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Technology and Deaf Education

Exploring Instructional and Access Technologies

UNIVERSAL DESIGN BY OPEN COLLABORATION

Presenter: Dr. Antti Raike

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CAPTIONING PROVIDED BY:

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>> HELLO.

I'M GOING TO HAVE TO MODERATE MY VOICE OR I'LL BLAST THE PEOPLE OUT OF HERE.

DO YOU NEED MORE?

OKAY, THANK YOU.

THANK YOU, CAPTIONIST.

WE SEE YOU CAPTIONING.

>> GOOD MORNING.

I HAVE A STRONG VOICE, I'M SORRY.

JUST A FEW WORDS BEFORE OUR OPENING PRESENTATION TODAY.

FIRST OF ALL, I WANT TO SAY THANK YOU FOR COMING.

I HOPE THE EXPERIENCE HAS BEEN ENJOYABLE, THAT YOU'VE LEARNED SOME NEW THINGS AND MADE SOME NICE NETWORK CONNECTIONS.

RELATED TO THE CONNECTIONS, I'VE HAD A NUMBER OF PEOPLE ASK ME IF

I COULD PROVIDE A LIST OF ALL THE E-MAIL ADDRESSES FOR ATTENDEES.

WHAT I'D PREFER TO DO FOR THE SAKE OF PRIVACY AND REDUCING SPAM IS IF YOU NEED A CONNECTION WITH SOMEONE YOU MET HERE PLEASE E-MAIL ME DIRECTLY AND I'LL FORWARD ON YOUR MESSAGE TO WHOMEVER YOU WISH TO ADDRESS.

THAT WAY WE CAN KEEP THE DISTRIBUTION OF THE WHOLE LIST PRIVATE BUT WE CAN FACILITATE COMMUNICATION.

I WANT TO REMIND YOU ALL THAT ALL THE POWERPOINTS, HANDOUTS, PAPERS THAT HAVE BEEN SUBMITTED TO US ARE NOW ON THE WORLDWIDE WEBSITE SO AT ANY POINT GO TO THE PROGRAM, CLICK ON THE SESSION, AND YOU'LL SEE THE POWERPOINT, THE HANDOUTS, WHATEVER PEOPLE HAVE GIVEN US.

IF YOU'RE A PRESENTER AND HAVE NOT YET SUBMITTED THEM TO US, PLEASE DO SO WHENEVER YOU CAN.

WE'D LIKE TO HAVE AS COMPLETE A LIBRARY AS WE CAN OF THE EVENTS HERE TODAY.

THE OTHER THING I WANTED TO MENTION IS IT'S VERY IMPORTANT TO US THAT YOU PLEASE COMPLETE THE OVERALL SYMPOSIUM EVALUATION FORM.

WE WANT YOUR COMMENTS, WE WANT TO BE SURE THAT WE LEARN FROM YOU WHAT WAS GOOD, WHAT WAS NOT SO GOOD, AND ANY IDEAS FOR A FUTURE SYMPOSIUM.

I AM PLEASED TO TELL YOU THAT WE HAVE DECIDED TO HOST ANOTHER SYMPOSIUM IN THE YEAR 2010.

IT WILL BE IN THE LAST WEEK OF JUNE, 2010, AND WE REALLY HOPE THAT YOU CAN ATTEND.

WE HOPE THAT YOU CAN PARTICIPATE, AND HELP US SPREAD THE WORD ABOUT THIS IMPORTANT MEETING.

IN 2010, IT WILL BE THE 10th YEAR OF PEN-INTERNATIONAL AND JIM AND I HAVE SPOKEN ABOUT MAKING THIS A VERY SPECIAL CELEBRATION FOR THE SYMPOSIUM, AND FOR PEN-INTERNATIONAL.

WE'RE LOOKING TO BRING IN SOME MORE STUDENTS TO PARTICIPATE, WE'RE LOOKING TO BRING IN SOME PERFORMANCES FOR YOU.

WE'RE GOING TO MAKE IT A REAL NTID/PEN-INTERNATIONAL CELEBRATION SO MARK YOUR CALL CALENDARS AND WE'LL BE IN TOUCH THROUGH ADVERTISING.

I'D LIKE TO INTRODUCE DENISE KAVIN TO INTRODUCE DR. RAIKE.

THANK YOU.

[ APPLAUSE ]

>> HELLO, EVERYONE, GOOD MORNING.

I MET DR. ANTTI RAIKE AT THE WORLD FEDERATION OF THE DEAF CONFERENCE LAST SUMMER IN MADRID, SPAIN.

AND HIS PRESENTATION WAS SO WONDERFUL THAT DR. ALAN HURWITZ MET WITH ME AND HE SAID, WE MUST INVITE HIM TO THE SYMPOSIUM SO WE DECIDED TO INVITE HIM, AND WE'RE VERY EXCITED THAT HE COULD BE HERE WITH US.

HE'S DONE MANY, MANY PROJECTS, MANY PAPERS RELATED TO -- HE'S GOT MANY ROLES AS DIRECTOR, AS SCREENWRITER.

HE FOCUSES ON MANY TOPICS, INCLUDING ANIMATION, SIGN LANGUAGE ANIMATION, UNIVERSAL DESIGN, FILM STUDIES VIA THE INTERNET, VISUAL INNOVATIONS, WEB ACCESSIBILITY, AND HYPER MEDIA.

HIS PRESENTATION TODAY IS ENTITLED, UNIVERSAL DESIGN BY OPEN COLLABORATION.

