AI and Open Science for Deeper Access and Narrower Gap to Documentary Heritage

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Digital Silk Road project started in 2001 as a **joint research program with UNESCO**

http://dsr.nii.ac.jp/

Post-earthquake manual 3D reconstruction of **Bam, Iran** using various types of documentary heritage. Collaboration with Dr. Elham Andaroodi in the University of Tehran.

http://dsr.nii.ac.jp/bam/

Digital Typhoon

Accessibility to historical scientific data is crucial for understanding climate change and disaster reduction.

http://agora.ex.nii.ac.jp/digital-typhoon/

1879·1

We can learn from **data about past weather disasters** (100+ years) to prepare for future disasters.

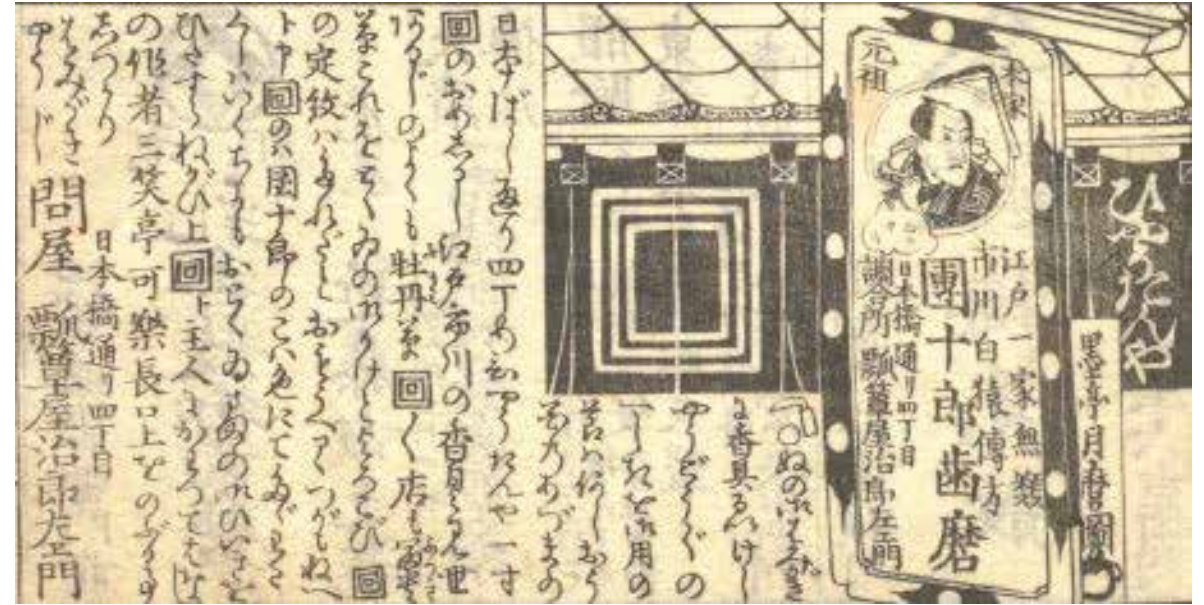http://agora.ex.nii.ac.jp/digital-typhoon/data-archive/

Digitized by Japan Meteorological Agency

ROIS-DS Center for Open Data in the Humanities (CODH) is advancing **data-driven research** on Japanese documentary heritage (collaboration with **National Institute of Japanese Literature**).

