

[Pop captions up]

[MUSIC]

**Kate:** HI I'M KATE ABRAHAM.

ON TODAY'S SHOW WE REVISIT THE  
ZEN GARDEN AND RAY MAXWELL  
TAKES US STARGAZING.

[Pop captions down]

**Kate:** ALL THIS AND SO MUCH  
MORE TODAY ON "THE LAB WITH LEO".

[MUSIC]

[Beeping]

[MUSIC]

**Leo:** HEY HOW ARE YOU?

[Pop captions up]

**Leo:** GOOD TO SEE YOU AND WELCOME.

IT'S TIME FOR "THE LAB".

LEO LAPORTE HERE AND THIS IS  
THE SHOW WHERE WE'RE GONNA  
EXPLAIN EVERYTHING YOU WANT TO  
KNOW ABOUT ALL THIS COOL STUFF  
LIKE "THE TOY STORY" THE  
TECHNOLOGY THAT'S ALL AROUND US  
FROM TELESCOPES TO COMPUTERS TO  
THE INTERNET TO KATE ABRAHAM.  
WE EXPLAIN IT ALL!

**Kate:** THAT'S A TOUGH ONE.

**Leo:** NOBODY CAN EXPLAIN YOU.

**Kate:** NO.

**Leo:** NO, KATE ABRAHAM LADIES  
AND GENTLEMEN.  
SHE'S THE KEEPER OF THE  
CLIPBOARD, THE KEEPER OF THE  
CALLERS AND, AND SO MUCH MORE.

[Pop captions down]

**Kate:** INDEED.

**Leo:** SO MUCH MORE.

HOW ARE YOU TODAY?

**Kate:** I'M SUPER THANK YOU.

**Leo:** GOOD, GOOD WE'RE GONNA  
HAVE A GOOD SHOW.

**Kate:** YES WE ARE, A BUSY SHOW.

**Leo:** I SAW RAY HERE.

HE'S ALWAYS FUN AND ALSO AS YOU  
SAID DAVE SHEA.

WE'RE GONNA TALK ABOUT  
STYLESHEETS AGAIN, CASCADING  
STYLESHEETS.

IT'S REALLY KEY TO UNDERSTAND  
THIS IF YOU WANT TO START DOING  
YOUR OWN WEBSITES.

I WAS THINKING THE OTHER DAY  
THAT YOU KNOW MY KIDS LOVE  
PLAYING WITH THEIR MYSPACE OR  
THEIR FACEBOOK PAGES --

**Kate:** YEAH I KNOW.

**Leo:** AND I WAS WONDER I WAS  
THINKING YOU KNOW NOW IS THE  
TIME TO TAKE THEM TO THE NEXT  
LEVEL.

THEY'LL SPEND HOURS JUST  
TWEAKING IT.

IF THEY KNEW A LITTLE CSS AND  
THEY HAD THEIR OWN WEBSITE THEY  
COULD BE LEARNING SOME REAL SKILLS.

**Kate:** ABSOLUTELY.

**Leo:** SO WE'RE GONNA GET YOU  
STARTED DOING THAT, ALL RIGHT.

**Kate:** FANTASTIC.

**Leo:** ALSO LOTS OF GREAT  
CALLS I SEE FROM ALL OVER THE  
WORLD, EVERYWHERE.

**Kate:** EVERYWHERE.

**Leo:** WHO'S OUR FIRST CALLER  
OF THE DAY?

**Kate:** WE'RE ACTUALLY HEADING  
DOWN TO VICTORIA TO A PLACE  
CALLED PAKENHAM.

AND JAMES HAS I'M NOT SURE THAT  
JAMES HAS BEEN UP FOR A LONG  
TIME OR WHETHER HE'S BASICALLY  
JUST GOING TO BED.

**Leo:** ALL WE KNOW IS ITS  
EARLY IN THE MORNING IN  
PAKENHAM.

**Kate:** ITS VERY EARLY.

**Leo:** HELLO, HELLO JAMES HOW ARE YOU?

**James:** VERY GOOD LEO YOURSELF?

**Leo:** I'M WONDERFUL.

THANKS FOR JOINING US IN "THE LAB".

**James:** WE'LL GET THIS OUT OF  
THE WAY I'M JUST YEAH I'M A  
MASSIVE FAN OF YOURS.

AND I'M A STAY AT HOME DAD AND  
YOUR PODCASTS ACTUALLY KEEP ME

SANE FROM THE CHILDREN.

[Leo laughing]

**James:** AND AH --

**Leo:** WELL THEY KEEP ME AWAY  
FROM MY CHILDREN SO THAT'S GOOD.  
YOU KNOW THAT'S THE BEST WAY TO  
STAY SANE.

CAN WE SEE HIM IN HERE?

I WANT TO, I WANT TO SEE THE  
PICTURE OF HIM.

**James:** I --

**Leo:** I SEE HIM, I SEE HIM ON  
KATE'S COMPUTER.  
THERE, THAT'S ME.

[Laughs]

**Leo:** WAIT A MINUTE WE'VE GOT  
SOMEBODY RUNNING AROUND PUSHING BUTTONS.  
JAMES WHAT CAN I DO FOR YOU TODAY?

[Pop captions up]

**James:** BASICALLY MY, MY  
QUESTION IS I WANT TO FIND OUT  
UM WHAT YOU RECOMMEND IN AN ALL  
ANGLED LENS FOR CANON DIGITAL SLR.

[Both talking at once]

**Leo:** AH YOU PICKED A GOOD  
TIME TO BE ON THE PHONE TODAY  
BECAUSE RAY MAXWELL IS HERE AND  
HE IS A PHOTOGRAPHIC, A  
PHOTOGRAPHIC GENIUS.

[Pop captions down]

**Leo:** AND I WOULDN'T EVEN  
DEIGN TO EXPRESS AN OPINION  
WITH AH WITH RAY HERE.

BUT LET ME TELL YOU SOMETHING.

OH I AM.

I'M GONNA EXPRESS AN OPINION  
AND THEN WE'LL LET RAY FIX IT OKAY?

SO, SO WHAT KIND OF FIRST OF  
ALL YOU SAID YOU HAVE A DIGITAL SLR?

**James:** THAT'S CORRECT.

**Leo:** YEAH SO WHAT THERE IT  
IS RIGHT THERE.

WHAT KIND IS THAT?

**James:** IT'S THE EOS 350D.

I THINK OVER THERE IT'S CALLED  
THE REBEL XT.

**Leo:** IT'S THE REBEL XT.

OH THEY CALL IT DIFFERENT,  
SOMETHING DIFFERENT IN AUSTRALIA.

I DIDN'T KNOW THAT.

**James:** YEAH.

**Leo:** SO THE 350D.

THAT IS A GREAT, GREAT CAMERA.

[Pop captions up]

**Leo:** NOW THERE'S ONE THING  
TO REMEMBER ON A CAMERA SOME  
SLRS LIKE THAT ONE THE, THE C  
MOSS, THE PICKUP IS SMALLER  
THAN 35 MILLIMETRES.

[Pop captions down]

**Leo:** SO THE, THE  
DIFFERENTIAL IN SIZE BECOMES A MULTIPLIER.  
SO IF YOU PUT FOR INSTANCE A  
50-MILLIMETRE LENS ON THAT  
CAMERA IT WOULD ACTUALLY BE THE  
EQUIVALENT OF I THINK A 75-

MILLIMETRE LENS ON A FILM CAMERA.

DOES THAT MAKE SENSE?

**James:** YES IT DOES.

**Leo:** IT'S BECAUSE THE  
SMALLER PICKUP YOU HAVE TO IT  
ACTUALLY MAKES THE LENS AS IF  
THE LENS IS A, IS A LONGER LENS.  
SO GENERALLY WHAT I LIKE AND  
I'M GONNA ASK RAY.

OKAY BUT THIS IS MY, THIS IS MY  
NEW RELIGION.

YOU PROBABLY KNOW THIS FROM  
HEARING OUR PODCAST.

I'M LOVING A FIXED LENGTH 50-  
MILLIMETRE LENS.

AND IT'S REALLY MORE FOR MY EYE  
TO TRAIN IT.

THE DIFFERENCE BETWEEN THAT AND  
A ZOOM IS YOU ACTUALLY HAVE TO  
IF YOU WANT TO GET YOU KNOW  
FRAME THE PICTURE YOU ACTUALLY  
HAVE TO MOVE IN A LITTLE BIT OR  
MOVE OUT TO GET THE PICTURE  
RIGHT INSTEAD OF JUST ZOOMING  
THE LENS AND I THINK THAT'S A  
GREAT DISCIPLINE.

YOU COULD ALSO GET A FASTER  
LENS IN A 50-MILLIMETRE AND  
THAT'S NICE BECAUSE FRANKLY I  
THINK FLASH REALLY KILLS A PICTURE.

YOU KNOW THAT, THAT 350D HAS A  
POPUP FLASH ON IT BUT IT'S  
BRIGHT, IT'S FLAT, IT'S REAL

CLOSE TO THE LENS.

IT'S NEVER GONNA GIVE YOU THAT  
KIND OF RICH TONE THAT A GREAT  
PHOTOGRAPH HAS.

SO A FAST FIXED LENS I THINK IS  
A GREAT PLACE TO START.

NOW THAT LENS, THAT CAMERA  
COMES WITH A PRETTY GOOD KIT, KIT LENS.

WHAT IS IT?

IS IT 28 TO, TO 75?

**James:** LET ME SEE, AH 1855.

**Leo:** 1855.

[Both talking at once]

**Leo:** SO THAT ACTUALLY IS THE  
EQUIVALENT OF 24 TO ROUGHLY 75  
OR 80 BECAUSE YOU MULTIPLY BY 1.5.

SO THAT'S YOU KNOW I THINK  
THAT'S THE REASON THAT COMES  
WITH THAT LENS THAT'S A GREAT  
STARTING POINT CAUSE YOU GET  
YOU GO FROM WIDE YOU KNOW SORT  
OF, SORT OF WIDE TO AH A LITTLE  
BIT LONG AND THAT'S A GOOD RANGE.

BUT TRADITION I COME FROM THE  
FILM SCHOOL AND, AND SO IN FILM  
IT WAS 15 MILLIMETRE.

IF YOU WANTED TO DO PORTRAITURE  
IT'S 105.

THAT WAS KIND OF THE CONSIDERED  
THE PERFECT LENGTH FOR A PORTRAITURE.

AH YOU MIGHT GET A LONGER LENS  
FOR SPORTING ACTIVITIES.

YOU MIGHT GET A MAC YOU KNOW

IT'S GREAT TO HAVE A MACRO LENS.  
THAT'S WHAT SEAN DOES ALL THOSE  
GREAT WHAT THE TECH PICTURES ARE WITH.  
ALL RIGHT BUT I'VE SAID ENOUGH.  
WE'VE GOT A GUY WHO REALLY  
KNOWS WHAT HE'S TALKING ABOUT.  
SO NOW THAT YOU'VE HEARD ME  
BLATHER ON JAMES LET'S ASK THE  
EXPERT RAY MAXWELL.  
WHAT DO YOU SO JAMES HAS A  
CANON REBEL.

**Ray Maxwell:** MMM-HMM.

**Leo:** A 350D IN AUSTRALIA.  
WHAT DO YOU RECOMMEND HE START WITH?  
HE'S GOT THE --

**Ray Maxwell:** YOU HIT THE  
NAIL ON THE HEAD WHEN YOU  
TALKED ABOUT IN THE FILM DAYS  
OF THE 105.

**Leo:** THAT'S, THAT'S THE  
PORTRAITURE LENS.

**Ray Maxwell:** YES.

**Leo:** YEAH.

[Pop captions up]

**Ray Maxwell:** IF, IF YOU'RE A  
PEOPLE SHOOTER THAT'S REAL GOOD  
FOR CANDID PORTRAITS AND THE  
LIKE AND AH --

**Leo:** CAUSE YOU DON'T HAVE TO  
GET UP IN THEIR FACE.

[Pop captions down]

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** I CAN SHOOT A, A FULL

FIGURE PORTRAIT OF YOU FROM,  
FROM HERE.

I'M ABOUT 10, 15 FEET AWAY.

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** I DON'T HAVE TO GO  
RIGHT UP HERE TO GET A PICTURE.

**Ray Maxwell:** RIGHT.

**Leo:** YEAH.

**Ray Maxwell:** THE OTHER THING  
IS THE WIDER THE LENS THE MORE  
YOU HAVE TO MOVE IN.  
AND THE MORE YOU MOVE IN IT  
ACCENTS THE DIFFERENCES IN YOUR FEATURES.  
IF, IF YOU GET A WIDER LENS AND COME IN IT --

**Both:** MAKES YOU HAVE A BIG NOSE.

[Both laugh]

**Leo:** GRRRR.

**Ray Maxwell:** YEAH.

**Leo:** YEAH.

**Ray Maxwell:** SO --

**Leo:** IT'S HARD TO GET USED TO.  
THAT'S WHY I LIKED THE 50.

**Ray Maxwell:** RIGHT, YEAH.

**Leo:** CAUSE THE 50 IS LIKE  
HOW THE EYE WORKS PRETTY MUCH RIGHT?

**Ray Maxwell:** RIGHT, RIGHT.

**Leo:** YEAH.

**Ray Maxwell:** BUT THE IF  
YOU'RE IN THE YOU KNOW WITH,  
WITH THAT PARTICULAR CAMERA  
SOMETHING AROUND 75 WOULD BE  
EQUIVALENT TO A 105.

**Leo:** THAT'S WHY THEY GIVE

YOU THAT LENS I THINK, THEY --

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** YEAH.

**Ray Maxwell:** AND SO 75 IS,

IS VERY GOOD.

AT THAT FOCAL LENGTH IT HELPS

YOU THROW THE BACKGROUND OUT OF  
FOCUS.

**Leo:** RIGHT.

**Ray Maxwell:** OKAY NARROWER

DEPTH OF FIELD.

**Leo:** YEAH.

**Ray Maxwell:** AND FOCUS ON

THE EYES AND AH --

**Leo:** SO HE'S PRETTY WELL SET

REALLY WITH THAT BASIC --

**Ray Maxwell:** YEAH, YEAH.

IT'S, IT'S A VERY GOOD PLACE TO START.

**Leo:** WHAT, WHAT WOULD YOU

SAY FOR HIS NEXT LENS?

**Ray Maxwell:** OH WELL I'D

VERY, MOST PEOPLE WANT TO GO

FOR TELEPHOTOS.

**Leo:** RIGHT.

**Ray Maxwell:** AND I, I HIGHLY

RECOMMEND IT DEPENDS ON WHAT

THEY SHOOT.

BUT IF THEY SHOOT LANDSCAPES AT ALL --

**Leo:** WIDE.

**Ray Maxwell:** WIDE ANGLE.

**Leo:** YEAH GO WIDE.

**Ray Maxwell:** YEAH.

**Leo:** AND HE'S ALREADY GOT A,

A, THE EQUIVALENT OF A 20A.

