Macro Paradata: the big decisions relating to the nature of the visualisation.

1. Why has the resource been created and for what audience?

   The resource has been created in order to facilitate the maximization of space inside a display space, i.e. a museum, while allowing those viewing the various display pieces in in 360 degree rotation even when in a single portal view case or against an opaque background. The audience, thus, is the attendees of such display spaces as museums in order to enrich their educational and viewing experience.

2. How will the resource be put to use? Is it sustainable and accessible?

   The resource would be put into use using unique code markers to generate 3D rendered models of display pieces on devices such as smartphones and tablets through an executable file, provided an Augmented Reality (AR) for the user. The nature of the resource being grounded in the digital sphere to create an Augmented Reality allows for the creation of a more informative, interactive, and comparative experience than the relatively narrow initial goal of this resource. Some key examples of this that we have looked at over the course of the project have included: screen overlays that provide information that is relevant to and explanatory of the object that is being displayed by a particular marker, the ability to display multiple objects simultaneously and tab between several objects based on the same marker in order to create a comparative experience and understand the development of objects, i.e. pots, both geographically (and contemporaneously) and chronologically.

   Once the initial resource creation is complete and the markers produced there are little to no maintenance requirements beyond ensuring the markers remain in working (detectable) condition, and making sure that the executable file or program functions correctly on future platforms that come out following initial creation.

   Accessibility of the resource would require those wishing to implement the resource to have access to several technologies, i.e. a 3D Laser Scanning device and the hardware and software required to render and manipulate the scanned objects for display by the program. Further this resource would only be accessible to those were in the audience who were in possession of a mobile device capable of running the program, as stated earlier devices such as smartphones and tablets.

3. Why have you chosen to use the approach/methods applied? (e.g., why is it static or interactive; high or low in detail; photorealistic or schematic; digital or analogue; impressionistic or grounded only in available data; etc.)

   We chose to use high detail scans of display objects in order to achieve as close a likeness and photorealism to the original object as possible, so that it would not diminish from the user experience in appreciating the full detail of the objects. Given the nature of the resource it is largely based in the digital sphere in regards to the majority of the work required in implementation, but does require a small analogue companion in the form of the real world marker to orient the digital object within the display device and create a seamless Augmented Reality experience.

Micro Paradata: the small-scale decision-making processes underlying the construction of the visualisation.

1.  What are the basic steps you followed in putting together the resource?

    The first decision made was to use Unity as a development platform, to allow for ease of iteration, ability to deploy to multiple platforms and familiarity with the platform. The next stage was implementing the ARTOOLKIT SDK within Unity to allow for an example of use with AR in the platform (as producing one in its entirety is outside the scope of this resource). We used OBJ files which were sourced from the ADS (http://archaeologydataservice.ac.uk/) Virtual Amarna Project as it provided an easy to use and freely available cache of pre-scanned objects to base our project on.

    The ARTOOLKIT provided a basis for the technical implementation of getting AR data and markers into a scene which we could then manipulate with test objects, once this was working successfully we then proceeded to import the objects we had chosen from the Amarna Project as well as a custom marker (to allow us to have multiple objects visible at the same time). The final stage (in the scope of the Jam) was to experiment with UI elements which could be used to teach the user more about the objects they are viewing.

2.  How have you acknowledged uncertainty in the resource? Where might alternative interpretations have been made or where are such interpretations otherwise available for viewing audiences to refer to?

    This resource was made with the intention of providing space for a different form of interaction than was currently available.

    The uncertainty is not overtly acknowledged within the resource itself, being that the scanned object is not as detailed as the actual display piece due to the limitation of the currently available scanning technology, however, this difference in detail would be self-evident to the user when the Augmented Reality is implemented within the space as the original object.

    As the prototype develops further (to allow for browsing more objects within the catalogue which are not currently on display) consideration would have to be put towards ensuring the user understands the difference between a scanned object and the original.