

ISABEL Application:

Topics

- ISABEL Application
 - Services
 - Elements
 - Components
 - Interactive Configuration
 - Real Configuration Examples

Services

- Supports multi-point remote collaboration in various user domains.
For example:
 - A virtual auditorium for performing distributed conference.
 - A virtual meeting room where a couple of participants in each room can perform discussions, slides presentations, joint editing, etc.
 - A virtual classroom where a teacher or trainer can train remote audiences.
- ISABEL offers three different services:
 - Tele-conferencing
 - Tele-meeting
 - Tele-distance (new)

- Tele-conferencing:
 - Intended for a large grouped event.
 - Becomes a very structured event.
 - Controls are restricted to the master or the coordinator of the event.
 - Controls can be given to a participating site by the coordinator.
- Tele-meeting
 - Intended for a smaller events.
 - Controls are open to all participating sites.
- Tele-distance
 - Very similar to the tele-meeting mode, with a few more options like shared application via VMWARE.

Tele-meeting Components



- Description of the tele-meeting components from left to right.
- "Idle" mode sets a column with videos from every site, while all the other components are or remain stopped.
- "One" mode sets one big video from the site this mode was selected.
- "Chat" mode sets a video grid with all the implied sites.
- "Slide presentation" mode starts the slide presentation and the pointer components.
- "Document camera presentation" mode starts a high-quality, low frame video suitable for sharing a pointed document.

- "Display sharing presentation" mode starts the shared display component.
- "Whiteboard" mode starts the shared whiteboard.
- "Notepad" mode starts the shared editor.
- "Start pointer or toggle master" starts the pointer facility and sets it to master mode (ready to draw). If the component was running, it toggles between master mode (drawing) and disabled mode (no local pointer).
- "Distribution of slides" starts the slide distribution facility.
- "Start/show/hide audio" starts the audio control.
- "Refresh" cleans the screen off the pointer drawings.
- "Auto repair problem" re-starts the mandatory components of the activity in course.
-

- "Show/hide" shows the components status.
- "Exit" finishes the application use. *ISABEL* will ask for confirmation. Click the "OK" button to exit the application or "Cancel" to remain running.

Tele-distance Components



- Description of the tele-distance components from left to right
- "Idle" mode sets a column with videos from every site while all the other components remain stopped.
- "Chat" mode sets a video grid with the two sites.
- "One" mode sets one big video from the site this mode was selected.
- "Document camera presentation" mode starts a high-quality, low frame video suitable for sharing a pointed document.
- "Slide presentation" mode starts the slide presentation and pointer components

- "Fake X Server presentation" mode starts the shared display component.
- "VMWARE presentation" mode starts the shared display component.
- "Whiteboard" mode starts the shared whiteboard.
- "Notepad" mode starts the shared editor.
- "Start pointer or toggle master" starts the pointer facility and sets it to master mode (ready to draw). If the component was running, it toggles between master mode (drawing) and disabled mode (no local pointer).
- "Start/show/hide audio" starts the audio control.
- "Camera Control" starts the camera control.
- "Distribution of slides" starts the slide distribution facility.

- "Refresh" cleans the screen off the pointer drawings.
- "Auto repair problem" restarts the mandatory components of the activity in course.
- "Show/hide" shows the component status.
- "Exit" finishes the application use. *ISABEL* will ask for confirmation. Click the "OK" button to exit the application or "Cancel" to remain running.

List of ISABEL Components

- Video mode.
- Audio component and its behavior.
- Component status, which permits to know who are connected and the state of each component.
- Shared display.
- Shared editor.
- Shared whiteboard.
- Pointer.
- Distribution of slides and how to make a presentation with them.
- Camera control

Video Mode

- There are several video modes, available depending on the activities. These modes are:
 - "Idle" mode sets a column with videos from every site, while all the other components remain stopped.
 - "One" mode sets one big video from the site this mode was selected.
 - "Chat" mode sets a video grid with all the implied sites.