**Ray Maxwell:** YEAH WHICH IS PLENTY WIDE.

**Leo:** YEAH.

**Ray Maxwell:** YEAH.

[Pop captions up]

**Leo:** THAT'S, THAT'S GOOD FOR A --

**Ray Maxwell:** HE'S GOT AN  
EXCELLENT LENS.

**Leo:** THAT'S WHY THEY GIVE  
YOU THAT LENS.

IT'S KIND OF THE ALL IN ONE.

NOW IN THE OLD DAYS I USED TO  
BE TAUGHT THAT A FIXED FOCUS  
LENS IS ALWAYS GONNA GIVE YOU A  
BETTER PICTURE THAN A ZOOM.

[Pop captions down]

**Leo:** ARE ZOOMS BETTER NOW  
THEN THEY USED TO BE?

**Ray Maxwell:** THAT'S NOT TRUE ANYMORE.

**Leo:** YEAH.

**Ray Maxwell:** AFTER COMPUTER  
DESIGN IT DESIGNED LENSES CAME IN.  
AH THE ZOOMS NOW ARE JUST AS  
SHARP AS THE PRIME LENSES.

**Leo:** IT'S VERY YOU KNOW ITS  
FUNNY CAUSE IT'S HARD TO FIND A  
PRIME LENS ANYMORE.

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** THEY'RE ALL ZOOMS.

**Ray Maxwell:** NOW THE PRIME  
LENSES HAVE ONE ADVANTAGE.  
THEY'RE USUALLY FASTER.

**Leo:** YEAH.

**Ray Maxwell:** FASTER MEANS

LOWER NOISE IF YOU'RE A FANATIC.

[Laughs]

**Leo:** YEAH.

THAT'S WHY I SPLURGED ON A, A  
50-MILLIMETRE 1.2 BECAUSE I CAN  
GET A, A VERY FAST LENS.

DON'T USED TO USE FLASH.

THERE'S A, THERE'S A KIND OF  
ADVANTAGE, DISADVANTAGE WHEN  
YOU'RE SHOOTING IT WIDE OPEN  
YOU HAVE NO DEPTH OF FIELD AT ALL.

**Ray Maxwell:** NO.

**Leo:** SO YOU'D BETTER FOCUS  
PERFECTLY CAUSE --

**Ray Maxwell:** YES ABSOLUTELY YEAH.

**Leo:** CAUSE YOU KNOW THE  
FOCAL PLANE IS LIKE THIS SO NARROW.  
SO I, I GUESS THERE'S DIFFERENT  
POINTS OF VIEW.

BUT JAMES IT SOUNDS LIKE  
YOU'RE, YOU'RE PRETTY WELL SET  
TO START ANYWAY.

IF YOU WANTED TO GET ANOTHER  
LENS YOU'D HAVE TO THINK ABOUT  
WELL WHAT DO I WANT TO TAKE  
PICTURES OF?

DO I WANT TO HAVE A TELEPHOTO  
SO I CAN GET DISTANT SHOTS?  
MAYBE YOU KNOW PICTURES FROM A  
SOCCER GAME OR SOMETHING LIKE THAT.

OR DO I WANT TO GET A WIDE  
ANGLE CAUSE I WANT TO DO MORE

LANDSCAPE PORTRAITURE AND  
THAT'S KIND OF UP TO YOU AND  
THE KIND OF CONTENT YOU USE.  
AGAIN THOUGH I KIND OF LIKE, I  
LOVE HAVING A 50 FIXED.  
NOW ON THAT CAMERA TO GET A 50  
WOULD BE MORE LIKE A 35.

**Ray Maxwell:** MMM-HMM.

**Leo:** BECAUSE IT'S KIND OF  
LIKE THE HUMAN EYE AND IT'S,  
IT'S MORE LIKE A LEARNING LENS  
FOR ME, RIGHT, I'M LEARNING HOW  
TO COMPOSE.  
AND I THINK IT'S REALLY FOR ME  
IT'S BEEN REALLY AN EXCITING  
ADVENTURE TO HAVE A FAST LENS  
AND HAVE TO REALLY KIND OF COMPOSE IT.  
THINK ABOUT IT AS I'M DOING IT.  
JAMES ARE YOU ENJOYING PHOTOGRAPHY?

**James:** OH I'M LOVING IT.  
FROM, FROM WHAT YOU AND RAYMOND  
WERE SAYING I HAVE QUITE A FEW  
-- WAYS TO GO.

I ACTUALLY WENT OFF AND BOUGHT  
THE 50-MILL -- LENS BUT IT'S  
NOT THE, THE ONE YOU GOT --

[Both talking at once]

**Leo:** OH I GOT A CRAZY ONE.  
BUT FOR YOU CAN GET A 1-4 AND  
IT'S QUITE GOOD.  
LET ME SHOW YOU.  
IF WE GO TO FLICKR I JUST WANT  
TO SHOW YOU SOME OF THE GREAT

PHOTOS THAT MERLIN MANN WHOSE  
OUR GOOD FRIEND IS OUR HE'S THE  
EXPERT ON TIME MANAGEMENT.  
HE JUST HAD A BABY ELEANOR, A  
BEAUTIFUL BABY AND OOPS I'M  
GONNA HAVE TO.

I'LL, I'LL TELL YOU WHAT.

WE'RE GONNA TAKE A BREAK.

WHEN WE COME BACK I WILL AH, I  
WANT TO SHOW YOU THESE THOUGH.  
THEY'RE SO GOOD.

COMING UP RYAN IN JUST A LITTLE  
BIT, LET'S SEE.

RAY OH RAY NOT RYAN, RAY IS  
COMING UP IN JUST A LITTLE BIT.

OH I'LL SHOW YOU THIS LATER.

I REALLY, I REALLY WANT TO, IN  
FACT I'LL SHOW, SHOW YOU OVER  
THE BREAK CAUSE SOME OF THESE  
PHOTOS ARE SO BEAUTIFUL.

[Pop captions up]

**Leo:** RAY MAXWELL'S COMING UP.  
ACTUALLY WE'RE NOT GONNA TALK  
ABOUT PHOTOGRAPHY.  
WE'RE GONNA TALK ABOUT BIG, OLD  
TELESCOPES WHEN "THE LAB" CONTINUES.  
YOU STAY RIGHT HERE.

[MUSIC]

[Pop captions down]

[Commercial break]

[MUSIC]

**Leo:** WELCOME BACK TO "THE LAB".  
I'M LEO LAPORTE.

I'VE LEARNED A NEW WORD TODAY,  
POLYMATH.  
RAY MAXWELL IS A POLYMATH.  
HE COMES IN AND TALKS ABOUT  
COMPUTERS, PHOTOSHOP, HOW YOUR  
EYES WORK, COLOUR SCIENCE.  
HE'S A SCIENTIST.  
HE'S BUT HE'S A, HE'S A TEACHER.  
AND APPARENTLY I DIDN'T KNOW  
THIS AN AMATEUR ASTRONOMER AS WELL.  
HOW MANY THINGS DO YOU, YOU  
HAVE MORE INTERESTS.  
YOU'RE A PILOT.  
ANYWAY THIS IS GONNA BE FUN  
BECAUSE I THINK A LOT OF PEOPLE  
ARE VERY INTERESTED IN AMATEUR  
ASTRONOMY AND TECHNOLOGY HAS  
REALLY CHANGED THE FIELD.

[Pop captions up]

**Ray Maxwell:** IT HAS TOTALLY  
CHANGED THE FIELD.  
THERE'S REALLY SOME  
REVOLUTIONARY THINGS THAT HAVE  
HAPPENED WITH REGARD TO AMATEUR  
ASTRONOMY.

**Leo:** YEAH.

[Pop captions down]

**Ray Maxwell:** IT JUST CHANGED  
THE WHOLE YOU KNOW --

**Leo:** WHERE SHOULD WE START?  
I YOU KNOW I'M NOT GONNA RUN  
OUT AND BUY A BIG TELESCOPE  
TILL I KNOW A LITTLE BIT MORE.

**Ray Maxwell:** RIGHT.

I'M GONNA START OUT WELL ALMOST  
EVERY BOOK ON SERIOUS AMATEUR  
ASTRONOMY STARTS AND THIS IS  
THE BOOK TO START WITH.

THIS IS "NIGHTWATCH".

THIS IS BY TERENCE DICKERSON.

HE'S A CANADIAN AUTHOR.

**Leo:** OKAY.

**Ray Maxwell:** AND IT IS AN EXCELLENT BOOK.

**Leo:** FOR ANY AGE IT LOOKS LIKE.

I MEAN THIS WOULD BE GREAT --

**Ray Maxwell:** YEAH IT TEACHES  
YOU THE SKY.

IT TEACHES YOU THE EQUIPMENT  
YOU KNOW AND SO FORTH.

**Leo:** IT'S A BEAUTIFUL BOOK.

**Ray Maxwell:** THE KEY THING  
IS DON'T GO OUT AND BUY WHAT WE  
CALL A DEPARTMENT STORE TELESCOPE.

THAT'S THESE LONG LITTLE  
SLENDER TELESCOPES ALMOST --

**Leo:** YEAH THEY LOOK LIKE A  
SEA CAPTAIN'S TELESCOPE YEAH.

**Ray Maxwell:** YEAH.

AND THEY, AND THEY ARE ON THIS  
LITTLE FLIMSY MOUNT THAT  
VIBRATES LIKE HECK AND THEY'RE  
ALMOST NOT WORTH CARRYING HOME.

**Leo:** OKAY.

**Ray Maxwell:** RATHER THAN  
THAT GO OUT AND BUY YOURSELF A  
GOOD SET OF BINOCULARS.

**Leo:** OH REALLY?

**Ray Maxwell:** 1050 BINOCULARS  
ARE EXCELLENT FOR ASTRONOMY.

**Leo:** JUST TO GET STARTED?

**Ray Maxwell:** YEAH.

**Leo:** YEAH.

[Pop captions up]

**Ray Maxwell:** AND JUST TO  
LEARN ABOUT THE SKY --

**Leo:** IN A GOOD BOOK LIKE THIS.

**Ray Maxwell:** RIGHT THAT BOOK  
WILL TELL YOU ALL ABOUT IT.

**Leo:** OKAY.

[Pop captions down]

**Ray Maxwell:** AND AH HELP YOU  
PICK OUT THE EQUIPMENT.  
BUT IT REALLY DON'T GO OUT AND  
GET ONE OF THOSE DEPARTMENT  
STORE TELESCOPES.

THEN LATER --

**Leo:** AS YOU GET MORE PROFICIENT.

**Ray Maxwell:** AS YOU GET MORE PROFICIENT.

**Leo:** AND SHOW THAT YOU HAVE,  
YOU HAVE SOME REAL INTEREST IN THIS.

**Ray Maxwell:** RIGHT.

THEN HAVE A LOOK IF YOU'RE  
REALLY SERIOUS --

**Leo:** "STAR WARE".

**Ray Maxwell:** IT'S "STAR WARE".

**Leo:** OKAY.

**Ray Maxwell:** NOW THAT TELLS  
YOU ALL ABOUT THE EQUIPMENT --

**Leo:** ALL ABOUT THE --

**Ray Maxwell:** ALL ABOUT HOW  
TO PICK THE TELESCOPE.

**Leo:** YEAH.

**Ray Maxwell:** AND YOU KNOW  
REALLY ZOOMS IN ON IT.  
NOW THE IMPORTANT THING TO  
UNDERSTAND IS A LOT OF PEOPLE  
MISUNDERSTAND WHAT A TELESCOPE DOES.

**Leo:** MMM-HMM.

**Ray Maxwell:** THEY'RE SAYING  
AND BY THE WAY THOSE LITTLE  
DEPARTMENT STORES THEY ALWAYS  
SAY 250 OR 500 TIMES MAGNIFICATION.

**Leo:** RIGHT.

**Ray Maxwell:** MAGNIFICATION'S  
NOT IMPORTANT.

**Leo:** OH NO.  
WHAT IS IMPORTANT?

**Ray Maxwell:** LIGHT GATHERING.

**Leo:** OKAY.

**Ray Maxwell:** OKAY.

**Leo:** THAT'S WHY THE SMALL  
TUBE IS NO GOOD YOU WANT --

**Ray Maxwell:** RIGHT.

**Leo:** I NOTICED THESE  
PROFESSIONAL OR MORE SERIOUS  
ONES HAVE BIG, FAT TUBES.

**Ray Maxwell:** BIG, FAT TUBES.

**Leo:** THEY GATHER MORE LIGHT IN.

**Ray Maxwell:** EXACTLY.

**Leo:** OKAY.

**Ray Maxwell:** CAUSE WE'RE  
LOOKING FOR VINTAGE PHOTONS.

**Leo:** WHAT ARE WE LOOKING FOR?

WHAT ARE WE GONNA LOOK, IN  
OTHER WORDS THEY'VE BEEN COMING  
FROM STARS THOUSANDS OF YEARS AGO.

**Ray Maxwell:** MILLIONS.

**Leo:** MILLIONS?

**Ray Maxwell:** YES.

**Leo:** WOW.

**Ray Maxwell:** YES.

WELL JUST TO GIVE YOU AN  
EXAMPLE I'M GONNA SHOW YOU A  
PICTURE ON MY COMPUTER HERE AND  
THIS IS --

**Leo:** OH THAT'S BEAUTIFUL.

**Ray Maxwell:** THE ANDROMEDA GALAXY.

**Leo:** SO IF I GO OUT AND BUY  
A GOOD TELESCOPE I'M GONNA SEE THAT?

**Ray Maxwell:** YOU'LL SEE THE  
CORE OF IT QUITE EASILY.

**Leo:** OKAY.

**Ray Maxwell:** IN FACT ON A  
REAL CLEAR NIGHT IF YOU'RE WAY  
UP IN THE WILDERNESS YOU CAN  
SEE THAT WITH THE NAKED EYE.

**Leo:** IT'S PRETTY BRIGHT.

**Ray Maxwell:** NOW WHAT PEOPLE  
DON'T UNDERSTAND IS THE  
DIAMETER OF THAT FROM ONE END  
TO THE OTHER.

**Leo:** YEAH.

**Ray Maxwell:** TWO AND A HALF  
TIMES THE DIAMETER OF THE MOON.

**Leo:** OKAY SO IT'S BIG.

**Ray Maxwell:** IT'S BIG.

IT'S FAINT.

**Leo:** RIGHT.

**Ray Maxwell:** SO LIGHT

GATHERING IS THE NAME OF THE GAME.

**Leo:** GOT IT.

**Ray Maxwell:** OKAY?

**Leo:** GOT IT, GOT IT.

**Ray Maxwell:** SO THAT'S VERY IMPORTANT.

**Leo:** WELL IT'S EASY TO SEE

CAUSE IT'S VERY BRIGHT.

