The Beckett Connection – Technical Plan

Section 1 – Summary of Digital Outputs and Digital Technologies

The project's digital outputs are derived from the creation of a primary core of 3D visualised assets: an overview of the medieval town of Canterbury, and several key structures within. These assets (henceforth referred to as the 'models'), fall into two broad categories:

1. *Category 1 – Generic structures and props*. These models represent elements related to street layout and street furniture, common building types (including domestic and commercial) and natural features such as waterways and vegetation. Whilst researched in detail from a stylistic perspective, these models do not represent original research or technique, and are essentially period-accurate scene dressing. These assets may also be purchased commercially or re-used from other projects as part of the model creation process for the purposes of efficiency and quality.

2. *Category 2 – Primary buildings and areas.* Several buildings/areas of key importance have been identified that will be created with a high level of detail, required additional evidence-sourcing research. Not only will this ensure that these buildings respect the latest archaeological/historical research, but it will enable these locations to be viewed at closer range and in abstraction from their surroundings – important aspects that will be utilised by the project's output media interfaces. The creation of these models will generate unique digital assets that will likely be of interest to future researchers.

The generation/assimilation of all models detailed above will take place within industry-standard visualisation software (*Section 2b*) using recognised development and output formats (*Section 2a*). The working techniques that will be employed have been developed by CSCC over the past ten years (*Section 3*) to allow the maximum flexibility in terms of output media, ensuring that the assets will be suitable for delivery via on-site touchscreen, mobile devices, websites and other forms of stand-alone media (*Section 2c*) without the need for additional 'stepping-stone' development.

The digital assets will be used within three broad spheres (*Section 2c*):

1. *Visitor- and tourism-orientated materials*. This sphere will utilise the models within both on-site and off-site media. On-site, the models will be incorporated (alongside the existing models generated from the 3 year AHRC-funded *Pilgrimage and England's Cathedrals* project) within the *Canterbury Journey* permanent exhibition and multimedia guides as part of a new visually-led platform for broadening tourist engagement with the City of Canterbury and its history.

2. *Education-orientated materials*. The models will be presented via both online and stand-alone (flash-drive) media alongside contextualising information designed for schools. These will be designed to correlate with KS3 & 4 teaching requirements, and will be developed in partnership with the education and engagement teams from the *Canterbury Journey* exhibition and the Canterbury Diocese. The flash drives will be supplied by CSCC and will be trialled as resources for both schools outreach and souvenir-style 'take-away' resources for visitors.

3. *Other exhibition and creative projects*. The assets will be made available to the British Museum for their major *Becket 2020* exhibition, but also to other creative projects, workshops and organisations. This will utilise both on-site and off-site output elements from the two spheres detailed above.

Section 2 – Technical Methodology

Section 2a – Standards and Formats

The outputs generated will utilise common file formats (MP4 for movies; JPG, PNG for images; XML, TXT for textual content), ensuring that content is easily re-usable across the varying forms of dissemination described in *Section 1*. During their development, the models will utilise the common, but proprietary, MAX file format within the Autodesk 3DS Max software. However, upon completion (and at regular intervals during development) the models will be exported to the portable OBJ file format – recognised as a non-software-specific container for 3D data.

Although standards within the 3D visualisation industry are variable and heavily software-, hardware- and technique-dependant, this project will attempt to adhere to the standards set down in the Archaeology Data Service Guide to Good Practice for 3D visualisation:

* [3D Models in Archaeology: A Guide to Good Practice](#)

Section 2b – Hardware and Software

The models will be generated using a combination of software. Foremost will be the use of Autodesk 3DS Max as the primary construction environment. Based on technical circumstances, it may be necessary to utilise gaming software such as the Unreal 4 or Unity engines. The involvement of these latter platforms will reflect procedural (eg. ease of rendering, scene construction, animation, etc.) rather than conceptual decisions. All commercial software is currently licensed by CSCC/University of York. All hardware involved in the creation of the models is also owned by these bodies. No additional hardware or software costs are envisaged for the development of the models.

Regarding outputs, the project will be providing assets that will form part of larger undertakings in all but one case: the flash drives mentioned as part of the educational outputs in *Section 1*. The easily portable flash drives will be loaded with the models and associated contextual information for use in stand-alone situations – eg. they can be downloaded onto individuals' laptops, or used in conjunction with classroom presentation IT. 250 1GB/2GB (dependent on flash memory prices at the time of manufacture) flash drives will be produced by CSCC. There are no other hardware costs associated with the project's outputs.

Section 2c – Data Acquisition, Processing, Analysis and Use

The fact that many locations within the proposed model area are partially/completely disappeared means that a broad range of evidential data acquisition is required. CSCC will liaise with partner organisations and other external bodies (including Canterbury Cathedral,

English Heritage/Historic England, Canterbury Archaeological Trust) to ascertain what materials exist for the locations in question – these will include architectural plans and elevations, digital survey data, archaeological reports, historic photographs and any other visual/digital materials. From experience, this information is usually partial, so CSCC will also undertake research and draw upon its extensive existing knowledge of medieval architecture to enhance the evidence using academic literature and comparanda from other geographical locations.

Fine architectural details will be obtained using photogrammetry, either from the buildings themselves (where these details still exist) or from similar structures form other locations. Existing models of architectural detail will be reused from the CSCC archive where appropriate if this cannot be sourced from elsewhere.

During development and output phases, all data will reside on CSCC machines at the University of York. Output and raw materials files will also be frequently uploaded and stored on Centre Google Drive accounts for backup and remote accessibility.

Section 3 – Technical Support and Relevant Experience

The project's technical expertise will be provided by CSCC at the University of York, with Dr Dee Dyas as project manager, Patrick Gibbs as technical lead and Geoff Arnott as technical associate. The Centre has significant experience of working with organisations within the heritage sector to provide digital interpretative materials, and specialises in presenting past and present buildings and environments to audiences in accessible, engaging ways.

Recent work undertaken by the Centre includes three AHRC-funded projects: Glastonbury Abbey, St Stephen's Chapel, Westminster, and Pilgrimage and England's Cathedrals. Projects have also been completed at Ely Cathedral, Auckland Castle, Hexham Abbey, Worcester Cathedral and Crowland Abbey. These projects vary in approach and outcome, and the Centre adjusts its methodology of research, development and production to suit the circumstances and requirements of each. By offering this flexible approach, which aims to include new technologies and techniques wherever possible, the Centre has pioneered digital interpretation for historic visitor sites through a model of suitability and adaptation.

Section 4 – Preservation, Sustainability and Use

Section 4a – Preserving Your Data

The project's digital outputs will be preserved sustainably for future use in a metadata-supported digital archive, collated at the end of the project from the generated assets. The archive will consist of the OBJ outputs from the Category 2 models (*Section 1*). It is these areas that are unique, original assets. The Category 1 models, which comprise the majority of the Canterbury city overview, represent little value in terms of future reuse, being neither unique nor difficult to re-source, and may in some cases have copyright/proprietary restrictions upon their use outside of the direct asset outputs.

Section 4b – Ensuring Continued Access and Use of Your Digital Outputs

The digital archive will be lodged with the Archaeology Data Service, which will ensure its ongoing accessibility and preservation. Metadata, the standards for which are currently

being revised in collaboration between ADS and CSCC, will be provided to ensure all relevant information useful to future researchers is packaged alongside the models themselves.