Aikido

Aikido helps you draw pictures of how people move. It was originally written to illustrate a martial arts manual but is equally useful for illustrating, for instance, ballroom dancing, yoga or athletics.

The program draws <u>one</u> or two people. If there are two people, they are called <u>Tori and Uke.</u> You can use the <u>mouse</u> or <u>keyboard</u> to adjust the <u>position</u> of each person and each of their joints. Alternatively, you can control the position of their <u>feet.</u> A flashing <u>cursor</u> shows which is the "current" joint.

The program allows you design a whole "Technique". A Technique consists of one or more <u>Frames</u>.

It's quite difficult to get the people to behave as you want, read the section on <u>Getting started</u> before you begin. It tells you how to go about designing a complete Technique. When you have finished, you can <u>print</u> the Technique or copy each frame into a document as a <u>bitmap.</u>

Aikido is <u>shareware.</u>

Keyboard Interface

You can use the <u>mouse</u> or keyboard to adjust the <u>position</u> of each person and each of their joints.

A flashing <u>cursor</u> shows which is the "current joint". When the cursor is indicating a joint, a line is drawn on either side of the joint. The far end of the furthest line is marked with a square called the "handle". The left mouse button can be used to move the handle and bend the joint.

The cursor can also highlight the position of the whole body and the desired position of the feet.

Each joint is free to bend in two directions. For instance,   if the arm is straight down, the shoulder can move the elbow forwards or sideways. The up and down arrow keys move the elbow forwards and backwards; the left and right arrow keys move it from side to side.

Each keypress moves the joint by 10 degrees. If you hold down the Shift key, each keypress moves the joint by 1 degree.

The Delete key returns the joint to its "straight" position.

The arrow keys move the joints in the following way:

<u>shoulder</u>	**Up/Down arrow keys**: move arm forwards and backwards **Left/Right arrow keys**: move arm from side to side
<u>elbow</u>	**Up/Down arrow keys**: move forearm forwards and backwards **Left/Right arrow keys**: move forearm from side to side
<u>wrist</u>	**Up/Down arrow keys**: move hand upwards or downwards **Left/Right arrow keys**: twist the hand about the axis along the forearm
<u>hip</u>	**Up/Down arrow keys**: move leg forwards and backwards **Left/Right arrow keys**: move leg from side to side
<u>knee</u>	**Up/Down arrow keys**: move calf forwards and backwards **Left/Right arrow keys**: move calf from side to side
<u>ankle</u>	**Up/Down arrow keys**: move foot upwards or downwards **Left/Right arrow keys**: move foot from side to side
<u>feet</u>	**All arrow keys**: move mark around floor
<u>body bow</u>	**Up/Down arrow keys**: tip whole person forwards and backwards about the hips
<u>body pirouette</u>	**Up/Down arrow keys**: rotate whole person about a vertical axis.
<u>body cartwheel</u>	**Up/Down arrow keys**: rotate whole person about a horizontal axis.
<u>body move</u>	**All arrow keys**: move person around floor

Cursor

You can use the <u>mouse</u> or <u>keyboard</u> to adjust the <u>position</u> of each person and each of their joints.

A flashing cursor shows which is the "current joint". When the cursor is indicating a joint, a line is drawn on either side of the joint. The far end of the furthest line is marked with a square called the "handle". The left mouse button can be used to move the handle and bend the joint.

The cursor can also highlight the position of the whole body and the desired position of the feet.

The cursor will highlight one of the following:

<u>shoulder</u>	the cursor shows the right upper arm and the backbone. The handle is drawn on the elbow
<u>elbow</u>	the cursor shows the upper arm and forearm. The handle is drawn on the wrist.
<u>wrist</u>	the cursor shows the forearm and hand. The handle is drawn on a line sticking out from the thumb.
<u>hip</u>	the cursor shows the thigh and the backbone. The handle is drawn on the knee.
<u>knee</u>	the cursor shows the thigh and calf. The handle is drawn on the ankle.
<u>ankle</u>	the cursor shows the calf and foot. The handle is drawn on the toes.
<u>feet</u>	the cursor shows a cross below the heel. The handle is drawn in the centre of the cross.
<u>body</u>	the cursor shows backbone and shoulders. The handle is drawn on the right shoulder.

