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UPOV

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GENEVA

# TECHNICAL WORKING PARTY ON AUTOMATION AND COMPUTER PROGRAMS

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UPOV AND THE INTERNET

*Document prepared by experts from the United Kingdom*

# UPOV AND THE INTERNET

## INTRODUCTION

This note discusses some of the issues involved in exploiting Internet technology in the service of UPOV members.

Recent developments in the technology are reviewed in outline and suggestions made for the steps which UPOV, its committees and member organisations, might take to utilise the resources available.

## THE TECHNOLOGY

*Email*

One of the important recent extensions to electronic mail is the facility for sending and receiving a wide range of document types in electronic form, e.g. word processed documents; spreadsheets; image and sound files in various formats. Most software products handling email now provide facilities for automatically sending and receiving the various document types. In the computing world these products are identified as being MIME-compliant.
*Video-conferencing*

Video conferencing allows visual and audio communication between individuals at dispersed locations. It can be used for:

- one-to-one meetings, usually involving full two-way audio and video;

- one-to-many, for lectures with full audio and video from the main site and with other sites being able to send audio, e.g. to ask questions;

- many-to-many conferencing, with audio and video between more than two sites.

Video conferencing tools are becoming increasing affordable and usable. The basic hardware requirements are a camera; microphone; speakers; video board to capture signals form the camera; network card e.g. Ethernet card, for connection to the network. There is a wide range of software available, from free software such as Cornell CuSeeMe to commercial software costing over $1000.

*The World-Wide-Web*

The World Wide Web (the Web) is the dominant technology for distributing and accessing all forms of digital information across the Internet. The Web is a distributed multimedia hypertext system:

Distributed: information on the Web can be located on computer systems around the world;

Multimedia: the information can include sound, graphics and video, as well as text;

Hypertext: information can be accessed using simple hypertext techniques such as clicking on a highlighted phrase.

An increasingly important addition to these three elements is the facility for embedding programs within a hypertext document. These programs, written for example in the JAVA or JAVASCRIPT languages, allow the building of Web systems which interact with the user.

*Future trends*

We may expect a merging of the email/video-conferencing/Web strands which have developed largely independently so far. Web browsers Will become more general tools for accessing information and managing communications in all forms and at all levels.

The impact on UPOV work is difficult to assess but it is clear that it must influence substantially the way we collaborate and share information. some elements are clear:

information can be provided to all members very rapidly and updated with minimal effort;

it should be possible to progress technical business much more rapidly than annual meetings allow, through on-line discussion groups;

it has the potential for making UPOV proceedings much more transparent to all members, to industry, and to the general public

**DEVELOPMENTS**

- The UPOV office in Geneva already has plans well advanced for the establishment of a Web server. The server will initially provide basic information about UPOV; its history, objectives, membership, structures, principal officers. In time, some of the formal documents, e.g. text of conventions, technical guidelines, will be placed on the server for access in electronic form.

- An EU Fourth Framework FAIR Programme proposal has recently been submitted by CPRO/NIAB/BioSS/GEVES to develop variety image database structures which might allow access from Web browsers.

- The use of the Web for the provision of on-call training in science and technology is becoming increasingly important. An example of interest to crop specialists is the SMART system, a collaborative initiative aiming to provide user-friendly training in

quantitative methods for scientists and technical specialists. The SMART system is available in six languages and can be accessed at:

http://www.bioss.sari.ac.uk/smart/unix/smart.html.

**PROPOSALS**

For the less formal and more developmental aspects of UPOV technical work, e.g. producing guidelines or evaluating new techniques, it would be useful to have Internet structures which facilitate electronic communications and provide an information resource. These might include:

an email discussion list where queries and news items might be posted;

one or more Web links on UPOV technical matters could be established; this could provide access to the working group documents as well as facilitating links between collaborating centres and individuals.

for short meetings involving small groups of individuals the possibility of using video conferencing facilities should be considered.

The views of the TWC on these issues would be welcomed.

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