



UCL Museums & Collections present:

Touch and the Value of Object Handling

***Workshop 2:
New technologies for
enhancing object
interpretation: interactives,
haptics and interface
technologies.***



Touch and the value of object handling

**An Arts and Humanities Research Council Research Networks Scheme organised
by UCL Museums & Collections**

During the winter of 2006 and the spring of 2007 UCL Museums & Collections organised a series of workshops investigating touch and value of object handling in museums. Funded by the Arts and Humanities Research Council, the workshops brought together a diverse range of experts from academic and museum environments, with a view to establishing a network where information relating to the value of object handling can be shared and developed. Participants in the project came from a variety of backgrounds and brought with them a diverse range of expertise, research interests and museum access requirements. Scientists shared their knowledge of the underlying psychological and neurological mechanisms behind touch and sensation. Museum staff discussed the types of practical applications of touch employed in museum such as interactive displays, handling boxes and new technologies for interpreting objects. The union of these two groups afforded a unique opportunity to understand the true value of object handling and provide the museum world with a valuable toolkit for improving access and interpretation.

For further information about this initiative please contact:

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Workshop 2: Abstracts

“A Versatile Large-Scale Multimodal VR System for Cultural Heritage Visualisation”

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We describe the development of a large-scale multi-modal virtual reality simulation suitable for the visualization of cultural heritage sites and architectural planning. The system is demonstrated with a reconstruction of an ancient Greek temple in Messene which was created as part of an EU funded cultural heritage project. This 3D environment has been exhibited within a CAVE-like theatre consisting of head-tracked user localization, two haptic interface arms, and 3D sound. The haptic interface was coupled with a realistic physics engine, which simulated gravitational effects and collision detection, and allowed users to experience and fully appreciate the effort involved in the construction of architecture components and their changes through the ages.

“The use of Haptic Interfaces in Haptics Research”

Dr. Christos Giachritsis

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Arguably, touch could be considered as the ultimate sense which allows us to build a complete representation of the world. For example, a sound may attract our attention and make us turn to the general direction of the object/event that produced it. The image of the object/event will establish its exact spatial location and provides us with more details about the parts involved. It may also encourage us to approach and make contact with the object/event. However, only by touching the event/object can we establish its physical presence. Investigating how the sense of touch works is particularly challenging given the nature of the stimulus, which has to be as real as possible. Recent advances in haptic technologies have allowed haptics researchers to create an integrated computerised tool which combines presentation of virtual stimuli, research methods and data collection. Here, I review the most popular haptic interfaces used in haptics research and how they are combined with psychophysical methods to measure human haptic performance.

“Tactual Explorations: A tactile interpretation of a museum exhibit through tactile artworks and Augmented Reality ”

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This paper introduces and analyses the performance of “Tactual Explorations”, a research-based inclusive public event which includes workshops, talks and a tactile exhibition focusing on one museum object. At this tactile exhibition, the selected object, the Bronze Bust of Sophocles from the British Museum’s Greek and Roman Antiquities collection is represented tactually by ten artists, through one haptic simulation and nine supporting artworks to enhance the physical information. By investigating the effect of a haptic display that is surrounded by physical artworks that represent the tactile properties of the museum object, the paper discusses a new method of a tactile interpretation by suggesting a potential series of exhibitions that are focused on individual museum pieces, where visitors engage with a number of physical and virtual works in order to study the original. The paper first examines the visitors’ interaction with the exhibition as a whole, and then focuses on the results gained from the engagement with the haptic simulation alone. The comparison of both results is presented, not to replace the traditional museum display, but to enhance the information conveyed about the exhibit, to a wider, more diverse audience.

“Tactual Explorations” is formed as part of the current PhD research investigating the topic of haptic interactions with museum objects, that is being undertaken at the University of Huddersfield, with the title of “Application of Haptic Technologies into museum displays: A real-time “touch” simulator for protected exhibits” under the supervision of Paul Atkinson and Derek Hales from the University of Huddersfield, and Ann Marie Shillito from the Edinburgh College of Art. The paper briefly introduces some of the research questions of this research and talks about their relevance to the “Tactual Explorations” event and its outcomes. Throughout the paper, keywords and some of the common terms are also defined for the workshop participants from different academic or professional backgrounds.

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Keywords: Haptics, Augmented Reality, Tactile Interpretation, Tactile Artworks

“Out Of Touch: Utilising 3D Imaging Technologies In The Analysis Of Ethnographic Objects”

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Over the last decade or so, anthropologists have turned their attention towards the senses as a means to better understand the transmission of knowledge in society. These studies tend to recognise that every society has its own sensory order and that material culture gives expression to this with every object embodying a culturally salient, sensory combination. At the same time, ethnographic museums are increasingly re-evaluating the pedagogical importance of their handling collections with concerted efforts now directed towards providing audiences with a more sensory engagement of the collections. Paradoxically, as museums seek new initiatives for providing greater access, this rekindling of the sensual relations of material culture is now under threat with the emergence of cultural heritage technologies such as virtual exhibitions and online catalogues. This paper discusses key developments in UK ethnographic museums in relation to handling and digitisation. In particular, it focuses on a pilot project funded by UCL which will analyse how undergraduate students access 3D imaging technologies alongside teaching collections. In doing so, this paper sets out to approach the issue of imaging technologies from a critical perspective, calling for greater investigation into the materiality of digital images.

“CONTACT - enhancing artefact teaching by digitising both object and process ”

Dr Michael Boyd and Dr Roger Doonan

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CONTACT aims to address identified problems in teaching material culture in Archaeology and Classics through creating real and virtual networks of students, expertise and material. The real networks will bring students into contact with material through the mediation of experts in that material, and the virtual networks will back up these experiences with virtual material and expertise tied into the students' real experiences. CONTACT aims to increase flexibility in curriculum design within Archaeology and Classics to allow material culture studies to assume a central position by removing restrictions associated with this area of curriculum design. By cementing existing networks of co-operation and expanding these through a program of initiative funding the development of an inclusive co-operative network of HE and related institutions is being established which is already resolving subject related needs with respect to material culture studies.

A major part of the CONTACT process is a virtual learning environment intended to reinforce and enhance students' experiences with real objects. To this end the VLE models both the object of study and the process of analysing it. This talk presents both aspects of the VLE – which is still under development – and examines the challenges of digitising the sensory experience of an artefact as physical fact and as object of inquiry. An initial evaluation of the success of the project will be presented on the basis of pilot studies with students.



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