You can change the current joint by clicking the right mouse button on the joint (not the handle).

You can use the left mouse button to drag the handle to a new position or press the <u>arrow keys.</u>

Rendering

The Aikido program uses a very simple method of drawing the people. It is quick but often makes mistakes.

Each person is constructed from a number of brick-shaped "segments". The sements are ordered and the furthest segment is drawn first, nearer segments overwrite the further ones. The "distance" to a segment is the distance from the viewpoint to the centre of the segment. So it's possible for a segment to be drawn "behind" another even though it should be in front of it.

The people are always drawn with the lowest part of their anatomy at floor level. There is currently no way to lift the person off the floor (sorry judo and ballet lovers).

If Options|Monochrome is selected then Uke is drawn white and Tori is drawn shaded. If **Monochrome** is not selected then Uke is drawn red and Tori is drawn blue. Please keep to these colouring conventions - it is confusing to a reader if the colours of the people change.

If you are using Edit|Copy Bitmap to paste bitmaps into a document, choose **Monochrome** before selecting **Edit|Copy Bitmap** (unless your document will be printed on a colour printer).

The size that the people are drawn - on the screen or the printer - is controlled by the Options|Size command. You may find that if you print directly from Aikido, you will get a better quality image than if you paste a bitmap into a document then print the document.

Shareware

Aikido is shareware. You can give it away so long as it has not been modified. You may not sell it but you may charge reasonable copying and distribution fees. Aikido is free for non-commercial use. If you use Aikido to create a document which will be sold, please register.

Send a formatted floppy and a stamped addressed envelope to the author for the latest version and other shareware and freeware. The author will also be pleased to act as a repository for any AKI files you create and will distribute them along with Aikido.exe.

Registration

The registration fee of £20.00+VAT (£24.38) or US$40 (outside the E.C.) should be sent to:

Peter Balch
Analogue Information Systems Ltd.
1 Warrender Park Crescent
Edinburgh EH9 1DX
Scotland
email c/o: nils@castle.ed.ac.uk

You will receive the latest version plus a printed manual.

Postal Orders other than in Pounds Sterling cannot be accepted. Any negotiable cash and £ sterling cheques are OK. Cheques not in £ sterling cost a further £5 ($7.50) to process.

EditHelp

This help file was created using the freeware version of EditHelp also available from Analogue Information Systems Ltd. Send a formatted floppy and a stamped addressed envelope.

Getting started

It's quite difficult to get the people to behave as you want. That's largely because you are trying to control several degrees of freedom in three dimensions with a two-dimensional mouse. If you follow the hints given in this section and practice then it will soon seem merely laborious, not impossible.

A Technique consists of one or more frames. Decide what are the important stages in the Technique and design one frame per stage. Start with the first frame and work your way through them in order.

This section describes how to design an Aikido technique. Aikido techniques involve a lot of grasping and close body contact so they are more difficult to design than, say, Karate or Aikido weapons practice. Grasping is particularly difficult as you must adjust the positions of the hands very precisely.

First Frame

Choose the File|New Technique command to start the new technique.

Begin with your chosen attack. In Aikido they are called First Form, Second Form, etc. For instance, use the Attack|1st Form command to set the two people into the first form positions:
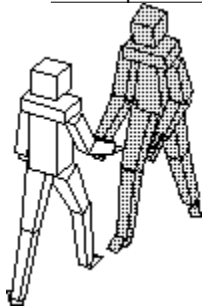
This will be the first frame of our technique. In a first form attack, the attacker grasps the opposite hand of the defender. In Aikido, the attacker is called Uke and the defender is called Tori (or, in some books, Nage). Uke always "loses". Uke is drawn red (or white); Tori is drawn blue (or shaded).

Second Frame

We will now design the second frame. Select the Edit|Cut command then Edit|Paste. The "tabs" at the bottom of the window show us that we are editing the second of two frames.

First, decide on the new position of the bodies. In this frame, Uke stays still and Tori makes a small step forward and to the left with his/her right foot then makes a big step with his/her left foot to end up facing at 90 degrees to Uke's attack.

