Victoria and Albert Museum
Digital Media

Collaboration guidelines for third-party technical partners

This document will help you if you are a third-party designer, developer or part of a creative team collaborating with the Digital Media team to make V&A digital services and products. It outlines our delivery working practice and provides technical guidance for delivering new features or services that have impact on our digital delivery technology or related processes.

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1. About these guidelines

1.1. This document will help you as a third-party designer, developer or part of any other creative team collaborating with us to make V&A digital services and products. It will help us work together to manage the impact of new digital features or services upon our existing digital delivery technology or related processes and make sure they become integrated and manageable.

1.2. We want V&A digital services and products to delight and inform people, to be intuitive and enjoyable to use. Whether we are creating in-house or producing with you as our creative partners, all digital production is collaborative. These guidelines are for everyone involved. We've tried to keep it as short, simple and open as possible.

1.3. As an open, accessible public service, our starting standard for all remote digital services is that they will be delivered via web, using open standards. However, we recognise that sometimes audiences will want services to be delivered via closed delivery methods because of the kit they own or the services they prefer to use. That's OK. Talk to us if you think a non-open solution may be the option for the target audience of the service you are helping us build.

2. Brand and visual identity

2.1. V&A website design and content guidelines are the starting point for any new web features. The frameworks they provide will help you. We will provide the latest versions of these.

2.2. Any new feature you develop should reflect the V&A's brand values and integrate visually and with the existing branded web services.

2.3. When you are creating a feature for a specific project, there will often be a distinct design theme or framework that will also inform the look and feel or mood. E.g. an exhibition brief or gallery redesign brief. In these projects, we will work with you to balance the overall web branding with the specific project theme.

2.4. All digital services must contain the V&A logo, usually at the top at the far left or right. For web services, the V&A logo should be an active link to either the main website or to a context-specific landing page. For example if you are developing a feature for a specific exhibition the logo would normally return to that exhibition's home page.

2.5. We require URLs to be human friendly and in line with other V&A URLs. In general, we will expect services we provide to be on the main V&A domain vam.ac.uk. You should plan for final URLs that are in the format http://vam.ac.uk/interestingfeature. We prefer not to use subdomains like http://interestingfeature.vam.ac.uk. Sometimes we need to be flexible. In all cases, please discuss the URL of any features you are building, before committing to any specific pattern, but especially before starting technical build.

3. Web standards and expected practice

3.1. Web development should follow accepted progressive enhancement best practice. The basic foundation should be created in standard mark-up, with HTML code that will work in any browser. You should use separate JavaScript and CSS. The functionality, display and layout,

styling and transitions you add should be applied to this basic HTML to produce the overall experience. Your code should separate content from presentation.

3.2. Web content should be standard-compliant HTML5, CSS3, and JavaScript.

3.3. You will need to consider existing V&A JavaScript to avoid code conflict. Most is built and maintained in-house, with some use of JQuery and occasionally other libraries for specialist features as required.

3.4. Before starting any development, please discuss with us any JavaScript frameworks or libraries you are considering using. We can provide details of our latest existing JavaScript as required, including version/release details of any standard libraries.

3.5. We will not normally accept the use of any proprietary libraries that are not open source and widely supported. If you feel there is justification for using a proprietary library, please discuss before starting any work.

3.6. You will test all code as you develop it, and after deployment to staging in a representative V&A environment. You'll make sure no errors occur when using the page containing your script, either from the code itself or through code conflict with pre-existing V&A code that it is integrating with.

3.7. We will want you to show us how any web development complies with the most recent Web Content Accessibility Guidelines http://www.w3.org/WAI/intro/wcag.

3.8. All web content must contain standard metadata that clearly identifies the V&A for search engine indexing and ranking.

3.9. You should use clean, semantic URLs. e.g. vam.ac.uk/servicename/signup rather than things like vam.ac.uk/pool?page=signup&logged=false .

3.10. We will expect you to test that your features work on all common devices typically used by the target audiences. If this is impracticable, we will agree what this should be. As a minimum requirement we expect at least a large majority of target devices. We will work with you to prioritise and decide an approach.

3.11. We currently prefer backend development to be built using Python using Django. For any other framework, please discuss with us before starting any development

4. Device-independent responsiveness

4.1. Our audiences use many devices. Unless we are asking you to design for specific equipment, we expect web designs to be fluid and for features you supply to be responsive so that they work on any size screen and with any aspect ratio. You should use relative sizing to allow displays to fill available screen area not use fixed sizes.