http://codh.rois.ac.jp/

Memory institutions around the globe is adopting **IIIF** (**International Image Interoperability Framework**) for the delivery of documentary heritage images.
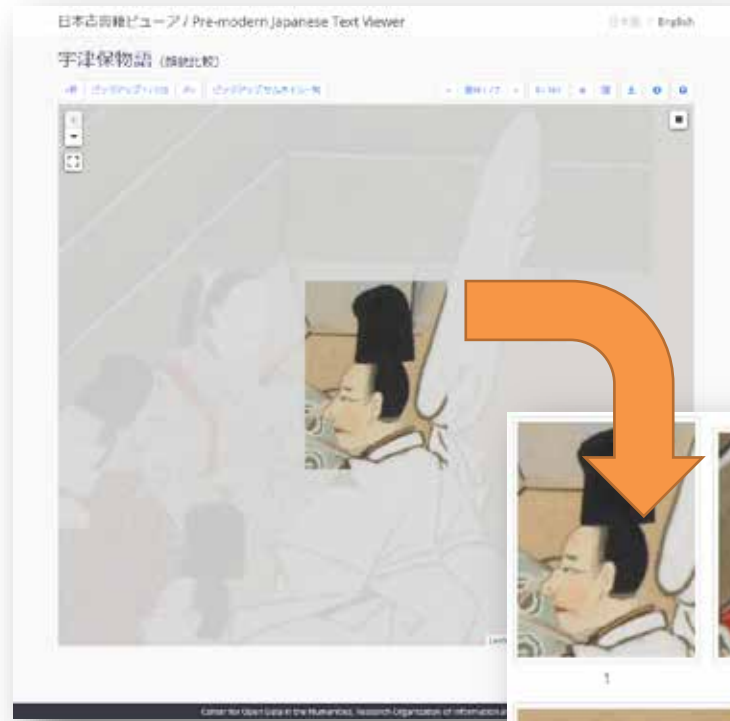
CODH is developing open source software, **IIIF Curation Platform**

