

>> GOOD MORNING, LADIES AND GENTLEMEN.

MY NAME IS HANK WALLACE.

YOU'RE IN SESSION W11A.

YOU NEED TO PUT THAT ON YOUR EVALUATION FORM.

YOU CAN GIVE ME THE EVALUATION FORM AT THE END OF THE MEETING OR YOU CAN DO IT ELECTRONICALLY.

I HAVE HANDOUTS.

IF YOU HOLD UP YOUR HAND, I'LL GIVE YOU A HANDOUT.

YOU'RE IN THE DIGITAL VIDEO CONFERENCING MEETING.

WE HAVE AN INTERPRETER, GAIL, WITH US, SO IF YOU NEED SOME HELP, PLEASE LET US KNOW AND WE'LL PROVIDE YOU THE SERVICES.

OUR FIRST SPEAKER IS DOUG MacKENZIE, AND HE WILL

INTRODUCE THE OTHER PEOPLE AS
THEY GO THROUGH THE
PRESENTATION.

IF YOU DO NOT HAVE A HANDOUT,
PLEASE RAISE YOUR HAND, AND I
WILL GIVE YOU ONE.

DOUG?

>> THANK YOU, HANK, AND GOOD
MORNING.

ONE THING, IF YOU DON'T HAVE A
HANDOUT, I THINK HANK HAS
EXTRAS.

IF THERE'S NOT ENOUGH, LET US
KNOW AND THEN WE'LL MAKE
COPIES AND PUT THEM OUT AT THE
INFORMATION DESK AT THE END.

MY NAME IS DOUG MacKENZIE, AND
I'M ON THE FACULTY HERE AT
NTID.

MYSELF, JIM MALLORY AND DINO
LAURIE WILL BE PRESENTING
TODAY ON THE TOPIC OF THE USE

OF DIGITAL VIDEO CONFERENCING
IN EDUCATIONAL ENVIRONMENTS
WITH DEAF AND HARD-OF-HEARING
STUDENTS.

LET ME START WITH JUST A BRIEF
REVIEW OF WHAT'S GOING TO
HAPPEN DURING THE
PRESENTATION.

I'M GOING TO START WITH A
BRIEF REVIEW OF HOW WE'RE
USING DIGITAL VIDEO
CONFERENCING HERE AT NTID.
THEN WE'LL TALK MORE
SPECIFICALLY ABOUT THE USE OF
A SPECIFIC APPLICATION CALLED
MICROSOFT NETMEETING THAT WE
HAVE BEEN USING HERE A LOT.
THEN WE'LL TALK ABOUT HOW
WE'RE USING THAT IN SPECIFIC
ENVIRONMENTS.

JIM WILL BE TALKING ABOUT USE
WITH A DISTANCE LEARNING

COURSE.

I'M USING THAT PROGRAM WITH AN
ON-CAMPUS COURSE.

THEN AT THE END, IF EVERYTHING
WORKS WELL, WE WILL HAVE A
LIVE DEMONSTRATION OF HOW TO
USE THAT SOFTWARE.

IF IT CRASHES, THEN HOPEFULLY
THE DRUMMERS ARE BACK HERE AND
READY TO-- (Laughter) --
PRESENT AGAIN.

I STARTED USING VIDEO SOFTWARE
IN MY CLASSES BACK IN THE
'90s, AND I DON'T KNOW IF YOU
USED THE PROGRAM, BUT 1992/93,
THERE WAS A PROGRAM CALLED
CU-C-ME, DEVELOPED AT CORNELL
UNIVERSITY.

WHEN I FIRST SAW THAT PROGRAM,
I WAS KIND OF SHOCKED.

IT WAS WONDERFUL.

LOOKING BACK NOW, IT'S NOT

VERY GOOD BECAUSE IT WAS BLACK
AND WHITE, VERY SLOW SPEED,
BUT AT THAT TIME, STUDENTS
WERE REALLY ENJOYING THAT.
THAT WAS REALLY THE FIRST TIME
THAT THEY WERE EXPERIENCING
LIVE VIDEO CONFERENCING
THROUGH THE INTERNET.
AND IN MY COURSE, WE WOULD
REGULARLY MAKE CALLS TO JAPAN,
AND MY DEAF STUDENTS WOULD BE
SHARING THEIR EXPERIENCES WITH
DEAF STUDENTS IN JAPAN FOR AN
HOUR THROUGH THE INTERNET.
THERE WAS NO CHARGE.
BUT, YOU KNOW, IT WAS LIMITED.
AT THAT TIME, IT WAS ONLY
BLACK AND WHITE, AND IT WAS
VERY SLOW.
I THINK WE WERE GETTING FRAME
SPEED OF TWO TO FOUR FRAMES
PER SECOND, AND THAT WAS

REALLY VERY SLOW.