Audio Component



- Input: Select the type of audio input you are connecting with.
- Mixer: Works just like a sound mixer. Slider adjusts the output gain.
- The microphone icon within the mixer is a mute button. Bottom is a speaker mute.
- Output: shows the audio output. Slider increases the volume locally.

- The local section, at the top right corner, is divided into:
 - "Loop": when present, it allows to copy the input signal to the output, what may be used for monitoring. Usually it is set to 0.
 - "Delay" & Glitches: It should be set to the minimum. It controls the play back delay for the audio stream. If sound is chopped, you may increase it to compensate network transmission delay jitters.
- The Codecs and Echo Canceller selection section:
 - Echo canceller: You may choose among "Room", "Small Auditorium", "Big Auditorium" and "No Echo Canceller". Each option is intended for the appropriate kind of room. However, depending on the particular acoustics of your room, you may need to select an option completely difference from the obvious one. "Room" is the most aggressive echo canceller, "No Echo Canceller" does nothing (it assumes an external one).

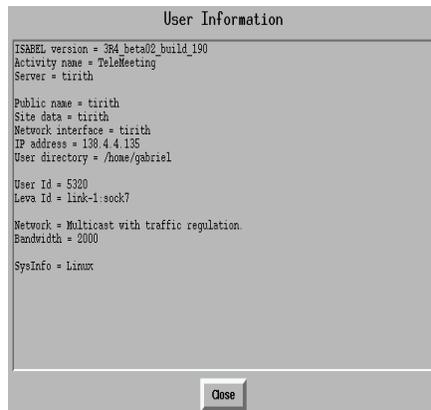
- Codecs: you may choose among several audio compression algorithms.
 - **StdQuality**: the default codec. Quality specification is 16Khz, 16 bits linear encoding.
 - **LowQuality**: it sets the audio channel to phone line quality. The quality specification is 8Khz, 8 bits -Law compressed.
 - **G726_40**: 8000 samples per second, 40Kbits/second per channel.
 - **G726_24**: 8000 samples per second, 24Kbits/second per channel.
 - **G726_16**: 8000 samples per second, 16Kbits/second per channel.

Component Status

State	Irout	Ftp	Audi	Poin	SidF	Ques	ShD	Fake	Whit	Vide	Slide
tirit	●	●	●	●	●	●	●	●	●	●	●
mmonroe.dit.upm.es	●	●	●	●	●	●	●	●	●	●	●
morgul.dit.upm.es	●	●	●	●	●	●	●	●	●	●	●
caprichosa	●	●	●	●	●	●	●	●	●	●	●

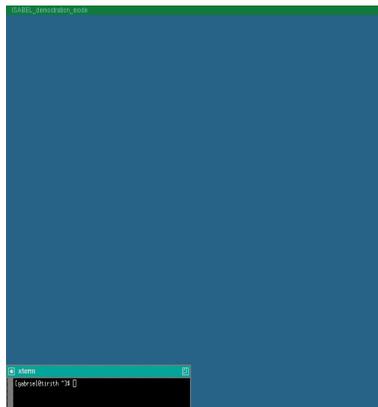
Buttons: Join Reset User Info

- Menu for the master or coordinator. Participating sites will have the same menu, however, will only have the “User Info” icon.
- Shows the number of participants under “State”.
- Shows the status of each component for each site.
 - Blue = working
 - yellow = component is starting
 - Red = not working
 - Gray = did not start due to mis-configuration.



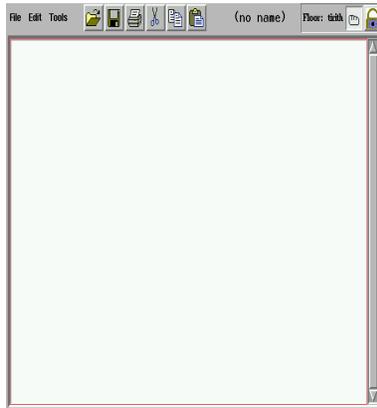
- Selecting the user info, and clicking on a state for a participating site will show the users info.
- The join icon will restart a component.
- Reset will re-initialize a specific component or site.