http://codh.rois.ac.jp/icp/

Agenda 1: Deeper Access

Accessibility to digital images has improved thanks to **IIIF** and other technologies.
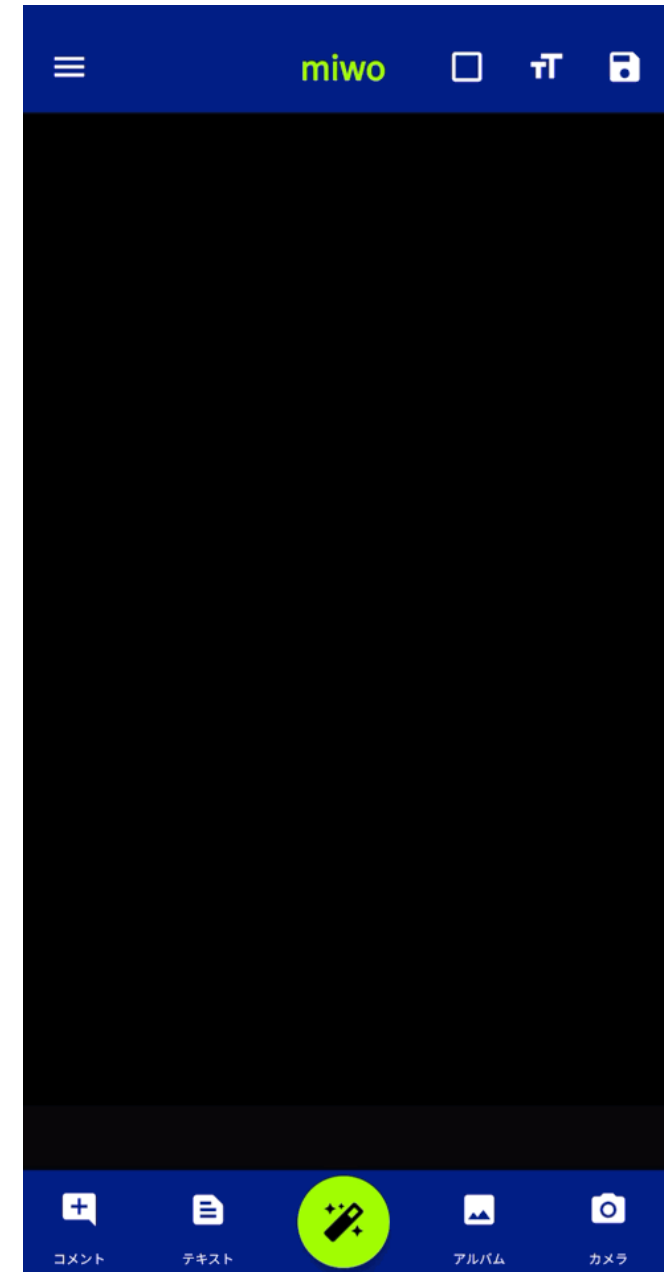