AND STUDENTS WAY BACK DIDN'T
HAVE ACCESS IN THEIR DORM
ROOMS TO HIGH-SPEED
CONNECTIONS, SO IT WAS REALLY
LIMITED ON USING HAT IN
CLASSES.

AND SPECIFICALLY FOR SIGN
LANGUAGE BECAUSE OF THE SLOW
SPEED.

BUT TODAY WE'RE SEEING MORE
AND MORE STUDENTS COMING INTO
NTID WITH EXPERIENCE USING
DIGITAL VIDEO CONFERENCING.

MANY ALREADY HAVE THEIR OWN
SYSTEM SET UP; THEY HAVE
CAMERAS THEMSELVES.

THE COST FOR EQUIPMENT IS
REALLY COMING DOWN.

IN MANY COMPUTERS NOW, YOU
ALREADY HAVE THE CAMERA
INCLUDED WHEN YOU BUY THE

SYSTEM.

THERE ARE MANY DIFFERENT
CONFERENCING CHOICES ALSO.

NETMEETING IS FREE, SO THERE'S
NOT A LOT OF COST INVOLVED
WITH THAT.

AND MORE AND MORE STUDENTS NOW
ARE HAVING ACCESS TO
HIGH-SPEED CONNECTIONS: IN
THE DORMS, IN LABS HERE, AND
AT HOME.

MANY OF THE STUDENTS WHO LIVE
OFF-CAMPUS ARE OPTIONING TO
SIGN UP FOR HIGH-SPEED
INTERNET CONNECTION.

YOU CAN SEE THE TREND
HAPPENING IN THE U.S.

MORE AND MORE HOMES HAVE
ACCESS TO HIGH-SPEED
CONNECTIONS, AND THAT'S REALLY
GOOD FOR VIDEO CONFERENCING.
THE PROGRAM THAT WE HAVE BEEN

USING A LOT HERE IS MICROSOFT
NETMEETING, A FREE REAL-TIME
CONFERENCING PROGRAM THAT YOU
CAN DOWNLOAD DIRECTLY FROM
MICROSOFT, AND IT ALLOWS
REAL-TIME CONFERENCING OVER
THE INTERNET.

THERE ARE FIVE TOOLS YOU CAN
CRUISE WITH NETMEETING AND
WE'LL TALK ABOUT THEM NOW.

THE FIRST IS POINT-TO-POINT
VIDEO CONFERENCING.

THAT'S REALLY WHAT STUDENTS
WANT.

THEY WANT TO SEE EACH OTHER,
TO USE SIGN LANGUAGE FOR
COMMUNICATION.

SO WHEN YOU CALL ANOTHER
PERSON, YOU CAN SEE EACH OTHER
ON THE SCREEN.

AND IT'S GOOD FOR SIGN
COMMUNICATION, FOR GESTURES,

FACIAL EXPRESSIONS...

YOU NEED TO HAVE A CAMERA AND,

LIKE I SAID BEFORE, CAMERAS

ARE NOT REALLY EXPENSIVE NOW.

WE HAVE HAD GOOD EXPERIENCE

WITH LOGITECH, UNDER \$100 FOR

A COLOR CAMERA, AND THEY

SIMPLY CONNECT TO THE U.S.B.

CONNECTION ON THE COMPUTER.

WE ALSO HAVE THE OPTION FOR

REAL-TIME CHAT, SO IF THE

VIDEO IS NOT TOTALLY CLEAR, WE

HAVE THE OPPORTUNITY TO USE

CHAT, TYPING BACK AND FORTH,

JUST LIKE A T.T.Y.

IF I HAVE A DOCUMENT LIKE A

WORD PROCESSING DOCUMENT, I

CAN COPY AND PASTE THAT INTO

CHAT VERY, VERY EASILY.

IF A STUDENT CONTACTS ME.

LET'S SAY THEY HAVE MISSED

CLASS; THEY NEED THE HOMEWORK

ASSIGNMENT... I CAN SIMPLY
ATTACH A FILE AND SEND IT TO
THEM DIRECTLY DURING THE CALL.

IT HAS WHAT IS CALLED A
WHITEBOARD TO INTERACT.

WE CAN DRAW OR POST THINGS.

IT'S REALLY GOOD IF STUDENTS
HAVE QUESTIONS ABOUT A WEB
SITE OR WHATEVER.

WE CAN POST A PAGE THERE, LOOK
AT IT TOGETHER, AND WE CAN
MODIFY IT USING THE TOOLS.