**Ray Maxwell:** YEAH EXTREMELY BRIGHT.

**Leo:** YEAH.

**Ray Maxwell:** NOW WHEN I

BORROWED MY FIRST TELESCOPE I

LOOKED AT SATURN, JUPITER, MARS --

**Leo:** YEAH THAT'S THE FIRST THING.

YOU LOOK AT THE PLANETS.

**Ray Maxwell:** YOU KNOW THOSE

ARE THE FIRST THINGS.

**Leo:** YEAH.

**Ray Maxwell:** AND THOSE ARE

ALL VERY BRIGHT OBJECTS IN THE SKY.

**Leo:** RIGHT AND RELATIVELY LARGE.

**Ray Maxwell:** AND AFTER I'D

LOOKED AT EACH OF THEM ABOUT

FOUR OR FIVE TIMES I WENT THIS IS --

**Leo:** NOW WHAT?

**Ray Maxwell:** NOW WHAT?

[Leo laughing]

**Ray Maxwell:** AND THEN A, A

FRIEND OF MINE WHEN WE WERE OUT

IN THE WILDERNESS POINTED OUT

ANDROMEDA WITH THE NAKED EYE OKAY?

**Leo:** WOW.

**Ray Maxwell:** AND I'M GOING WHOA.

AND BY THE WAY THAT --

**Leo:** SO THAT'S WHEN YOU GOT  
YOU STARTED?

**Ray Maxwell:** YEAH.

**Leo:** WAS THAT GALAXY.

**Ray Maxwell:** YEAH, THAT.

**Leo:** THAT'S A GALAXY RIGHT?

**Ray Maxwell:** RIGHT THAT'S A GALAXY.

**Leo:** RIGHT.

**Ray Maxwell:** THAT'S THE  
NEAREST GALAXY TO US.

**Leo:** OKAY.

**Ray Maxwell:** IT'S 2.2  
MILLION LIGHT YEARS AWAY.

**Leo:** SO THE LIGHT WE'RE  
SEEING FROM THAT ANDROMEDA  
GALAXY STARTED WAS CREATED 2.2  
MILLION YEARS AGO --

**Ray Maxwell:** 2.2 MILLION.

**Leo:** TOOK THAT LONG TO REACH US.

**Ray Maxwell:** YES.

[Leo whistles]

**Leo:** WOW.

**Ray Maxwell:** VINTAGE PHOTONS--

**Leo:** YEAH YOU'RE RIGHT, YEAH.

**Ray Maxwell:** RIGHT.

**Leo:** THAT'S REALLY COOL.

**Ray Maxwell:** YEAH.

**Leo:** SO THERE'S BRIGHTER  
OBJECTS LIKE THE MOON AND THE

PLANETS, THEN THERE'S DIMMER  
OBJECTS LIKE STARS, GALAXIES.

**Ray Maxwell:** RIGHT.

NEBULA, GALAXIES, STARCLUSTERS.

**Leo:** NEBULAS ARE BEAUTIFUL  
AREN'T THEY?

**Ray Maxwell:** YES, YES.

**Leo:** YEAH.

CAN YOU SEE ANY?

**Ray Maxwell:** OH YES.

**Leo:** YEAH?

**Ray Maxwell:** OH YEAH.

THE M52 WHICH IS THE ORION NEBULA --

**Leo:** YEAH.

**Ray Maxwell:** AH WAS THE  
OTHER THING THAT GOT ME HOOKED  
ON THIS AND IT'S 1,700 LIGHT  
YEARS AWAY.

**Leo:** YEAH IT'S --

**Ray Maxwell:** IT'S IN THE NEIGHBOURHOOD.

**Leo:** NOW DID YOU, DID YOU  
MAKE THIS OF THE, OF THE SPIRAL GALAXY?

**Ray Maxwell:** THIS IS A NASA IMAGE.

**Leo:** THAT'S A GORGEOUS IMAGE.

**Ray Maxwell:** AND THIS IS M51  
AND THAT IS 25,000,000 LIGHT  
YEARS AWAY.

AND WHAT I WANT TO SHOW YOU ON  
THAT ONE IF I CAN HIDE THIS FOR A MOMENT.  
THIS IS TAKEN WITH MY 8-INCH  
TELESCOPE WITH THAT SAME --

**Leo:** SO YOU TOOK THIS PICTURE?

**Ray Maxwell:** THIS ONE RIGHT HERE.

**Leo:** OH COOL.

**Ray Maxwell:** THAT WAS TAKEN,  
THAT'S THE SAME GALAXY WITH MY  
8-INCH POCKETDECK OF MY, OF MY HOME.

**Leo:** SO, SO COOL, SO COOL.  
NOW THERE'S NO COLOUR IN THAT.  
IS THAT --

**Ray Maxwell:** NO.

**Leo:** YOU'RE SHOOTING IN  
BLACK AND WHITE?

**Ray Maxwell:** THAT'S STRICTLY  
BLACK AND WHITE.

**Leo:** YEAH, YEAH.

**Ray Maxwell:** AND I'M GONNA  
DO A WHOLE THING ON ASTRO  
PHOTOGRAPHY IN THE NEXT --

**Leo:** OH THAT'D BE A GREAT SEGMENT.

**Ray Maxwell:** YEAH IN ANOTHER SEGMENT.

**Leo:** THIS IS A GREAT THING TO GET KIDS INTO.

**Ray Maxwell:** YEAH.

**Leo:** BECAUSE IT'S SOMETHING  
THAT THEY CAN DO.

**Ray Maxwell:** RIGHT.

**Leo:** WITH THE SOFTWARE  
NOWADAYS AND, AND THE MATERIALS  
THAT ARE AVAILABLE.

**Ray Maxwell:** RIGHT.

NOW --

**Leo:** BUT IT GETS THEM  
EXCITED ABOUT IT.

[Both talking at once]

**Leo:** THAT'S --

**Ray Maxwell:** NOW I WANT TO

SHOW YOU WHAT WE'VE, WE'VE DONE.

WHEN I FIRST STARTED INTO THIS  
I HAD TO LEARN TO FIND ALL  
THESE LITTLE FAINT FUZZIES AND  
THEY'RE VERY HARD --

**Leo:** RIGHT.

**Ray Maxwell:** TO LEARN HOW TO SEE THEM.

**Leo:** RIGHT.

**Ray Maxwell:** YOU HAVE TO USE  
AVERTED GAZE.

YOU DON'T LOOK RIGHT IN EM  
BECAUSE THE CENTER OF YOUR  
PHOVIA HAS A LOT OF CONES,  
COLOUR RECEPTORS, WHICH ARE NO  
GOOD IN LOW LIGHT.

**Leo:** OH INTERESTING.

**Ray Maxwell:** SO YOU HAVE TO  
SHIFT THEM OFF JUST SLIGHTLY  
FROM THE CENTER OF YOUR VISION  
TO THE RODS WHICH ARE VERY  
SENSITIVE AFTER YOU'VE BEEN IN  
THE DARK FOR LIKE 30 MINUTES.

**Leo:** RIGHT.

**Ray Maxwell:** OKAY, NOW --

**Leo:** AND THAT'S THE OTHER THING.  
I GUESS YOU PROBABLY CAN'T DO  
THIS DOWNTOWN.

YOU PROBABLY WANT TO BE IN KIND  
OF A --

[Both talking at once]

**Ray Maxwell:** NO THE DARKER THE BETTER.

**Leo:** YEAH.

**Ray Maxwell:** AT ANY RATE I

STARTED OUT FINDING CERTAIN  
BRIGHT STARS AND THEN IF I  
WANTED TO FIND THESE THING  
FUZZIES I HAD TO DO WHAT'S  
KNOWN AS STARHOP.

**Leo:** MMM-HMM.

**Ray Maxwell:** WHERE YOU GET  
OUT YOUR CHARTS.

**Leo:** MMM-HMM.

**Ray Maxwell:** AND YOU SAY  
WELL LET'S SEE I'LL START WITH THAT ONE.  
I CAN SEE IT WITH THE NAKED EYE.

**Leo:** MMM-HMM.

**Ray Maxwell:** GET THE SCOPE  
ON IT AND THEN I'LL MOVE TO  
THIS ONE AND THIS ONE.  
AND SOMETIMES IT'D TAKE ME 10  
OR 15 MINUTES TO FIND THESE.

**Leo:** THAT'S PART OF THE FUN OF IT.

**Ray Maxwell:** BUT NOW WE HAVE  
COMPUTERIZED CONTROLS.

**Leo:** THIS MAKES IT A LOT EASIER.

**Ray Maxwell:** YEAH AND I CAN--

**Leo:** SO YOU'LL ENTER IN A COORDINATE?

**Ray Maxwell:** NO I ENTER IN THE NAME.

**Leo:** THE NAME?

**Ray Maxwell:** OF THE OBJECT  
THAT I WANT.

**Leo:** AND, AND THEN THIS --

**Ray Maxwell:** THIS HAS A  
DATABASE OF OVER 10,000 OBJECTS IN IT.

**Leo:** WOW.

NOW YOU HAVE TO HAVE A

MOTORIZED TELESCOPE TO USE THIS RIGHT?

**Ray Maxwell:** YES AND WE HAVE  
THE MOTORIZED MOUNT ON, ON THIS UNIT.

[Pop captions up]

**Ray Maxwell:** WHICH IS A  
GERMANY EQUATORIAL MOUNT AND I  
WANT TO JUST POINT OUT ONE THING ON IT.  
THIS --

**Leo:** OKAY LET'S TAKE A LOOK  
AT THE TELESCOPE.

**Ray Maxwell:** THIS AXIS ON  
THE TELESCOPE OVER HERE IS A  
LINE WITH THE, THE CENTER OF  
THE EARTH.

**Leo:** HERE AND HERE?

**Ray Maxwell:** THE AXIS OF THE EARTH.

**Leo:** OKAY.

**Ray Maxwell:** AND IT IS RIGHT NOW --

**Leo:** WAIT HOW DO YOU KNOW THAT?

**Ray Maxwell:** I HAVE A LITTLE  
TELESCOPE DOWN HERE THAT I AIM  
AT THE NORTH STAR.

**Leo:** OKAY, OH OKAY.

**Ray Maxwell:** YEAH.

**Leo:** OKAY GOOD ALL RIGHT.  
SO YOU LOOK THROUGH HERE?

**Ray Maxwell:** SO I PERFECTLY ALIGN IT.

**Leo:** ALL RIGHT.

**Ray Maxwell:** AND THEN THIS  
THING IS ROTATING RIGHT NOW IN  
THE, IN THE OPPOSITE DIRECTION  
OF THE ROTATION OF THE EARTH.

**Leo:** SO WILL HOLD A STAR IN, IN PLACE?

**Ray Maxwell:** EXACTLY.

NOW THE NEXT STEP AS I COME TO  
THIS KARINA SOFTWARE WHICH IS  
VOYAGER 4.

**Leo:** MMM-HMM.

**Ray Maxwell:** AND I CAN PICK  
OUT AN OBJECT ON HERE AND CLICK  
ON IT THE RING NEBULA.

**Leo:** YOU HAVE A LOT OF  
TAURUS DON'T YOU?

**Ray Maxwell:** AND THEN I CAN  
SAY GO TO YOU AND YOU'LL SEE  
THE TELESCOPE NOW MOVING.  
AND ON THE SCREEN YOU'LL SEE IT  
SHOWING ME WHERE IT'S LOOKING  
ON THE STARMAP.  
SO I CAN THIS IS CALLED A GOTO TELESCOPE.

**Leo:** WOW.

**Ray Maxwell:** AND INSTEAD OF  
16 MINUTES OF STARHOPPING I'M THERE.

**Leo:** THAT'S REALLY COOL.  
SO THIS ACTUALLY WENT --

**Ray Maxwell:** YES.

**Leo:** TO THAT STAR?

**Ray Maxwell:** RIGHT.

**Leo:** DO IT AGAIN SO WE CAN  
ACTUALLY SEE THE MOVEMENT.  
IT'S NOT MUCH MOVEMENT.

**Ray Maxwell:** YEAH I'LL GO  
BACK UP HERE TO VEGA AND I'LL  
SAY GO TO.

**Leo:** SO THIS IS THE MOTOR  
AND IT'S ACTUALLY MOVING THIS.

AS LONG AS YOU'VE GOT THIS  
CALIBRATED SO THAT IT KNOWS  
WHERE, WHERE IT IS.

**Ray Maxwell:** RIGHT.

**Leo:** AND THAT'S WHY YOU USE  
THIS LITTLE AH --

**Ray Maxwell:** I FIRST ALIGN  
ON THE, ON THE POLE STAR AND  
THEN I ALIGN ON THREE BRIGHT  
STARS AND THE COMPUTER ADJUSTS  
ALL THE ALIGNMENT TO WITHIN A  
FEW MINUTES OF ARC.

**Leo:** NOW YOU SPENT A LOT OF  
MONEY ON ALL OF THIS.  
THIS IS AN EXPENSIVE HOBBY.

**Ray Maxwell:** WELL IT'S INTERESTING.  
YOU CAN GET INTO IT FOR THE  
PRICE OF A SET OF BINOCULARS.

**Leo:** MMM-HMM.

**Ray Maxwell:** YOU CAN GET A  
GOOD STARTER TELESCOPE FOR  
ABOUT \$1,000.

**Leo:** OKAY.

**Ray Maxwell:** NOW THAT  
TELESCOPE THE TUBE ON IT IS  
ABOUT \$1,000.

**Leo:** JUST THIS PART?

[MUSIC]

**Ray Maxwell:** YEAH.

**Leo:** AND THEN YOU HAVE TO  
BUY THE MOUNT AND MOTOR.

**Ray Maxwell:** THE MOUNT, THE  
MOUNT IS 5,000.

[Both laughing]

**Ray Maxwell:** BECAUSE THAT'S  
ONE OF THE FINEST MOUNTS GOING.  
BUT IF YOU DO ASTRO PHOTOGRAPHY  
THAT'S VERY IMPORTANT.  
AND THE EYEPIECES, YOU CAN  
EASILY SPEND \$1,000 ON THE EYEPIECES.