Select the Person|Tori command then Joint|Feet|Right Foot. The flashing cursor shows as a cross under Tori's right foot.

Use the mouse or the arrow keys to move the cross a little forward and to the left.

Select the Joint|Feet|Left Foot command then move the left-foot cross a large step forward and to the left:
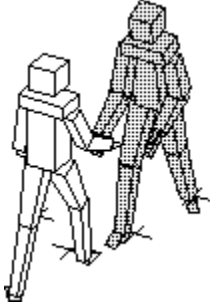
You may find it easier to work with a plan view. Move the right hand scroll bar to the bottom of it's range. (Use the mouse or press Tab until the scroll bar flashes then press the arrow keys.)
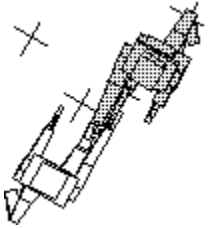

Now we will turn Tori through 90 degrees. Select the Body|Pirouette command; the cursor flashes in Tori's shoulders and torso. Use the mouse or the up and down arrow keys to rotate Tori clockwise through a right angle. Once again, you may find it easier to work in plan view:
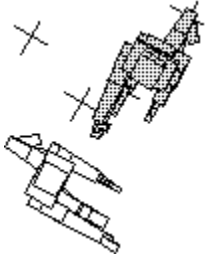
Select the Joint|Feet|Move Feet to Marks command. There will be a delay while the program calculates the new position. It moves Tori's hips and body position until the feet are over the marks; it also bends the ankles until the feet are flat on the floor. No other joints are affected.

Adjust the camera position so you can see where the people are:
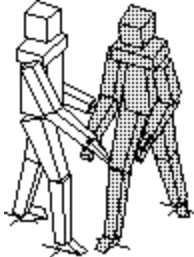
Tori lifts his right hand up so it is level with his face.

Select the Joint|Right Arm|Shoulder command or select the right shoulder joint by clicking on the joint with the right mouse button. You use the right mouse button to select a joint and the left mouse button to move it.

The flashing cursor will show the right upper arm and the backbone. When the cursor is indicating a joint, a line is drawn on either side of the joint. The far end of the furthest line is marked with a square. The left mouse button moves this square and bends the joint.

Each joint is free to bend in two directions. For instance,   if the arm is straight down, the shoulder can bend to move the elbow forwards or sideways.

If you are using the keyboard then the up and down arrow keys move the elbow forwards and backwards; the left and right arrow keys move it from side to side. (Holding down the Shift key gives finer movements.)

Dragging with the left mouse button moves the elbow forwards and backwards; Holding down the Ctrl key and dragging with the left mouse button moves the elbow from side to side.

In this case, we want to lift the hand straight up so don't hold down the Ctrl key, just use the mouse to raise the arm.

The right elbow should be bent to about 80 degrees. Select the elbow by clicking on it with the right mouse button or by selecting Joint|Right Arm|Elbow. The cursor flashes in the upper and lower arm and with a small square on the wrist. Move the wrist up (with the left mouse button or up and down arrow keys):
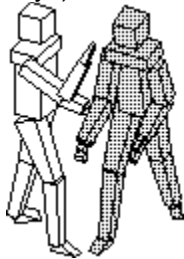
The hand should be rotated until the thumb is towards Tori's nose.

Select the wrist joint in the usual way.

Because the hand is small, it's probably easier to move it using the keys rather than the mouse. The left and right arrow keys control the rotation of the wrist so press the right arrow key nine times - that will rotate the wrist through 90 degrees. If you want to use the mouse, hold down the Ctrl key then drag the small square with the left mouse button.

Uke should have been pulled slightly forwards without moving his/her feet. (It is a rule for beginners in Aikido that Uke's feet do not move.)

Use the bottom scoll bar so you are looking at Uke from the side. Now select Body|Bow or right-click in the middle of Uke's shoulders.