WHAT I REALLY LIKE IS THE
PROGRAM-SHARING, SO IF A
STUDENT IS WORKING ON THE
ASSIGNMENT AT HOME AND HAVING
DIFFICULTY, THEY CAN CALL ME.

WE CAN SET UP THE PROGRAM SO
WE CAN LOOK AT THE DOCUMENT
TOGETHER.

SO IF I HAD CREATED SOMETHING
ON A WORD DOCUMENT AND THE

STUDENT IS HAVING PROBLEMS
WITH THAT, WHEN THEY CALL ME,
I CAN SET UP THE DOCUMENT; WE
CAN LOOK AT IT TOGETHER DURING
THE CONFERENCE, AND I CAN
EXPLAIN WHAT NEEDS TO BE DONE.
RIGHT NOW WE'LL TALK ABOUT
EDUCATIONAL APPLICATIONS, AND
I WANT TO INTRODUCE JIM
MALLORY.

>> THANK YOU.

THANKS, DOUG.

THERE'S REALLY TWO
APPLICATIONS WE'RE GOING TO
DISCUSS TODAY.

THE SECOND ONE DOUG MENTIONED
IN HIS CLASS.

THE FIRST ONE, I TEACH
DISTANCE LEARNING TO DEAF AND
HARD-OF-HEARING STUDENTS, AND
I'LL SHOW SOME APPLICATIONS OF
WHERE I IMPLEMENTED THIS IN

ONE-TO-ONE TUTORING SITUATIONS
IN MY CLASS.

FOR DISTANCE LEARNING, FOR
PROGRAMMING, I TEACH BOTH
VISUAL BASIC, V.B., AND
C-PLUS-PLUS PROGRAMMING.

THIS IS PROGRAMMING, THE TOPIC
OF EACH OF THE COURSES.

I TEACH FOUR DIFFERENT COURSES
IN THOSE TOPICS, ALL DISTANCE
LEARNING, D.L. TYPES OF
COURSES.

MOST OF THE COMPONENTS ARE
ASYNCHRONOUS, MEANING YOU
DON'T HAVE TO BOTH AT THE SAME
TIME BE THERE.

OKAY?

YOU CAN ASK ME A QUESTION IN
THE MORNING.

I CAN ANSWER IT IN THE
EVENING.

SO I DOESN'T HAVE TO BE

EXACTLY THE SAME TIME.

ONCE IN-- IN 90% OF DISTANCE
LEARNING COURSES, NEED CAN BE
ASYNCHRONOUS.

HOWEVER, ONCE IN AWHILE YOU
HAVE A DEAF STUDENT WHO IS
REALLY STRUGGLING IN A REMOTE
COURSE AND YOU NEED
SYNCHRONOUS INTERACTION, AT
THE SAME TIME.

D.V.C. IS GREAT FOR THAT
PURPOSE.

THIS IS A SAMPLE OF AN ACTUAL
TUTORING MEETING WITH A
STUDENT.

YOU CAN SEE IN THE LEFT-HAND
CORNER, IT'S THE WHITEBOARD.

I TAKE A V.B. PROGRAM AND
PASTED IT ON THE WHITEBOARD.

IT SHOWS THE ACTUAL CODE THAT
WE'RE STUDYING.

SHE HAD SOME QUESTIONS ABOUT

LOOPING AND USING ARRAYS, A
TECHNICAL CONCEPT IN VISUAL
BASIC.

IN THE LOWER LEFT-- WOULD YOU
USE THE MOUSE, DOUG, TO POINT,
PLEASE?

IN THE LOWER LEFT, WE WERE
CHATTING, SO I WAS EXPLAINING
THE PROGRAM THAT WAS SHOWN UP
ABOVE.

ON THE RIGHT, YOU SEE HER
PICTURE.

OKAY.

NOW, FROM HER DORM, OR HER
APARTMENT ROOM, HER CONNECTION
WASN'T REALLY FAST, SO IT
WASN'T REALLY APPROPRIATE FOR
SIGN LANGUAGE.

IF I GO LIKE THIS, YOU'D
SEE...

SO IT WASN'T REALLY
APPROPRIATE FOR SIGN LANGUAGE,

BUT IT WAS GREAT FOR
EXPRESSION.

IT WAS VERY HELPFUL.

SO WE'RE DOING THE CHAT,
TYPING, AND WE'RE LOOKING AT
THE ACTUAL CODE.

I COULD SEE ABOUT HALFWAY
THROUGH THE 30-MINUTE TUTORING
MEETING, IT WENT FROM THIS...
TO THIS...

SO I KNOW.