**Leo:** THIS COULD BE AN  
EXPENSIVE HOBBY BUT THAT'S THE POINT.  
START WITH THE BINOCULARS.

**Ray Maxwell:** YEAH.

**Leo:** WITH THESE INEXPENSIVE BOOKS.

**Ray Maxwell:** RIGHT.

**Leo:** THAT'S A GREAT WAY TO  
GET KIDS STARTED.

**Ray Maxwell:** YEAH.

**Leo:** EXCITED ABOUT IT.  
AND IT COULD BE A LIFELONG  
HOBBY ONCE THEY GET STARTED.

**Ray Maxwell:** YEAH.  
AND IT'LL BROADEN YOUR HORIZON  
WHEN YOU --

**Leo:** IT SURE WILL.

**Ray Maxwell:** START THINKING  
HOW BIG THE UNIVERSE IS.

**Leo:** WE'RE JUST A LITTLE SPACE.

**Ray Maxwell:** AND THAT YOU'RE  
LOOKING IN SPACE AND TIME.

**Leo:** YEAH.  
IT REALLY GETS VERY EXCITING.

**Ray Maxwell:** YEAH.

**Leo:** THIS IS HOW YOU MAKE A  
LITTLE MINIATURE CARL SAGAN OUT

OF YOUR KIDS.

**Ray Maxwell:** THAT'S RIGHT.

[Pop captions up]

**Leo:** RAY MAXWELL IS A COLOUR  
SCIENTIST, A PHOTOGRAPHER, A, A  
PILOT AND NOW WE KNOW AMATEUR  
ASTRONOMER AS WELL.

YOU CAN FIND OUT MORE ABOUT HIM  
AT HIS WEBSITE, IN FACT SOME  
GREAT PICTURES THERE.

[Blank for boards]

**Ray Maxwell:** THANK YOU.

**Leo:** THANK YOU RAY.

I'M REALLY JEALOUS.

I'M REALLY THIS LOOKS LIKE SO  
MUCH FUN.

ALL RIGHT WE'RE GONNA TAKE A  
CLOSEUP LOOK AT SOMETHING YOU'D  
FIND AROUND "THE LAB" NOW.  
THIS IS SOMETHING MY SEAN DOES  
WITH HIS LITTLE SUPER-DUPER MACROLENS.

UM HMM, THAT MUST BE THE  
SUNRISE BUTTON I THINK.

I THINK THAT'S WHAT THAT IS.

THAT'S THE SUNRISE BUTTON ON  
THIS TELESCOPE.

THAT'S MY GUESS.

I DON'T KNOW.

WHAT DO YOU THINK?

WE'LL FIND OUT.

**Ray Maxwell:** I THINK IT'S A SUNSET.

**Leo:** A SUNSET?

OH YEAH RIGHT IT'S GOING WELL

NO IT'S UPSIDE DOWN.

SEE HE'S TRICKY.

WE'LL FIND OUT WHEN WE CONTINUE.

STAY RIGHT HERE.

[MUSIC]

[Pop captions down]

[Commercial break]

[MUSIC]

[Pop captions up]

**Leo:** WELCOME BACK TO "THE LAB".

BEFORE THE BREAK WE ASKED YOU

WHAT THE TECH IS THAT?

I DON'T KNOW.

WHAT IS IT?

IT'S A BUTTON ON THE STAR WARS

DARTH VADER LAPTOP.

THAT'S WHAT IT, THAT'S THE SPACEKEY.

EVERYBODY KNOWS THAT.

THAT'S THE UNIVERSAL SYMBOL FOR

SPACE, NOT.

[Pop captions down]

**Leo:** WELL I WOULDN'T HAVE

GOTTEN THAT ONE.

THANK YOU SEAN CARRUTHERS.

HE TAKES THOSE WITH HIS SUPER-

DUPER MACRO LENS AND STUMPS ME

EVERY TIME.

NOW LET'S GET ANOTHER CALL ON

THE AIR KATE ABRAHAM.

**Kate:** WE HAVE ONE FROM

TORONTO ONTARIO AND THIS IS ROBERT.

**Leo:** AND ANOTHER SKYPE CALLER.

I LOVE THESE SKYPE CALLERS.

HELLO ROBERT.

[Pop captions up]

**Robert:** HI LEO.

HOW ARE YOU?

**Leo:** I'M WONDERFUL.

WELCOME TO THE SHOW.

[Tape dropout]

[Both laugh]

**Leo:** IF YOU WANT TO STALK ME

I'M ON THE WEST COAST NOW.

[Pop captions down]

**Leo:** WHAT CAN I, WHAT CAN I  
DO FOR YOU TODAY?

**Robert:** I HAD A QUESTION  
ABOUT MY MONITOR SETUP.

**Leo:** OKAY.

**Robert:** I HAVE AN LCD 70,  
17-INCH SCREEN MONITOR.

**Leo:** MMM-HMM.

**Robert:** ITS GOT GREAT RESOLUTION.  
BUT WHEN I TRY TO SET IT ON ITS  
HIGHEST IN MY SETTINGS PUSHING  
IT UP TO A HIGHEST PIXEL RATE  
LIKE UP TO 1280 BY 1024.

**Leo:** UH-HUH.

**Robert:** I SEE PROBLEMS ON THE SCREEN.

**Leo:** INTERESTING.

**Robert:** SORT OF LIKE IS IT  
THE LIGHTS TRYING TO ADJUST OR  
THE, OR THE LIGHTS KIND OF  
SOFTLY PULSING ON THE MONITOR.

**Leo:** YOU ACTUALLY SEE PULSING?

**Robert:** YEAH.

**Leo:** INTERESTING.

**Robert:** ALMOST LIKE THE  
LIGHT IS ADJUSTING.  
IT'S NOT LIKE A REGULAR PULSER.  
THE FLASHING IS JUST KIND OF UNEVEN.

**Leo:** YEAH THAT'S INTERESTING.  
I WOULD, I WOULD SAY FIRST  
THING TO CHECK --

[Talking background]

**Leo:** IS MAKE SURE THAT, THAT  
YOU HAVE THE RIGHT MONITOR  
DESCRIPTION IN YOUR DISPLACE SETTINGS.

**Robert:** RIGHT.

**Leo:** YOU WANT TO MAKE SURE  
THAT YOU'RE NOT ATTEMPTING A  
REFRESH RATE THE MONITOR CAN'T HANDLE.  
IN FACT USUALLY ON AN LCD YOU  
WANT 60 HERTZ.  
ALTHOUGH SOME MONITORS LCDS NOW  
DO A HIGHER REFRESH RATE.

**Robert:** YEAH.

**Leo:** SO FIRST THING TO DO IS  
GO INTO YOUR DISPLACE SETTINGS  
CONTROL YOU'RE ON WINDOWS OR MAC?

**Robert:** I'M ON WINDOWS XP.

**Leo:** OKAY.  
YOU'LL GO INTO THE CONTROL  
SETTINGS DISPLACE PANEL AND  
YOU'LL LOOK AT THE MONITOR, YOU  
KNOW CLICK THE MONITOR TAB TO  
SEE WHAT MONITOR IS DESCRIBED THERE.  
NOW HERE WE HAVE DEFAULT MONITOR.  
YOU MIGHT HAVE PLUG AND PRAY,

PLUG AND PLAY VGA OR SOMETHING  
LIKE THAT.

IF IT DOESN'T ACTUALLY SAY THE  
MAKE AND MODEL OF THE, OF THE  
MONITOR YOU'VE GOT YOU PROBABLY  
WANT TO INSTALL A MONITOR  
DRIVER FOR THAT MONITOR.

**Robert:** OKAY.

**Leo:** AND THEN YOU KNOW  
FAILING THAT LOOK AT THE REFRESH RATES.  
YOU SEE HERE ON MINE ITS 85 HERTZ.  
THAT'S PROBABLY NOT THE IDEAL  
REFRESH RATE FOR THIS MONITOR.  
AN LCD USUALLY YOU WANT IT TO  
BE 60 HERTZ.

IF IT IS A REFRESH RATE THAT  
THE MONITOR HAS TROUBLE WITH OR  
IF IT'S TOO LOW A REFRESH RATE  
YOU MIGHT SEE THAT PULSING OR  
FLICKERING.

**Robert:** AH I SEE OKAY.

[Pop captions up]

**Leo:** THE, THE OTHER THING IS  
THAT REMEMBER AN LCD, THE WAY  
AN LCD WORKS AT LEAST UNTIL  
RECENTLY WAS THEY HAVE A  
FLOURESCENT LIGHT BACK BEHIND  
THE SHUDDERS OF THE LCDS SHINING OUT.

[Pop captions down]

**Leo:** AND YOU'VE PROBABLY  
SEEN FLUORESCENT LIGHTS PULSE.  
A PULSING FLUORESCENT OFTEN  
MEANS THAT THERE'S SOMETHING

WRONG WITH THE POWER SUPPLY.

IS IT AN OLDER MONITOR OR BRAND NEW?

**Robert:** AH IT'S A PRETTY NEW MONITOR.

BUT I DO LIVE IN AN OLDER BUILDING.

**Leo:** YEAH SEE YOU MAY --

[Both talking at once]

**Leo:** YOU MAY BE SEEING THAT.

SO THAT'S ANOTHER THING TO LOOK

AT IS IF IT'S NOT GETTING

CONSISTENT VOLTAGE YEAH IT'LL

PULSE, IT'LL FLICKER.

**Robert:** RIGHT.

**Leo:** IT'S A FLUORESCENT LIGHT.

**Robert:** YEAH.

**Leo:** YOU KNOW IF YOU'VE EVER

PUT A COMPACT FLUORESCENT ON A

DIMMER SWITCH YOU KNOW EXACTLY

THAT SAME PULSE FLICKERY THING--

**Robert:** OH --

[Both talking at once]

**Leo:** BECAUSE IT CAN'T HANDLE IT.

**Robert:** YEAH IT'S OBNOXIOUS ACTUALLY.

**Leo:** IT IS, IT IS.

**Robert:** YEAH.

**Leo:** SO I WOULD SEE MAYBE

IT'S PROBABLY A GOOD IDEA

ANYWAY TO HAVE AN

UNINTERRUPTABLE POWER SUPPLY

THAT'S A BATTERY BACKUP THAT

CONDITIONS THE POWER THAT'S

COMING TO YOUR COMPUTER.

THAT WILL OFTEN IF YOU HAVE A,

IF YOU HAVE A BUILDING WITH

POWER THAT FLUCTUATES A LITTLE  
BIT IT'S PROBABLY A GOOD IDEA  
NOT JUST FOR THE MONITOR BUT  
THE COMPUTER.

COMPUTER PARTS ARE VERY  
SENSITIVE TO LOW POWER  
SITUATIONS AS WELL AS SPIKES.

**Robert:** YEAH, YEAH.

**Leo:** SO A UPS SMOOTHES THAT OUT.  
SO THAT'S ANOTHER THING TO  
THINK ABOUT IS MAYBE GETTING A  
UPS ON THAT THING.

**Robert:** RIGHT, RIGHT I --

**Leo:** AND THEN FINALLY IT  
COULD BE THE POWER.  
IT COULD BE THE ACTUAL POWER  
SUPPLY, THE VOLTAGE --

**Robert:** YEAH, YEAH SEE THE  
THING I NOTICE IS THAT WHEN  
IT'S DOWN AT LIKE 1280 BY WHAT IS IT --

**Leo:** IT DOESN'T DO IT AT  
LOWER RESOLUTIONS?

**Robert:** THEN IT'S FINE.

**Leo:** YEAH THAT --

**Robert:** YEAH.

**Leo:** THAT USUALLY MEANS THAT  
THE REFRESH RATE THAT IT'S  
ATTEMPTING AT THAT HIGHER  
RESOLUTION IT CAN'T HANDLE.

**Robert:** RIGHT.

**Leo:** IT MAYBE YOUR VIDEO CARD EVEN.

**Robert:** RIGHT.

WELL THE THING IS MY VIDEO CARD

IS ACTUALLY NOT EXACTLY A HIGH-AMPED VIDEO CARD.

**Leo:** YEAH IT MAYBE THAT THE VIDEO CARD CAN'T HANDLE THAT RESOLUTION. THERE'S A NATIVE RESOLUTION FOR THAT 17-INCH DISPLAY. IT PROBABLY IS 1280 BY 1024.

**Robert:** YEAH.

OH I'M SORRY ACTUALLY 1024 BY 768 IS WHERE IT'S IDEAL.

**Leo:** NOW WHAT, WHAT YOU WANT TO FIND OUT IS WHAT'S THE NATIVE RESOLUTION FOR AN THAT LCD?

**Robert:** RIGHT.

**Leo:** IN OTHER WORDS HOW MANY AN, AN LCD LIKE, LIKE A PLASMA LIKE ANY DIGITAL DISPLAY ACTUALLY HAS A CERTAIN NUMBER OF DOTS ACROSS AND A CERTAIN NUMBER OF DOTS UP, UP AND THAT'S THERE WHAT WE CALL NATIVE RESOLUTION.

**Robert:** RIGHT.

**Leo:** SO IF THE NATIVE RESOLUTION OF THAT MONITOR IS 1024 BY 768 IT WILL NEVER LOOK PARTICULARLY GOOD AT ANY OTHER RESOLUTION. YOU KNOW USUALLY YOU WANT TO RUN LCDS AT THEIR NATIVE RESOLUTION.

**Robert:** RIGHT.

**Leo:** OTHERWISE YOU GET SCALING ARTIFACTS AND YOU MAY GET, YOU MAY GET REFRESH ISSUES.

**Robert:** RIGHT, RIGHT, I SEE SO --

**Leo:** THAT'S WHY THE FIRST THING TO DO IS IF YOU CAN GET THE DRIVER FOR THAT MONITOR. IT'LL TELL YOU THE DRIVER WILL SAY THIS IS WHAT I WANT IT TO BE.

**Robert:** MMM-HMM.

**Leo:** CAUSE IT'S THAT'S BASICALLY WHAT'S IN A MONITOR DRIVER IS JUST A, A SERIES OF TECH STATEMENTS SAYING THIS IS THE OPTIMAL REFRESH RATE. THIS IS THE OPTIMAL RESOLUTION.

[MUSIC]

**Leo:** THIS IS THE REFRESH RATE I CAN HANDLE.

**Robert:** RIGHT.

**Leo:** AND IT KEEPS YOU FROM SETTING IT TO THINGS THAT CAN THAT YOU SHOULDN'T BE SETTING IT TO.

SO MAKE FIRST THING TO DO IS CHECK AND SEE IF YOU'VE GOT THE RIGHT MONITOR TYPE IN THERE. IF YOU DON'T GET A DRIVER FROM THE MANUFACTURER AND INSTALL THAT. THAT'LL PROBABLY FIX THE PROBLEM. IT'LL CERTAINLY GIVE YOU THE RIGHT SETTINGS.

PLAY WITH THE REFRESH RATES AND YOU MIGHT CONSIDER CONDITIONING YOUR POWER IF THE POWER IS A PROBLEM.