If you make Uke bow forwards then all the body and limbs will rotate about the hips and Uke's feet will go up behind. We want the feet to stay where they are, so select the Joint|Feet|Move Marks to Feet command. Select Body|Bow again and use the left mouse button to make Uke tilt forwards slightly. Now select Joint|Feet|Move Feet to Marks to move the feet back to their original position. Raise Uke's right arm so it's almost horizontal:
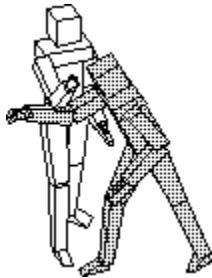
Tori's right wrist should still be held in Uke's right hand so you'll need to Pirouette Tori clockwise. Tori's left hand should grasp Uke's wrist or elbow depending on the technique (use the Joint|Left Hand|Grip command to set the state of the hand). Uke should bring his left hand up to protect his/her face. There are

a lot of fiddly details to get right - especially in Aikido - I'll leave them up to you.

Other Frames

The general strategy for each frame is:

- use Edit|Copy/Paste or Edit|New Frame to start the frame

- set the feet-marks to the correct positions

- move the body to the correct attitude and move the feet to the marks

- move the arms and hands

As you adjust the people, use the scrollbars to examine them from different angles. It then becomes obvious if a hand is not grasping its target properly.

A very simple method is used to render the images. It sometimes results in the segments of the body being drawn in the wrong order. You may need to adjust the positions of the limbs slightly so they look right when they are drawn.

When you have finished, you can print the Technique or copy each frame into a document as a bitmap.

When you publish your complete technique, you should use the same camera angle for each frame. It's very confusing for the reader if different viewpoints are used for different frames.

Person|Solo

The Person|Solo command toggles between one or two people being drawn.

This switch applies to the whole technique, not just the current frame.

If there is only one person, then that person is Tori.

Options|Monochrome

The Options|Monochrome command toggles between the people being drawn coloured or monochrome.

If **Monochrome** is selected then Uke is drawn white and Tori is drawn shaded.

If **Monochrome** is not selected then Uke is drawn red and Tori is drawn blue.

Please keep to these colouring conventions - it is confusing to a reader if the colours of the people change.

If you are using a monochrome display then the non-Monochrome option is not available.

If you are using Edit|Copy Bitmap to paste bitmaps into a document, choose **Monochrome** before selecting Edit|Copy Bitmap (unless your document will be printed on a colour printer).

This switch applies to the whole technique, not just the current frame.

Options|Size

The Options|Size command sets the size which the people are drawn on the screen and when printing.

Enter a number around 150.

Body

The Body commands allow you to control the position and attitude of the current person's body.

If any of the commands is selected, the flashing cursor changes to highlight the current person's backbone and shoulders. A small square, representing the "handle" is drawn on the right shoulder.

You can use either the keyboard or the mouse to move the person.

Bow

If **Body|Bow** is selected, the whole person (including the legs) can be rotated forwards and backwards about the hips.

The down arrow key tips the body forwards and the up arrow key tips the body backards. Left dragging mouse button near the "handle" tips the body forwards and backwards.

Because the legs tip with the body, you may find it useful to use the Joint|Feet commands to return the feet to under the body.

Pirouette

If **Body|Pirouette** is selected, the whole person can be rotated about a vertical axis.

The left arrow key rotates the body anti-clockwise and the right arrow key rotates it clockwise. Left dragging mouse button near the "handle" also rotates the body.

Once again, you may find it useful to use the Joint|Feet commands.

Cartwheel

If **Body|Cartwheel** is selected, the whole person can be rotated from side to side about the hips.

The right arrow key rotates the body to the right and the left arrow key rotates it to the left. Left dragging mouse button near the "handle" also rotates the body.

Move

If **Body|Move** is selected, the whole person can be moved from side to side and forward and backwards.

Both the arrow keys and the mouse can be used to move the person.

There is currently no way to lift the person off the floor (sorry judo and ballet lovers). The people are always drawn with the lowest part of their anatomy at floor level.

Joint|Feet

The Joint|Feet commands are concerned with moving the feet around without the user having to bend the individual leg joints. The commands are conceptually more difficult than moving the joints but they are a powerful way of moving the people and getting their feet flat on the floor in the right place.

