

INTRODUCTION

Grafix The Easy Way started life as a software package for the Atari ST and Amiga computers back in the 1990s. It was released under the company name of Silly Software which consisted of myself and Tony Gooding (Tonesoft). All the graphics in this guide have been drawn by Tony Gooding. For this reason, I am distributing this guide for free and I ask that you do not try to sell it but feel free to distribute it anyway you wish as long as it is for free.

This guide shows you how to create 2D pixel graphics in the cartoon style of Silly Software which include heads, hands and feet, bodies, animals, landscape and so much more. It is presented as a series of images with instructions on each image which is also part of Tony's work. I claim only authorship of this guide and wish to express that I have not designed any of the tutorials.

Tutorial include the following

Basic Heads

Odd Shaped Heads

Facial Features

Perspective

Hands and Feet

Animation

Dithering

Landscape

Use of Colour

Animals

I hope you benefit from this guide and wish you well in your attempts

Deano Sharples

THE BASIC HEAD

THE BASIC HUMAN HEAD

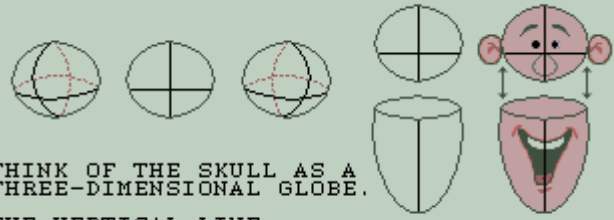


LET'S BEGIN BY DRAWING A BASIC HUMAN HEAD. AN OLD METHOD OF DRAWING A HEAD WAS BASED ON A CIRCLE, BUT A CIRCLE BY ITSELF IS VISUALLY BORING. WE WILL SHOW YOU A BETTER WAY...

OUR TECHNIQUE DIVIDES THE HEAD INTO TWO SECTIONS.



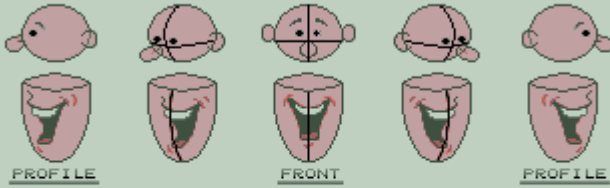
SKULL AND JAW CONSTRUCTION



THINK OF THE SKULL AS A THREE-DIMENSIONAL GLOBE.

THE VERTICAL LINE DEFINES THE MIDDLE OF THE FACE. THE HORIZONTAL GUIDELINE IS THE EYE LINE. THE EYES GO ABOVE IT, THE NOSE BELOW IT, AND THE EARS ON EITHER END.

SKULL AND JAW CONSTRUCTION

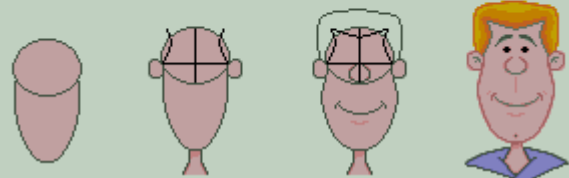


THE JAW ROTATES WITH THE SKULL SO THAT THE CHARACTER REMAINS THE SAME NO MATTER WHAT POSITION THE HEAD IS IN. KEEPING THE HEAD CONSISTENT ENABLES YOU TO DRAW THE SAME CHARACTER OVER AND OVER AGAIN WITHOUT LOSING ITS IDENTITY.

SKULL AND JAW CONSTRUCTION

FRONT VIEW (MALE)

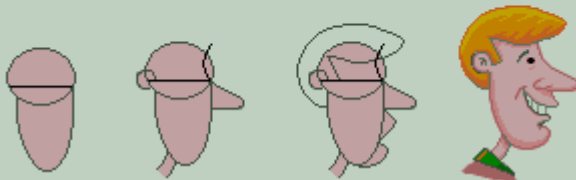
ALWAYS BEGIN BY DRAWING AN OUTLINE. START WITH THE BASIC SKULL AND JAW THEN ADD THE EARS, NECK AND FOREHEAD SLOPE. NOW THE NOSE, MOUTH, AND HAIR. ADJUST THE CHEEKS TO SUIT THE EXPRESSION THEN FINISH WITH THE EYES AND EYEBROWS.



SKULL AND JAW CONSTRUCTION

SIDE VIEW (MALE)

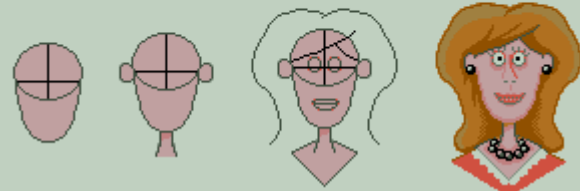
USE THE SAME STEPS IN BUILDING THE PROFILE. THE PROFILE IS EASIER TO DRAW, BECAUSE IT HAS FEWER FEATURES THAN THE FRONT VIEW.



SKULL AND JAW CONSTRUCTION

FRONT VIEW (FEMALE)

A WOMAN'S HEAD HAS BASICALLY THE SAME STRUCTURE AS A MAN'S, BUT THE FEMALE JAW IS NARROWER AND THE CHIN IS LESS PRONOUNCED.



SKULL AND JAW CONSTRUCTION

SIDE VIEW (FEMALE)

YOU CAN CHANGE THE SHAPE OF THE FACE BY EXAGGERATING PARTS OF THE FEATURES. TRY STRETCHING THE NOSE AND LIPS.



