DIGITAL PRESERVATION

at the National Library of Norway

MADE BY

Vegard Stovelaas & Digital Preservation Team

PART ONE
Why is it important?

OUR CULTURAL HERITAGE IS A TREASURE TROVE WE NEED TO PRESERVE

YOU BARBARIANS SHOULD TRY BUILDING WITH CONCRETE, IT'S AMAZING!

...WHAT DID YOU CALL ME?

ROMAN CONCRETE

WE HAVE NO WRITTEN LANGUAGE

PFFT, PEOPLE WILL REMEMBER

INCA EMPIRE

THIS WILL SET CIVILIZATION BACK 500 YEARS!

LIBRARY OF ALEXANDRIA

THE BOOK OF FORGOTTEN HISTORY HAS MANY PAGES!

WANTED — NORWAY'S FIRST MOTION PICTURE "FISKERLIVETS FARER" (1926)

STILL HAVEN'T FOUND IT?

NOPE

THE NATIONAL LIBRARY'S DIGITAL COLLECTION IS MASSIVE!

IN THE BEGINNING OF 2023 WE HAD...
- 14 000 TERABYTES
- 2+ BN. FILES
- 90+ FILE FORMATS

HOLY MOLY!

INTERNET ARCHIVE · IMAGES · TEXT · SOUND · MOTION PICTURES

HOW DO WE PRESERVE ALL OF THIS?

I KNOW!

RIGHT CLICK AND "SAVE AS"...

NOT QUITE...

DIGITAL PRESERVATION IS ABOUT PROTECTING AND BEING ABLE TO VIEW DIGITAL FILES OVER TIME!

HOORAY FOR THE DIGITAL ERA!

...TO A BREAKTROUGH IN HUMAN HISTORY

WE PRODUCE BITS!

R.I.P — DIGITAL MEMORY 1985-1999

DIGITAL INFORMATION HAS A TERRIFYINGLY SHORT LIFESPAN

LET'S GO A FEW DECADES BACK IN TIME...

BITS CAN DISAPPEAR

...OR CHANGE THEIR STATE

OLD DIGITAL INFORMATION CARRIERS

HOW DO I ACCESS ITS CONTENTS?

I NEED WINDOWS 95!

...HOWEVER THE BIGGEST ISSUE IS THAT BITS CAN BE MISINTERPRETED

DEPENDENT ON OLD OPERATING SYSTEM

DIGITAL FILE — READ BY... — A PROGRAM — WHICH RUNS ON... — AN OPERATING SYSTEM — WHICH RUNS ON... — HARDWARE

TO PRESERVE A SINGLE FILE... WE NEED TO PRESERVE AN ENTIRE ECOSYSTEM!

SOMETIME IN THE FUTURE

UNLIKE MEDIAS SUCH AS... CLAY TABLETS, PAPYRUS, HIEROGLYPHS, PARCHMENT PAPER

YOU DON'T NEED ANY SOFTWARE TO VIEW THE CONTENT!

WHOA

SO WHAT? MY FILES ARE STORED SAFELY ~~ON FLOPPY DISC~~ ~~ON A BACKUP CD~~ ~~ON AN OLD PC~~ ~~ON A BACKUP HARD DRIVE~~ IN THE CLOUD!

AS LONG AS DROPBOX, NETFLIX, GOOGLE, SPOTIFY, AMAZON AND MICROSOFT DON'T GO BANKRUPT, YES

GEOCITIES · KODAK · TWITTER

PART TWO
How do we do it?

WHAT CAN WE DO, THEN?

DIGITAL PRESERVATION FOR DUMMIES

I THOUGHT YOU'D NEVER ASK!

LET'S START WITH SOME... PRINCIPLES

RECOMMENDED: .TIFF .WAV .FLAC · .REAL AUDIO .FLASH

USE WELL-DOCUMENTED AND OPEN FILE FORMATS

IF THEY ARE NOT...

...FILES MAY REQUIRE CONVERTING

ALWAYS KEEP THE ORIGINAL FILE

...AND CHECKSUM — THE FILE'S DIGITAL FINGERPRINT

ALWAYS DOCUMENT WHERE FILES COME FROM

NEW NEW · HEALTH AUTHORITIES ADMIT: 5G IS DEADLY SHOCKING! · FAKE NEWS...?

...AND KNOWING WHAT THE ORIGINAL FILE LOOKS LIKE, WE CAN REVEAL DEEP FAKES

THE 3-2-2 RULE CAN HELP US REDUCE THE RISK OF DATA LOSS BY NOT PUTTING ALL OUR EGGS IN ONE BASKET

- 3 COPIES — IN CASE ONE OF THEM IS DAMAGED
- 2 TECHNOLOGIES — TAPE + HARD DRIVE
- 2 GEOGRAPHIC LOCATIONS — OUTSIDE AND INSIDE THE MOUNTAIN — IN CASE OF WAR, NATURAL DISASTERS, SOLAR FLARES, ETC

SO FAR, SO GOOD!

ACTIVE PRESERVATION IN A NUTSHELL

NEWSPAPERS, AUDIOBOOKS, BLOGS, FILM, MUSIC, ETC

CAN YOU TAKE CARE OF THIS?

OF COURSE!

METADATA: WHO, WHAT, WHEN, WHERE, WHY, HOW, WHO DO WE AT LIBRARIES?

LET US EXAMINE YOU!

ANALYSIS: CHECKSUM · FILE FORMAT · FILE SIZE · STRUCTURE ++

STRUCTURE · MACROS · ANNOTATIONS · WHAT THE USER SEES

I DON'T FEEL SO GOOD...

NO WONDER, YOU ARE AN OUTDATED PROPRIETARY FORMAT

HERE IS A HEALTHY COPY!

TO ENSURE CONTENT IS USABLE OVER TIME, OR ACTIVE PRESERVATION, IS WAY TRICKIER

DEGREE OF DIFFICULTY: EASY · MEDIUM · HARD

YIKES!

PERFORM REGULAR HEALTH CHECK-UPS!

DO YOU HAVE THE SAME CHECKSUM AS BEFORE?

DID WE GET SOME NEW INFORMATION ABOUT YOU?

...AND EVERYTHING GETS DOCUMENTED IN THE FILE'S HEALTH RECORD

PREMIS

BIT PRESERVATION, OR PASSIVE PRESERVATION, IS THE EASY PART

WALK IN THE PARK!

digital vault

TODAY WE DON'T NEED MONKS TO COPY TEXT BY HAND AS WE DID IN MEDIEVAL TIMES

HOW DID YOU MANAGE TO FINISH SO QUICKLY?

I SENT IT TO THE NATIONAL LIBRARY

...HOWEVER THERE ARE STILL A LOT OF "HIEROGLYPHS" THAT WE DON'T UNDERSTAND

...AND WE WILL NEED PLENTY OF DIGITAL ROSETTA-STONES

Vegard Stovelaas