The positions of the heels can be defined by moving two crosses around the floor. The marks are only drawn if the cursor is selected for one of them.

Select one or other mark as the "current" mark with the **Joint|Feet|Left Foot** and **Joint|Feet|Right Foot** commands. Or you can select one by clicking the right mouse button on the heel.

Move the current mark with the arrow keys or the left mouse button.

You can copy the positions of the marks from the previous frame with the **Joint|Marks from Previous** command. This is useful if the person doesn't move their feet between frames or moves only one foot.

The **Joint|Move Marks to Feet** command moves the marks to under the heels of the current person.

The **Joint|Move Feet to Marks** command moves the person's legs so the current person's heels are over the marks. Only the hip joints and the position of the body are changed - the knees and attitude of the body remain the same. Then the ankles are bent so the feet are flat on the floor (but their "twist" remains the same).

Example

In the Tai-Subaki Aikido exercise, Tori takes one step forward then turns through 180 degrees by turning on the balls of his/her feet without moving their positions.

Start by adjusting the legs so that the right leg is forward with the knee slightly bent:

That is the first frame.

Start the second frame by selecting Edit|Cut and Edit|Paste.

Tori takes one step forward. Select the **Joint|Move Marks to Feet** command to move the marks to under the heels. Select the Left Foot with **Joint|Feet|Left Foot**. Use the mouse or the keyboard to move the left foot mark one pace forward:


Now select **Joint|Move Feet to Marks** to moves Tori's legs so heels are over the marks:
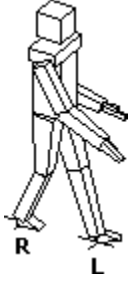
*(If the legs go crazy, it's because you are trying to make too big a change. Move the Left foot mark to beside the Right foot, select **Joint|Move Feet to Marks**; then move the Left foot mark to where you really want it and select **Joint|Move Feet to Marks** again.)*

It doesn't look right because Tori's back left should be straight and the front leg should be slightly bent. The back foot should point slightly sideways and the front foot should be straight. (The arms should be moved as well.) Adjust their positions then select **Joint|Move Feet to Marks** again:
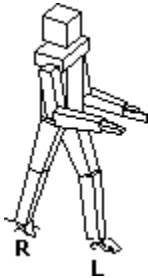
That is the second frame.

Start the third frame by selecting Edit|Cut and Edit|Paste.

Tori turns through 180 degrees.

Select Body|Pirouette and turn Tori right round to face the other way. If you are using the mouse, you may find it easier to change the camera to look from above. Alternatively, press the right arrow key 18 times.

Tori's feet ought not to have moved so select **Joint|Move Feet to Marks** to bring the feet back to their marks. You should adjust the knees and the ankles as well:
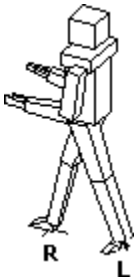
Joint|Left/Right Hand

The Joint|Right Hand and Left Hand commands set the state of the hands of the current person.

A hand can be in one of three states:

Open   when not in use or for a "cutting" attack

Grip   when holding something - for instance, the other person

Fist   when hitting or threatening the other person

In the **Grip** state, the fingers are bent and the thumb sticks out from the palm so the hand forms a **C**.

Joint|Left/Right Arm

The Joint|Right Arm and Left Arm command set the left or right shoulder, elbow or wrist as the current joint.

Shoulder

The shoulder joint can bend in two directions:

Up/Down arrow keys or
Left mouse button drag
> move arm forwards and backwards

Left/Right arrow keys or
Ctrl key down, Left mouse button drag
> move arm from side to side

The <u>cursor</u> flashes with lines along the upper arm and the backbone. A small square is drawn on the elbow as a "handle". The mouse moves the position of this handle.

Elbow

The elbow joint can bend in two directions:

Up/Down arrow keys or
Left mouse button drag
> move forearm forwards and backwards

Left/Right arrow keys or
Ctrl key down, Left mouse button drag
> move forearm from side to side

The <u>cursor</u> flashes with lines along the upper arm and forearm. The "handle" is drawn on the wrist.