4.2. As well as simply working on any screen, you will need to show that your service is optimised to display more comfortably on different screen sizes or at specific orientations and presents functionality appropriately when used on different devices. We know it is difficult possible to create a perfectly tuned variation for every single device that may be used by our audiences. We encourage break points to determine the point at which the service design changes and to allow progressive switching to a range of features that apply with defined ranges of device screen sizes (e.g. mobile-optimised displays might be applied for screen sizes of 320px or less and so on).

4.3. You should show how the functionality within your service is optimised for the audience for which it is being created. We will want to see how the development of features is prioritised for the expected typical behaviour, commonly-used devices or preferred web destinations of these target audiences. This may mean being responsive for circumstances such as poor connection speed, location or other aspects of the user's need.

5. Filenames

5.1. All filenames must be in lowercase characters, with separate words joined by hyphens (e.g. lower-case.html). Only letters, numbers and hyphens may be used.

6. Media contained within bespoke web features

6.1. If the feature or service you are developing incorporates media that is not contained in our standard delivery platforms (see below), please discuss with us before starting work. We will need you to indicate the expected traffic your feature will receive if successful and the technical delivery impact that may require. This is usually to consider bandwidth and supply management, but may include scale of file hosting.

6.2. For bespoke web apps, all video, audio or other media that is required to make the service work, should be created in web-standard formats that you have tested across all the typical equipment you expect the target audience to be using. This might include open source formats, up-to-date HTML tags and so on.

6.3. You should pay special attention to accessibility of any bespoke apps and discuss how you intend to test this.

7. Images

7.1. All images should be compressed as much as possible for lowering download times for users, but not to such an extent that image quality is compromised. There is no set formula for this as it is dependent upon the makeup of the individual image. For JPEG this is typically around 70%, but subjective assessment is required.

7.2. Images should always be contained within web pages and should not appear without surrounding code in any browser window.

7.3. If both a thumbnail and large version exist for a given image, then the large version should be accessible using some interaction by the user (e.g. by clicking on the thumbnail to open a new page or to display an overlay display on the page. The large image should allow users to easily return to the content from which it was launched.

7.4. For features that prioritise specific user behaviour such as mobile use, we encourage your solutions to progressively display image content as required by users on those devices with larger imagery loaded only when needed by other users.

8. Video

8.1. All standard video produced for use on the V&A website is currently hosted within 3rd party hosted video platforms, whether produced by the V&A or you as a partner. These will use V&A

branding and using official V&A accounts. We use Vimeo as our default video delivery for in-page embedded videos.

8.2. We use other hosted video platforms for targeting specific campaign videos to particular audiences. The most commonly used of these are YouTube, Instagram and Vine, but we expect these to change over time as social media providers come and go. We are open to discussing other channels as suited to a specific campaign or service design objective.

8.3. We will discuss with you which video channels to use. Please do not create any accounts on third-party sites using the V&A brand or upload video to any public channel without discussing with us first.

8.4. Any video material provided should meet the standard uploading requirements of the specific video platforms that we've agreed with you for the project. It is usually sufficient for you to supply master copies of the completed high-resolution files, in any of the video formats that these platforms require. (See current requirements on Vimeo/YouTube etc.)

8.5. Additionally, you will provide a master archive quality version. Currently we require master files in the following formats:

8.5.1. Minimum archive quality: Apple Pro Res 422 / 444 -1920 X 1080 or H.264 equivalent.

8.5.2. Future proofing - in some cases we may want you to deliver at higher archiving resolutions, e.g. 4096 x 2160. We will discuss this with you as required.

Video standards change. We will review against European Broadcast Union (EBU) recommendations for Tier2L (long form production).

8.6. Video player controls must always be available so that the viewer can pause, rewind, fast-forward and so on.

8.7. You will produce and deliver text transcripts with each video you supply.

8.8. You will also supply text captions for each video. For web video, you must not create text captioning within the video file itself. You will supply text captions within a separate standard captioning file. You should use the current caption standard currently in use by the video platform you will be using (e.g. Vimeo, YouTube etc.)

9. Audio

9.1. As with video, the use of streaming audio formats is preferred. Non-streaming (progressive download) media should only be used for very small files and discussed with the V&A Web Project Manager prior to implementation.

9.2. Audio content must not automatically play on load of pages, i.e. users must actively start audio. Within more complex features this may mean that audio starts when the containing feature is activated.