ODD SHAPED HEADS

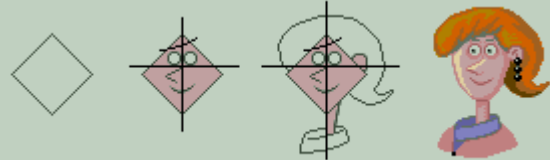
ODD SHAPED HEADS

CIRCLES...HALF CIRCLES...DIAMONDS...
PEARS...OVALS...SQUARES...TRIANGLES...
ARE JUST A FEW SHAPES FROM WHICH
YOU CAN DESIGN CHARACTERS.



ODD SHAPED HEADS

DIAMONDS...ARE PARTICULARLY USEFULL
FOR FEMALE HEADS.
BECAUSE THE CHIN IS TAPERED AND THE
CHEEBONES ARE MORE PRONOUNCED.



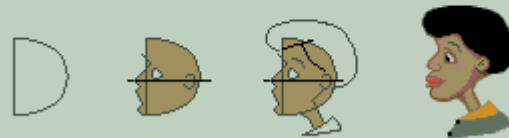
ODD SHAPED HEADS

SLOPPY CIRCLES...CAN BE USED
TO CREATE CHARACTERS WITH BIG CHEEKS
AND SMILING FACES.



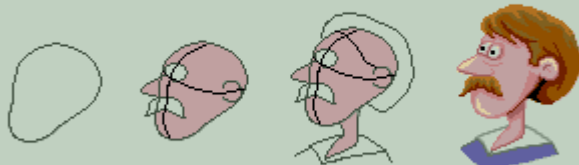
ODD SHAPED HEADS

HALF CIRCLES...ARE BEST USED
FOR PROFILES.
REMEMBER THAT HALF CIRCLES TURN INTO
FULL CIRCLES WHEN THE CHARACTER
FACES FORWARD.



ODD SHAPED HEADS

PEARS...ARE THE MOST COMMON SHAPE
USED FOR HEADS.



SEE WHAT HAPPENS WHEN YOU TURN THE
PEAR UPSIDE DOWN.

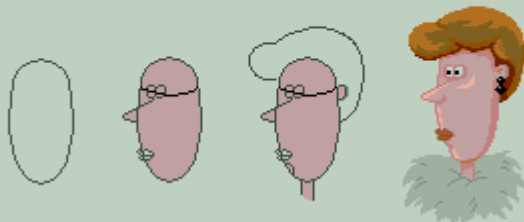
ODD SHAPED HEADS

DRAWING A PEAR SHAPE AT DIFFERENT
ANGLES WILL GIVE YOU MORE
VARIETY OF CHARACTERS.



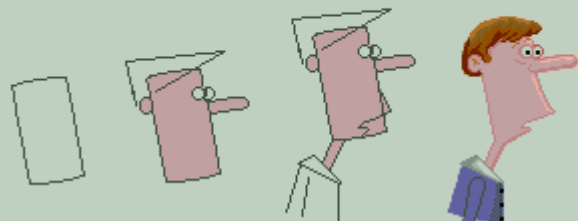
ODD SHAPED HEADS

OVALS ARE IDEAL SHAPES FOR LONG
TALL CHARACTERS.



ODD SHAPED HEADS

NOT ALL HEADS NEED TO HAVE ROUND EDGES.
SQUARE HEADS ARE JUST AS EFFECTIVE.
REMEMBER, THE JAW IS PART OF THE HEAD.
THE MOUTH IS ONLY A FEATURE.

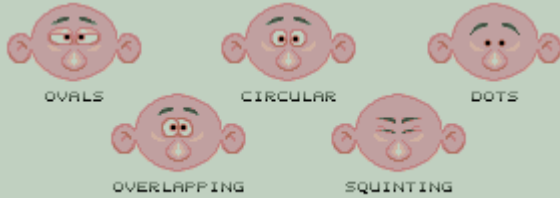


FACIAL FEATURES

FACIAL FEATURES

(THE EYES)

BY CHANGING THE FACIAL FEATURES THAT APPEAR INSIDE THE HEAD, YOU CAN CREATE MUCH MORE INTERESTING CHARACTERS.



FACIAL FEATURES

(THE MOUTH)

HEAR YOU CAN SEE HOW TO CHANGE A CHARACTER'S EXPRESSION BY CHANGING ONLY THE MOUTH.



FACIAL FEATURES

(THE NOSE)

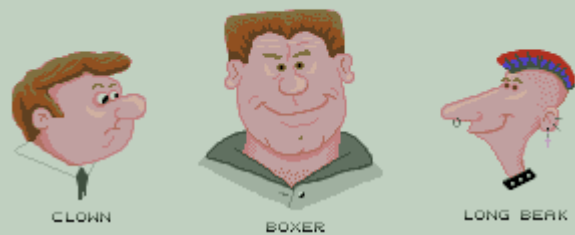
BY STUDYING THESE NOSES, YOU CAN SEE HOW CERTAIN NOSE TYPES GO WITH CERTAIN CHARACTERS.



FACIAL FEATURES

(THE NOSE)

WHO NOSE! YOURS COULD RESEMBLE ONE OF THESE.



