Title of Project: **Central information management and knowledge compilation for the development as a resource of wooden tablets and other excavated documentary materials**

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Research Area: Historiography (Japanese History)

Keyword: Ancient Japanese history, Documentary history, *Mokkan*, Excavated documenary materials, Chinese characters, Character recognition, Database, OCR

【Purpose and Background of the Research】

It has become necessary to preserve the knowledge resulting from years of *mokkan* (wooden document) investigation and research, making it more effective, generalized (for region, age, and material), and commonly shared. Previously we have developed two tools, a deciphering support system "Mokkanshop" and a wooden tablet image database ("Character Dictionary").

Mokkan research conditions have thus developed remarkably, but to extract fully the information contained in *mokkan* it is necessary to shift from "reading *mokkan*" to "using *mokkan* data comprehensively." Accordingly this project aims at building a core facility for research on excavated documentary materials by establishing a "knowledge spiral" in the manner diagramed, based on the two tools already developed.

Figure 1 Diagram of research (knowledge spiral)

【Research Methods】

This research has three component tasks.

(1) Developing a system for efficiently adding knowledge to *mokkan* images using annotation, and for their management and utilization while making high quality image data (color, infrared) of important *mokkan* from throughout the country.

(2) Developing an image search capability for undeciphered materials and non-character items such as symbols, elevating character recognition precision by adding online search based on stroke order, along with constructing a bibliographic database and geographic search capability.

(3) Making Mokkanshop the point of entry for searching from images, based on improved search capability and as counterpart to the Character Dictionary for text searching, and developing a comprehensive database for excavated documentary materials by linking these with related databases. Also, developing a more open and user-friendly environment by strengthening coordination with other, including foreign, agencies.

【Expected Research Achievements and Scientific Significance】

Numerous *mokkan* still lie buried at the Nara palace and capital sites. By devising a general framework for researching excavated documentary materials, we wish to execute a central role in their study suited to the institute that has investigated and conserves 70 percent of Japan's *mokkan*. This will enable providing the raw materials for building vivid images of our history, and will also make excavated documents such as *mokkan* even more familiar to the citizens as truly living cultural heritage.

【Publications Relevant to the Project】

Nara National Research Institute for Cultural Properties. 2010. Ancient Japanese *Mokkan* Dictionary, rev. ed. [In Japanese] Yagi Shoten.
Watanabe Akihiro. 2010. *Inspecting the 1300-year History of Heijōkyō: Deciphering the Nara Capital from Mokkan.* [In Japanese] Kashiwashobo.

【Term of Project】 FY2013-2017

【Budget Allocation】 138,400 Thousand Yen

【Homepage Address and Other Contact Information】

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