SO THE EXPRESSION PERSPECTIVE
WAS VERY HELPFUL, EVEN THOUGH
IT WAS NOT APPROPRIATE FOR
SIGN LANGUAGE ITSELF.

OKAY, DOUG.

THIS IS LATER INTO THE
TUTORING SESSION.

IN THE UPPER LEFT, YOU SEE THE
YELLOW?

SHE WAS STRUGGLING WITH THE
CONCEPT RELATING TO AN ARRAY.

AND SO I SHOWED HER-- I USED
THE YELLOW TO SHOW WHERE THE
INDEX OF THAT ARRAY SO SHE
COULD FOCUS ON THAT CONCEPT.
AND THEN THE ORANGE, THE
ORANGE I WAS RELATING TO HOW
THE CODE WENT THROUGH THAT
DATA STRUCTURE AND EXPLAINED
WITH THE CHAT WHAT WAS
HAPPENING.

SO THOSE THREE THINGS
COMBINED, WE HAD A VERY
EFFECTIVE TUTORING MEETING.

DOUG?

NEXT, DOUG IS GOING TO TALK
ABOUT HIS COURSE RELATED TO
INTERNET LITERACY.

DOUG?

>> I TEACH AN ON-CAMPUS COURSE
HERE THAT'S CALLED INTERNET
COMMUNICATION.

IT'S A COURSE DESIGNED FOR

STUDENTS TO LEARN ABOUT
INTERNET TECHNOLOGY THAT THEY
CAN USE LATER ON THE JOB.

WE TALK ABOUT SOME BASIC
THINGS: E-MAIL, CHAT, INSTANT
MESSAGING, MAILING LISTS,
WHATEVER.

AND THEN WE FOCUS ON LEGAL AND
ETHICAL ISSUES ALSO RELATED TO
PRIVACY AND FREEDOM OF
EXPRESSION AND THINGS,
WHATEVER.

BUT MY STUDENTS WANT TO BE
ABLE TO USE THE TECHNOLOGY
OUTSIDE OF CLASS.

SO WHAT WE'RE DOING IS FIRST
WE'RE USING WHAT'S CALLED
COURSEWARE, AND RIT HAS SET UP
A SYSTEM CALLED PROMETHEUS,
WHICH ALLOWS COURSES TO BE ON
THE WEB.

WE CAN POST MATERIALS ON THE

WEB.

IT ALSO HAS A DISCUSSION
BOARD; IT HAS A LIVE CHAT.

BUT IT DOESN'T HAVE VIDEO, AND
STUDENTS WANTED TO USE VIDEO
OUTSIDE OF CLASS.

SO I DECIDED TO USE NETMEETING
FOR ON-LINE OFFICE HOURS.

SO I WOULD SET UP A SCHEDULE
OF OFFICE HOURS, BUT NOW THE
STUDENTS DON'T HAVE TO COME TO
MY OFFICE.

THEY CAN CALL ME ANY TIME
DURING THAT TIME BLOCK.

WHEN THEY CONNECT, WE CAN SEE
EACH OTHER AND THEN WE CAN USE
THE VARIOUS TOOLS IN
NETMEETING TO ANSWER QUESTIONS
OR, YOU KNOW, FIGURE OUT A
PROBLEM OR WHATEVER.

AND STUDENTS LIKE THAT.

MOST OF MY STUDENTS NOW HAVE

VIDEO CONFERENCING EQUIPMENT
IN THEIR DORMS OR APARTMENTS,
AND MANY OF THEM NOW ARE
BENEFITTING FROM THE USE OF
ON-LINE OFFICE HOURS THROUGH
NETMEETING.

AND IT'S NOT VERY EXPENSIVE,
SO IT WAS EASY TO SET UP.

>> NOW, DINO LAURIE IS GOING
TO TALK ABOUT A RESEARCH
PROJECT HE WAS INVOLVED WITH
RELATED TO VIDEO CONFERENCING.

>> THANKS.

GOOD MORNING.

MY NAME IS DINO, AND DURING MY
THESIS PROJECT, I IMPLEMENTED
A DESIGN NETWORK.

I WANTED TO APPLY LOAD, AND I
DECIDED TO USE D.V.C. AS A
USER-ENDED APPLICATION TO SEE
IF THE NETWORK WOULD CRASH.
AND THAT WAS THE OVERALL

PICTURE, THE GOAL.

MY PART WAS JUST PART OF IT.

I WAS FASCINATED IN THE D.V.C.

WORLD, COMMUNICATING

EFFECTIVELY FOR DEAF SIGNERS,

AND THAT WAS MY INTEREST IN

THIS SURVEY.

NEXT.