FACIAL FEATURES

(BEARDS AND MOUSTACHES)

BEARDS AND MOUSTACHES CAN DRAMATICALLY CHANGE A CHARACTER'S APPEARANCE. ALL THESE HEADS HAVE THE SAME CONSTRUCTION AND FEATURES.



THE BODY

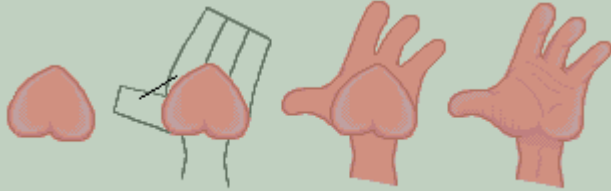
<p>THE BODY (CORRECT STRUCTURE)</p> <p>FOR THE CORRECT BODY STRUCTURE YOU MUST ADD A COLLARBONE AND PELVIS.</p>	<p>THE BODY (CONSTRUCTION)</p> <p>BEGIN WITH A SKELETON FRAME AND BUILD IT UP GRADUALLY.</p>
<p>THE BODY (FILLING OUT)</p> <p>MOST PEOPLE ARE SIX HEADS HIGH, BUT WE SHALL USE FOUR.</p>	<p>THE BODY (OPPOSING)</p> <p>IF THE SHOULDERS AND HIPS OPPOSE EACH OTHER, IT WILL ADD A STRETCH TO ONE SIDE OF THE TORSO AND A CRIMP TO THE OTHER.</p>
<p>THE BODY (OPPOSING)</p> <p>HERE IS A FINE EXAMPLE OF THE HIPS OPPOSING THE SHOULDERS.</p> <p>THIS POSE WAS CREATED BY AJUSTING THE DISTRIBUTION OF WEIGHT ON ONE FOOT MORE THAN THE OTHER.</p>	<p>THE BODY (ODD SHAPES)</p> <p>JUST LIKE THE HEAD, YOU CAN USE GEOMETRIC SHAPES TO CREATE THE BODY YOU WANT.</p>

HANDS AND FEET

HANDS AND FEET

(THE HANDS)

ONE OF THE MORE DIFFICULT PARTS OF THE BODY TO CONSTRUCT HAS TO BE THE HANDS.



HANDS AND FEET

(THE HANDS)

THE UPSIDE-DOWN HEART CAN BE USED FOR BOTH SIDES OF THE HAND.



HANDS AND FEET

(HAND GESTURES)

THE HAND CAN ALSO BE A VERY EXPRESSIVE PART OF THE BODY AND IS JUST AS IMPORTANT TO A SUCCESSFUL DRAWING.



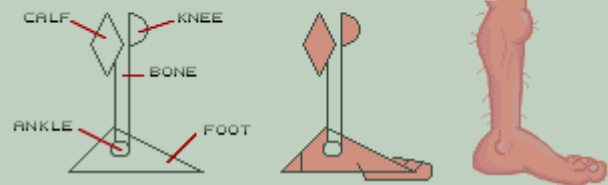
CENSORED



HANDS AND FEET

(THE LEG AND FOOT)

HERE ARE THE BASIC BUILDING BLOCKS FOR THE LOWER LEG AND FOOT.



HANDS AND FEET

(THE LEG AND FOOT)

THIS IS ONE OF THE MORE TRICKIER POSITIONS YOU WILL ENCOUNTER WHEN DRAWING THE FOOT.



USE OF COLOUR

COLOUR
(PRODUCING COLOURS)

THE CHROMATIC CIRCLE IS MADE UP OF TWELVE COLOURS FROM THE TRIANGLE OF PRIMARY AND SECONDARY COLOURS.

COMBINATIONS OF THESE COLOURS WILL PRODUCE ALL THE OTHER COLOURS.

COLOUR
(MEANING OF COLOUR)

HERE WE WILL EXPLAIN HOW CERTAIN COLOURS PORTRAY CERTAIN MEANINGS.

NEUTRAL COLOURS COLD COLOURS HOT COLOURS

COLOUR
(COLOUR TONE)

SOME COLOURS WILL CHANGE TONE AND SIZE AGAINST COLOURED BACKGROUNDS.

COLOUR
(COLOURING IN)

COLOURING CAN BE FINISHED IN THREE BASIC STEPS.

- ① A black and white line drawing of a painter.
- ② The line drawing with flat colors applied to the body and clothing.
- ③ The final colored drawing with shading and highlights.

COLOUR
(SHADING)

YOUR SHADING DEPENDS ON WHERE THE LIGHT IS COMING FROM.

COLOUR
(SHADING)

A BRIGHTER LIGHT WILL CAUSE YOUR SHADES TO BE BRIGHTER TOO.

COLOUR
(ANTI-ALIASING)

LET'S SMOOTH OUT THOSE JAGGED LINES!

COLOUR
(ANTI-ALIASING)

THE DIFFERENCE BETWEEN THESE TWO HEADS IS QUITE NOTICABLE.

PERSPECTIVE

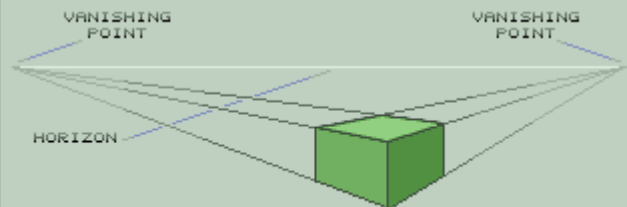
PERSPECTIVE

HERE IS A BASIC ONE POINT PERSPECTIVE.