AND HE TALKS ABOUT THE CONCEPT OF DfA, DESIGN FOR ALL.

AND THAT MEANS HOW YOU DESIGN PRODUCTS AND SERVICES TO INCLUDE ALL PEOPLE, OR AS MANY PEOPLE AS POSSIBLE, REGARDLESS OF ENVIRONMENT, REGARDLESS OF ABILITY OR DISABILITY.

AND HE'S HERE, THIS IS VERY IMPORTANT INFORMATION FOR THE DEAF COMMUNITY, AND FOR ALL OF SOCIETY.

AND WE'RE VERY PLEASED TO INTRODUCE DR. ANTTI RAIKE.

[ APPLAUSE ]

>> GOOD MORNING.

FIRST, I HAVE TO EXPLAIN ABOUT MYSELF.

I'VE BEEN STONE DEAF FOR 24 YEARS.

BEFORE THAT I HAD NORMAL HEARING AND NOW THIS IS MY SECOND LIFE AND MY SECOND LANGUAGE IS FINNISH SIGN LANGUAGE BECAUSE NOBODY IS ABLE TO SIGN FINNISH SIGN LANGUAGE, I THOUGHT I WOULD SPEAK ENGLISH AND TRANSLATE THAT IN ASL.

FIRST OF ALL, FINLAND, WHAT DO YOU KNOW ABOUT FINLAND?

WHO KNOWS NOKIA?

SOME PEOPLE.

WHO KNOWS LINUX?

NO LINUX?

OKAY.

TWO FINNISH SIGN LANGUAGE SIGNS FOR YOU AS A SOUVENIR.

FIRST ONE IS NOKIA.

THIS IS THE ONLY STANDARD SIGN FOR NOKIA.

THAT'S NOKIA, THANK YOU.

AND NOW COMES THE MORE DIFFICULT.

THAT'S LINUX.

GREAT.

AND NOW LET'S GO BACK TO THE TOPIC.

MY TOPIC IS UNIVERSAL DESIGN FOR OPEN COLLABORATION.

FIRST, IN DESIGN SOME PEOPLE TEND TO THINK THAT IT'S ONE SIZE FITS ALL DESIGNING BUT THAT'S NOT TRUE.

WE COULD, FOR EXAMPLE, WE THINK ABOUT THE CAR.

IT'S A VEHICLE WITH NORMALLY FOUR WHEELS, AN ENGINE, SOME KIND OF ELECTRICAL, GAS, WHATEVER, BUT THE POINT IS THAT THE CAR IS MEANT TO BE USED ON ROADS, MOTOR HIGHWAYS AND ET CETERA, AND THE CARS CAN VARY IN SIZE.

WE HAVE^-- THE MAIN POINT IS THAT WE DESIGN THE CAR FOR EVERYONE.

NOT ONE PRECISE CAR BUT THE CONCEPT OF THE CAR IS DESIGNED FOR.

AND HENCE WHEN YOU UNDERSTAND THIS, I THINK IT'S A BIT EASIER TO UNDERSTAND MY PRESENTATION.

THIS DESIGN FOR ALL IS OFTEN CALLED DfA IN EUROPEAN TRADITION, AND INCLUSIVITY IN BRITISH TRADITION.

THEY HAVE SOME DIFFERENCES BUT MAINLY THEY ARE THE SAME THING.

NOW I WANT TO STRESS THAT COLLABORATION HAPPENS EXTREMELY LARGE COMMUNITIES, THOUSANDS, TENS OF THOUSANDS, HUNDREDS OF PEOPLE COULD COLLABORATE BUT THE AIMS FOR ACCESS VARY.

COLLABORATION IS DIFFERENT.

FOR EXAMPLE WE ARE COOPERATIVE BECAUSE THE TARGET WAS THE SAME FOR EVERY WORKER OR EVERYONE WHO WAS INVOLVED.

NOW WE HAVE TO THINK HOW WE INCLUDE DEAF INVENTORS, DEAF PERSONS INTO COLLABORATION WITH THE LARGE COLLABORATIVE COMMUNITIES AND NOW THE NEW TECHNOLOGY GIVES US A LOT OF GOOD POSSIBILITIES FOR THAT.

BUT THE CHALLENGE IS, I'LL ILLUSTRATE SOME EXAMPLES FROM THE HISTORY AND THEN FROM COMPUTING AND THEN SOME FROM SURGERY AND FINALLY I'M TALKING A BIT ABOUT CONCEPTS, TRANSHUMANISM.

AND THIS GOES BACK TO EDUCATION VERSUS LEARNING, THERE'S EDUCATION AND THEN THERE'S LEARNING AND THEY'RE -- AND THIS WILL HAPPEN A LOT IN THE FUTURE.

THE MAIN CONCEPT IS SO-CALLED RATCHET EFFECT.

THIS CATCH IT EFFECT IS LAUNCHED BY MICHAEL TOMISELLO.

IF YOU HAVE NOT READ HIS BOOKS PLEASE CONSIDER READING AT LEAST SOMETHING.

THE HUMAN CONDITION IS VERY GOOD AND IT POINTS OUT THAT ACTUALLY, WE ARE MORE CLEVER THAN OUR ANCESTORS, LET'S SAY, ABOUT 5,000 YEARS AGO, BECAUSE EVERY PERSON IS BORN IN A PLACE WHERE HE IS ABLE TO USE A LOT OF TECHNOLOGY, A LOT OF CULTURAL ARTIFACTS AND THOSE

ARTIFACTS SUFFER THE CONDITION OF THE NEW HUMAN SO IN THAT WAY WE HAVE TO BE CERTAIN THAT WE GIVE ALL OF THE POSSIBILITIES TO THE NEW BABIES AND CHILDREN.