Shared Display



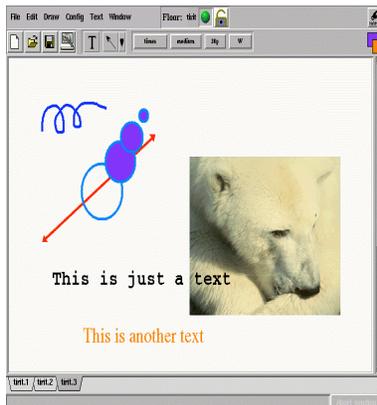
- Allows Display sharing. This is not an interactive display. i.e.; not a shared application.

Shared Editor



- Simple text editor to allow sharing of text documents.

Shared Whiteboard



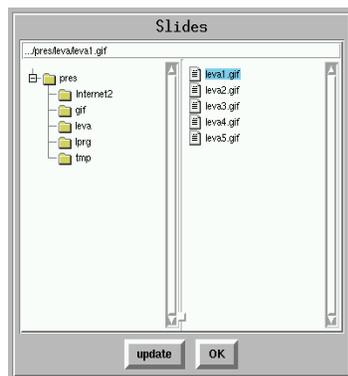
- Shared white board to share and markup pictures etc.
- Similar to paint brush in Microsoft windows.

Pointer



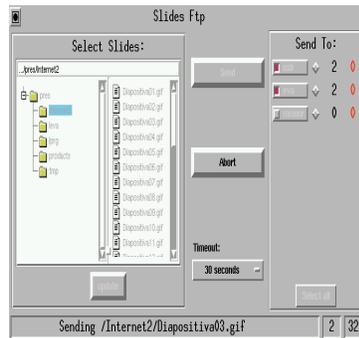
- This facility allows a speaker to get the attention of the public by pointing and drawing with the mouse on the screen on. All partners will see the movement and drawing of the pointer.
- To change the colour of the pointer, click with the right button on the pointer activation button of the toolbar. For tele-conference, there is a sequence of buttons in the Global Control Panel with different colours: click one to select the colour which you want to draw lines with.
- To draw a line, use the middle mouse button and move it appropriately.

Slide Presentation



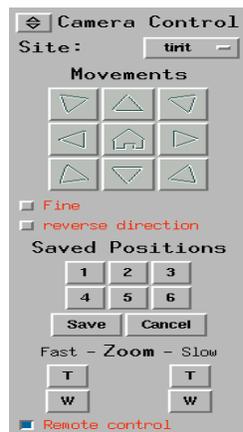
- Slides are stored in the `~/pres/` directory.
- Slides are stored alphabetically in the pres directory. Therefore slides should be named in the following format, `slide01.jpg`, `slide02.jpg`, etc.
- This makes stepping through slides a lot easier and quicker.
- Slide formats are JPG, GIF, or BMP

Slide Distribution



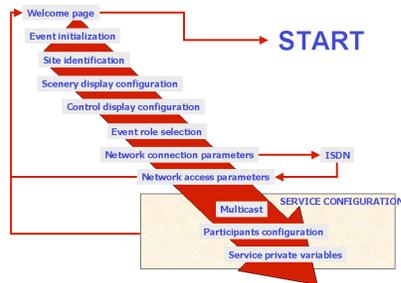
- To send slides, select the directory you wish to send, to whom you wish to send those slides to and the icon “Send”.
- ISABEL will display the current slide being sent, the number of sent and the remaining slides to be sent.

Camera Controls



- Currently this function is only possible if you are using a Sony EVI-D30 camera.
- Features include pan, tilt, zoom in, zoom out, and six pre set positions.

Interactive Configuration



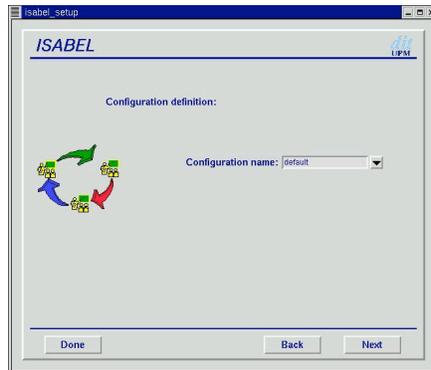
- The figure depicts the configuration paths associated with the various roles of ISABEL.
- Site configuration.
- Network configuration.
- Master site configuration.

