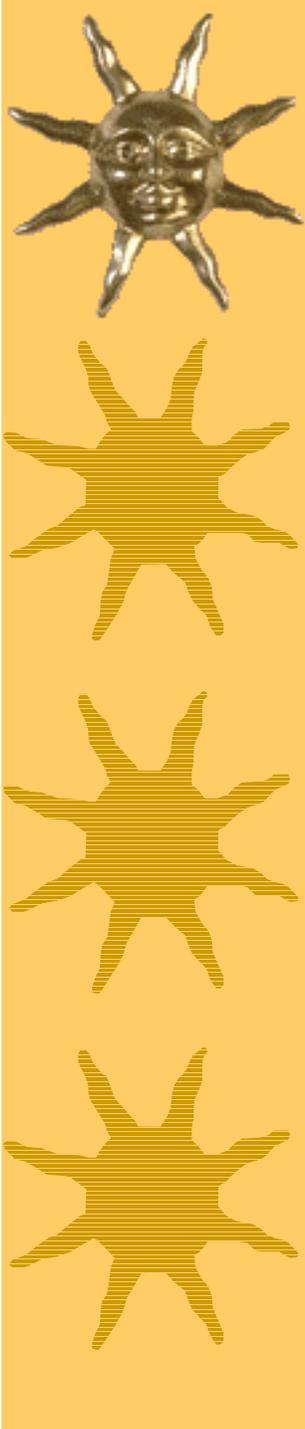


“This ‘telephone’ has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.”



– Western Union internal memo, 1876.





Thank You!

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