WE CANNOT THINK THAT HERE WE HAVE A CITIZEN WHO 200 YEARS AGO WOULDN'T LEARN ANYTHING, THAT'S A RATCHET EFFECT.

ONE EXAMPLE FROM THE DEAF CULTURE, THERE'S TWO PICTURES.

19th CENTURY PICTURE FROM THE MUSEUM OF THE FINNISH ASSOCIATION FOR THE DEAF.

IT GIVES A GOOD EXAMPLE HOW THE NEW TECHNOLOGY CALLED PHOTOGRAPHY WAS USED IN THE EARLY 19th CENTURY BY A DEAF PHOTOGRAPHER.

AND THE MAN IN THIS PICTURE IS A MAN WHO WAS ALSO DEAF AND THEY MADE A BRILLIANT SIGN LANGUAGE BOOK WITH THAT TECHNOLOGY, WHICH WAS AVAILABLE IN THE EARLY 19th CENTURY.

YOU CAN IMAGINE MAKING THOSE PLAINS, DRAWING THOSE LINES BY HAND.

THIS PICTURE IS NUMBER 20-A^-- 28 AND THEY MADE HUNDREDS OF THESE KINDS OF PICTURES FOR THE DEAF COMMUNITY IN FINLAND.

THE OTHER PICTURE IS A RECENT ONE.

TWO YEARS AGO, THE SPACE SHIP FOR THE FUTURE MARS LANDING.

THEY MADE THIS PICTURE.

AS YOU SEE, THE SCIENTIST IS SIGNING.

DOESN'T MEAN ANYTHING BUT IT'S THE RATCHET EFFECT.

200 YEARS AGO, DEAF COMMUNITIES WERE PRODUCTIVE AND THEY SPREAD THE MESSAGE ABOUT SIGN LANGUAGE AND NOW WE'RE IN A SITUATION THAT SOMEBODY WHO DOESN'T HAVE DEAF RELATIVES SIGNS AND USES SIGN LANGUAGE.

THAT'S ALSO RATCHET EFFECT.

WE TEND TO FORGET THAT WE ALSO PRODUCE IMPORTANT AND VALUABLE THINGS TO THE SOCIETY, AND THESE KIND OF SMALL SIGNS AND WEAK SIGNS ARE VERY IMPORTANT TO NOTICE.

SO BASICALLY THE CIVILIZATION COULD BE UNDERSTOOD THAT IS THE STORY OF HUMANS, US AND OUR TOOLS.

EVERY KIND OF TOOL HAS CHANGED US AND THIS IS AN INTERESTING PICTURE.

I HAVE TRIED TO TRACK THE NAME OF THE ARTIST.

HE OR SHE IS REALLY BRILLIANT.

AND I THINK YOU HAVE SEEN THIS.

IT'S A CARTOON BUT THERE'S A LOT OF THINGS.

AS YOU SEE, FIRST, NO TOOLS.

THEN YOU CAN SEE A KNIFE.

KNIFE IS A TOOL.

IT'S ONLY A PLATE, NOTHING ELSE.

SECOND IS A SPEAR WHICH HAS A KIND OF INTERFACE CALLED HANDLE AND A PLATE, THE TIP OF THE SPEAR.

THAT'S IMPROVEMENT.

SECOND, THERE'S A RAKE AND THAT REFERS TO AGRICULTURE.

NOW THEY HAVE A TOOL NOT FOR HUNTING BUT FOR AGRICULTURE.

SECOND IS THE ARROW OF TECHNOLOGY, HE'S HAVING A GRILL.

A SOURCE OF ENERGY TO USE THE GRILL AND FINALLY WE ARE BACK IN THIS POSITION WITH OUR COMPUTERS.

THERE'S A LOT OF INFORMATION ABOUT RATCHET EFFECT OF EVOLUTION AND CULTURE IN THIS ONE PICTURE.

SO THAT PICTURE BRINGS US TO THIS ILLUSTRATION WITH WHICH IS VERY IMPORTANT FOR US IN MANY WAYS.

VISUALIZATION LIKE MAPS, THEY CARRY A LOT OF INFORMATION.

THEY CARRY INFORMATION, AND SOMEBODY HAS DONE SOMETHING AND TELLS US WITH VISUAL WAYS WHAT HE OR SHE HAS UNDERSTOOD AND LEARNED.

WE ARE GOING TO USE THAT.

WE DON'T HAVE TO START ALL OVER FROM SCRATCH.

BUT ALSO, IT'S IMPORTANT TO UNDERSTAND THAT SOPHISTICATED VISUALIZATION SUPPORT COLLABORATION, COORDINATION AND COGNITION.

THINGS THAT WOULD HAVE BEEN IMPOSSIBLE WITHOUT VISUALIZATION AND SO YOU CAN IMAGINE ALMOST EVERY REASON WE NEED VISUALIZATIONS.

HERE'S AN EXAMPLE.

HAS ANYBODY SEEN THIS BEFORE?

NO ONE?

IT'S VERY FAMOUS.

IT'S AN AMERICAN GRAPHIC DESIGNER WHO WAS PUZZLED WITH THE ANNUAL BUDGET OF THE FEDERAL^-- IT MUST BE A THICK BOOK.

IN FINLAND THE BOOK IS THIS THICK.

YOUR BOOK MUST BE SOMETHING LIKE THIS.

SO THIS GRAPHIC REPRESENTATION TELLS US WHERE YOUR TAX MONEYS GO.