**Robert:** RIGHT, RIGHT.

**Leo:** OKAY ROBERT?

**Robert:** THAT'S GREAT.

**Leo:** A COUPLE OF IDEAS.  
FAR TOO MANY PROBABLY.

**Robert:** NO, NO, NO.  
I THINK YOU'VE GIVEN ME A  
HANDFUL THERE.

**Leo:** YEAH SOMETHING TO THINK ABOUT.

**Robert:** NO PROBLEM.

**Leo:** HEY I'M REALLY GLAD YOU  
WATCH THE SHOW AND YOU'VE BEEN  
WITH US FOR SO LONG.  
THANK YOU SO MUCH.

**Robert:** WELL I'VE ALWAYS  
ENJOYED IT AND HELLO TO  
EVERYONE THERE.

**Leo:** I WILL PASS ALONG YOUR GREETINGS.  
THANKS ROBERT.

**Robert:** THANKS FOR YOUR SHOW.

**Leo:** ALL RIGHTY TAKE CARE.

**Robert:** BYE.

**Leo:** I'LL TELL YOU WHAT.  
I'LL PASS EM ALONG RIGHT NOW  
CAUSE SEAN CARRUTHERS IS HERE.  
MY FABULOUS WINGMAN.  
ARE YOU MY WINGMAN?

[Laughs]

**Sean Carruthers:** SURE.

**Leo:** HE'S ALSO OUR GADGET  
GUY AND HE'S GOT A SHINY FOR US TODAY.

**Sean Carruthers:** YES.

**Leo:** WHAT IS THIS?

**Sean Carruthers:** YOU

REMEMBER A FEW WEEKS AGO WE  
WERE TALKING ABOUT MEDIA  
STREAMING DEVICES?

**Leo:** YES.

[Pop captions up]

**Sean Carruthers:** THIS IS ONE  
I WANTED TO TALK ABOUT BUT WE  
RAN OUT OF TIME SO I WANTED TO  
MAKE SURE THAT WE GOT TO THIS.

**Leo:** GOOD OH GOOD.

[Pop captions down]

**Sean Carruthers:** SO THIS IS  
A D-LINK'S MEDIALOUNGE SERIES.  
D-LINK HAS BEEN ONE OF THE, THE  
COMPANIES THAT'S BEEN GETTING  
REALLY GOOD AT THIS.

**Leo:** AND WHAT DOES IT DO?

**Sean Carruthers:** IT STREAMS MULTIMEDIA --

**Leo:** FROM IT OR FROM A COMPUTER?

**Sean Carruthers:** FROM A  
COMPUTER TO YOUR TELEVISION SET.

**Leo:** SO THIS GETS HOOKED UP  
TO THE TV?

**Sean Carruthers:** THAT GETS  
HOOKED UP TO YOUR TV.  
IT'S A --

**Leo:** WHY IS IT SO BIG?

**Sean Carruthers:** WELL IT'S I  
THINK LARGELY DESIGNED TO FIT  
IN WITH THE REST OF YOUR  
COMPONENTS.

[Pop captions up]

**Leo:** OH OKAY.

**Sean Carruthers:** YOU KNOW  
YOU GET A BUNCH OF THEM THAT  
LOOK LIKE THEY HAVE A – FORM FACTOR.

[Both talking at once]

**Leo:** THEY LOOK LIKE ROUTERS  
OFTEN YEAH.

**Sean Carruthers:** THEY LOOK LIKE ROUTERS.  
THEY DON'T FIT IN WITH ANYTHING  
ELSE ESSENTIALLY.

**Leo:** YEAH.

[Pop captions down]

**Leo:** SO THIS IS, THIS IS TO  
SIT UNDER YOUR STEREO OR WHATEVER.

**Sean Carruthers:** RIGHT.

**Leo:** YEAH.

**Sean Carruthers:** THIS, THIS  
FITS DIRECTLY UNDER A DVD PLAYER.

**Leo:** RIGHT.

**Sean Carruthers:** YOUR AMPLIFIER WHATEVER.

**Leo:** RIGHT.

**Sean Carruthers:** SO IT DOES FIT IN.  
IT'S GOT WIRELESS ON THE BACK  
SO YOU CAN PULL IN WIRELESSLY  
ACROSS YOUR NETWORK.  
AND IT DOES HAVE ETHERNET SO  
YOU CAN STREAM IF YOU HAVE A  
HARDWIRED CONNECTION AS WELL.

**Leo:** SO YOU WOULD GET THIS  
ON THE NETWORK EITHER WIRED OR  
WIRELESS.

**Sean Carruthers:** MMM-HMM.

**Leo:** AND THEN CONNECT IT TO  
YOUR TELEVISION AND YOUR STEREO

AND THAT WAY YOU COULD TAKE  
CONTENT THAT'S ON YOUR COMPUTERS --

**Sean Carruthers:** RIGHT.

**Leo:** AND WATCH THEM ON YOUR TV.

**Sean Carruthers:** RIGHT AND  
THIS HAS BEEN A VERY HARD THING  
TO DO PROPERLY.

**Leo:** YEAH.

**Sean Carruthers:** SO AH VIDEO ESPECIALLY.

SO IT'S, IT'S ALWAYS BEEN VERY  
EASY TO GET MUSIC ACROSS AND  
PHOTOGRAPHS.

BUT THE, THE VIDEO PART HAS  
BEEN THE REALLY HARD PART AND  
THEY'VE BEEN GETTING --

**Leo:** AND YOU LIKE THIS ONE?

**Sean Carruthers:** VERY GOOD AT THIS.

**Leo:** YEAH? THIS WORKS PRETTY WELL FOR YOU?

**Sean Carruthers:** RIGHT,  
YEAH, YEAH, YEAH.

**Leo:** IS THAT WHAT WE'RE  
WATCHING NOW OR IS THIS --

**Sean Carruthers:** YEAH THIS  
IS THE, THE SCREEN ON THE BACK  
SO WE'LL JUST FLIP THROUGH THE MENU.  
GO BACK TO THE VIDEO SECTION  
FOR AN EXAMPLE IF WE CAN AROUND THERE.  
SO IT'S, IT'S --

**Leo:** IT'S GOT A NICE  
ACTUALLY A PRETTY NICE USER INTERFACE.

**Sean Carruthers:** IT'S GOT A VERY GOOD --

[Both talking at once]

**Leo:** SO THIS IS HOW YOU

WOULD NAVIGATE THROUGH THE  
VIDEOS IN YOUR COMPUTER?  
YOU DON'T ACTUALLY AND ONCE  
AGAIN "THE LABRATS" LADIES AND GENTLEMEN.

**Sean Carruthers:** YEAH THAT'S  
THE ONLY ONE I HAVE CLEARANCE FOR.

**Leo:** YOU DON'T WE DON'T  
ACTUALLY HAVE TO GO TO THE  
COMPUTER TO DO THIS.

**Sean Carruthers:** RIGHT.

**Leo:** WHICH IS NICE, IT HAS  
ITS OWN INTERFACE.

**Sean Carruthers:** YEAH RIGHT.

**Leo:** AND THERE'S SOFTWARE  
RUNNING ON THE COMPUTER?

**Sean Carruthers:** MY YEAH MY  
COMPUTER'S WAY OVER ON THE  
OTHER SIDE OF THIS RIGHT NOW --

**Leo:** THAT'S WHAT WE'RE  
WATCHING THIS ON?

**Sean Carruthers:** AND IT'S  
STREAMING WIRELESSLY.

**Leo:** OH THAT'S NEAT.  
AND MAC OR WINDOWS OR BOTH?

**Sean Carruthers:** AH IT WILL  
WORK WITH CERTAIN MAC THINGS.  
THE CLIENT THAT COMES WITH IT  
IS WINDOWS ONLY.

**Leo:** OKAY.

**Sean Carruthers:** THAT'S,  
THAT'S FOR THE SOFTWARE SERVICE  
SOFTWARE THAT YOU'LL PUT ON  
YOUR COMPUTER.

BUT THERE ARE OTHER STREAMING  
SERVER SOFTWARE PACKAGES THAT  
YOU CAN GET FOR MAC --

**Leo:** OKAY.

**Sean Carruthers:** THAT WILL WORK AS WELL.

**Leo:** OKAY.

**Sean Carruthers:** THERE'S THIRD PARTY.

[Pop captions up]

**Leo:** SO RIGHT NOW WE'RE  
WATCHING OFF WINDOWS.

**Sean Carruthers:** YEAH.

**Leo:** IT ACTUALLY LOOKS VERY WELL.

**Sean Carruthers:** YEAH IT  
LOOKS PRETTY GOOD.

**Leo:** HERE'S YOUR SHINIES.

**Sean Carruthers:** YEAH.

**Leo:** YOUR POSITIVES.

**Sean Carruthers:** SO A GOOD  
THING IT DOES STREAM AUDIO AND  
VIDEO VERY WELL THESE DAYS.  
IT DOES HAVE AN HD MIC CONNECTION --

**Leo:** OH.

**Sean Carruthers:** SO YOU'VE GOT THAT GOOD QUALITY  
CONNECTION FOR BOTH VIDEO AND AUDIO.

**Leo:** THAT'S GREAT.

**Sean Carruthers:** AND IT DOES  
STREAM FROM A USB KEY.  
IT HAS A USB SLOT ON THE FRONT.  
THE DULL IT DOES REQUIRE A  
COMPUTER WITH A SHARED FOLDER  
SO THERE'S NETWORKING MAGIC  
THAT'S REQUIRED THERE.  
AND SOME FORMATS STILL WON'T PLAY.

SO YOU HAVE TO MAKE SURE THAT  
IT IS A FORMAT THAT IS SUPPORTED.

[Pop captions down]

**Sean Carruthers:** SO IF  
YOU'VE GOT A, A PROTECTED APPLE  
FORMAT IT PROBABLY WON'T PLAY THIS.

**Leo:** RIGHT.  
BUT THERE ARE CONVERTERS THAT  
CAN CONVERT IT.

**Sean Carruthers:** THERE ARE CONVERTERS.

**Leo:** THIS HAS ALWAYS BEEN  
THE PROBLEM IS THERE'S NO EASY  
KIND OF POINT AND CLICK WAY TO DO IT.  
THIS SOUNDS LIKE PRETTY GOOD  
AND 250 BUCKS IS NOT VERY  
EXPENSIVE, YEAH.

**Sean Carruthers:** YEAH IT'S PRETTY GOOD.

**Leo:** IT LOOKS GOOD.

[Pop captions up]

**Leo:** I'M LIKING IT.  
THAT IS THE D-LINK MEDIALOUNGE.

**Sean Carruthers:** YEP THE VSM520.

**Leo:** 520 OKAY.  
THANK YOU SEAN CARRUTHERS.  
COMING UP IN JUST A BIT MORE OF  
YOUR CALLS.  
A LITTLE LATER ON WE'RE GONNA  
SHOW YOU HOW TO BUILD YOUR OWN WEBSITE.  
RIGHT NOW THOUGH OUR QUICK QUIZ  
QUESTION OF THE DAY.  
HERE IT IS.

[Blank for boards]

**Leo:** A DAY THAT WILL LIVE IN INFAMY.

[Blank for boards]

**Leo:** WAIT A MINUTE, WAIT A MINUTE.  
WHEN WAS THE FIRST MANNED SPACE FLIGHT?  
WE'RE NOT TALKING DOGS HERE RIGHT?  
MAN.

**Sean Carruthers:** YEAH.

**Leo:** MAN OKAY.  
THINK ABOUT IT.  
WE'LL TALK ABOUT IT WHEN "THE LAB" CONTINUES.

[Pop captions down]

[MUSIC]

[Commercial break]

[MUSIC]

**Kate:** HEY WELCOME BACK TO  
"THE LAB WITH LEO".

[Pop captions up]

**Kate:** I'M KATE ABRAHAM AND  
NOW ITS TIME FOR MY TIP OF THE DAY.  
AND NOW THIS TIP IS FOR ALL YOU  
PEOPLE OUT THERE WHO LOVE  
FOSSILS AND DINOSAURS.

[Pop captions down]

**Kate:** YOU CAN ASSOCIATE WITH  
ROSS GALA IN "JURASSIC PARK"  
WAS THE MOVIE OF THE YEAR FOR  
YOU PALEONTOLOGY PORTAL, VERY  
COOL SITE.

[Pop captions up]

**Kate:** THE GOOD THING ABOUT  
IT IS IT'S ONE OF THOSE SITES  
THAT YOU COULD HAVE TO BE  
PROFESSIONAL OR AN AMATEUR.  
ANYBODY CAN ENJOY IT, EXTREMELY

INTERACTIVE.

THE COOL THING IS ONCE YOU GO THROUGH IT YOU CAN START TO LOOK AT THE DIFFERENT FOSSILS YOU'RE INTERESTED IN.

SO FOR INSTANCE IF I LIKE PLANTS I CAN CLICK THROUGH AND I CAN GO FROM HERE AND IT GIVES ME AN EXPLANATION OF WHAT THE PLANTS ARE.

[Pop captions down]

**Kate:** WHERE THEY'VE BEEN FOUND AND WHATEVER ERA THEY CAME FROM.

YOU CAN FIND IT ALL OUT AND ITS AT PALETOLPORTAL.ORG.

**Leo:** SEARCH FOR LEO LAPORTE ON THERE. I WONDER IF THEY HAVE --

**Kate:** DON'T BE YOU'RE NOT A FOSSIL.

[Both laughing]

**Leo:** ACTUALLY MY DAD IS A PALEONTOLOGIST BELIEVE IT OR NOT.

**Kate:** REALLY?

**Leo:** YEAH, YEAH.

THAT'S A BEAUTIFUL SITE.

THAT'S REALLY NICE.

**Kate:** IT'S SO COOL.

IT'S ONE OF THOSE AS WELL LIKE IT'S OPEN TO ANYBODY YOU KNOW.

**Leo:** YEAH I LOVE FOSSILS.

**Kate:** AND I THINK IT'S SO COOL.

**Leo:** AREN'T THEY COOL?

**Kate:** VERY COOL.

**Leo:** YEAH.

THANK YOU KATE.

**Kate:** THANK YOU.

**Leo:** LET'S GET ANOTHER  
CALLER ON HERE.

**Kate:** OKAY WE'RE GOING TO  
VICTORIA BRITISH COLUMBIA AND  
WE HAVE MATT.

**Leo:** ALL RIGHT THANKS, HEY MATT.

**Matt:** HI.

**Leo:** HOW ARE YOU?

[Pop captions up]

**Matt:** I'M GOOD YOU?

**Leo:** I'M WONDERFUL.

WHAT CAN I DO FOR YOU TODAY?

**Matt:** WELL I WAS LOOKING FOR  
A GOOD EDITING PROGRAM TO EDIT  
MY VIDEOS THAT I'VE MADE WITH  
MY VIDEO CAMERA FOR.

**Leo:** OH YOU KIDS TODAY.

[Pop captions down]

**Matt:** YEAH.

**Leo:** YOU THINK ITS SO EASY MAKING VIDEO.  
YOU'RE GOING OUT, YOU'RE MAKING MOVIES.

[Pop captions up]

**Leo:** YOU'RE UPLOADING EM.  
YOU'RE GETTING MILLIONS OF VIEW  
ON YOUTUBE.

WELL I, I WISH I WERE YOU.