Welcome Page



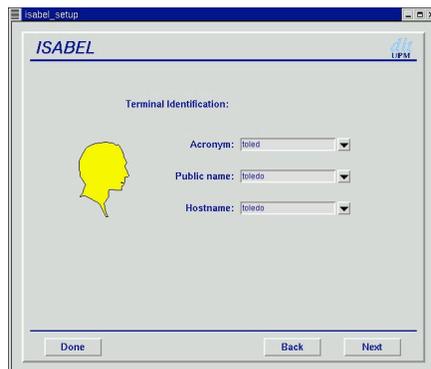
- EDIT: edit the parameters of the selected configuration
- NEW: defines a new configuration
- DELETE: deletes the selected configuration
- QUIT: exits ISABEL
- KILL: kills a running ISABEL session
- START: Invokes ISABEL with the selected configuration.

Event Initialization



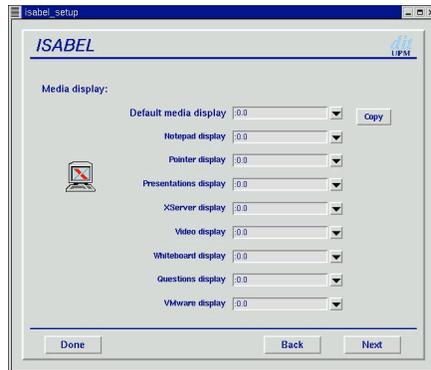
- Configuration Name: name of the configuration to be defined.
- Describes the type of session or event you are running.
- DONE: returns to the welcome page.
- BACK: previous page.
- NEXT: next set up page.

Site Identification



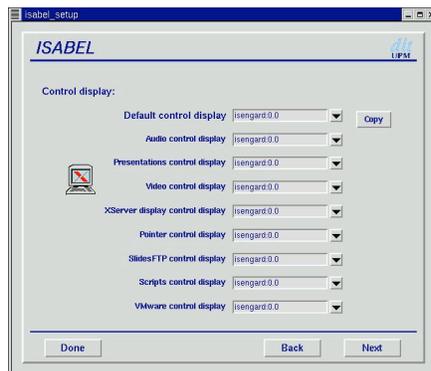
- Acronym: Unique identification code to be used as a site reference.
- Public Name: Visible name used to identify the terminal in the project screens, e.g.: projected video.
- Hostname: IP address of your local machine, or domain name of your local machine.

Media Display Configuration



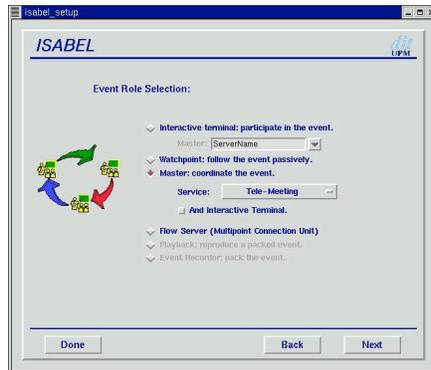
- Allows multiple display screens.
- Screens are projected to remote display to improve visibility.
- COPY: copies the first assignment to all variables.

Control Display Configuration



- Allows control menus to be displayed on a remote display.
- Again to avoid the screen from becoming over crowded.
- COPY: copies the first assignment to all variables.

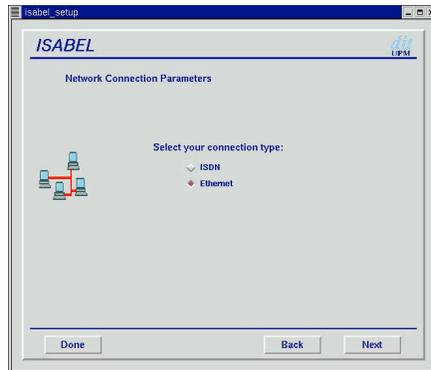
Event Role Selection



- Master: Coordinator- of the event. All sites must point to the master in order to join the event.
- Master can also be an interactive site, i.e.; also a participate in the event.
- Interactive site(IS): Sites which join in the event and participate with the event.