THE BIGGEST ONE NATURALLY IS IN DEFENSE.

YOU USE A LOT OF MONEY ABROAD, AND THERE ON THE RIGHT UPPER CORNER IS A TINY, TINY, TINY AREA FOR EDUCATION, AND EVEN MORE TINY DOT FOR DEAF EDUCATION.

NOW THE VISUALIZATIONS THEY MADE, THE NEEDS WERE^--

COGNITION HAD TO BE COORDINATED WITH PEOPLE WHO ARE NOT IN STRAIGHT CONNECTION WITH EACH OTHER.

THEN MY FIRST EXAMPLE IS ABOUT NAVIGATION.

THIS IS FROM THE 18th CENTURY, AND PLEASE REMEMBER THIS YEAR, 1757.

TRY TO REMEMBER WHAT HAS HAPPENED IN YOUR COUNTRY 1757 OR CLOSE TO THAT YEAR.

THIS IS THE ATLANTIC OCEAN AND IN THOSE DAYS IT WAS SOMETHING LIKE FROM EUROPE TO AMERICA, AND WE FINALLY SEE THE LAND.

IT WAS A PIECE OF CAKE TO SEE THE LATITUDE.

PEOPLE HAVE KNOWN HOW TO MEASURE LATITUDE FOR THOUSANDS OF YEARS.

VIKINGS HAD THE SUN STONES AND SO ON, BUT THE LONGITUDE, PEOPLE KNEW THAT WE NEED A LONGITUDE FOR THE PRECISE NAVIGATION.

BUT HOW TO DO IT, THAT WAS THE TRICK.

ALSO, PEOPLE KNEW THAT THEY HAD DIVIDED THE DAY FOR 24 HOURS.

THE GLOBE WAS 360 DEGREES, IT WAS EASY TO COUNT THAT ONE HOUR IS EQUAL WITH 15 DEGREES AND SO ON BUT HOW TO DO IT ON THE OPEN SEA, THAT WAS THE TRICK.

SO BRITISH PARLIAMENT, BECAUSE BRITAIN WAS THE MOST POWERFUL IN THOSE DAYS, THEY UNDERSTOOD IF THEY WANT TO KEEP THEIR POWER, THEY HAVE TO LEARN HOW TO MASTER LONGITUDE.

AND THEN THEY HAD THE SO-CALLED LONGITUDE ACT.

THEY MADE CLAIM THAT ANYBODY WHO'S ABLE TO GIVE A METHOD TO MASTER LONGITUDE WILL BE GIVEN 20,000 POUNDS.

THAT'S A FORTUNE.

THIS IS THE FIRST PART OF THE STORY.

HARRISON HIS CAREER IN LIFE IS EXPLAINED IN AN EXCELLENT BOOK.

AND THIS JOHN HARRISON WAS SO A CLOCK MAKER BUT FIRST HE WAS A CARPENTER.

AND THE POINT IS, NOBODY KNEW ABOUT HIM BEFORE HE WAS 30.

HE HAD BEEN SOMEWHERE, HE WAS A SKILLFUL CARPENTER AND THEN JUST LIKE THAT, NOBODY KNEW HOW, HE STARTED TO MAKE CLOCKS, BIG ONES.

AND HE USED WOOD, AND HE USED BRASS, BECAUSE THERE WERE PROBLEMS WITH LUBRICATION, THE PROBLEMS WITH CORROSION AND SO ON, SO HE

DIDN'T USE ANY OTHER METHOD, BUT MAINLY HIS CLOCKS WERE MADE OUT OF WOOD.

SO WHEN HE POINTED OUT ABOUT THIS LONGITUDE ACT, HE IMMEDIATELY STARTED TO CONSTRUCT A CLOCK, AND THIS IS JOHN HARRISON'S FIRST ONE.

HE KNEW THE PROBLEMS WITH THE PENDULUM, AND HE HAD A SOPHISTICATED MACHINERY TO KIND OF BALANCE THE SHIP'S MOVEMENT WITH THE EFFECT ON THE PENDULUM, AND THE FIRST CLOCK HARRISON MADE THE DEMANDS OF THE LONGITUDE ACT AND HE COULD HAVE GIVEN THE AWARD BUT HE HIMSELF REFUSED BECAUSE HE WAS A SCIENTIST AND HE WANTED TO BE SURE.

SO HE DIDN'T TAKE IT.

AFTER THAT, HE MADE TWO MORE.

BUT FINALLY HE WIPED OUT THE CLOCK, AND HE TOOK A WATCH.

WATCHES IN THOSE DAYS WAS A TOY.

WEALTHY MEN HAD A WATCH BUT NO ONE TRUSTED THE WATCH.

THE TIME WAS SO AND SO BUT JOHN HARRISON TOOK THIS SO-CALLED TOY AND MADE A BIG ONE LIKE A PLATE AND THIS WAS THE CHRONOMETER.

WITH THIS, PEOPLE WERE ABLE TO COUNT LONGITUDE.

THE POINT IS, FIRST WE HAD JOHN HARRISON WHO CAME OUT OF NOWHERE, NOBODY KNEW HIM.

THEN SECONDLY, HE DIDN'T HAVE SCIENTIFIC EDUCATION, BUT HE WAS A SCIENTIST AND ENGINEER.

AND FINALLY HE WAS HIMSELF ABLE TO GIVE UP THE DEAD END.

THE CLOCKS WITH PENDULUM DIDN'T WORK SO HE HAD TO CHANGE THE WHOLE THING AND IN THREE YEARS, HE COMPLETED THIS ONE.