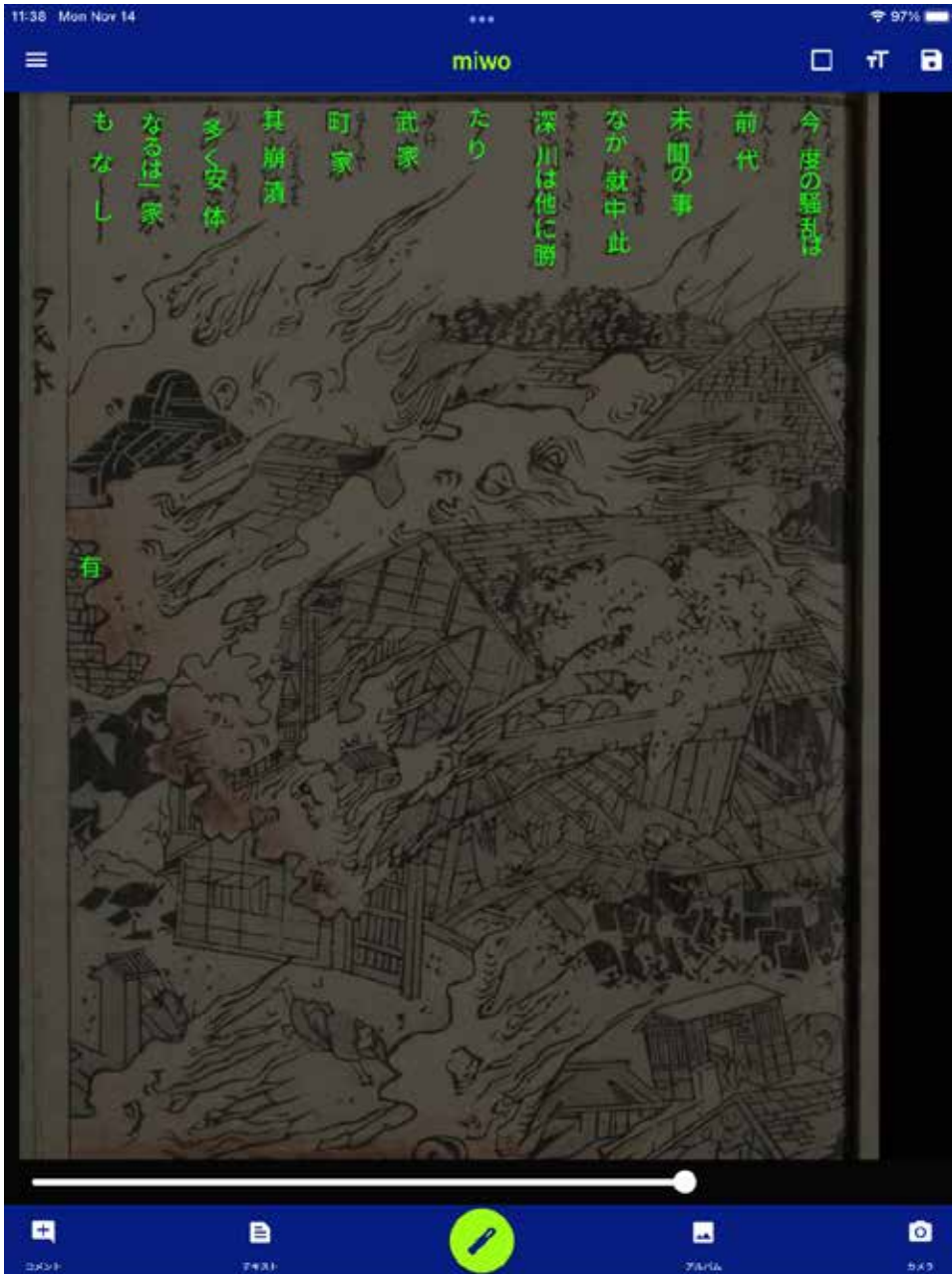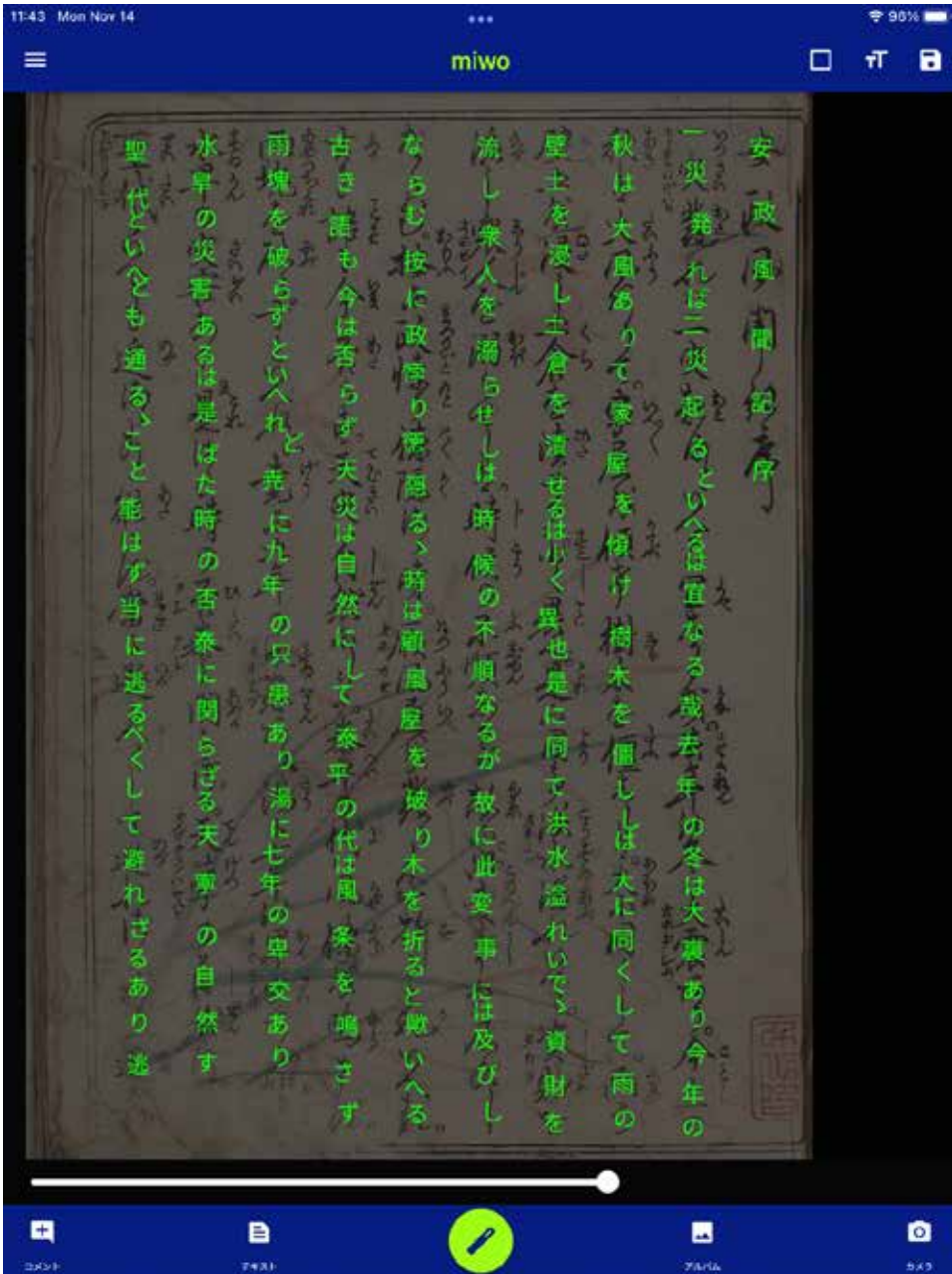Accessibility to the **content** of digital images is the next step for deeper access.