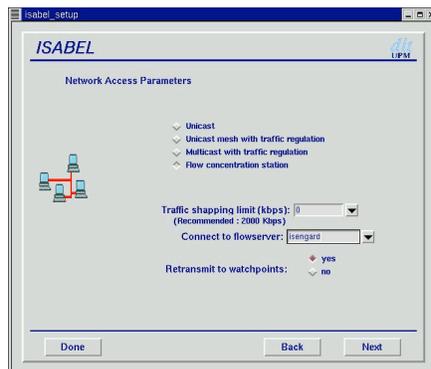
- Watchpoint: A passive participant. In an open event, it is possible to connect as a watchpoint without any limitations. They cannot interact, but they can follow the event.
- Flowserver or multi-point Control Unit (MCU): is used for creating large multipoints, for interconnecting unicast and multicast or to perform special adaptation functions.
- Playback and Recorder: Not functional at this point in time.

Network Connection Parameters



- Isabel allows two connection types, either via ISDN or Ethernet.
- Will only go through the Ethernet connection type.

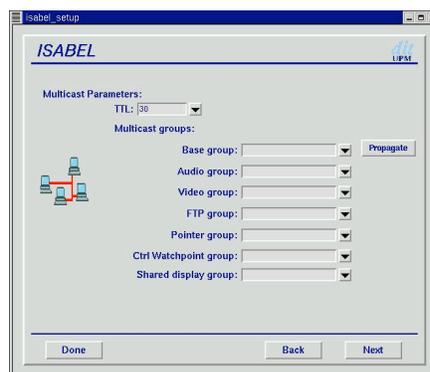
Network access parameters



- Isabel sends control data via TCP and media streams over UDP.
- Unicast: should only be used for test purposes.
- Unicast with traffic regulation: should be used for point to point connections. Can be used with a small group of sites, i.e.; 3 maybe 4. This is a fully meshed environment.

- Multicast: For multipoint over multicast. Media packets are sent via IP multicast to participants. Must have multicast enabled within your network to receive multicast traffic.
- Flow concentration station: Used for multipoint over unicast. The flow server acts as an application level multicast server.
- Trees of flowserver can also be formed. i.e.; flowserver pointing to a higher flowserver.
- Traffic shaping limit (Kbps): the peak traffic limit of the above option. This should be slightly lower than the link bandwidth available.

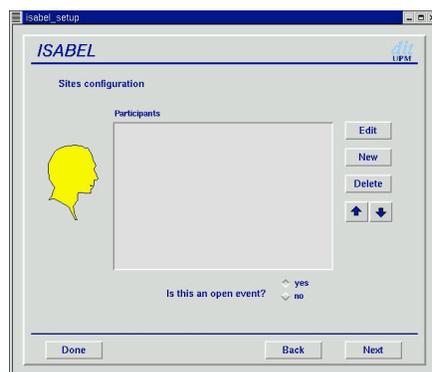
Multicast configuration



- Multicast addresses are between 224.0.0.0 to 239.255.255.255. All these addresses are reserved and grouped in the following way:
- 224.0.0.0 to 224.0.0.225 from IANA
- 224.0.1.0 to 238.255.255.255 are assigned addresses

- 239.0.0.0 to 239.255.255.255 are limited to local sites.
- Multicast groups: define the IP multicast addresses used for each media stream.
- Propagate will add a xxx.xxx.xxx.1 to the previous assignment.

Participant configuration



- The master can register with this page terminal in advance.
- In a closed event only registered participants can join to the event.
- Edit: edits an entry of a registered participant
- New: adds a new entry to the participant list.
- Delete: deletes an entry.

Service Variables



- Each service is defined in an activity file.
- Service is selected by the master of the event.
- This page allows the selection of various combinations of audio codecs and bandwidth limits.

Back to Initial welcome screen



- Once you have finished with the selected configuration, simply hit the start button, an ISABEL session will begin.