[Pop captions down]

**Matt:** YEAH.

**Leo:** SO CONGRATULATIONS.  
SO UM WHAT ARE YOU USING RIGHT NOW?

I MEAN HOW ARE YOU DOING IT?

**Matt:** WELL RIGHT NOW I'M  
JUST YOU KNOW USING THE BASICS  
WITH LIKE WINDOWS MOVIE MAKER  
AND SUCH.

**Leo:** SO YOU WANT TO TAKE A  
STEP UP FROM MOVIE MAKER?

**Matt:** YEAH.

**Leo:** YOU KNOW I MEAN THE  
ADVANTAGE OF MOVIE MAKER IS IT  
COMES WITH WINDOWS SO YOU  
ALREADY HAVE IT.

**Matt:** YEAH.

**Leo:** BUT IF YOU WANT TO DO  
MORE UM YOU WANT TO DO MORE  
EDITING CONTROL, MORE  
TRANSITIONS, TITLING BURN TO  
DVD THAT KIND OF STUFF?

**Matt:** YEAH THAT'S KIND OF  
WHAT I'M LOOKING FOR.

**Leo:** YEAH THIS IS I ALWAYS  
RECOMMEND THIS PROGRAM.  
I'M GETTING TO BE A BROKEN  
RECORD ON IT BUT IT REALLY IS  
THE BEST PROGRAM.

ITS CALLED ADOBE PREMIERE  
ELEMENTS, VERSION 4 JUST CAME  
OUT VISTA COMPATIBLE.  
AND IT IS JUST A DYNAMITE PROGRAM.  
YOU'LL FEEL VERY COMFORTABLE  
BECAUSE AND, AND THIS IS TRUE  
OF MOST EDITING PROGRAMS.  
IT, IT HAS THE SAME KIND OF

INTERFACE AS WINDOWS MOVIE MAKER.

THAT TIMELINED BASED INTERFACE.

SO YOU'LL IMPORT YOUR VIDEO

INTO YOUR COMPUTER.

WE'LL START A NEW PROJECT HERE.

BUT YOU COULD IF YOU DON'T HAVE

THE VIDEO ON THE COMPUTER YET

YOU COULD CAPTURE VIDEO.

THAT'S ONE OF THE BUTTONS RIGHT HERE.

BUT WE'LL JUST START A NEW PROJECT.

[Pop captions up]

**Leo:** AND WE'RE GONNA CALL IT

UNTITLED, WHICH IS A VERY

INNOVATIVE NAME.

I LIKE TO USE THAT NAME.

[Pop captions down]

**Leo:** AH NOW YOU'LL SEE, HOLD ON A SECOND.

IT'S TAKING IT'S CHURNING A LITTLE BIT.

THERE WE GO.

YOU'LL SEE SOMETHING THAT LOOKS

VERY MUCH LIKE WINDOWS MOVIE MAKER.

DOWN HERE WE HAVE THE TIMELINE.

YOU'LL HAVE YOUR, YOUR CLIP HERE.

YOU'LL HAVE A, A WHOLE BUNCH OF

CONTENT HERE AS YOU'VE IMPORTED

IT SO YOU COULD DRAG STUFF TO

THE TIMELINE.

YOU CAN PUT TITLES IN.

YOU CAN MIX AUDIO.

YOU CAN ADD NARRATION.

I MEAN IT'S, THIS IS A FAIRLY

SOPHISTICATED PROGRAM.

IT'S BASED ON ADOBE'S BIG

BROTHER PREMIERE WHICH IS A PRO  
PROGRAM THAT COSTS ALMOST A  
THOUSAND BUCKS AND IT'S A VERY,  
VERY POWERFUL PROGRAM.

THIS, THIS IS, THIS IS, THIS IS  
90% OF IT.

AND HERE'S ALL THE TRANSITIONS.  
THE VIDEO EFFECTS YOU CAN USE.

THESE ARE THE TRANSITIONS.

THE TITLING, I MEAN THIS IS A  
REALLY NICE PROGRAM.

NOT BUT ONE, ONE THE ADVANTAGE  
IT HAS IS IT'S NOT TOO HARD TO  
FIGURE OUT.

I THINK SOMETIMES YOU GET TO  
PROGRAMS ON THE MAC YOU GO TO  
FINAL CUT AND IT'S LIKE WOW.

WHERE DO I START?

THIS PROGRAM IS PRETTY  
STRAIGHTFORWARD AND YET I THINK  
YOU CAN GET A VERY PROFESSIONAL  
PRODUCT.

NOW I KNOW YOU'RE ON A BUDGET  
CAUSE YOU'RE A STUDENT RIGHT?

**Matt:** YEAH.

**Leo:** THIS IS UNDER \$100.

**Matt:** OKAY.

**Leo:** IT'D BE, BE A GOOD  
THING TO ASK FOR AS A GIFT.  
BUT YOU COULD ALSO PROBABLY  
SAVE UP YOUR PENNIES AND GET IT  
FOR YOURSELF AND I THINK IT'S A  
GREAT PROGRAM.

SONY MAKES A COUPLE OF VERY  
GOOD PROGRAMS TOO.  
THEY, THEY BOUGHT THE VEGAS  
VIDEO LINE AND THEIR MOVIEBLAST  
STUDIO AND SOME OF THEIR OTHER  
PROGRAMS ARE QUITE GOOD.  
BUT I HAVE TO SAY I THINK  
ADOBE'S GOT THIS MARKET SEWN UP.  
THEY'VE BEEN, THEY'VE BEEN  
DOING THIS FOR SO LONG.  
THEY MAKE THE PREM, THE KIND OF  
TOP OF THE LINE PRO WINDOWS  
PRODUCT PREMIERE.  
I THINK THIS IS AN EXCELLENT CHOICE.  
IT'S ADOBE PREMIERE ELEMENTS.  
ELEMENTS IS THE INEXPENSIVE VERSION.

[Pop captions up]

**Leo:** AND WHAT THEY'VE DONE  
IS, IS THE SAME THING WITH  
PHOTOSHOP ELEMENTS.  
THEY JUST TOOK OUT A FEW OF THE  
PRO FEATURES TO GIVE YOU, YOU  
KNOW A, A BASIC TOOL THAT DOES  
A LOT OF WHAT YOU WANT WORK,  
WORK WITH.

[Pop captions down]

**Matt:** OKAY.

**Leo:** WHAT KIND OF MOVIES ARE  
YOU MAKING?

[MUSIC]

**Matt:** UM HMM WELL RIGHT NOW  
I'VE JUST I'VE MADE A COUPLE OF  
STUPID ONES THAT --

**Leo:** THEY'RE ALL STUPID.

**Matt:** YEAH.

**Leo:** HAVE YOU BEEN TO YOUTUBE LATELY?

IT DOESN'T MATTER.

UPLOAD EM, PUT EM ON YOUTUBE

SHARE EM WITH THE WORLD BECAUSE

THEY YOU KNOW THIS IS, THIS IS

HOW YOU GET IN STARTED IN THIS STUFF.

AND I THINK IT'S VERY EXCITING

BECAUSE ANYBODY NOW WITH A

PERSONAL COMPUTER AND

INEXPENSIVE SOFTWARE, AN

INEXPENSIVE HOME CAMCORDER CAN

MAKE REALLY GOOD PRO STUFF AND

THIS IS HOW YOU LEARN IS BY DOING IT.

SO GET OUT THERE AND MAKE SOME

MOVIES OKAY MATT?

**Matt:** ALL RIGHT.

**Leo:** ALL RIGHT THANKS FOR THE CALL.

**Matt:** ALL RIGHT.

**Leo:** IT'S GREAT TO TALK TO

YOU, TAKE CARE.

[Pop captions up]

**Leo:** MORE OF YOUR CALLS

COMING UP IN JUST A BIT AND I'M

GONNA SHOW YOU.

I HAVE PICTURES OF MERLIN'S

BABY A 50-MILLIMETRE LENS I

REALLY WANT TO SHOW YOU.

WE'LL GET TO THOSE BEFORE THE

END OF THE SHOW MAYBE AT THE

END OF THE SHOW.

[Pop captions down]

**Leo:** SO YOU STAY RIGHT HERE.

DAVE SHEA ALSO COMING UP, HOW  
TO BUILD A WEBSITE USING CSS.  
DON'T GO AWAY.

FIRST LET'S TAKE A LOOK AT THE  
GUYS WHO DO ALL THE HARD WORK  
IN HERE.

THEY STARTED WITH AH, WITH  
WINDOWS MOVIE MAKER BELIEVE IT  
OR NOT.

5, 4, 3, 2, 1.

[MUSIC]

[Commercial break]

[MUSIC]

**Leo:** WELCOME BACK TO "THE LAB".

LEO LAPORTE HERE.

LET'S GET ANOTHER CALL ON THE AIR.  
KATE I KNOW YOU'VE GOT SOMEBODY  
FOR ME.

**Kate:** I HAVE INDEED.

I HAVE STUART ON THE LINE AND  
HE'S FROM A PLACE CALLED VERNON  
WHICH IS THE SAME NAME AS MY  
GRANDDAD IN B.C.

**Leo:** VERNON WAS NAMED AFTER  
YOUR GRANDDAD ACTUALLY.

**Kate:** EXACTLY.

**Leo:** MANY PEOPLE DON'T KNOW THAT.  
HEY STUART HOW ARE YOU TODAY?

**Stuart:** I AM JUST GREAT.

THANKS FOR TAKING MY CALL.

**Leo:** WELL THANK YOU FOR CALLING.  
WHAT CAN I DO FOR YOU?

**Stuart:** WELL I WAS LISTENING  
TO ONE OF YOUR PODCASTS AND I  
COULDN'T, I TRIED TO LOOK IT UP  
BUT I COULDN'T FIND IT.  
YOUR SHOWNOTES LEAVE SOMETHING  
TO BE DESIRED.

[Leo mock crying]

**Leo:** THAT'S CAUSE IT'S ALL  
ME AND I DON'T HAVE TIME TO DO  
SHOWNOTES.  
YOU WANT NOW YOU WANT SHOWNOTES?  
WHAT IS IT THAT YOU'RE LOOKING FOR?  
MAYBE I CAN HELP YOU.

**Stuart:** I, I HEARD YOU  
MENTION SOMETHING THAT KIND OF  
MADE THE START BUTTON BEHAVE  
LIKE VISTA.

**Leo:** OH THIS IS PROBABLY  
SOMETHING PAUL THERAULT WAS  
TALKING ABOUT ON WINDOWS WEEKLY  
MAYBE?

**Stuart:** YEAH SOMETHING LIKE THAT.  
THAT'S --

[Pop captions up]

**Leo:** AH I DON'T REMEMBER OFF  
THE TOP OF MY HEAD.  
USUALLY MY SHOWNOTES ON WINDOWS  
WEEKLY CAUSE PAUL GIVES ME ALL  
THAT INFORMATION AHEAD OF TIME.  
UM BUT THERE ARE A LOT OF WAYS  
TO DO THIS.  
IN FACT I THINK THERE ARE A LOT  
OF PEOPLE WHO DON'T WANT TO GO

TO VISTA, WHO WANT TO STICK WITH XP.

IN FACT MORE AND MORE THAT

SEEMS TO BE THE CASE.

AND IF YOU THINK ABOUT IT I

GUESS IT MAKES SENSE.

XP'S MATURE.

IT'S BEEN PATCHED NOW SO THAT

IT'S COMPLETELY SECURE.

UM IT WORKS.

IT'S FASTER THAN VISTA WITH

FEWER RESOURCES.

UM THE ONLY THING REALLY

DIFFERING, THE ONLY THING THAT

YOU MIGHT WANT IS THE LOOK OF VISTA.

YOU KNOW NOW YOU'RE NEVER GONNA

GET AEROGLASS.

BUT IF YOU WANT TO DO THINGS

LIKE MAKE YOUR START BUTTON

LOOK LIKE VISTA THERE'S LOTS OF

WAYS TO DO THIS.

[Pop captions down]

**Leo:** THERE ARE A COUPLE OF

PLACES I WOULD GO.

I WOULD START, FIRST

WINCUSTOMIZE.

I THINK THIS IS PROBABLY WHAT

WE WERE TALKING ABOUT.

THESE ARE THE FOLKS AT STARDOCK

WHO DO HAVE AND HAVE BEEN FOR

YEARS MAKING CUSTOM SKINS FOR WINDOWS.

AND THEY HAVE EVERYTHING FROM

MAKING VISTA LOOK MORE LIKE XP

TO MAKING XP LOOK MORE LIKE VISTA.

AH MOST OF THE STUFF IS NOT  
FREE, ITS SHAREWARE BUT YOU CAN  
TRY IT FIRST.

[Pop captions up]

**Leo:** THESE ARE SKINS  
ESSENTIALLY AND VISTA I MEAN XP  
IS PRETTY SKINNABLE.  
AND FOR A LONG TIME I DIDN'T  
RECOMMEND THESE BECAUSE THEY  
SLOWED YOUR SYSTEM DOWN AND SO FORTH.  
BUT THEY'VE GOTTEN VERY GOOD AT  
DOING THIS UM WITHOUT UM  
ACTUALLY HURTING YOUR SYSTEM.

[Pop captions down]

**Leo:** YOU ACTUALLY MIGHT FIND  
IN HERE A START BUTTON YOU LIKE  
BETTER THAN THE VISTA START BUTTON.  
THEY HAVE ALL KINDS OF START  
BUTTONS AND SLIDERS AND WINDOWS  
SCHEMES AND SO FORTH.  
THERE IS A VISTA SKIN FOR XP.  
I'LL SHOW YOU A LITTLE BIT HERE.  
IT, IT KIND OF IT, IT GIVES YOU  
A LOT OF THE FEATURES OF, OF  
VISTA IN THE LOOK.  
THIS COMES FROM DEVIANTART,  
WHICH IS A GREAT SITE FOR USER ART.  
THIS IS DEVIANTART IF YOU HAS A  
VISUAL STYLE SECTION THAT DOES  
ALL OF THIS STUFF.  
HERE'S ONE CALLED XP TO VISTA  
THAT IS A SIMPLE DOWNLOAD AND  
IT GIVES YOU ARROW CURSORS,

VISTA FONTS, A WINDOWS SIDEBAR  
YAHOO WITH YAHOO WIDGETS.  
THEY DO THE AH THEY ACTUALLY DO AERO.  
THEY DO GLASS.  
THEY DO A GLASS 2K START MENU.  
THEY I MEAN THEY'VE REALLY  
THEY'VE GOT IT ALL IN HERE AND  
THIS IS ABSOLUTELY FREE.  
SO THIS ONE'S AT DEVIANTART, D-  
E-V-I-A-N-T-A-R-T.COM.