AI analyzes content to help citizens explore documentary heritage.

"miwo" App

http://codh.rois.ac.jp/miwo/

1. '**Kuzushiji**' is an old Japanese cursive script, used for **1000+** years until around **1900**, but now only **0.01%** of Japanese people can fluently read it.

2. We built an **AI OCR** for Kuzushiji to improve accessibility to old books; and a **mobile app "miwo"** to democratize the technology to citizens.

3. Collaboration with Dr. Tarin Clanuwat at Google Research.

今度の騒乱は
前代
未聞の事
なか就中此
深川は他に勝
たり
武家
町家
其崩潰
多く安体
なるは一家
も
なし
有

Earthquake Research Institute, the University of Tokyo

Memory Mapping

Minna-de-markup, Dr. Yuta Hashimoto, National Museum of Japanese History

Agenda 2: Narrower Gap

Citizens need **personal experience to interact** with documentary heritage.

Mobile app to **narrow the gap** between documentary heritage and the real world.

With **open science**, citizens join activities to enrich the content.

"Memorygraph" App

https://mp.ex.nii.ac.jp/mg/

1. **A new photographic technique to create a layer of memories.**

2. Semi-transparent overlay on the viewfinder of a smartphone camera.

3. List of projects to share old photos and find their locations together.

Memory hunting at Aceh, Indonesia. Collaboration with Prof. Yoshimi Nishi at Kyoto University.
https://www.youtube.com/watch?v=hIKvGINZ1Dk, Created by Mahruza Murdani, TDMRC, Syiah Kuala University.
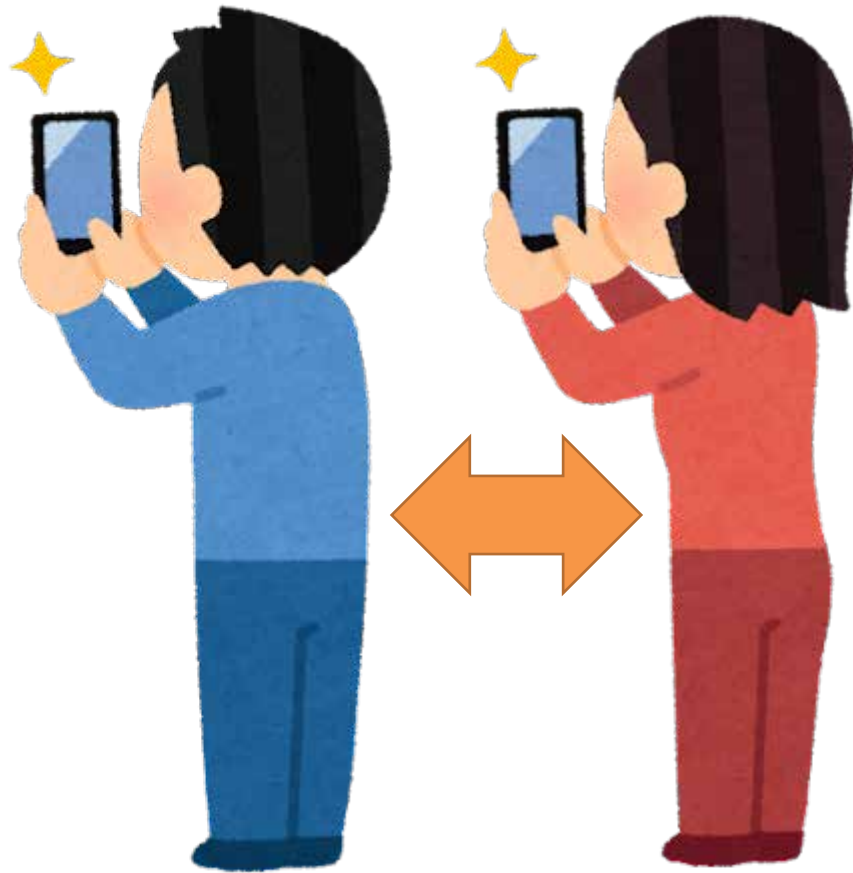
20 Years After Great Hanshin-Awaji Earthquake (1995)

Hankyu Kaikan Mae, Kobe City Open Data "Record of 1.17, Great Hanshin-Awaji Earthquake"