YOU CAN'T SEE THE INDIVIDUAL

POINTS ON THIS MATRIX, BUT

THIS WAS A STUDENT EVALUATION

THAT I HANDED OUT, AND THERE

WERE SEVEN DIFFERENT TYPES OF

QUESTIONS.

I WANTED TO DISCUSS THE EASE

OF USE, SEE HOW EASY THE

SYSTEM WAS TO USE.

SECONDLY, I WANTED TO FIND OUT

IF THE PICTURE WAS CLEAR,

WHETHER IT WAS

PICTURE-IN-PICTURE OR JUST THE

SINGLE PICTURE.

THE THIRD QUESTION WAS HOW
CLEAR THE SIGNS WERE.

IF THE PERSON WAS IN THE FRAME
AND IT WAS THE FACE-ONLY AND
THE SIGNS WERE BELOW THE
FRAME, THEN THE SIGNS COULDN'T
BE SEEN.

FOURTH, WAS TO SEE IF THERE
WAS A BACKUP TO-- IF THERE WAS
A CHALLENGE DURING THE VIDEO
CONFERENCING, IF THERE WAS A
BACKUP THEY COULD USE.

THE DEAF PEOPLE THEMSELVES
DIDN'T SIGN; IF THEY WANTED TO
LIPREAD, AND THAT WAS THE
FIFTH QUESTION, RELATED TO
LIP-READING, IF THERE WAS
LIP-READING CLARITY ON THE
SCREEN DURING THE VIDEO
CONFERENCE.

THE SEVENTH AND LAST QUESTION
WAS RELATED TO IF YOU FOUND

THIS CHALLENGING WHAT WERE THE RESOURCES THAT YOU WOULD USE TO SOLVE THE PROBLEMS THAT YOU WOULD ENCOUNTER, TO SOLVE THOSE CHALLENGES.

IN THE FIRST MATRIX, GOING BACK, I HAD A SPECIFIC FASCINATION.

I WANTED TO SEE HOW MANY PEOPLE THOUGHT THAT THE D.V.C. WAS EXCELLENT.

OVER 40% THOUGHT THAT WAS; IT WAS INDEED EXCELLENT.

AND WHEN I ASKED MORE SPECIFIC QUESTIONS, I WAS VERY

SURPRISED TO HEAR THAT FROM

THE 40% OF THE PEOPLE WHO

RATED THIS AN EXCELLENT TOOL,

ABOUT 58% OF THOSE 40% STATED

THAT THEY USED THE OTHER

RESOURCES, THE OTHER

COLLABORATIVE TOOLS TO SOLVE

THE PROBLEM, AND I FOUND THAT
VERY INTERESTING.

ABOUT ONE-THIRD OF THE USERS
STATED THAT THERE WERE

PROBLEMS, THAT THE SIGNING

THAT-- IT WAS STILL CHOPPY; IT
WASN'T CLEAR ENOUGH TO THEM.

ALSO, THERE WERE SYNCH

PROBLEMS, RELATE TO THE

SMOOTHNESS OF THE PRODUCTION,

AND THEY THOUGHT THE OVERALL

IMAGING QUALITY WAS POOR.

AND THAT RELATED SPECIFICALLY

TO THE PICTURE-IN-PICTURE.

THE SMALLER PICTURE HAD A POOR

IMAGE QUALITY.

OTHER THAN THOSE THREE

PROBLEMS, WE WANTED TO FIGURE

OUT HOW THIS IMPACTED THE

LEARNING PROCESS.

DURING MY RESEARCH, WE FOUND

THAT THE D.V.C. WAS VERY

EFFECTIVE, AND IT'S A VERY
EFFECTIVE COMMUNICATION TOOL
FOR ONE-ON-ONE COMMUNICATION.
NOT FOR CLASSROOM USE BUT
ONE-ON-ONE.

MANY OF OUR FACULTY USE VIDEO
CONFERENCING FOR ONE-ON-ONE,
JUST AS DOUG AND JIM
MENTIONED.

WE DO USE CAMERAS FOR
ONE-ON-ONE COMMUNICATION VERY
OFTEN, BUT IT'S RARELY OR
NEVER USED IN THE CLASSROOM.

THE PROBLEMS WITH THIS AS A
COMMUNICATION TOOL IS THAT YOU
NEED TO HAVE THE RIGHT SYSTEM;
YOU HAVE TO HAVE THE RIGHT
REQUIREMENTS.

SO IN YOUR CLASSROOM, YOU NEED
TO MAKE A CLEAR LIST OF WHICH
SYSTEM REQUIREMENTS ARE
NEEDED, AND THEN MOST OF YOUR

PROBLEMS WILL BE SOLVED.

