Specification - Middleware (RAFS2A01)

SPECIFICATION FOR PROVISION OF MIDDLEWARE PRODUCT (RAFS2A01)

FOR RAF MUSEUM

Final Version V.1.4

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Introduction

The RAF Museum is running a tender process to select companies or individuals to provide online solution services as part of its planned programme to celebrate and commemorate the Centenary of the RAF in 2018. The work will be divided into three work packages incorporating middleware, digital Asset management system (DAMS) and front end design. This tender document relates specifically to the middleware solution.

RAF Museum - Background

The Royal Air Force (RAF) Museum was established as a legacy of the RAF's fiftieth anniversary, opening on the London (Hendon) site in 1972. From 1979, the Museum also managed the Cosford Aerospace Museum for the MOD (which had also been in operation since 1972). This was renamed the RAF Museum Cosford in 1998 when it formally became part of the Museum portfolio.

It is a National Museum, a Government non departmental public body (NDPB) and a registered charity.

Both Museums are free to enter and tell the stories of the people who moulded the world of aviation from the daredevil early aviators to wartime heroes and the thousands of ordinary service men and women who have served in the RAF and whose contribution has shaped the world that we live in today.

With a world-class collection and display of aircraft, integrated with special exhibitions, films, interactives, artwork, engines, missiles, photographs, medals and

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uniforms and research and education facilities, the Museum takes an innovative approach to telling these stories through new exhibitions and interpretation.

The vision of the RAF Museum is to ensure that the Royal Air Force's story endures and enriches future generations. The RAF Museum will be a world-leading visitor destination that engages, inspires and connects everyone with the RAF story through the exploration of its people and its collections.

The Royal Air Force has shaped our nation and our society. It has influenced how we live our lives today through its impact on world events, society and technology.

The Museum's Purpose is to tell the story of the Royal Air Force through its people and collections.

- For our visitors, we make our collections and the RAF story relevant and stimulating
- For current and former RAF personnel and their families, we preserve, honour and share the stories of their service
- For our nation, we help people to understand the impact of the RAF in the world

Objectives

To ensure the RAF Museum's digital assets can be easily and efficiently shared internally, on web, mobile and in gallery using a software solution that can delivered on time, on budget and to a high quality, providing access for all and offering a platform for commercial activity.

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Project Development

The development of the project will be divided into three work packages, roughly conforming to a middleware, digital asset management system (DAMS) and front end design, build and integration (gallery, mobile & web).

Technology

The technical infrastructure underlying the product will conform to several key criteria. Specifically it will need to:

- Service a range of content and metadata requirements from touchpoints including website, mobile and in gallery interactives.

- Provide a content management system (CMS) to manage the data and metadata on the middleware platform.

- Provide an tool for the curation of content and metadata by non-technical museum staff and volunteers - for example to publish a selection of content for a particular exhibition or include non accessioned content onto the middleware platform (this in addition to the CMS required to manage the data and metadata).

- Deliver a middleware product that is easily managed by the museum's technical team beyond the life of the product funding cycle.

- Avoid utilising software for which the Museum does not have skills or budget

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to maintain.

- Include training relating to the management and curation of content as well as technical training in the maintenance of the software going forward.

- Include a maintenance contract for the two year period after launch.

Licensing

All digital content hosted on the middleware product will need an appropriate licence. The majority will be licensed as Creative Commons licence 'Attribution Non-commercial' and/or where possible via an Open Data licence. Where the Museum retains copyright we would look to charge for commercial use of high-resolution digitised or born-digital material from our own archive. In this instance a commercial licence will be agreed. The middleware product will therefore need to offer flexibility within its licensing solution.

Hosting & Hardware

The middleware product will be hosted by the Museum. The decision to host internally, via a data centre or cloud will be arrived in consultation between the Museum and the successful tenderer.

Tender submissions should feature a fully costed hardware solution however the Museum reserves the right to source required hardware independently.

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Dependencies & Affordances

Collection Management System.

> The middleware will need to integrate with our collections management system Vernon, this integration will include working with the Collections Services and Archives teams to ensure a coherent migration of content from Vernon into the middleware product.

Digital Asset Management System (DAMS)

> A separate tender will be issued for the delivery and integration of a DAMS product. As a result the middleware product will need to provide a demonstrable method of integration with a DAMS - for instance via a restful application programming interface (API) - as well as a recommendation of how would the relationship between Vernon and the DAMS might be managed[1] - we will also ask the tenderer to include an indicative costing for this work as part of the middleware tender.

User Generated Content (UGC)

> Upon launch one of the first projects to make use of the middleware product will be RAF Stories, a key element of the Museum's 2018 celebrations and commemorations. RAF Stories is a UGC 'story' based project that engages both historical and contemporary interpretations of the RAF. The project will record this intangible heritage and make it available for a range of users internally, online, in gallery and on mobile. Additional information on this project can be found in the tender pack.

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[1] For instance indicating whether you think that for accessioned items references to it will be maintained in Vernon or (for example) via a shared accession number between Vernon and the DAMS.

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The middleware product will operate as a content hub upon which all content generated during the production phase of RAF Stories will be saved. The successful tenderer will be required to work closely with the RAF Stories team (based at the Museum's site in Cosford) to ensure technical integration, specifically the saving/uploading of material via web and mobile devices, the retrieval of content to web, mobile and in gallery interactives and usability.

Create Once, Publish Everywhere - COPE

The principles of COPE compliment the hub and spoke approach inferred in this tender and are a key element of the Museum's Digital Experience Strategy (contained in the tender pack).

With this architecture in place the Museum will be able to deliver the its digital content to and from all of its networked platforms, be that exhibition, web, shop or mobile, in the process modifying existing silos and resisting the temptation to build more. The aim here is that content is not being stored in several locations within the Museum, and that the middleware content infrastructure employs a robust and open architecture that enables content and data to flow uninterrupted across a range of public and private platforms.