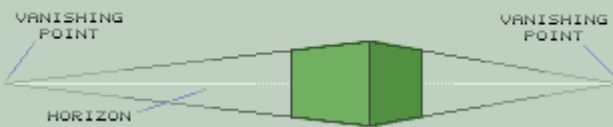
PERSPECTIVE

IF THE BOX HAS BEEN MOVED TO THE SIDE, IT WILL THEN BE TURNED INTO A TWO POINT PERSPECTIVE.



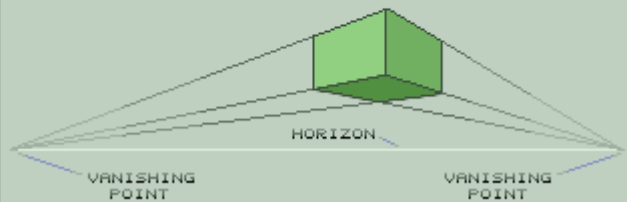
PERSPECTIVE

THIS IS AN EYE LEVEL, TWO POINT PERSPECTIVE.



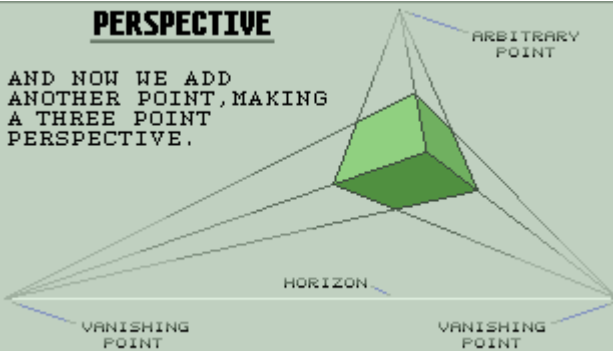
PERSPECTIVE

HERE THE BOX HAS BEEN PLACED ABOVE THE EYE LEVEL.



PERSPECTIVE

AND NOW WE ADD ANOTHER POINT, MAKING A THREE POINT PERSPECTIVE.



PERSPECTIVE

(ONE POINT)



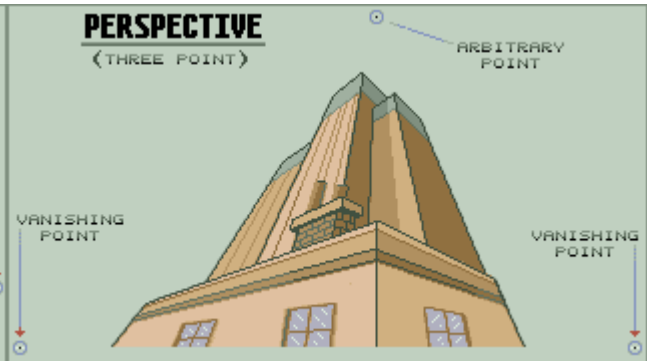
PERSPECTIVE

(TWO POINT)



PERSPECTIVE

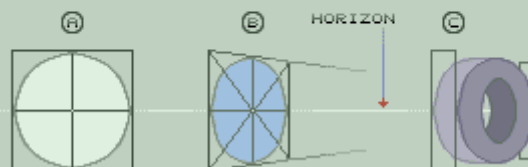
(THREE POINT)



PERSPECTIVE

(ROUND)


PERSPECTIVE IS NOT ONLY USED FOR STRAIGHT LINED OBJECTS.





DITHERING

DITHERING
(LOADS OF COLOUR)

HERE ARE JUST A FRACTION OF COLOURS YOU CAN CREATE BY DITHERING.









DITHERING
(NEED MORE SHADES)

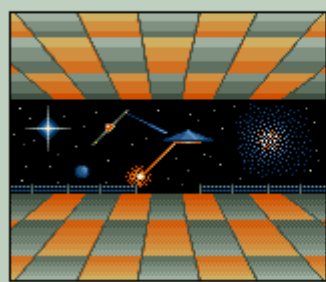
HOW TO TURN FOUR SHADES OF BLUE INTO EIGHT SHADES.






DITHERING
(NEED MORE SHADES)

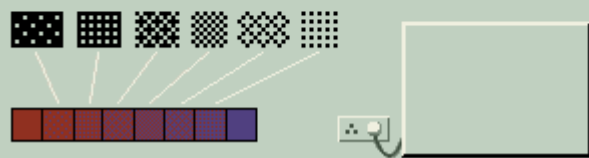
NOTICE THE DIFFERENCE BETWEEN THE CEILING AND THE FLOOR.