NEXT SLIDE.

OH, I BELIEVE-- ARE YOU TAKING
THE SUMMARY?

>> SO SUMMARIZE WHAT WE FOUND,
THE THREE OF US, SO FAR,
D.V.C. IS GOOD FOR
FACILITATING COMMUNICATION
WITH DEAF AND HARD-OF-HEARING,
MOSTLY FOR ONE-ON-ONE.

DIDN'T FEEL IT WAS APPROPRIATE
FOR A GROUP.

IT'S GREAT FOR REMOTE TUTORING
AND TEACHING ONE-ON-ONE WITH
STUDENTS, AND IT'S PRETTY EASY
AND NOT VERY EXPENSIVE TO
IMPLEMENT.

SO NOW, WE GET TO THE BEST
PART OF THE PRESENTATION.

WE'LL DO THE HANDS-ON.

LET'S HOPE IT WORKS!

SO DO WE HAVE ANY QUESTIONS

ABOUT OUR FINDINGS AND
DISCUSSION?
THOSE TWO ARE GOING TO GO
AHEAD AND SET UP A LIVE
CONFERENCE WITH EACH OTHER
THERE.

NOW'S THE TIME I GUESS FOR
AUDIENCE PARTICIPATION AND
QUESTIONS, IF YOU HAVE ANY
QUESTIONS.

>> I WAS WONDERING WHAT...

(Inaudible)

... IN THE CLASSROOM, HAT
WAS... (Inaudible)

>> OKAY.

WELL, YOU GUYS CAN JUMP IN
ALSO.

WOULD YOU REPEAT THE QUESTION,
PLEASE?

FOR THE INTERPRETER, PLEASE?

>> (Inaudible)

>> WELL, IF YOU LOOK AT THE

PICTURE THAT IS AVAILABLE,
HERE WE HAVE ONE ON THE
SCREEN, HOW CAN YOU HAVE 15
OTHER STUDENTS IN THE PICTURE?
YOU WOULD HAVE 15
MINI-PICTURES WITHIN THIS
PICTURE.

IT'S REALLY IMPOSSIBLE.

IT REALLY DOESN'T ALLOW YOU TO
DO THAT.

>> THERE IS TECHNOLOGY TO DO
THAT.

NOT THIS TECHNOLOGY.

ALSO REMOTELY, I FOUND IT
REALLY VARIES, THE AUDIENCE,
THE REMOTE AUDIENCE, WHO IS
CONNECTED AT HIGH-SPEED, WHO
IS ON DIAL-UP.

SO THE PERFORMANCE IS VERY
QUITE OFTEN DEPENDING ON-- YOU
DON'T KNOW WHAT THE OTHER
PERSON REMOTELY HAS FOR

EQUIPMENT AND TECHNOLOGY.

I MEAN THAT WILL CHANGE.

EVERY YEAR IT'S GOING TO

CHANGE.

NETMEETING SUPPORTS-- IS IT UP

TO 50?

WHAT'S THE MAXIMUM THAT THE--

OH, 30?

THE FREE NETMEETING SUPPORTS

UP TO 30 PARTICIPANTS AT THE

SAME TIME.

30 OR 50, I FORGOT.

I ONLY USE ONE AT A TIME.

BUT THERE IS A LIMITATION TO

HOW MANY NETMEETING WILL

SUPPORT.

THEN YOU CAN BUY ADVANCED

SOFTWARE FOR MORE, BUT IT'S

NOT REALLY APPROPRIATE, WE

FEEL, RIGHT NOW, YET.

OKAY.

ANY OTHER QUESTIONS?

YES?

>> IS THERE A WAY TO--

(Inaudible) -- HOW DO YOU MAKE

SURE THEY'RE PROTECTED SO

THEY'RE NOT... ANYWHERE IN THE

WORLD OR... THE WINDOW...

APPROPRIATE.

HOW DO YOU OPEN UP A LOCATION

AT YOUR SCHOOL OR...

>> OKAY.

GOOD QUESTION.

FIRST, YOU CAN'T CONNECT WITH

ANOTHER PERSON UNTIL YOU HAVE

THAT PERSON'S I.P. ADDRESS.

LIKE IF YOU AND I WANTED TO

CONNECT, I COULD NOT CONNECT

WITH YOU UNTIL I HAVE YOUR

I.P. ADDRESS.

ANOTHER QUESTION?

>> (Inaudible)

>> THERE ARE WAYS-- DINO KIND

OF INVESTIGATED WITH HIS

RESEARCH.

DO YOU UNDERSTAND THE
QUESTION?

THERE ARE WAYS TO PROTECT YOUR
I.P. ADDRESS WITH A FIREWALL
AND OTHER THINGS.