Access

The middleware product user interfaces - CMS & curatorial tool - will need to be delivered to a predominantly non technical user group including Museum staff and volunteers. Training will need to be provided where needed and this will be complemented by tutorials and manuals as appropriate.

All back end technical solutions will - where possible -

build on the core skills and understandings of the RAF Museum's IT/Digital team. Use of proprietary and therefore expensive to maintain hardware and software solutions should be avoided where possible, where this is not possible, training is to be included to compensate.

Risk

Time Management

One of the biggest risks to this project will be timeframe. The Museum is celebrating the Centenary of the RAF in 2018 and this has a hard deadline of June 2018. The middleware product tendered is one part of an ambitious programme of development currently underway at the Museum.

Due to its importance as the Museum's content hub the middleware product will, by design, need input from all departments to succeed. Due to Centenary commitments this input will need to be managed across a longer than usual timeframe[2]. Therefore the tenderer will need to propose a monetary and production strategies for dealing with this, for example phasing production over time and instigating each phase with a mini discovery session to ensure project orientation.

WIth this in mind project managers provided by the tenderer will need to work closely and sympathetically with Museum staff and volunteers to ensure both the wider Centenary project and the middleware product can be delivered in a complementary manner.

Evaluation

Our evaluation process will be derived from qualitative, summative and formative methods divided into four phases:

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[2] For example the delivery of the DAMS *may* take place in the third quarter of 2018.

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Front-end evaluation at concept design: designed to provide a baseline of information as well as test early ideas/assumptions. This will be mainly qualitative in nature using feedback from focus groups/test users

Formative evaluation at technical design and development: designed to test reactions to proposed ideas informing the next stages of development/design sign off. Again, this stage will include focus groups and prototype testing

BETA testing when the middleware is live: to iron out the bugs and adjust content systems. This will involve actively solicited feedback and the monitoring of the usage of the middleware product.

Summative evaluation when the project is live: designed to test whether objectives of the project have been met and look at what further developments need to/could be made. It will make comparisons with the baseline data collected which will be used to inform future project initiation.

Proposed Production Structure

Complementing the evaluation structure will be a generic four stage production structure designed by the Museum but ratified collectively by successful tenderer and Museum. This structure will have five flexible phases:

Discovery
The Discovery stage covers all aspects of project mobilisation. This includes the kick-off meeting, conducting appropriate research, immersion in existing material and other related activities. Key user journeys and goals are identified, and the product structure starts to take shape. The objectives of the product are agreed and defined.

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Definition

The Definition stage involves translating what's been learnt from the Discovery phase into the product architecture. This should lead to a specification document illustrating how the product will be architected. If appropriate UX testing begins at this stage. Content strategy is defined and technical approach is agreed.

Design and Development

The design & development stage involves bringing the specification document to life. The agreed approach is applied to key wireframe templates. Reviews are scheduled and each round of feedback is integrated for further review. Once approved the tenderer will build the product, content is uploaded/ migrated to the product, and we prepare for delivery.

Delivery

The delivery stage occurs only after a series of internal technical and design evaluations. The delivery process is coordinated in collaboration with each of the key project stakeholders. Upon installation the work is thoroughly tested, internally and externally.

Support

The product will be tested and extensively quality assured by the successful tenderer before launch[3]. Upon the successful completion of the testing period the product will be delivered to the Museum, launched and formally signed off by the Museum. From this point on the product will be managed internally.

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[3] Where there is no specified standard or measurement for the above (or to the extent that any specified standard or measurement is in any way incomplete), the required standard of delivery of the Contractor's obligations shall be that such delivery is to the Client's reasonable satisfaction.

This period of management will be supported by an Service Level Agreement (SLA) provided by the tenderer.

Contractor Deliverables

Work packages

As stated above, the development of the project will be divided into three work packages, roughly conforming to a middleware, digital asset management (DAMS) and front end design (Gallery, Mobile & Web).

Middleware Product Requirements:

The work package will consist of:

1. A middleware product to host and manage - via a CMS - digital content and metadata for delivery to web, mobile, and in gallery.
2. A middleware product to host and manage - via a CMS - user generated content and metadata derived from web, mobile, and in gallery interactives.
3. A user friendly non technical tool to curate content and metadata via the middleware product.
4. Clear documented pathway to allow content hosted upon the middleware product to integrate with and recieve content and metadata from web, mobile and in gallery interactives.
5. Integration of middleware product with legacy backend systems, specifically:

   1. Vernon Collections Management System
   2. Disk based rich media stores (maximum 5)
   3. Unspecified DAMS (utilising a restful API)

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6. Development of metadata schema with internal museum staff and external vendors to facilitate integration of legacy backend systems (Vernon, DAMS, rich media data stores) with the middleware product.

7. Development of a flexible licensing solution.

8. Costed hardware solution to host the middleware product.

9. Content metrics tool with user friendly graphical user interface (GUI).

10. Training of Museum staff in the use of the middleware tools & CMS.

11. Training of Museum staff in the technical maintenance of the middleware backend (software and hardware).

12. Appropriate documentation and manuals relating to the use of the middleware user interface/CMS/curatorial tool.

13. Appropriate documentation and manuals to the technical maintenance of the middleware software and hardware.

14. Project management resource to cover all phases of production as defined;

    1. Discovery
    2. Definition
    3. Design and Development
    4. Delivery
    5. Support

15. Documentation of access to content, for example via open API protocols, and saving of user generated content (UGC) to the middleware.

16. Hardware configuration and middleware software installation.

17. Detailed specification of 24 months post launch support.

Location

Workshops and meetings for project will take place at the RAF Museum in Colindale, London.