Memory Hunting

http://dsr.nii.ac.jp/memory-hunting/
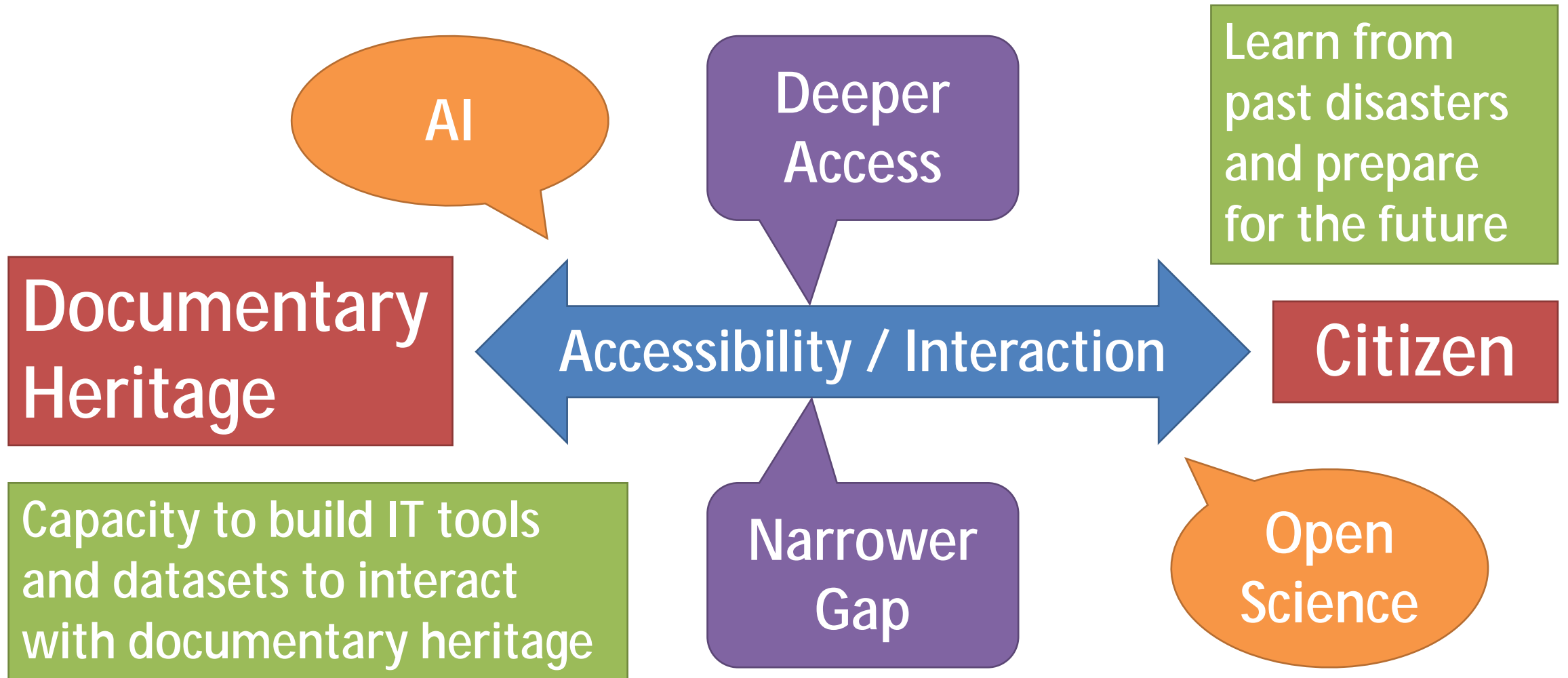

1. Memorygraph: need to understand what has and hasn't changed in the real world.

2. Re-experience: stand at the same place, take the same posture, and imagine the emotion of the photographer in the past.

3. Narrower gap: reduce distance between **documentary heritage**, **the real world**, and **people**.

Summary

Read more..

1. Digital Silk Road http://dsr.nii.ac.jp/

2. Post-earthquake reconstruction of Bam http://dsr.nii.ac.jp/bam/

3. Digital Typhoon http://agora.ex.nii.ac.jp/digital-typhoon/

4. Digital Typhoon Long-term / Historical Data Archive and Data Rescue http://agora.ex.nii.ac.jp/digital-typhoon/data-archive/

5. ROIS-DS Center for Open Data in the Humanities http://codh.rois.ac.jp/

6. IIIF Curation Platform http://codh.rois.ac.jp/icp/

7. Miwo http://codh.rois.ac.jp/miwo/

8. Memorygraph https://mp.ex.nii.ac.jp/mg/

9. Memory Hunting http://dsr.nii.ac.jp/memory-hunting/