Wrist

The wrist joint can bend in two directions:

Up/Down arrow keys or
Left mouse button drag
> move hand upwards or downwards

Left/Right arrow keys or
Ctrl key down, Left mouse button drag
> twist the hand about the axis along the forearm

There is no way to twist the hand about the third axis.

The <u>cursor</u> flashes with lines along the forearm and hand. The "handle" is drawn on a line sticking out from the side of the hand. This allows the mouse to bend or twist the wrist joint.

Joint|Left/Right Leg

The Joint|Left Leg and Right Leg commands set the left or right hip, knee or ankle as the current joint.

Hip

The Hip joint can bend in two directions:

Up/Down arrow keys or
Left mouse button drag
    move leg forwards and backwards

Left/Right arrow keys or
Ctrl key down, Left mouse button drag
    move leg from side to side

The <u>cursor</u> flashes with lines along the thigh and the backbone. A small square is drawn on the knee as a "handle". The mouse moves the position of this handle.

Knee

The Knee joint can bend in two directions:

Up/Down arrow keys or
Left mouse button drag
    move calf forwards and backwards

Left/Right arrow keys or
Ctrl key down, Left mouse button drag
    move calf from side to side

The <u>cursor</u> flashes with lines along the thigh and calf. The "handle" is drawn on the ankle.

Ankle

The Ankle joint can bend in two directions:

Up/Down arrow keys or
Left mouse button drag
    move foot upwards or downwards

Left/Right arrow keys or
Ctrl key down, Left mouse button drag
    move foot from side to side

There is no way to twist the foot about the third axis.

The <u>cursor</u> flashes with lines along the calf and foot. The "handle" is drawn on the toes.

Person|Tori/Uke

The Person|Tori and Person|Uke commands select one or other of the people as the current person.

The <u>cursor</u> marks one of the joints of the current person. You can use the <u>mouse</u> or <u>keyboard</u> to change the position of the joint.

In Aikido, the attacker is called Uke and the defender is called Tori (or, in some books, Nage). Uke always "loses". Uke is drawn red (or white); Tori is drawn blue (or shaded). Please keep to these colouring conventions - it is confusing to a reader if the colours of the people change.

If there is only <u>one person,</u> then that person is Tori; Uke is not available.

You can select Tori by pressing Ctrl-T and Uke by pressing Ctrl-U.

Attack|Save

The Attack|Save command saves the current positions of the people to an "attack" file.

An attack file is stored in the same format as a technique file. The extension of an attack file is **.atk**.

You load the attack with an Attack|n'th Form command.

Error messages

"Error while writing file: *filename"*
     The file was not written successfully; the disk may be full.

Attack|n'th Form

The Attack|n'th Form command sets the current positions of the people to an "attack" position stored on disk.

An attack file is stored in the same format as a technique file. The extension of an attack file is **.atk**.

You can design your own attacks and store them with the <u>Attack|Save</u> command.

Error messages

"Error while reading file: *filename"*
    There is a format error in the file; the file has been corrupted

"Cannot read this version of file"
    The program cannot read a file written by a different, later version of the program.

Edit|Copy Bitmap

The Edit|Copy Bitmap command copies the current <u>frame</u> to the clipboard as a bitmap.

The bitmap can be pasted into a document describing the technique. Choose <u>Options|Monochrome</u> before selecting **Edit|Copy Bitmap** (unless your document will be printed on a colour printer).

Edit|Previous Frame

The Edit|Previous Frame command sets the <u>frame</u> before the current one to be the current frame.

If the <u>camera</u> position has been changed for the current frame, you will be asked if want the current camera position to be used for the whole technique. You should use the same camera position for each frame. It's very confusing for the reader if different viewpoints are used for different frames. If you select No, the camera position is reset to the common position for the whole technique.

The Edit|Previous Frame command can be called with the Shift-F6 keys.

Edit|Next Frame

The Edit|Next Frame command sets the next <u>frame</u> of the technique to be the current frame.

If the <u>camera</u> position has been changed for the current frame, you will be asked if want the current camera position to be used for the whole technique. You should use the same camera position for each frame. It's very confusing for the reader if different viewpoints are used for different frames. If you select No, the camera position is reset to the common position for the whole technique.

