Evaluations of a Free Viewing System for Historical Materials Adapting Super-High-Definition Images by Usage Log Analysis

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Research and development has already been conducted for a free viewing system of historical materials with the aim of making it possible to freely zoom in/out, move and look at specific parts of digitalized super-high-definition images of large materials such as folding screens and old maps, etc. with objects and text drawn in fine detail. Knowledge of this usage as well as the methods of viewing material images is important for application to future displays and expansion of the viewing system. Therefore, on the basis of usage logs collected when opening this viewing system to the public with several plan displays, etc. of the National Museum of Japanese History, analysis was conducted from the viewpoints of whether or not there was effective use of the basic display control functions for zooming in/out and moving images, whether or not there are results from the application of super-high-definition images, the approximate length of time an individual user would utilize the viewing system, and whether or not the significant parts of materials were being viewed.

As well as confirming the assumed usage of display control functions, it became clear that usage exceeded the intended and assumed use as set out during the planning stage.

In terms of viewing magnification, the most repeated patterns were for viewing of objects at an easy-to-see size for individual materials, and of individual items viewed almost at full-screen size for group materials. Zoomed-in viewing was also utilized, with around 10% viewing images in zoomed-in mode. The effectiveness of applying super-high-definition images was also recognized.

We looked for a method of estimating the viewing time of individual users. Viewing time is influenced by the installation status of viewing systems in exhibition. Systems where users remain standing are on average used for around two minutes.

For the parts viewed within material images, we sought frequency distribution by means of hour rate. Parts with high-frequency viewing were generally those which had explanations. There was no great difference between the parts the exhibitor wanted people to see and the parts which viewers looked at.

Knowledge of this usage as well as the methods of viewing material images is important for application to future displays and expansion of the viewing system.

Key words: image viewing, viewer, display system, historical materials, museum materials