IT'S AN EXCELLENT STORY ABOUT AN INDIVIDUAL WHO COULD HAVE BEEN A LOT MORE IF HE HAD BEEN ACCEPTED.

WE CARRIED THIS KIND OF CHRONOMETER, THIS IS USED IN 1969 IN THE MOON LANDING.

THEN WE CARRIED THE NAVIGATION CHRONOMETER AND THE FINNISH MADE SOON THE DIVING COMPUTER.

IT'S A WRIST WATCH WITH A COMPUTER, WITH A COMPASS, EVERYTHING, COMPRESSED INTO A TINY DEVICE.

AND FINALLY THE DESIGN, NOW WE HAVE THE CHRONOMETERS.

THIS COULD BE USED BY BLIND PEOPLE, BUT THE MAIN POINT, THIS IS NOT MARKETED TO BLIND PEOPLE.

THIS IS MARKETED TO THE BIG BUSINESSMAN AND BOSSES.

THEY HAVE FOUND OUT THAT EVERY TIME WHEN THE BOSS START TO USE THIS, EMPLOYEES ARE UPSET BECAUSE THIS IS A VERY STRONG SIGNAL.

I THINK YOU HAVE BEEN IN THE MEETINGS AND YOUR PARTNER LOOKS AT THE TIME, YOU'RE UPSET.

SO NOW THEY CAN TAKE EYE CONTACT WITH YOU IF THEY'RE IN A HURRY.

I MEAN, THIS IS DESIGNED FOR THEM AND AT THE SAME TIME THE BLIND PEOPLE HAVE A BEAUTIFUL PEACE TO CARRY ON.

SO ALL IN ALL THIS USE OF TOOLS HAS CHANGED OUR IDENTITY.

WE ARE NOT THE SAME HUMANS WE WERE 500 YEARS AGO, WE ARE DIFFERENT BECAUSE WE HAVE A DIFFERENT KIND OF TOOLS.

WE KNOW HOW TO USE IT AND WE BUILD OUR CULTURES AND OUR COLLABORATION KIND OF ON THE TOP OF THE ACCUMULATED KNOWLEDGE FROM HISTORY.

NOW THE PROBLEMS, OR CHALLENGES, THERE'S NO PROBLEMS ANYMORE, BUT CHALLENGES COMES FROM THE FACT THAT THOSE SYSTEMS ARE EXTREMELY DIFFICULT TO UNDERSTAND.

NOW WE ARE GOING BACK, WE ARE GOING TO SOMETHING THAT WE HAVE TO GO IN EVERY MUSEUM AND SEE WHAT PEOPLE DO, THEY TRY TO TOUCH THINGS.

TOUCHING IS SO IMPORTANT TO US THAT NOW WE HAVE UNDERSTOOD THE FIRST PHASE WAS TO MAKE SYSTEMS SECURE AND WORKING.

AND NOW PEOPLE HAVE TO TRUST THEM.

AND COMPUTING MEANS THAT ALTHOUGH^-- PALPABLE COMPUTING MEANS THAT ALTHOUGH THE SYSTEM IS EASY TO UNDERSTAND, IT MUST BE PALPABLE.

WE GO OUT TO THE TOWN AND YOU PAY CASH, YOU KNOW THAT YOU'RE OUT OF YOUR LIMIT AND IT'S EASY TO COUNT.

WITH A CREDIT CARD, IT'S IMPOSSIBLE.

I THINK YOU KNOW THIS, IT'S VERY EASY TO DO AND MORE EASY TO SIGN AND EVEN WORSE.

NOWADAYS YOU PUT FOUR TICKETS AND WHEN YOU GO BACK HOME YOU'RE BANKRUPT.

THIS IS NOW WHAT WE'RE GOING TO MAKE.

TECHNOLOGY MUST BE EASY TO UNDERSTAND AND EASY TO USE SO THAT IN THE FIRST PLACE YOU CAN SEE THAT I CAN'T USE THIS ONE BUT I CAN USE THAT ONE.

THAT'S IMPORTANT.

WHEN YOU GO BACK HOME CHECK YOUR WASHING MACHINE, CHECK YOUR KITCHEN, I THINK YOU HAVE A LOT OF IT SYSTEMS IN YOUR OWN HOUSE ALREADY NOW AFTER 10 YEARS.

YOU DON'T EVEN KNOW HOW YOUR OWN HOUSE WORKS.

AND THE BIGGEST CHALLENGE IS NOW WITH THE USE OF SAFETY.

SAME AS THE OLD NAVIGATORS, THEY WERE IN BIG TROUBLE WHEN THEY DIDN'T MAKE THE LAND AFTER TWO WEEKS BECAUSE THEY DIDN'T KNOW THE LONGITUDE.

WE'RE IN THE SAME SITUATION.

WE DON'T KNOW HOW THIS WORKS.

IF WE SEND A SIGNAL TO THE HOSPITAL, HOW DO WE KNOW THAT ANYBODY HAS READ IT?

THAT'S A BIG CHALLENGE.

THE COMMUNICATION AND THE COLLABORATION DEPENDS VERY HEAVILY ON THE SAFETY ASPECTS OF THE NEW I.T. SYSTEMS.

SECONDLY, THE SECOND CASE, IS THE SURGERY.

18th CENTURY, THIS PICTURE SHOWS HOW AMPUTATION WAS DONE.

DOCTORS KNEW IT WAS FOR THE GOOD BUT TRY TO TELL THAT TO THE PATIENT, WE'RE GOING TO TAKE YOUR LEG OFF AND YOU'LL BE MUCH BETTER.

