Chartae-Antiquae.cz – results of the project Cartographic sources as a cultural heritage

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project „Cartographic sources as a cultural heritage“

• **Subtitle:** Research of the new methods and technologies of digitalisation to enable access and use of the old maps, plans, atlases and globes.
• 2011 – 2015
• Web of project: [naki.vugtk.cz](http://naki.vugtk.cz)

• **Objectives:**
  – to create an expert system of knowledge in the form of a web portal whose main component will be a set of on-line tools for digitalisation, processing, publicising and utilising of old maps, plans, atlases and globes.
  – system will also involve publicising of methodology and technological procedures which will be created in the course of the project.
Collaborating institutions

- Národní knihovna České republiky
- Klaudian Praha, s.r.o.
- Antikvariát Ptolomaeus
- Antikvariát - Praha.cz
- Česká republika
- Státní oblastní archiv v Třeboni
- Moravský zemský archiv v Brně
- STU Svenovská univerzita v Bratislave
- Slovenská technická univerzita v Bratislave
- Moravský zemský archiv v Olomouci
- SLOVENSKÁ AGENTÚRA ŽIVOTNÉHO PROSTREDIA
- MUZEUM V JAROMĚŘI
- Městské muzeum v Praze
- Městské muzeum nová Paka
- Regionální muzeum v Teplicích
- Středočeské muzeum v roztokách u Prahy
- Východočeské archivy
- Státní oblastní archiv v Litoměřicích
- Archivy severních a severozápadních Čech
- Městská knihovna v Praze
- Královská kanonie premonstrátů na Strahově
- MĚSTSKÉ MUZEUM A GALERIE HOŘICE
- Klaudian Praha, s.r.o.
- Antikvariát Ptolomaeus
- Antikvariát - Praha.cz
Digitizing center of old cartographic products

Maps and atlases – precise cartometric scanner ScannTech 800i

- format A0+,
- optical resolution 800 dpi,
- color depth 24-bit, ICC profile,
- Maximal deviation in positioning 0.2 mm,
- maintaining cartographic map properties,
Digitization of old cartographic products

- mostly at 600dpi resolution, the more valuable maps and atlases at 800dpi
- 2 copies are archived in TIFF with LZW compression,
- metadata on digitized maps are stored in a database and used to search maps, import or enter via web form (name of the map, scale, year of publication, the definition of the displayed area (Bounding Box), author, Publisher, edition ...)
- technical metadata are added after digitizing (file name, date of digitizing, scanner type, resolution, color profile (ICC), checksum (hash) label media for archiving, ...)
- Scanned over 70 000 old maps, and 107 atlases, for example:
  - G. a J. Blaeu, Theatrum Orbis Terrarum Sive Novus Atlas, 1644 – 1646, 4 parts,
  - J. Blaeu, Atlas Maior Sive Cosmographia Blaviana, 1662, 11 parts
  - M. Martini, Novus Atlas Sinensis, 1655
  - J. D. Cassini, Map of the France, 1756 – 1815
  - B. D´Alb, Map of the Apennine peninsula, 1792 – 1798
  - P. Fabricius, Map of the Moravia, 1573
  - J. A. Komeský, Map of the Moravia, 1640

ANTOŠ F., BÖHM O., TALICH M.: Accuracy testing of cartometric scanners for old maps digitizing In: 9th International Workshop on Digital Approaches to Cartographic Heritage, Budapest, 4-5 September 2014, 8pp,
Virtual Map Collection - chartae-antiquae.cz

- It is now available to **50 025 map sheets** from various map collections in the Czech Republic,
- in some months approximately **70 000 map** = rich resource of old cartographic works,
- published in the maximum available resolution (**mostly 600dpi, often 800dpi**)
- **Zoomify**, watermarked
- **georeferenced** map are accessible by Web Map Service (**WMS, TMS**)
- **Web applications** to work with old maps: geographic search, **Zoomify map viewer**, MapComparer, 3D models of globes viewer, automated search of map symbols on maps III. Military Survey, viewer of the atlases, **Zoomify to WMS**, display **WMS** in 3D view
- **Users** = historians, cartographers, surveyors, landscapers, environmentalists, water managers, urban planners, architects, students, researchers, the general public, lovers of old maps, ...
Access to old maps on chartae-antiquae.cz

geographic search
Access to old maps on chartae-antiquae.cz

viewing maps - Zoomify
Access to old maps on chartae-antiquae.cz

Detail viewing maps - Zoomify
Access to old maps on chartae-antiquae.cz

**Georeferenced maps** in the form of web services
Georeferencing of the Third Military Survey of Austria-Hungary

Most requested old maps in the Czech Republic, 1 : 25 000
Overlap with a contemporary map – after standard georeferencing

Overlap with a contemporary map – after elastic georeferencing

Discrepancy about 5 mm in a map sheet

Discrepancy about 0.36 mm in a map sheet


Access to old atlases on chartae-antiquae.cz

Viewer of the atlases
Access to old globes on chartae-antiquae.cz

Viewer of the 3D and 2D models of globes

So far digitized about 120 globes, 104 globes exposed on the web
Access to old globes on chartae-antiquae.cz

Method of digitization of the globes

Web applications on chartae-antiquae.cz

MapComparer - web application for comparing old maps
Web applications on chartae-antiquae.cz

MapComparer - web application for comparing old maps
Map symbols of 3rd. Military Survey

3rd Military Survey 1:75 000 are one of the most important and attractive map sets covering the territory of the Czech Republic. The importance of these maps lies in their rich set of map symbols, detailed coverage of the Czech Republic (and Slovakia) and long period of use.

This application shows the positions of map symbols of 3rd Military Survey. These positions were found out by certified technology for map symbol detection on scanned images of maps from the collection of The Institute of History, Academy of Sciences of the Czech Republic. The maps were scanned with 400DPI resolution.

The image below shows the map layout of 3rd Military Survey, each sheet pointing to a detailed view showing the map symbol positions.
Web applications on chartae-antiquae.cz

Map symbols - web application for automated search of map symbols on maps III. Military Survey
Web applications on chartae-antiquae.cz

**Zoomify to WMS** - web application for Georeferencing of your own maps accessible in Zoomify
display WMS or TMS in 3D view - web application for displaying of your own georeferenced old maps accessible in WMS or TMS on 3D terrain model
Thank you for your attention

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„Cartographic sources as a cultural heritage. Research of new methods and technologies of digitization to enable access and use of old maps, plans, atlases and globes.“

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