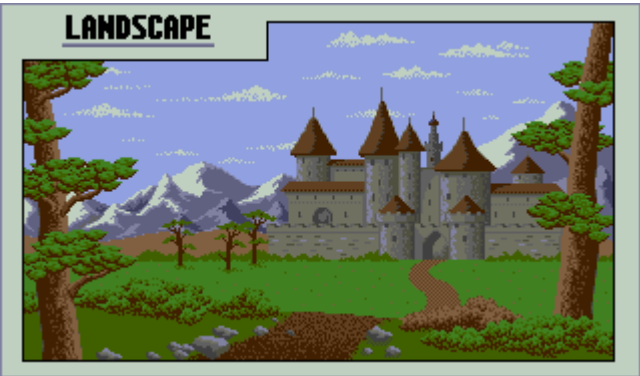
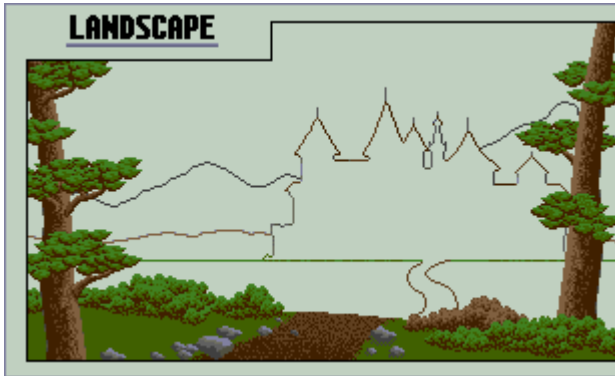
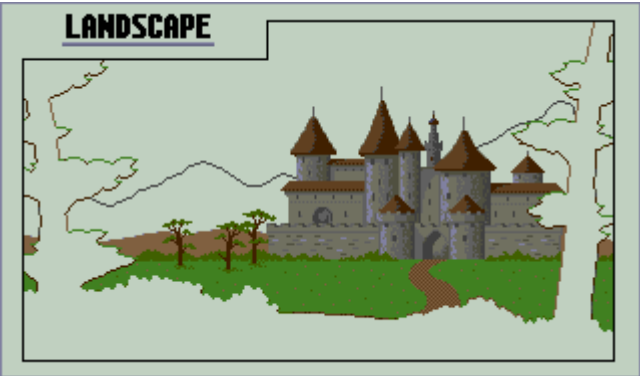
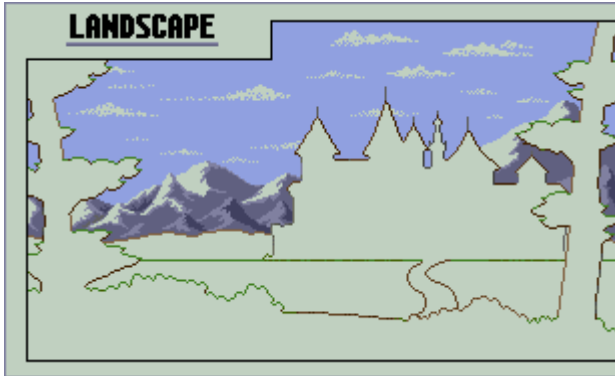
DITHERING
(EXPERIMENTAL)

HERE ARE SIX MORE SHADES, CREATED WITH ONLY TWO COLOURS.





LANDSCAPE



DESIGNING TEXT

DESIGNING TEXT

(LETTER GROUPS)

1 _ EFHILT 5 _ aceimnorsuvwxz
 2 _ BDJPRU 6 _ bdfhklt
 3 _ CGOQS 7 _ gjpqy
 4 _ AKMN VWXYZ

DESIGNING TEXT

(HEADS, HANDS AND FEET)

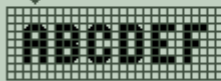
1 _ a b c d e f g h i j
 A B C D E F G H I J
 2 _ a b c d e f g h i j
 A B C D E F G H I J
 3 _ a b c d e f g h i
 A B C D E F G H I J

DESIGNING TEXT

(USING A GRID)



USING A GRID IS THE MOST EFFECTIVE WAY FOR DESIGNING TEXT.



ABCDEF

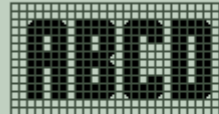
ABCDEF

ABCDEF

DESIGNING TEXT

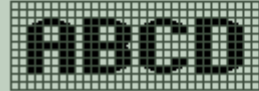
(UNIT PROPORTIONS)

5 X 10

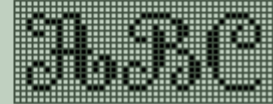


BY CHANGING THE NUMBER OF SQUARES USED YOU CAN ALTER THE TEXT DRAMATICALLY.

6 X 7



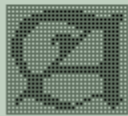
15 X 13



DESIGNING TEXT

(GRID TO FINISH)

WHAT IF YOU WANT SMALLER, MORE DETAILED LETTERS AND CANT MAKE A GRID SMALL ENOUGH ?



A B C D E F

DESIGNING TEXT

(GRID TO FINISH)

ONCE THE TEXT IS COMPLETE, ERASE YOUR GRID AND COLOUR THE TEXT ACCORDINGLY.

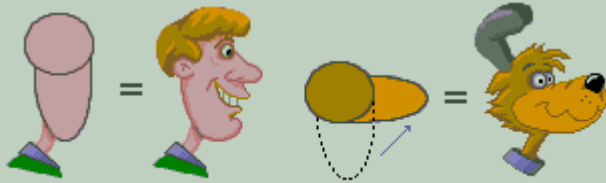


ABCD → **ABCD**

ANIMALS

ANIMALS

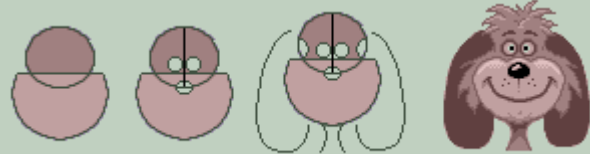
ANIMAL HEADS HAVE THE SAME TWO BASIC ELEMENTS AS THE HUMAN HEAD.