DOESN'T WORK.

BUT THEY HAD TO DO IT.

NO NARCOTICS, NO PAIN KILLERS.

TRY TO CUT IT EFFECTIVELY AND QUICKLY AND HOPE THAT THE PATIENT SURVIVES.

NOWADAYS, IT'S TOTALLY DIFFERENT.

THEY COULD MAKE SOPHISTICATED OPERATIONS IN ONE OR TWO HOURS.

THAT'S A WHOLE TEAM, LOTS OF EQUIPMENT.

AND AGAIN THERE'S VISUALIZATIONS.

THE PLATE COULD BE SOMEWHERE INSIDE HERE, THE CUTTING PLATE BUT THE SURGEONS IS WITH VISUALIZATIONS AND NOW YOU CAN UNDERSTAND HOW IMPORTANT IT IS TO CHECK THAT ALL THE SYSTEMS ARE SAFE.

HE OR SHE MUST KNOW THAT THE INFORMATION TRANSMITTED IS PROMPT AND EXACT.

THERE'S NO WAY, MAYBE SO AND SO BUT IT HAS TO BE 100%.

SECURE SYSTEM.

SO THIS ALL TAKES US, WE HAVE I.T. SYSTEMS WHICH SURROUND US.

WE'RE IMMERSED IN SYSTEMS WE DON'T UNDERSTAND.

SECONDLY WE COULD BE IMPROVED A LOT.

THIS CONCEPT TRANSHUMANISM IS A CONCEPT TO DEAL WITH THE NEW ERA.

THIS IS NOT UTOPIA, THIS HAS HAPPENED.

HERE'S ONE EXAMPLE.

WHEN THEY TRADE TO SELL IT TO DEAF PERSONS THEY DIDN'T ASK DEAF PERSONS' OPINIONS, THEY DIDN'T INCLUDE DEAF PERSONS IN THE DISCUSSION.

THAT WAS A BIG MISTAKE SO 20, 30 YEARS THERE WERE UNNECESSARY COMPLAINTS AND DISAGREEMENTS BECAUSE PEOPLE DIDN'T COLLABORATE.

TRANSHUMANISM IS SOMETHING WHERE WE TRY TO FIND^--

WHERE PEOPLE TRY TO FIND COMMON METHODS, THERE WERE SOCIOLOGIC, AND POSSIBLY ETHICS IS VERY IMPORTANT BECAUSE EVERY TIME YOU TRY TO IMPLANT SOMETHING INSIDE A HUMAN BODY YOU HAVE TO KNOW WHAT ARE THE EFFECTS.

I THINK I SAW A SMALL PART OF THIS, THIS IS MADE BY AN ARTIST BEFORE THE TRANS-HUMANISTIC INTERFACE.

THIS IS MADE FOR AN ARTIST.

THIS IS HOW IT CAN BE USED IN YOUR SKIN TO MAKE MEASUREMENTS FOR HEART RATE AND BLOOD PRESSURE AND SO ON.

NOT YET BUT MAYBE, YOU CAN REACH THAT FROM THE WEB.

IT'S CALLED^--

WHY THIS KIND OF ANIMATION IS MADE BY AN ARTIST, WHAT'S THE SCIENCE?

I GAVE ONE EXAMPLE, IN THE '30s, THIS WAS THE BEST METHOD FOR COMPUTING.

AND I BET YOU KNOW THE STORY ABOUT THE MACHINES AND GERMANY IN THE '30s.

I THINK IT'S A WELL KNOWN STORY.

THE FIRST BIG CUSTOMER WAS THE GERMAN STATE, AND THEY BOUGHT A LOT OF THE MACHINES JUST TO CHECK^--

ONCE THE CONFERENCE IS THE PLACE WHERE 30 GERMAN ADMINISTRATORS KEPT THE CONGRESS IN 43 AND THAT WAS THE PLACE WHERE THEY DECIDED TO KILL JEWS FROM EUROPE.

AND THOSE DOCUMENTS, THE YELLOW ONE, HAS THE NUMBERS OF JEWS IN EUROPE, INCLUDING FINLAND AND NORWAY.

THEY JUST DECIDED TO FIND OUT, THERE WERE MILLIONS OF PEOPLE.

THAT'S SOMETHING VERY DIFFICULT TO UNDERSTAND.

AND ONCE THE CONFERENCE, THERE SHOULD HAVE BEEN SOME KIND OF VISUALIZATION OF THE PROSPECT WHAT'S GOING TO HAPPEN.

FIRST WE SEE SOMEBODY VISUALIZES FOR US THE METHOD AND THE TECHNOLOGY WHICH COULD BE USED IN THE FUTURE.

THEN PEOPLE ARE ABLE TO UNDERSTAND IT.

BUT THIS CONFERENCE, ONLY ONE DOCUMENT WAS FOUND BECAUSE AFTER THE CONFERENCE, ALL THE ENTITIES HAD TO DESTROY THE DOCUMENTS BUT

AMERICANS FIND ONE COPY.

THIS COPY WAS VERY IMPORTANT IN THE TRIAL AFTER THE WAR BECAUSE NO OTHER DOCUMENTS WERE LEFT.

SO IT'S VERY IMPORTANT TO UNDERSTAND IN THE SOCIETY'S OPEN COLLABORATION, YOU EXPOSE AND YOU VISUALIZE WHAT IS GOING TO HAPPEN IN THE NEAR FUTURE SO THAT MAKES SENSE AND PEOPLE ARE ABLE TO UNDERSTAND AND MAKE DECISIONS.