The Edit|Next Frame command can be called with the F6 key.

Edit|New Frame

The Edit|New Frame command inserts a new <u>frame</u> after the current frame.

Edit|Delete

The Edit|Delete command deletes the current frame.

A technique must contain at least one frame, so you cannot delete the only frame of a technique.

Edit|Paste

The Edit|Paste command inserts a new <u>frame</u> after the current frame and sets the positions of the people to that saved in the clipboard.

The clipboard must have been set to a position by a previous <u>Edit|Copy</u> or <u>Edit|Cut</u> command.

The Edit|Paste command can be called with the Shift-Ins keys.

Edit|Copy

The Edit|Copy command copies the position of the people in the current <u>frame</u> to the clipboard; the frame remains intact.

The position is saved in the clipboard as text in the same format as a technique (*.aki) file.

The Edit|Copy command can be called with the Ctrl-Ins keys.

Edit|Cut

The Edit|Cut command copies the position of the people in the current <u>frame</u> to the clipboard and deletes the frame.

The position is saved in the clipboard as text in the same format as a technique (*.aki) file.

The Edit|Cut command can be called with the Shift-Del keys.

Edit|Undo

The Edit|Undo command undoes the last change made to the technique. Selecting Edit|Undo again re-does the change.

The camera position is set to the common position for the whole technique.

The Edit|Undo command can be called with the Alt-BkSp keys.

File|Exit

The File|Exit command discards the current technique and quits the program.

If the current technique has been modified, you are given the opportunity to save it.

Error messages

"Technique has been modified - Save?"
> The command will discard the <u>frames</u> of the current technique:
> | | |
> |---|---|
> | **Yes** | save the current technique |
> | **No** | discard the changes |
> | **Cancel** | do not perform the command |

File|Print Setup

The File|Print Setup command allows you to choose to which printer to <u>print</u> the technique. You can also set the options of the printer.

File|Print

The File|Print command prints one or more <u>frames</u> of the current technique as a sequence of bitmaps.

The size of the bitmaps can be set by the <u>Options|Size</u> command.

If you are using a monochrome printer then select <u>Options|Monochrome</u> before printing.

<u>Dialog</u>

Print Range
      All   all the frames of the technique will be printed
      Selection   only the current frame will be printed
      Pages   enter the numbers of the first and last frame to be printed

Copies
      the number of copies to be printed

File|Save As

The File|Save As command saves the current technique to a new filename.

The extension of a technique file is **.aki**.

Error messages

"Error while writing file: *filename"*
    The file was not written successfully; the disk may be full.

File|Save

The File|Save command saves the current technique into the current file.

The extension of a technique file is **.aki**.

Aikido files are plain ASCII text so you can easily e-mail them.

Error messages

"Error while writing file: *filename"*
> The file was not written successfully; the disk may be full.

File|Append

The File|Append command loads a technique from a file and inserts it into the current technique after the current frame.

Error messages

"Error while reading file: *filename"*
>   There is a format error in the file; the file has been corrupted

"Cannot read this version of file"
>   The program cannot read a file written by a different, later version of the program. It can read a file written by an earlier version of the program.

File|Open

The File|Open command loads a technique from a file.

If the current technique has been modified, you are given the opportunity to save it.

All the <u>frames</u> are discarded and a new set of frames is read from the file.

<u>Error messages</u>

"Error while reading file: *filename"*
There is a format error in the file; the file has been corrupted

"Cannot read this version of file"
The program cannot read a file written by a different, later version of the program. It can read a file written by an earlier version of the program.

"Technique has been modified - Save?*"***
The command will discard the frames of the current technique:

Yes	save the current technique
No	discard the changes
Cancel	do not perform the command

File|New Technique

The File|New Technique command starts a new technique.

If the current technique has been modified, you are given the opportunity to save it.

All the frames are discarded and a new single frame is created.

Error messages

"Technique has been modified - Save?"
        The command will discard the frames of the current technique:
                Yes   save the current technique
                No   discard the changes
                Cancel   do not perform the command

Camera

The Camera position controls the view of the people. It can be changed with the horizontal and vertical scrollbars.