THAT WAS PART OF YOUR
RESEARCH?

YOU UNDERSTAND HIS QUESTION?

>> YES.

FIRST, REALLY YOU NEED TO KNOW
THE PERSON'S I.P. ADDRESS THAT
YOU SPECIFICALLY WANT TO CALL.

IT'S JUST LIKE HAVING, YOU
KNOW, HAVING THE PERSON'S
PHONE NUMBER, YOU KNOW.

MY PHONE NUMBER IS 359-ET
CETERA.

SO YOU GIVE THE I.P. ADDRESS,
AS YOU WOULD A PHONE NUMBER.
SECONDLY, YOU CAN HAVE A BLOCK
OF ADDRESSES THAT YOU WANT TO

CALL.

-- THAT YOU WANT TO CALL TO
HAVE AN ALIAS, SO YOU CAN CALL
THOSE FIVE NUMBERS, FOR
EXAMPLE.

>> ABOUT PROTECTING HIS I.P.
ADDRESS SO OTHER PEOPLE CAN'T
FIND.

>> THE BIGGEST THING YOU NEED
TO HAVE IS A FIREWALL.
YOU NEED TO HAVE TWO DIFFERENT
TYPES OF FIREWALLS.

YOU NEED TO HAVE A SOFTWARE
FIREWALL WHICH IS SET UP AND
IMPLEMENTED ON YOUR DESKTOP.
THAT FIREWALL HARDWARE IS
IMPLEMENTED ON THE NETWORK
THROUGH YOUR I.S.P., THE
INTERNET SERVICE PROVIDER.

SO YOU NEED THOSE TWO
FIREWALLS.

>> SO AGAIN, IT WOULD DEPEND

ON IF YOU'RE E-MAILING,
CONNECTING FROM HOME, AT WORK.

AT HOME I HAVE ONE.

I HAD TO BUILD IT MYSELF.

THE INSTITUTE HERE HAS ONE.

SO IT'S AN ISSUE, FOR SURE.

OTHER QUESTIONS?

YES?

>> (Inaudible)

... AT ONE TIME?

DID YOU SAY THAT WAS POSSIBLE?

>> YES.

I'M NOT SURE OF HOW MANY AT

ONE TIME.

IS IT 30?

>> PER SECOND?

THAT'S 30 FRAMES PER SECOND.

ON THERE?

HMMM...

THE PICTURE THAT YOU SEE,

THERE'S A PICTURE-IN-PICTURE,

SO THAT'S ONE-ON-ONE.

I THINK IT'S UP TO 15 PEOPLE
THAT YOU CAN HAVE IN A CHAT OR
ON THE WHITEBOARD AREA.

I THINK IT'S UP TO 15 OR 20
PEOPLE, BUT IN THE
PICTURE-IN-PICTURE, IT'S
REALLY ONE-ON-ONE.

>> I WOULD HAVE TO CHECK THE
LIMITATION FOR YOU.

IT'S EASY TO FIND OUT.

OTHER QUESTIONS?

YES?

>> (Inaudible)

... PILOT PROJECT WITH WEB

CAMERAS... (Inaudible)

... USING LAPTOPS FOR THE DEAF
STUDENTS...

AND USING A MICROPHONE.

I'M A LITTLE NERVOUS ABOUT THE
QUALITY OF THE PICTURE, BUT I
WANTED A QUICK REACTION TO
THAT IDEA.

>> MY QUICK REACTION WILL BE
POSSIBLE SOON.

YOU SAW THE CHART WITH
BROADBAND HIGH-SPEED... IT'S
VERY-- IT'S IN THE NEAR
FUTURE.

IT WON'T BE A LONG TIME.

HIS STUDY WAS WHAT, TWO YEARS
AGO?

SO SINCE HIS-- I WAS ON HIS
COMMITTEE, SO I KNOW.

BUT HIS PROJECT, IT WAS VERY
ACCURATE AT THAT TIME.

NOW IT'S CHANGED.

SO ONE YEAR IS A LONG TIME IN
THAT WORLD.

I WOULDN'T BE TOO PARANOID
ABOUT THAT.

YES?

>> ARE YOU ABLE TO COMPARE...

(Inaudible)

YOU DIDN'T DO MATH WITH YOUR

STUDIES?

>> NO, I DID NOT.

>> WE DIDN'T.

MOST OF OUR LABS ARE ALL P.C.

>> THE INFORMATION THAT IS GOING BETWEEN ONE P.C. AND TO ANOTHER NODE, LIKE IF IT'S A P.C. AND A MAC, GOING FROM THE P.C. TO THE MAC, AND IT'S PROBABLY THE SAME WHETHER IT'S AN I.B.M., OR A MAC... THE PICTURE QUALITY SHOULD PROBABLY BE THE SAME.