9.3. The length of the audio should be indicated to the user.

9.4. Audio content must be embedded into a page using standard HTML audio rather than using a bespoke player.

9.5. Streaming MP3 is the preferred format for audios within web pages.

9.6. When you deliver archive copies of media, we prefer the following:

9.6.1. Wav. Format

44.1kHz / 16-bit

44.1kHz / 24-bit

48kHz / 16-bit
48kHz / 24-bit

9.7. Text transcripts should be produced for each audio delivered.
9.8. Audio player controls must always be available so that the listener can pause, rewind, fast-forward and so on.

10. Other plug-ins or additional software

10.1. We do not generally accept development using proprietary plug-ins. Our expectation is that you will use emerging widely adopted web standards as they become established, for example WebGL for 3D.
10.2. We specifically do not accept Flash or Java. We will discuss other potentially useful plug-ins on a case-by-case basis. You may not use plug-ins without our prior agreement.
10.3. Any plug-ins you are suggesting may not be used to control basic navigation for web apps. They also should not provide essential content that cannot be seen by other means.
10.4. Any plugins needed are clearly indicated to the user with information and links sufficient for them to acquire the plug-in required.
10.5. Your features should not cause automatic installation of any missing plug-in/other code.

11. Using apps and other closed delivery platforms

11.1. We believe the open web is by far the most stable and universally adopted media delivery channel. We support the continuing use of the open web by encouraging development within open web standards including open data exchange standards.
11.2. Our starting assumption is that new digital features will be delivered to audiences using open web features in ways discussed elsewhere in these guidelines. However, we recognise that audiences enjoy many digital media channels and that while web is the most accessible, they will also want some services delivered through other closed channels. That is their choice.
11.3. Typical closed platforms includes apps native to specific operating systems (e.g. iOS, Android, Windows) and other closed technical or content platforms such as subscription media services (e.g. Spotify, Kindle, Netflix) or social media that combine apps, closed-user services and closed web services (e.g. Instagram, Twitter, Flickr). We will discuss the merits of your suggestions case by case.
11.4. Audiences often enjoy extra functionality or added benefit by using apps or belonging to these closed services. Where you are proposing solutions that are not built using open web features, you will need to demonstrate the extra audience benefits you expect a closed channel to give the target audiences that are not provided by open means. We will weigh these alongside corresponding barriers they may introduce. These typically include loss of control of content or service, unequal distribution of uptake amongst all users, vendor lock-in, licence, support and maintenance costs.
11.5. For any development using closed commercial platforms there is extra risk of service obsolescence due to unpredictable upgrades and releases that we do not control. For any proposals for features developed in closed platforms we expect you to suggest an application support plan for how you will deal with changes needed caused by such releases.
11.6. For all non-standard or closed platforms you are proposing, you will suggest an expected lifespan for the technology required.

12. APIs, data standards and metadata standards

12.1. We like APIs and use them extensively to re-use digital assets in multiple services. We encourage all new services to consider making use of our public APIs and can discuss the possibility of using our non-public APIs (web articles/shop products, events).

12.2. We will also be favourably interested in your solutions that propose a separate API data layer distinct from the display that may allow us to access the assets used within other features.

12.3. We may also be able to supply whole datasets by prior arrangement. Talk to us about this.

12.4. We expose digital assets using JSON within V&A public APIs.

12.5. All pages on the V&A website must contain metadata that complies with the government's e-GMS standard. This means that every page should contain at least the following metadata, where underlined text indicates content that should be tailored to the individual page. For example, the DC.identifier field is simply a unique identifier for that web page. It can be the URL, or a unique identifier of some other kind (such as a project code plus a unique page name within that project).

```
<meta name="DC.creator" content="Victoria and Albert Museum,
Digital Media department, webmaster@vam.ac.uk" />
<meta name="DC.date.created" scheme="W3CDTF" content="yyyy-mm-
dd" />
<meta name="e-GMS.subject.category" scheme="GCL"
content="Museums and galleries" />
<meta name="DC.title" content="Victoria and Albert Museum" />
<meta name="DC.identifier" content="http://vam.ac.uk" />
<meta name="DC.publisher" content="The Victoria and Albert
Museum, Cromwell Road, South Kensington, London SW7 2RL.
Telephone +44 (0)20 7942 2000. Email contact@vam.ac.uk" />
<meta name="DC.language" scheme="ISO 639-2/T" content="eng" />
<meta name="description" content="The V&A is the world's
greatest museum of design and the arts: its collections cover
two thousand years up to the present, in virtually every medium
and from Britain, Europe and Asia." />
<meta name="keywords" content="v&a, victoria and albert museum,
museum, london, art, design, culture, history, britain,
british, europe, european, asia, asian, contemporary,
exhibitions, visit, theatre, performance" />
```

13. Browser compatibility & bandwidth

13.1. Web features should be tested against the most widely used browsers used by the target audience to access the web at the time of development. As the browser technology available and the market uptake of this changes continuously, we will review for each new development proposal.