NOBODY WANTS THAT KIND OF FUTURE SO THAT'S WHY THIS IS AN EXAMPLE FOR THE MOVIE MAKERS, THE FILMS OF TERMINATOR THEY TELL US ABOUT THE POSSIBILITY OF THE FUTURE WHICH COULD HAPPEN.

THEY'RE ONLY IMAGINARY FICTION ABOUT THE POSSIBLE FUTURE BUT THEY'RE IMPORTANT.

THEY TELL US WHAT THE TRANSHUMANISM COULD BE, NOT NECESSARILY, BUT COULD BE.

SO WE NEED TO UNDERSTAND HOW THESE DEVICES WORK.

AND WHEN I'M USING THIS ONE, 10 YEARS AGO I DIDN'T HAVE THIS KIND AND IT TOOK ME 10 SECONDS TO UNDERSTAND HOW TO USE THIS.

WE HAVE LOTS OF THESE KINDS OF THINGS AND NOW WE NEED TO UNDERSTAND HOW ALL THESE TINY DEVICES AFFECT US.

FINALLY, THE SCHOOL.

$100 LAPTOP IS IN A WAY SIMILAR.

IT'S A NICE ILLUSION.

IT LOOKS VERY GREAT WHEN IT IS PROPOSED.

BUT WHAT'S THE PROBLEM WITH FOR EXAMPLE $100 LAPTOP?

THE PROBLEM IS HERE, THIS IS SOMEONE FROM INDIA WHO TRIED TO EXPLAIN THAT FIRST, PEOPLE NEED SCHOOL WITH TOILETS, WITH BLACKBOARDS, WITH TEACHERS, WITH LUNCH.

AFTER THAT, PEOPLE COULD USE $100 LAPTOPS.

I HOPE YOU UNDERSTAND THE RATCHET EFFECT.

FIRST YOU MUST HAVE THE SYSTEM, AND THEN YOU HAVE THE NEW EQUIPMENT.

NOW PEOPLE ARE TRYING TO MAKE A SHORTCUT.

LET'S GIVE THEM LAPTOPS AND THEY WILL BE 10 YEARS AND 20 YEARS.

THAT DOESN'T WORK THAT WAY.

THAT'S MY CLAIM.

SO THE POTENTIAL OF THE NEW TECHNOLOGIES LIES IN THE FACT THAT THERE'S A LOT OF INFORMAL LEARNING.

FORMAL EDUCATION, THAT WAS THE OLD DAYS.

PEOPLE TEND TO SAY HOW YOU HAVE THE TWO, HOW YOU HAVE THE PEOPLE BEHAVE AND SO ON THAT YOU GET THE GOOD PROFESSION WITH LOTS OF MONEY AND SO ON.

BUT NOW WE HAVE THIS INFORMAL POSSIBILITY FOR LEARNING.

LOTS OF LEARNING I THINK YOU HAVE SEEN IT, HAPPENS OUTSIDE THE CLASSROOMS.

IT SEEMS THAT THE MOST IMPORTANT PART OF THE LEARNING HAPPENS OUTSIDE THE SCHOOL, AND THE SCHOOL IS FOR, I DON'T KNOW WHAT IT'S FOR, BUT WE NEED THE SCHOOL.

BUT AT THE SAME TIME WE HAVE TO UNDERSTAND THIS INFORMAL LEARNING WHICH HAPPENS ALL THE TIME WITH THE NEW TECHNOLOGY.

AND THEN INFORMAL LEARNING LINKS TO SOCIAL NEEDS.

FOR EXAMPLE, DEAF PEOPLE, YOUNG DEAF PEOPLE HAVE SOCIAL NEEDS WE ARE NOT AWARE OF AND WHEN THEY HAVE A SOCIAL NEED, THEY TRY TO FIND A TECHNOLOGY WHICH SUITS THEM BEST, AND THIS IS WHAT HAS HAPPENED.

FOR EXAMPLE, THE YOUTUBE.

YOUTUBE IS FULL OF SIGN LANGUAGE VIDEO CLIPS.

THAT HAPPENS BECAUSE THERE WAS A SOCIAL NEED.

NOW I HAVE TO SAY I WANTED TO PRESENT THIS.

LET'S COME BACK TO THAT IN ANOTHER SEMINAR OR CONFERENCE.

ONLINE SERVICES, THERE WAS A GOOD PRESENTATION BY THE NTID PEOPLE YESTERDAY.

THERE'S A NEW TECHNOLOGY CHANGES THE POSSIBILITY TO COLLABORATE.

YOU CAN SAY THAT BEFORE, THEY WERE KIND OF VERTICAL.

THERE WAS A LOT OF THINGS COMING DOWN, A FEW THINGS COMING UP.

BUT NOW WE ARE IN A LATERAL NETWORK.

THOUSANDS OR TENS OF THOUSANDS OF PEOPLE COLLABORATE LATERALLY LIKE IN THE LINUX CASE.

THERE WERE NO MANAGERS, THERE WERE NO EMPLOYEES, NO EMPLOYERS.

PEOPLE WERE ONLY COLLABORATING AND THIS IS ONE TREND WHICH COULD BE REAL IN THE NEAR FUTURE.

A LOT OF THINGS COULD BE DONE IN THESE KIND OF LATERAL NETWORKS AND WHAT IT MEANS TO BUSINESS AND EDUCATION, WE DON'T KNOW IT.

BUT THERE ARE SIGNALS THAT THIS IS GOING TO HAPPEN.