ANIMALS

⟨ FRONT VIEW DOG ⟩

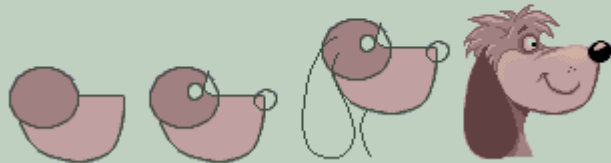
HERE ARE SOME BASIC BUILDING BLOCKS FOR THE FRONT VIEW OF A DOG.



ANIMALS

⟨ PROFILE DOG ⟩

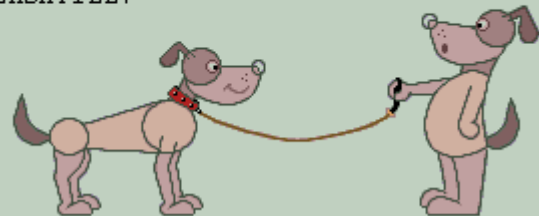
AND HERE ARE THE BLOCKS FOR THE PROFILE.



ANIMALS

⟨ THE DOG ⟩

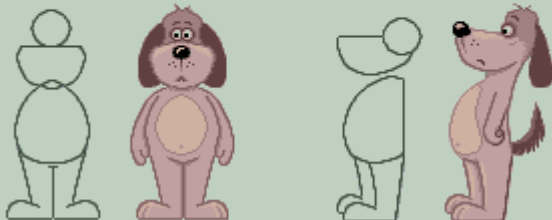
MAKING THE ANIMALS LOOK MORE HUMAN WILL ALSO MAKE THEM MUCH MORE VERSATILE.



ANIMALS

⟨ THE DOG ⟩

THESE ARE THE BUILDING BLOCKS FOR A HUMAN LIKE DOG.



ANIMALS

⟨ FRONT VIEW CAT ⟩

HERE ARE THE BUILDING BLOCKS FOR THE CATS HEAD CONSTRUCTION.

NOTE: THE JAW HAS BEEN REPLACED WITH A NEW FACIAL SECTION... THE CHEEKS.



ANIMALS

⟨ PROFILE CAT ⟩

IF YOU WANT TO ACHIEVE DIFFERENT FELINE CHARACTERS, JUST VARY THE SHAPE OF YOUR BUILDING BLOCKS.



ANIMALS

⟨ THE CAT ⟩

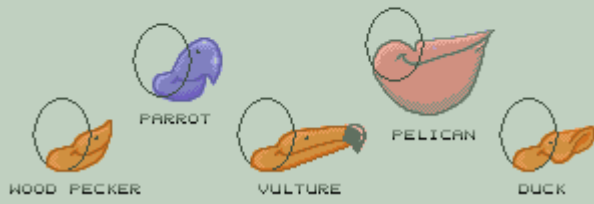
UNLIKE THE DOG, CATS CAN KEEP THEIR CATLIKE HIND LEGS. BUT YOU CAN STILL MAKE THEM STAND.



ANIMALS

(THE BIRD)

BY CHANGING ONLY THE BEAK, YOU CAN DRAMATICALLY ALTER YOUR CHARACTER WITHOUT DESIGNING A NEW SKULL.



ANIMALS

(THE BIRD)

HERE IS THE BASIC HEAD CONSTRUCTION OF THE BIRD.

REMEMBER: THE BEAKS ARE INTERCHANGEABLE.



ANIMALS

(THE BIRD)

HERE ARE SOME BUILDING BLOCKS FOR A BIRD IN FLIGHT WITH A PELICAN'S BEAK.



ANIMATION

ANIMATION

(INBETWEENING)

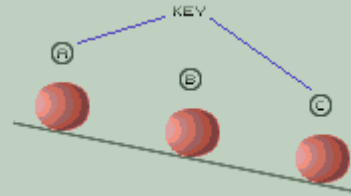
AN INBETWEEN IS A DRAWING WHICH IS EXACTLY BETWEEN TWO KEY DRAWINGS. FOR EXAMPLE... A BALL ROLLING FROM A TO C.



ANIMATION

(INBETWEENING)

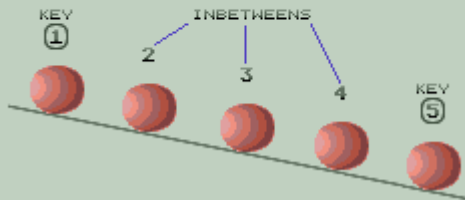
THE INBETWEEN OF A TO C IS (B) BUT THIS ANIMATION WOULD BE VERY JERKY.



ANIMATION

(INBETWEENING)

IF YOU WANT MORE INBETWEENS FOR A SMOOTHER ANIMATION, THEY WOULD APPEAR LIKE THIS.

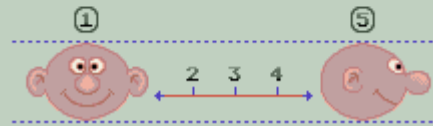


ANIMATION

(TURNING THE HEAD)

MOST THINGS THAT MOVE IN LIFE, MOVES IN ARCS WITH THE EXCEPTION OF MACHINERY.

LOOK AT THESE TWO KEY DRAWINGS AND THINK ABOUT HOW THE INBETWEENS WOULD REACT.