[Pop captions up]

**Leo:** IF YOU GO THERE AND YOU  
CLICK THE OR DO A SEARCH FOR  
VISTA VISUAL STYLE YOU'LL SEE A  
NUMBER OF THESE.  
WINCUSTOMIZE IS ANOTHER PLACE TO GO.

[Pop captions down]

**Leo:** THIS IS A COMMERCIAL, A  
COMMERCIAL SITE AS I SAID AND  
THEY HAVE A LOT OF THEMES  
INCLUDING A VISTA THEME FOR A  
NUMBER OF VISTA THEMES FOR XP.

**Stuart:** OKAY.

**Leo:** YOU'RE NOT GONNA YOU'RE  
PROBABLY THERE MAYBE ISSUES  
GETTING IT EXACT.  
YOU KNOW HOW IT GLOWS WHEN YOU  
HOVER THE MOUSE OVER AND STUFF?  
THERE MAYBE SOME ISSUES WITH  
GETTING IT EXACTLY.

**Stuart:** BUT THAT'S NOT  
REALLY THE FUNCTION PART THAT I  
WAS LOOKING FOR.

IT'S MORE LIKE THE YOU KNOW HOW  
YOU IN VISTA YOU JUST START  
TYPING A FEW LETTERS AND YOUR  
PROGRAM POPS UP?

**Leo:** OH, OH YOU'RE LOOKING FOR THAT?

**Stuart:** YEAH.

**Leo:** OH I THOUGHT YOU WANTED  
THE COSMETICS.

**Stuart:** NO. I WANT FUNCTIONALITY.

**Leo:** OH YEAH I REMEMBER PAUL  
TALKING ABOUT THAT.

WE TALKED ABOUT A COUPLE OF THINGS.  
FIRST LAUNCHY WHICH WAS  
ACTUALLY A RYAN YEWELL PICK  
SOME TIME AGO.

IT'S A, A FREE WINDOWS UTILITY  
THAT LETS YOU JUST START TYPING  
AND IT'LL AH AND IT'LL AND HIT RETURN.  
THIS DOESN'T USE A STARTBAR.

[Pop captions up]

**Leo:** BUT IT'S VERY, VERY  
FAST AND IN FACT IT'S BETTER  
CAUSE YOU DON'T HAVE TO CLICK  
THE START MENU.

I, I THINK LAUNCHY IS  
SPECTACULAR AND THAT'S  
ABSOLUTELY FREE.

[Pop captions down]

**Leo:** I WOULD TRY THAT FIRST.  
SO IT BASICALLY IT'S AS YOU SEE  
HERE THIS MIGHT HAVE BEEN WHAT  
WE WERE TALKING ABOUT.  
AH THIS ONE OF MY PICKS ON

WINDOWS WEEKLY.

INDEX IS THE PROGRAMS IN YOUR  
START MENU AND YOU JUST LAUNCH  
YOUR DOCUMENTS, PROGRAM FILES,  
FOLDERS AND BOOKMARKS BY JUST  
TYPING A COUPLE OF KEYSTROKES.

IT'S REALLY SPECTACULAR.

IT'S FREE OPEN SOURCE SOFTWARE  
LAUNCHY AND YOU CAN SEE RIGHT HERE.

WE RYAN, RYAN YEWELL DISCOVERED  
THIS ONE FOR US AND I WAS VERY  
IMPRESSED BY THIS.

**Stuart:** OKAY.

**Leo:** GIVE THAT A TRY.

I THINK THAT'S WHAT YOU'RE LOOKING FOR.

[MUSIC]

**Leo:** I'LL GO BACK THROUGH  
THE NOTES AND SEE IF THERE'S  
ANOTHER PROGRAM.

I THINK, I THINK THERE MIGHT BE.

I THINK PAUL RECOMMENDED  
ANOTHER PROGRAM AS WELL.

I'LL GET THAT FOR YOU.

SO, SO STAY TUNED OKAY?

THANK YOU STUART.

I APPRECIATE THE CALL.

NOW LET'S WANDER OVER SPEAKING  
OF FREE FILES.

**Ryan Yewell:** YES.

**Leo:** TO THE LOVELY AND  
TALENTED RYAN YEWELL WHO HAS AN  
EXCELLENT CHOICE IN SHIRTS BY THE WAY.

**Ryan Yewell:** THAT'S WHAT I

WAS GONNA SAY.

YOU'VE GOT A SHARP --

**Leo:** EXCELLENT TASTE.

**Ryan Yewell:** SHARP DRESSER.

**Leo:** YES.

[Laughs]

**Ryan Yewell:** I THINK I WAS  
WEARING MINE FIRST THOUGH I THINK.

**Leo:** I DID.

I SAW YOURS AND I SAID THAT'S  
WHAT I WANT TO WEAR TODAY.

**Ryan Yewell:** COOL.

**Leo:** SO WHAT IS YOUR PROGRAM TODAY?

**Ryan Yewell:** IT'S A, IT'S A  
WEBSITE KULER, K-U-L-E-R.ADOBE.COM.

[Pop captions up]

**Leo:** OKAY.

**Ryan Yewell:** AND IT'S A PLAY ON COLOUR.

**Leo:** AHH GOOD.

**Ryan Yewell:** AND ITS A, ITS  
A COLOUR WHEEL APPLICATION.  
IT'S REALLY COOL.

[Pop captions down]

**Ryan Yewell:** SO FOR PEOPLE  
THAT HAVE EVER YOU KNOW HAD ANY  
KIND OF IDEA ABOUT WANTING TO  
HAVE COLOURS MATCH UP.  
IT'S BASICALLY A PLACE PEOPLE  
DESIGN THESE COLOUR WHEELS.

[Pop captions up]

**Ryan Yewell:** WHICH HAS FIVE COLOURS.  
SOME COMPLIMENT EACH OTHER.

**Leo:** YEAH THEY'RE

COMPLIMENTARY YEAH.

**Ryan Yewell:** AND AH, AND YOU  
CAN CHOOSE AND SO THEY HAVE  
LIKE HIGHEST RATED ONES.  
AND THEY HAVE PEOPLE THAT HAVE  
ACTUALLY DESIGNED THESE COLOURS  
TO MATCH.

[Pop captions down]

**Ryan Yewell:** BUT THE PART  
THAT I LIKE IS YOU CAN ACTUALLY  
MAKE YOUR OWN COLOUR WHEEL HERE.  
AND I CAN ACTUALLY LIKE PLAY  
AROUND WITH DIFFERENT THINGS  
AND I CAN CHANGE THE WAY THEY,  
THEY INTERACT WITH EACH OTHER.  
SO -- RELATED.

[Both talking at once]

**Leo:** SO IT'S KIND OF LIKE IT  
JUST TAKES WHATEVER COLOUR I  
THINK OF FOR MY WEBSITE I  
PROBABLY SHOULD GO HERE AND  
MAKE EVERYTHING COLOUR --

**Ryan Yewell:** IT SHOULD BE  
LIKE YOU KNOW WHAT EMOTIONS  
YOU'RE TRYING TO CONVEY.

**Leo:** YEAH.

**Ryan Yewell:** WHAT FEELING.

**Leo:** CAUSE I'M A GUY.

I DON'T KNOW.

THIS IS A WE'RE WEARING RED  
SHIRTS RIGHT?

**Ryan Yewell:** THERE YOU GO.

**Leo:** MY WIFE WOULD SAY OH NO

THAT'S A BRICK RUST.

AND, AND THIS ONE, THIS ONE IS  
MAGENTA TAUPE OR SOMETHING I  
DON'T KNOW WHAT.

**Ryan Yewell:** AND SO PEOPLE THEY, THEY --

[Both talking at once]

**Leo:** SO WE NEED TO KNOW THIS STUFF.

**Ryan Yewell:** AND, AND  
PROFESSIONAL PEOPLE SHARE THEIR  
COLOUR WHEELS.

**Leo:** REALLY?

**Ryan Yewell:** SO YOU CAN, YOU  
CAN THAT'S WHY YOU CAN CHECK  
THE MOST POPULAR ONES, THE  
HIGHEST RATED ONES, THE NEWEST ONES.

**Leo:** COOL.

**Ryan Yewell:** SO IT'S KULER.ADOBE.COM.

**Leo:** OR SHOULD I SAY KULER?

**Ryan Yewell:** KULER.

**Leo:** K-U-L-E-R.

**Ryan Yewell:** YES.

**Leo:** THANK YOU RYAN YEWELL.

**Ryan Yewell:** YOU'RE WELCOME.

**Leo:** YEWELL'S JEWELS ARE  
AVAILABLE SOMEWHERE I KNOW BUT--

[Pop captions up]

[Blank for boards]

**Ryan Yewell:** HOPEFULLY WE'VE  
GOT A COLOUR WHEEL GOING ON THERE.  
HOPEFULLY ITS ALL TAVIS HAS  
DONE HIS JOB SO.

[Pop captions down]

**Leo:** OF COURSE HE HAS!

**Ryan Yewell:** OF COURSE HE HAS.

**Leo:** HE'S A PROFESSIONAL!

**Ryan Yewell:** YES.

**Leo:** HE KNOWS THAT I'M NOT WEARING RED AND YOU'RE NOT WEARING RED.

**Ryan Yewell:** EXACTLY.

**Leo:** THEY'RE COMPLETELY DIFFERENT COLOURS!

**Ryan Yewell:** THERE YOU GO.

**Leo:** LOOKS THE SAME TO ME. THANK YOU RYAN.

**Ryan Yewell:** YOU'RE WELCOME.

[Pop captions up]

**Leo:** LABWITHLEO.COM FOR ALL OF YEWELL'S JEWELS.

ALL RIGHT WE'RE GONNA COME BACK IN JUST A BIT.

TAKE A WE'RE ACTUALLY GONNA TALK ABOUT DESIGNING YOUR OWN WEBSITE.

**Ryan Yewell:** THERE YOU GO.

**Leo:** MAYBE YOU COULD USE A COMPLIMENTARY COLOUR WHEEL WHILE YOU'RE DOING IT.

BEFORE WE DO THAT THOUGH ONE MORE CHANCE TO TAKE OUR QUICK QUIZ QUESTION OF THE DAY.

[Blank for boards]

**Leo:** FLOWN? WAS IT --

[Blank for boards]

**Leo:** 1969 OR 2008?

THINK ABOUT IT.

GO TO THE WEBSITE.

WE'LL TELL YOU WHEN "THE LAB  
WITH LEO" CONTINUES.

[Pop captions down]

[MUSIC]

[Commercial break]

[Pop captions up]

**Leo:** WELCOME BACK TO "THE LAB".  
BEFORE THE BREAK WE ASKED YOU --

[Blank for boards]

**Leo:** IT WAS URI GARGERIN AND  
IT WAS 1961.

[Pop captions down]

**Leo:** AND AH IT WAS A  
COMPLETE MOSCOW, URI  
ALEXEIVITCH GARGANANANISIS SPUTNIKA.  
NO IT WAS VOSTOK 1?  
I CAN'T REMEMBER THE NAME.  
ANYWAY THAT I HOPE YOU GOT THAT RIGHT.

THAT FIRST DATE THAT WASN'T IT.

THAT WAS BIRTHDAY.

ALL RIGHT WE'VE GOT DAVE SHEA HERE.

HE'S A WEB DESIGNER.

HE'S WITH THE INDEPENDENT, HE'S  
AN INDEPENDENT VANCOUVER BASED  
WEB DESIGNER.

WROTE THE INCREDIBLE CSS GARDEN  
SITE, THE ZEN GARDEN IN 2003.

THERE'S A BOOK HE DID WITH  
MOLLY HOLZSCHLAG CALLED "THE  
ZEN OF CSS DESIGN".

AND YOU ORGANIZED SOMETHING  
CALLED WEB DIRECTIONS NORTH  
WHICH IS A CONFERENCE WEBSITE.

**Dave Shea:** YEAH THAT'S RIGHT.

**Leo:** SO THAT'S COOL.

[Pop captions up]

**Dave Shea:** YEAH BY THE TIME  
THIS AIRS IT'LL PROBABLY  
ALREADY HAVE RUN ITS COURSE SO.

**Leo:** OH DANG!

WE MISSED IT AGAIN!  
SO CSS WE TALK A LOT ABOUT.  
IT'S CASCADING STYLESHEETS.  
BUT WHAT WE'VE NEVER SEEN AND  
I'M REALLY GLAD YOU'RE GONNA DO  
THIS IS HOW A DESIGNER WORKS.

[Pop captions down]

**Leo:** HOW A DESIGNER STARTS  
WITH AN IDEA AND GETS IT INTO CSS.

**Dave Shea:** RIGHT.

YEAH THERE'S A, THERE'S A  
COUPLE OF DIFFERENT WAYS OF  
DOING THAT.  
AND THIS IS ACTUALLY A FAIRLY  
COMMON QUESTION THAT COMES UP  
WHEN I'M TALKING TO PEOPLE WHO  
JUST KIND OF WRITE ME OUT OF THE BLUE.  
AND THEY SAY HOW DO YOU, HOW DO  
YOU GET STARTED DOING THIS?

**Leo:** RIGHT.

**Dave Shea:** UM THERE'S,  
THERE'S TWO, TWO MAIN WAYS I'M  
GONNA TALK ABOUT HERE.  
ONE IS GOING FROM PHOTOSHOP OR  
ILLUSTRATOR OR FIREWORKS  
WHATEVER YOUR IMAGE PROGRAM OF

CHOICE IS.

**Leo:** A DRAWING PROGRAM YEAH.

**Dave Shea:** ESSENTIALLY A GRAPHICS EDITOR.

**Leo:** UH-HUH.

**Dave Shea:** AND ACTUALLY  
METICULOUSLY CREATING THE  
WEBSITE FIRST OF ALL IN THE  
GRAPHICS PROGRAM AND THEN  
EXPORTING IT OUT AND BUILDING  
THE CSS BASED SITE USING THAT, UM --

**Leo:** THAT SEEMS LIKE A LOT OF WORK.

[Pop captions up]

**Leo:** IS THAT HOW THE PEOPLE--

**Dave Shea:** IT, IT IS.

**Leo:** WHO SUBMIT TO ZEN GARDEN MOSTLY?

**Dave Shea:** I, I WOULD IMAGINE SO.

**Leo:** YEAH.

**Dave Shea:** YOU KNOW I CAN'T  
SPEAK FOR EVERYBODY OBVIOUSLY.  
BUT THIS IS TO ME ANYWAY, THIS  
IS THE WAY THAT I THINK GIVES  
YOU THE MOST CONTROL OVER WHAT  
THE SITE ENDS UP LOOKING LIKE.