SO ALL THE TIME THE SYSTEMS WHICH ARE VERY COMPLICATED, ALSO THE NETWORK TENDS TO BE VERY COMPLICATED AND THAT IS THE REASON WE NEED RESEARCH FOR THE NETWORKS AND NOW WE ALSO HAVE TO UNDERSTAND HOW DEAF INDIVIDUALS LIKE JOHN HARRISON, HOW THEY COLLABORATE IN THE NETWORK.

WE DON'T KNOW WHAT IT IS.

WE SEE HIM OR HER DAILY IN THE SCHOOL OR UNIVERSITY, BUT THE NETWORKS WHERE HE OR SHE COLLABORATES ARE UNFAMILIAR^-COLLABORATES ARE UNFAMILIAR TO US.

BUT THOSE KINDS OF INDIVIDUALS IN THE COMMUNITIES, THEY ARE VERY IMPORTANT.

AND FINALLY, I'LL SHOW YOU, THIS IS A VISUALIZATION OF TRAFFIC.

IF YOU FOLLOW THAT, THERE'S HEAVY TRAFFIC.

GREEN, NOT SO MUCH TRAFFIC AND AS YOU CAN SEE, AFRICA IS ALMOST WITHOUT TRAFFIC.

THIS IS A VERY CRUDE VISUALIZATION BUT IT GIVES YOU AN UNDERSTANDING THAT LOTS OF TRAFFIC HAPPENS BETWEEN EUROPE AND USA, AND I THINK NOW RUSSIA IS COMING VERY RAPIDLY.

THIS IS ABOUT 10 YEARS AGO.

BUT BASICALLY, THE SITUATION IS SAYING: BUT WHERE ARE THE DEAF USERS?

THERE ARE EMPTY SPACES IN ASIA AND AFRICA AND IN LATIN AMERICA.

NOW DEAF USERS, THIS MAP IS SO^-- THE POPULATION IS BIGGEST IN CHINA, INDIA, AND AFRICA.

EXACTLY THOSE PLACES WHERE THERE IS NO INTERNET TRAFFIC.

SO THE PROBLEM IS THAT THE DEAF USERS WHO COULD COLLABORATE WITH US, THEY DON'T HAVE THE TECHNOLOGY TO COLLABORATE.

AND THAT'S ALSO THE RATCHET EFFECT AND THAT'S ALSO THE CLASSROOM, BLACKBOARD, TOILET.

WE MUST HAVE THE INFRASTRUCTURE NOWADAYS TO COLLABORATE WITH EACH OTHER.

I'M OUT OF TIME.

I WANTED TO SHOW THIS ONE BUT I AM VERY PLEASED TO GIVE THE ADDRESS OF AN EXAMPLE HOW THIS COULD BE USED IN A COLLABORATION.

FANTASTIC TECHNOLOGY.

THE INCLUSIVE SOCIETY, THE OPEN COLLABORATION, HAPPENS AND I WANT TO STRESS THIS.

DfA LINKS TO THE POLITICAL CONCEPT OF INCLUSIVE SOCIETY.

NOTHING HAPPENS IF THERE IS NO POLITICAL WILL TO MAKE SOCIETIES INCLUSIVE.

WE CAN'T MAKE THESE KIND OF SMALL SEMINARS.

WE'RE FULL OF GOODWILL AND KNOWLEDGE, WE CAN COLLABORATE INFORMALLY BUT WE NEED TO GET THE POLITICAL INSTITUTIONS TO UNDERSTAND THAT THE INCLUSIVE SOCIETY IS THE KEY CONCEPT FOR THIS.

I THINK I'LL CONCLUDE THIS BY SAYING THAT I HOPE EVERY TIME WHEN YOU GET A NEW DEVICE OR NEW SYSTEM WHICH IS IMPLANTED IN YOUR SCHOOL OR IN YOUR UNIVERSITY, YOU THINK THE SYSTEM AS A WHOLE.

YOU DON'T THINK HOW THIS SOLVES ONE PROBLEM, BUT HOW IT FITS TO THE SYSTEM, HOW IT AUGMENTS THE COLLABORATION OF STUDENTS, FACULTY, AND STAFF AND TEACHERS.

AND IF IT'S THIS INFORMAL COLLABORATION^-- IF THIS INTERNAL COLLABORATION IS SECURED I THINK THAT'S MUCH BETTER THAN TO SHOW SEPARATE AND ISOLATED PROBLEMS.

SO CREATE YOUR OWN SOCIAL NETWORK FOR ANYTHING.

START WORKING, TOOLS, NOW THE GLOBE IS FULL OF TOOLS FOR IT.

HOPEFULLY WE CAN END HERE.

IT SAYS I'M 6 MINUTES OVER TIME.

THANK YOU.

[ APPLAUSE ]

>> OKAY, I GUESS YOU CAN HEAD ON TO YOUR NEXT SESSION FOR THE 10:00 SESSION AND FEEL FREE TO SPEAK TO DR. RAIKE.

HOW LONG WILL YOU BE HERE?

WHEN DO YOU GO BACK TO FINLAND?

>> I LEAVE AT 12:30.

>> SO TAKE ADVANTAGE AND GET A CHANCE TO SAY HELLO BEFORE HE HEADS OFF BACK TO FINLAND, BACK HOME.

THANK YOU SO MUCH, DR. RAIKE.

IT WAS A WONDERFUL PRESENTATION.

NOW I SEE WHY YOU WERE SO HIGHLY RECOMMENDED.

THANK YOU.