MAC ORIGINALLY DEVELOPED THE ART, NEWSPAPER, ET CETERA, THE QUALITY THAT WAS DEVELOPED ON THE 'NET, SO THEIR QUALITY MIGHT BE BETTER, IF YOU KNOW WHAT I MEAN.

BUT REALLY I DON'T HAVE ANY HARD EVIDENCE HOW MUCH BETTER IT WOULD BE.

I CAN'T TELL YOU THAT.

THANK YOU.

>> WE HAD A QUESTION UP HERE?

>> THEY WANT A LATE-DEAFENED
PERSON TO USE A MICROPHONE.

LET ME KNOW IF YOU CAN'T
UNDERSTAND ME.

THE QUESTION ABOUT THE
INTERPRETER USING THIS
TECHNOLOGY FOR INTERPRETING,
IT'S ACTUALLY BEING USED FOR
REMOTE INTERPRETING THROUGH
THE VIDEO RELAY SERVICE.

I DON'T KNOW IF ANY OF YOU ARE
FAMILIAR WITH THAT, WHERE A
PERSON CAN LOG ON TO THE
INTERNET AND MAKE A CALL
THROUGH AN INTERPRETER THAT'S
ON THE COMPUTER SCREEN.

I USE IT EVERY DAY.

HAVEN'T USED A T.T.Y. SINCE
OCTOBER LAST YEAR.

>> THAT'S A GOOD POINT.

ANOTHER THING, KIND OF GOING
BACK TO YOUR QUESTION, THESE
ARE REALLY CHEAP CAMERAS, LIKE
AT B.J.s, I THINK MY WIFE SAW
THEM FOR \$50 OR SO.

SO IF YOU GO MORE
HIGH-QUALITY, IT MAKES A
DIFFERENCE.

WE WERE STUDYING JUST FOR THE
CHEAP, AFFORDABLE KIND OF
CONFERENCING.

BUT IF YOU WANT TO DO MORE,
YOU KNOW, FANCIER SYSTEM, IT'S
BEING DONE ALL THE TIME RIGHT
NOW.

SO THIS WAS TO STUDY THE
CHEAPER KIND THAT YOU CAN BUY
RIGHT AWAY.

OTHER QUESTIONS?

WE'LL BE HERE AFTER THE
PRESENTATIONS, IF YOU WANT TO

CHAT ALSO.

DID YOU WANT TO DEMO

SOMETHING, DOUG?

>> (Inaudible)

(Laughing)

>> OKAY.

OUR WIRELESS NETWORK IS NOT

BEHAVING?

(Chuckling)

OKAY.

BUT WHAT YOU SEE UP HERE, YOU

SEE THE CAMERA AND PRETTY MUCH

JUST CLICK A BUTTON AND IT

CALLS, AND IF YOU KNOW THE

PERSON'S I.P. ADDRESS, IT

WORKS FINE.

WHAT WE'RE GOING TO DO, WE'RE

GOING TO HAVE A HANDS-ON, SO

IF YOU NEED A LITTLE TIME, YOU

CAN LOOK AT THE TECHNOLOGY AND

PLAY WITH IT YOURSELF.

HANK, HOW MUCH TIME DO WE

HAVE?

>> WE HAVE ANOTHER TEN
MINUTES.

>> TEN MINUTES?

SO ARE THERE ANY OTHER
QUESTIONS ABOUT THIS
TECHNOLOGY?

WHY DON'T WE FINISH THE FORMAL
PRESENTATION NOW, AND PEOPLE
WHO ARE VERY INTERESTED CAN
COME DOWN HERE AND WE CAN SHOW
YOU THE CAMERAS AND DISCUSS
MORE IN DEPTH, AND OTHER
PEOPLE WHO NEED A BREAK RIGHT
NOW CAN GO GET SOME DRINK OR
SOMETHING.

SO I THINK WE'RE GOING TO
FINISH.

HANK, TURN US BACK TO--

>> THIS IS SESSION W11A.

PLEASE PUT THAT ON THE FORM.

IF YOU HAVE FINISHED THE FORM,

YOU CAN GIVE IT TO ME OR DO IT
ELECTRONICALLY LATER.

THANK YOU VERY MUCH.

THANK YOU TO THE PRESENTERS,
AND IF YOU HAVE INDIVIDUAL
QUESTIONS, PLEASE APPROACH
THEM INDIVIDUALLY.

>> THANK YOU.

>> THANKS.

[Close](#)