[Pop captions down]

**Leo:** SURE, SURE.

**Dave Shea:** YOU CAN WORK  
THROUGH SOME OF THE BIG PICTURE  
DESIGN IDEAS AHEAD OF TIME, AS  
OPPOSED TO LOOKING AT SOMETHING  
IN THE BROWSER AND GOING OKAY  
WELL I'M GONNA ADD STUFF ON TOP  
OF THIS.

**Leo:** BUT YOU COULD STUFF IN

PHOTOSHOP THAT YOU CAN'T DO IN  
CSS RIGHT?

**Dave Shea:** ABSOLUTELY.

YEAH AND THAT'S, THAT'S THE REAL TRICK.

**Leo:** SO YOU HAVE TO BE AWARE  
OF THE LIMITATIONS YEAH.

**Dave Shea:** IS TAKING IT FROM  
WITHIN PHOTOSHOP AND GETTING IT  
ONTO THE WEB --

[Both talking at once]

**Leo:** WELL SHOW US THE  
PROCESS HERE.

**Dave Shea:** ALL RIGHT.

SO -- I'VE GOT PHOTOSHOP OPEN.

[Both talking at once]

**Leo:** ALWAYS PHOTOSHOP NOW A  
LOVELY SITE YEAH.

**Dave Shea:** I'VE GOT A MOCKUP  
UP ON HERE AND THIS IS JUST  
KIND OF A, A TYPICAL EXAMPLE OF  
SOMETHING THAT YOU MIGHT BE  
LOOKING AT IN PHOTOSHOP.

SO I'VE GOT SOME GUIDES ON THAT  
I CAN TURN OFF HERE.

UM AS YOU CAN SEE YOU KNOW  
TYPICAL IN THE GRAPHICS EDITOR  
I'VE GOT IT BUILT UP IN  
MULTIPLE LAYERS THAT I CAN TURN  
ON OR OFF AT ANY GIVEN TIME.

**Leo:** MMM-HMM.

**Dave Shea:** AND AH THE TRICK  
IS REALLY TAKING THIS AND, AND  
SAVING IT OUT.

SO THERE'S A LOT OF LITTLE  
IMAGERY THINGS THAT I HAVE TO  
DO IN ORDER TO BRING IT OUTSIDE  
AND I'M JUST GONNA SHOW YOU ONE.  
THERE'S, THERE'S A WHOLE BUNCH  
MORE BUT UM IF I TAKE A LOOK AT  
SAY THE BACKGROUND HERE.

**Leo:** YEAH.

**Dave Shea:** YOU SEE WE'VE GOT  
THIS REPEATING PATTERN.

**Leo:** MMM-HMM.

**Dave Shea:** NOW IF I WERE TO  
SAVE THIS OUT AS A SINGLE IMAGE  
UM THAT'S GONNA BE --

**Leo:** IT'S TOO BIG.

**Dave Shea:** YEAH EXACTLY.

**Leo:** IT'S HUGE.

**Dave Shea:** IT'S GONNA BE A  
HUGE JPEG FILE.

**Leo:** YEAH.

**Dave Shea:** SO WHAT I HAVE TO  
DO IS LOOK AT THAT AND GO  
LET'S, LET'S TRY TO MAKE USE OF  
THAT REPEATING BACKGROUND  
PATTERN AND LET'S SAVE OUT A  
MUCH SMALLER SEGMENT.  
SO I'VE GOT THIS LITTLE I'M  
GONNA ZOOM IN HERE SO YOU CAN  
SEE IT A LITTLE BETTER.  
THIS LITTLE SQUARE KIND OF CUT  
OUT FROM THE BACKGROUND PATTERN  
AND BY SAVING THIS OUT AS A GIF  
FILE I ACTUALLY IN THE BROWSER

I CAN LOAD IT UP AND HERE YOU  
SEE THE SITE THAT'S TOTALLY OUT  
OF STYLE.

**Leo:** NO CSS YEAH.

**Dave Shea:** NO CSS AT ALL.  
BUT APPLYING IT TO THE  
BACKGROUND --

**Leo:** AND CSS HAS A COMMAND  
TO LET YOU REPEAT IT.

**Dave Shea:** EXACTLY YEAH.

**Leo:** HORIZONTALLY OR VERTICALLY.

**Dave Shea:** YEAH.

**Leo:** SO IT WILL END UP  
LOOKING LIKE THE ORIGINAL.

**Dave Shea:** RIGHT.

**Leo:** AT A MUCH SMALLER SIZE.

**Dave Shea:** YEAH SO YOU KNOW  
THAT ONE LITTLE IMAGE CAN FILL  
MY ENTIRE BACKGROUND.

**Leo:** THAT'S WHY YOU TEND TO  
SEE REPEATING IMAGES AS  
BACKGROUNDS INSTEAD OF A, A  
LARGE --

[Laughs]

**Dave Shea:** THAT'S RIGHT YEAH.  
IT, IT SAVES A LOT OF SPACE.

**Leo:** YEAH.

**Dave Shea:** AND YOU CAN DO IT BOTH WAYS.  
BUT UM SO IN, IN THIS CASE HERE  
YOU KNOW WE STARTED OUT I WHEN  
THE BROWSER FIRST LOADED UP.  
I'VE GOT THE N-STYLED SITE HERE  
AND YOU CAN SEE THAT IT LOOKS

PRETTY MUCH LIKE, LIKE GARBAGE.

IT'S NOT A VERY INTERESTING DESIGN.

**Leo:** BUT WHAT IT HAS THOUGH  
IS THE IMAGES THAT YOU TOOK  
FROM YOUR PHOTOSHOP.

**Dave Shea:** THAT'S RIGHT.

**Leo:** AND IT HAS THE CONTENT.

**Dave Shea:** MMM-HMM.

**Leo:** THE TEXT THAT YOU WANT.

**Dave Shea:** MMM-HMM.

**Leo:** SO NOW IT'S A QUESTION  
OF MASHING IT ALL UP IN THE WAY  
THAT YOU WANT IT TO LOOK RIGHT,  
RIGHT?

**Dave Shea:** SO THE FIRST STEP  
AFTER BUILDING IT IN PHOTOSHOP  
IS TO ACTUALLY SIT DOWN IN A  
TEXT EDITOR AND BUILD THE HTML.  
SO I WANT TO APPLY THE CSS OVER  
TOP OF THE HTML.

**Leo:** SO THAT'S WHAT WE'RE  
LOOKING AT NOW.

**Dave Shea:** THAT'S RIGHT.

**Leo:** ITS JUST BLAND --

**Dave Shea:** NO STYLE.

**Leo:** UNSTYLED HTML.

**Dave Shea:** EXACTLY.

**Leo:** OKAY.

**Dave Shea:** AND SO STEP BY  
STEP WHAT I DO IS I SAY TAKING  
MY IDEA OF WHAT THAT SITE  
SHOULD LOOK LIKE.

**Leo:** MMM-HMM.

**Dave Shea:** I WANT TO START  
MAKING CHANGES TO THAT FILE TO  
BRING IT CLOSER IN LINE WITH  
WHAT THE DESIGN SHOULD END UP  
LOOKING LIKE.

SO IN THE SECOND STEP HERE I'VE  
GOT IT KIND OF CENTERED, WHICH  
WAS IN MY DESIGN.

**Leo:** RIGHT.

**Dave Shea:** AND I'VE APPLIED  
THE FIRST BACKGROUND IMAGE.  
IN THE THIRD STEP I'VE GONE A  
LITTLE BIT FURTHER.

**Leo:** OKAY.

WE'RE, WE'RE NOT SEEING IT.  
THERE WE GO.

**Dave Shea:** OH THERE WE GO, OKAY.  
SO THAT WAS THE SECOND STEP.

**Leo:** SO THAT'S CENTERED.  
BUT STILL NOT THE WAY WE WANT  
IT TO BE RIGHT?

**Dave Shea:** RIGHT SO THE NEXT STEP --

**Leo:** IS THIS ADDING STYLES  
AS YOU'RE DOING THIS?

**Dave Shea:** MORE OR LESS.

**Leo:** YEAH.

**Dave Shea:** YEAH.  
I MEAN THE BIG CONCEPT THAT IS  
KIND OF A PROBLEM FOR BUILDING  
CSS BASED SITES IS YOU DON'T  
HAVE THIS IDEA OF LAYERING,  
WHERE IN PHOTOSHOP I'VE GOT  
MULTIPLE LAYERS THAT I BUILD UP

OVER TOP OF EACH OTHER I HAVE  
ESSENTIALLY JUST A FLAT FILE ON  
THE PAGE.

**Leo:** RIGHT.

**Dave Shea:** A FLAT DESIGN AND  
I HAVE TO USING ALL THESE IMAGE  
BASED TRICKS I HAVE TO BRING IT  
OUT OF PHOTOSHOP AND APPLY IT  
TO THE DESIGN.

**Leo:** EASIER SAID THEN DONE  
LET ME TELL YOU.

[Laughs]

**Dave Shea:** YEAH SO I MEAN THAT IS --

**Leo:** OR MAYBE EASIER DONE THEN SAID.  
I DON'T KNOW.

[Laughs]

**Dave Shea:** YOU KNOW THAT'S  
ONE WAY OF, OF DOING IT.  
BUT A LOT OF DESIGNERS I KNOW  
ARE ACTUALLY FANS OF ANOTHER  
WAY WHICH IS STARTING IN THE  
BROWSER, USING THAT HTML WE SAW.

**Leo:** RIGHT.

**Dave Shea:** AND BUILDING UP  
THE CSS ON TOP OF THAT HTML.

**Leo:** THAT REQUIRES A SURE  
HAND AND A CLEVER MIND.

**Dave Shea:** YEAH.

YOU'RE, YOU'RE BASICALLY COMING  
UP WITH A DESIGN AS YOU GO.

**Leo:** RIGHT.

**Dave Shea:** UM SO IF YOU, IF  
YOU PRACTICE --

**Leo:** THAT'S KIND OF HOW I, I  
WILL WORK IS BUT THAT'S NOT I'M  
NOT A REAL DESIGNER.  
BUT I'LL START WITH A KIND OF  
AN, AN ARCHITECTURE A WIREFRAME.

**Dave Shea:** MMM-HMM.

**Leo:** AND THEN SLOWLY STYLE  
THE STUFF AROUND IT.

**Dave Shea:** EXACTLY.

**Leo:** CAUSE I CAN'T I DON'T  
HAVE THE VISION THAT YOU DO.

**Dave Shea:** SO I'VE GOT  
ANOTHER EXAMPLE HERE WHERE IT  
ACTUALLY SHOWS STEP BY STEP  
SOME OF THE FINAL TO --

[Both talking at once]

**Leo:** TO --

**Dave Shea:** TO BRING THAT DESIGN --

**Leo:** YEAH.

**Dave Shea:** OR BRING THAT,  
THAT HTML INTO --

[Both talking at once]

**Leo:** SO YOU'LL SLOWLY STYLE  
EACH HEADLINE AND --

**Dave Shea:** EXACTLY.

**Leo:** AND YEAH MOVE IT OVER.

**Dave Shea:** I MIGHT SAY I  
WANT TWO COLUMNS.

**Leo:** YEAH.

**Dave Shea:** I WANT IT  
CENTERED IN THE MIDDLE.

**Leo:** IT ALREADY LOOKS BETTER  
ACTUALLY.

**Dave Shea:** IS THE NEXT STEP.

**Leo:** YEAH.

**Dave Shea:** I THINK THAT'S FOR DANA.  
AH THE NEXT, THE NEXT STEP  
WOULD BE ADDING SOME STYLE TO  
THE NAVIGATION ON THE LEFT-HAND  
SIDE, GOING FROM THAT TO THAT  
AND DOING SOMETHING TO THE HEADERS.  
AND THEN YOU KNOW FINALLY I  
MIGHT DO SOMETHING MORE  
GRAPHICALLY TO THE HEADER.

**Leo:** YEAH LOOK HOW NICE THAT LOOKS.  
IF YOU WANT TO SEE HOW THIS CAN  
HAPPEN THE BEST PLACE TO GO IS  
THE GREAT ZEN GARDEN.  
IT'S THE --

[Blank for boards]

**Dave Shea:** CSSZENGARDEN.COM, YEAH.

**Leo:** WHAT A BEAUTIFUL PLACE  
TO SEE THE SAME CONTENT ALL  
DIFFERENT STYLES, SOME  
BEAUTIFUL STUFF.

AND --

[Blank for boards]

**Leo:** IS, IS DAVE SHEA'S SITE  
SO YOU CAN FIND OUT MORE THERE.  
IN FACT HE'S GOT THOSE ICONS.  
ARE THOSE THE STOCK ICONS?  
I CAN'T WAIT TO SEE THOSE.  
THEY'RE --

**Dave Shea:** YEAH.  
THEY'RE, THEY'RE UP THERE FOR  
SHOW RIGHT NOW YEAH.

**Leo:** THAT'S REALLY COOL.

[Blank for boards]

**Leo:** THANK YOU DAVE, WE  
APPRECIATE IT.

**Dave Shea:** AWESOME THANKS A LOT.

**Leo:** ALL RIGHT. FINAL WORDS COMING RIGHT AFTER THIS.

[Pop captions down]

[MUSIC]

[Commercial break]

[MUSIC]

[Pop captions up]

**Leo:** IT'S, IT'S INTERESTING  
CAUSE THERE'S TWO DIFFERENT  
WAYS TO WORK IN CSS JUST LIKE  
ANYTHING ELSE IN THE COMPUTERS  
OR IN LIFE I GUESS.  
YOU CAN THINK, PLAN, CAREFULLY  
FIGURE IT OUT THEN SLOWLY WORK  
IT THROUGH.

**Kate:** LOGICALLY.

**Leo:** OR YOU CAN DO WHAT I DO  
WHICH IS BEAT ON IT UNTIL,  
UNTIL BEAT IT INTO SUBMISSION.

**Kate:** EVENTUALLY IT WORKS.

PUSH ALL THE BUTTONS.

**Leo:** THAT'S WHY ITS CALLED HACKING.  
I'M JUST HACKING ON IT.  
ANYWAY IF YOU'D LIKE TO JOIN US  
WE'VE GOT A CAREFULLY PLANNED  
WEBSITE, A CAREFULLY PLANNED WEBSHOW.  
YOU CAN JOIN US.

**Kate:** LABWITHLEO --

**Leo:** GO TO LABWITHLEO.COM

AND IF YOU WANT TO BE ON THE TV SHOW.

**Kate:** AT FORWARD SLASH TECH QUESTIONS.

**Leo:** EXCELLENT.

**Kate:** SUBMIT YOUR QUESTION THERE.

WE'LL GET YOU ON THE SHOW.

**Leo:** THANKS SO MUCH FOR BEING HERE.

WE'LL SEE YOU NEXT TIME ON "THE LAB", BYE-BYE.

[Pop captions down]

[MUSIC]

[Coins bouncing]

[MUSIC]

[Pop captions up quickly]

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[Pop captions down]