Clicking the mouse moves the camera by 10 degrees, 30 degrees (vertical scrollbar) or 90 degrees (horizontal scrollbar).

To change the camera position with the keyboard, press the Tab key until the scrollbar thumb-box flashes. Press the arrow keys to move the camera; each press moves the camera by 10 degrees.

When you publish your complete technique, you should use the same <u>camera</u> position for each <u>frame</u>. It's very confusing for the reader if different viewpoints are used for different frames.

If you change to a different current frame or <u>save the file</u> and the camera position has been changed, you will be asked if want the new camera position to be used for the whole technique.

"Use new camera position for the whole technique?"

If you select No, the camera position is reset to the common position for the whole technique.

If there is only one frame, no distinction is made between the current camera position and the common position.

Frames

A Technique consists of one or more Frames. Each frame shows the position of one or both people.

The frame that is being displayed is the "current" frame. You can select a different current frame by clicking the mouse over one of the "tabs" at the bottom of the screen. Alternatively, select the Edit|Next Frame or Edit|Previous Frame command or press F6 or Shift-F6.

There is a current camera position for the current frame and a camera position common to the whole technique. If you change to a different current frame or save the file and the camera position has been changed, you will be asked if want the new camera position to be used for the whole technique.

The position of the people in the current frame can be saved to the clipboard with the Edit|Copy and Edit|Cut commands.

You can insert a new frame after the current frame with Edit|New Frame or Edit|Paste.

Mouse

You can use the mouse or <u>keyboard</u> to adjust the <u>position</u> of each person and each of their joints.

A flashing <u>cursor</u> shows which is the "current joint". When the cursor is indicating a joint, a line is drawn on either side of the joint. The far end of the furthest line is marked with a square called the "handle". The left mouse button can be used to move the handle and bend the joint.

The cursor can also highlight the position of the whole body and the desired position of the feet.

Select a new current joint by clicking on it with the right mouse button.

Each joint is free to bend in two directions. For instance,   if the arm is straight down, the shoulder can move the elbow forwards or sideways. Dragging with the left button bends joint in one direction; holding down the Ctrl key and dragging with the left button twists the joint in the other direction.

The Delete key returns the joint to its "straight" position.

The left mouse button moves the joints in the following way:

<u>**shoulder**</u>	**Drag with left button**: move arm forwards and backwards **Ctrl-drag with left button**: move arm from side to side **Click right button on shoulder**: select shoulder as current joint
<u>**elbow**</u>	**Drag with left button**: move forearm forwards and backwards **Ctrl-drag with left button**: move forearm from side to side **Click right button on elbow**: select elbow as current joint
<u>**wrist**</u>	**Drag with left button**: move hand upwards or downwards **Ctrl-drag with left button**: twist the hand about the axis along the forearm **Click right button on wrist**: select wrist as current joint
<u>**hip**</u>	**Drag with left button**: move leg forwards and backwards **Ctrl-drag with left button**: move leg from side to side **Click right button on hip**: select hip as current joint
<u>**knee**</u>	**Drag with left button**: move calf forwards and backwards **Ctrl-drag with left button**: move calf from side to side **Click right button on knee**: select knee as current joint
<u>**ankle**</u>	**Drag with left button**: move foot upwards or downwards **Ctrl-drag with left button**: move foot from side to side **Click right button on ankle**: select ankle as current joint
<u>**feet**</u>	**Drag with left button**: move mark around floor **Click right button on heel**: select foot mark as current "joint"
<u>**body bow**</u>	**Drag with left button**: tip whole person forwards and backwards about the hips. **Click right button on back of neck**: select body-bow as current "joint"
<u>**body pirouette**</u>	**Drag with left button**: rotate whole person about a vertical axis. select body-pirouette with <u>Body|Pirouette</u> command
<u>**body cartwheel**</u>	**Drag with left button**: rotate whole person about a horizontal axis. select body-cartwheel with <u>Body|Cartwheel</u> command
<u>**body move**</u>	**Drag with left button**: move person around floor select body-move with <u>Body|Move</u> command