ANIMATION

(TURNING THE HEAD)

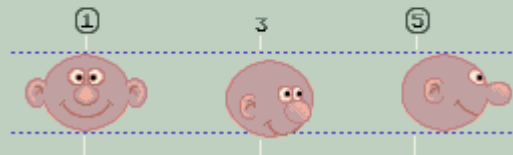
THIS IS A STRAIGHT INBETWEEN AND IS THE WRONG WAY TO DO IT. A STRAIGHT INBETWEEN WILL CAUSE THE FEATURES OF THE FACE TO SLIDE ACROSS THE HEAD AND MAKE THE ACTION LOOK MECHANICAL.



ANIMATION

(TURNING THE HEAD)

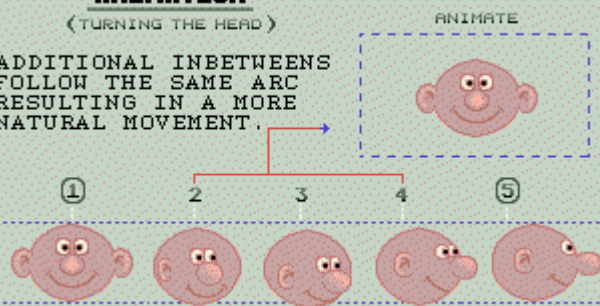
TO MAKE THE ACTION APPEAR MORE REALISTIC, THE INBETWEENS MUST BE PLACED ON AN ARC.



ANIMATION

(TURNING THE HEAD)

ADDITIONAL INBETWEENS FOLLOW THE SAME ARC RESULTING IN A MORE NATURAL MOVEMENT.



ANIMATION

(WALKS)

THE MAIN ACTION IN A WALK STEMS FROM THE LEGS AND LOWER BODY.

IF YOU BREAK DOWN THE ACTION INTO SECTIONS, IT WILL MAKE THE ANIMATION MUCH EASIER TO DESIGN.



ANIMATION

(WALKS)

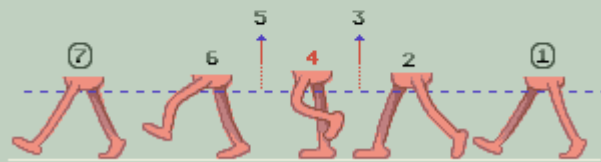
THE POSITION IN THE MIDDLE OF THE TWO KEYS IS KNOWN AS THE PASSING POSITION. NOTE: THE BODY IS RAISED HIGHER IN THE PASSING POSITION THAN IN THE KEY POSITIONS.



ANIMATION

(WALKS)

THIS IS A STANDARD WALK STEP. TO COMPLETE THE WALK, JUST COPY THE SAME DRAWINGS AND EXCHANGE THE SHADING ON THE LEGS.



ANIMATION

(WALKS)

A COMPLETE WALK WILL LOOK LIKE THIS.

NOTICE HOW THE CONTACT FOOT ALWAYS CONNECTS ON THE SAME SPOT, WHILE EVERYTHING ELSE MOVES FORWARD.



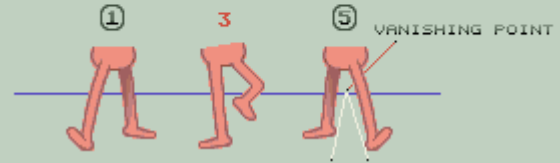
ANIMATE



ANIMATION

(FRONT WALK)

WITH A FRONT WALK YOU USE THE SAME PRINCIPLES AS WITH THE PROFILE WALK, BUT YOU MUST THINK A BIT MORE WHEN APPLYING THEM. FOR INSTANCE, ALWAYS KEEP PERSPECTIVE IN MIND.

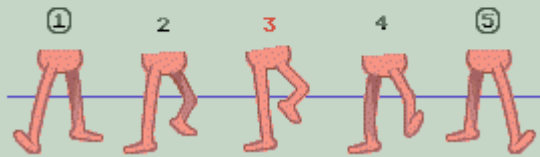


ANIMATION

(FRONT WALK)

NOW ADD THE INBETWEENS AND COMPLETE THE STEP.

FOR THE OTHER STEP USE THE SAME CUT, FLIP AND PASTE TECHNIQUE FROM THE PROFILE.



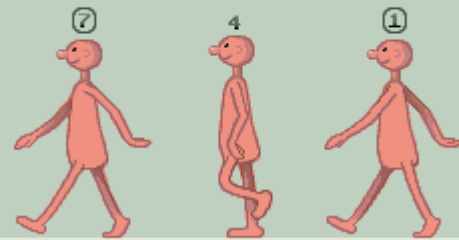
ANIMATE



ANIMATION

(ADDING ARMS)

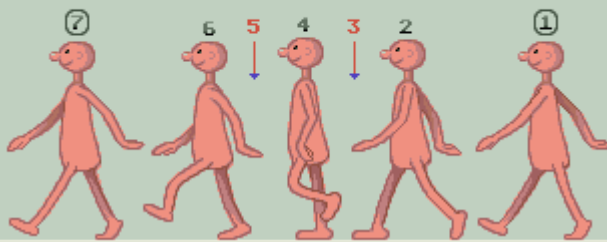
HERE ARE THE KEY AND PASSING POSITIONS FOR THE ARM MOVEMENT.



ANIMATION

(ADDING ARMS)

BASICALLY YOU USE THE SAME PRINCIPLES AS THE LEGS WHEN INBETWEENING THE ARMS.



ANIMATION

(ADDING ARMS)

THE MOST IMPORTANT THING TO REMEMBER WHEN ANIMATING A STANDARD WALK IS THAT IF THE RIGHT LEG IS FORWARD, THEN THE LEFT ARM WILL BE FORWARD TO COUNTER-BALANCE IT.

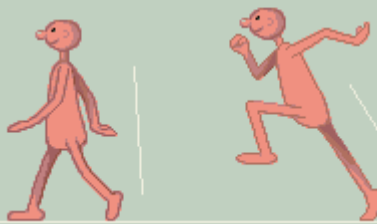
ANIMATE



ANIMATION

(RUNNING)

THE BODY LEAN IS MUCH MORE PRONOUNCED WITH A RUN.



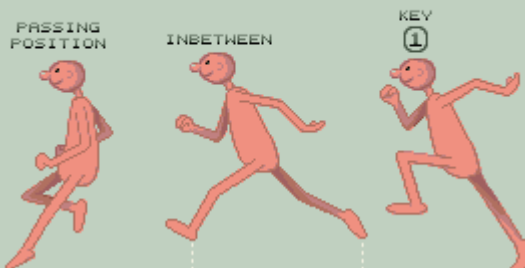
ANIMATION

(RUNNING)



ANIMATION

(RUNNING)



ANIMATION

(RUNNING)



ANIMATION

< RUNNING >

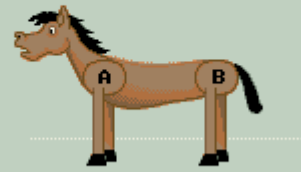
ONE RUN STEP WILL THEN LOOK LIKE THIS.



ANIMATION

< FOUR LEGS >

THE SIMPLIST WAY TO ANIMATE FOUR LEGS IS TO USE THE SAME PRINCIPLES AS THE TWO LEGGED WALK, BUT DO IT TWICE



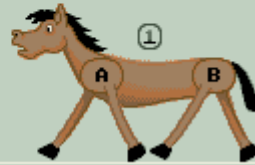
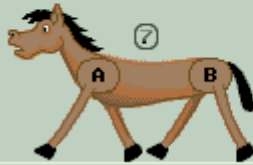
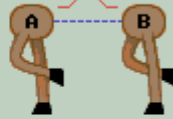
ONCE YOU HAVE COMPLETED TWO SETS OF LEGS, ADD THE BODY AND THE HEAD.

ANIMATION

< FOUR LEGS >

WHEN THE FRONT LEFT LEG IS FORWARD, THE BACK LEFT LEG IS BACK.
AND VICE VERSA.

PASSING POSITION

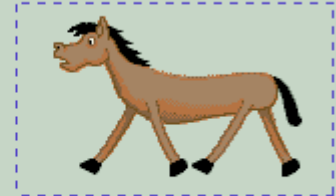


ANIMATION

< FOUR LEGS >

BY DOUBLING THE NUMBER OF LEGS, YOU DOUBLE THE DIFFICULTY OF THE ANIMATION.

ANIMATE



BUT YOU ALSO DOUBLE THE EFFECT OF THE ANIMATION.

ANIMATION

< EVEN MORE LEGS >

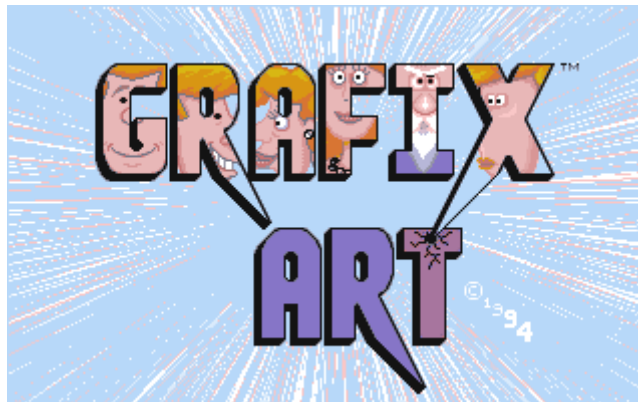
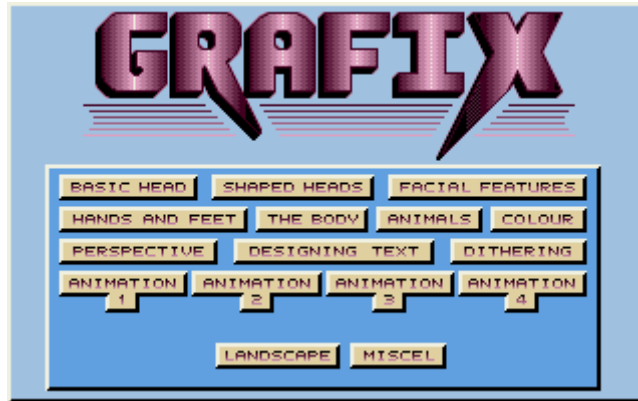
IF THERE ARE MORE THAN FOUR LEGS THE STEP WILL LOOK LIKE A WAVE.
ALL OF THE LEGS ARE ANIMATED ONE FRAME BEHIND EACH OTHER.



NOTICE HOW THE LEG BEHIND ALWAYS MEETS THE LEG IN FRONT.

FINAL WORD

Although the days of pixel art are long gone, I believe there is still good reason to use them in your own games. Mainly for that nostalgia feeling. Maybe you just wanted to see how these types of graphics were designed. Either way I am sure you will get something out of this guide. As a bonus I am going to show you some images related to the software release of Graftix the Easy Way...



Best Wishes...Deano Sharples