13.2. By web access we mean via any means of web access, which generally includes but is not exclusive to: desktop computers, laptop computers, touch-controlled tablets, mobile phones, televisions and any other hybrid personal device that has web access.

13.3. We may need to agree with you to prioritise compatibility testing and compliance against only the browsers most widely used by the target audiences. We will use data evidence from our web statistics (for existing web visitors), user surveys (for devices used by Museum visitors) and UK and global market trends (to consider current non-visitor needs)

14. User accounts and personal data

14.1. The V&A website does not, and will not, support services you develop that create and store public user accounts and require direct user authentication on the site unless they make use of our Customer Relationship Management authentication.

14.2. We can accept third party user identification via the OAuth2 protocol, using its standard '3 legged stool' model. This can then be used (i.e.: in a temporary user-session) to personalise a service to the user. Please discuss suggestions with us.

14.3. All services that feature the use of personal information or notification to users via personal information, including any financial transactions will need to be discussed with us prior to any work being started, to ensure they are integrated with our organisation-wide Customer Relationship Management policy.

14.4. Services you deliver using OAuth will need to be well-documented and supported by the third-party service requiring them. The most common of these is popular social media sites (e.g. Facebook, Twitter etc.), but these are open to change.

14.5. Please discuss with us before starting work, if you are planning to incorporate features requiring user logons.

15. Security

15.1. All scripts must be as secure as possible within the limits of the versions of the technology you are using.

15.2. All care must be taken never to expose any passwords, usernames or other critical data.

15.3. If the input is interacting with a database then we will want you to demonstrate how you are handling protection against risks such as SQL injection.

15.4. We expect validation of any input before it is passed to a SQL query with validation must be carried out on the server side.

16. Analytics

16.1. We'll want you to show how your development captures metrics about user behaviour. As a base we would normally expect to include session and page view within our overall V&A Analytics.

16.2. You should not create any other Google Analytics accounts to do this. We aim to integrate user behaviour capture.

16.3. As well as the basics, we will discuss with you if we can capture more specific evidence of the user behaviour.

17. Delivery of development code assets and version control

17.1. All code, files and supplementary assets will be delivered via a GitHub repository that V&A Digital Media have full administrative access to, and that should be used from the start of the development process.

17.2. In addition to the build code, you will provide a full build package that can be accessed through Vagrant. This will be sufficient to create the complete virtual server environment required for your code to run on and execute a scripted build to deploy and correctly install the code and any related files, media assets or databases on the virtual server as required. This build will be used to deploy to local developer machines, staging servers and the final live environment. Talk to us about what deployment service to use.

17.3. The repository will have a README.md file with clear descriptions of how the code fits together. These will include the locations of the final build files, details of the build environment and sufficient details to document how these can be implemented.

17.4. Your code build and all commits will be made within the dedicated repository. Your commits should contain useful comments about the changes made at each commit, to allow us to make sense of them as you progress and for later reference.

17.5. Your media files should be within the repository, apart from very large video archive files. If in doubt, please discuss with us.

17.6. All code, files and supplementary assets including instructions and documentation arising from third-party development where these are not open source, are the property of the V&A and may be used and modified by the V&A as required. We recognise that code often reuses existing ideas and fragments and do not intend this to be interpreted as restricting third-party suppliers from making use of code they have developed for projects with us from becoming the basis of future development for other clients.

18. Hosting and maintenance

18.1. The features you develop will normally run on the V&A Server Environment (Suse Linux, currently version 12). Alternatively the features can be built upon on third-party hosted cloud platforms. These include, but are not limited to Amazon Web Services and Google Developer platform. We will discuss which is best, case by case.

18.2. Where a third-party hosting is used, we will need secure administrative control of any hosting used unless we have agreed that you will be providing manage support for the service during its lifespan.

18.3. Similarly for apps being built on closed platforms such as iOS or Android, we will discuss with you whether to use a V&A branded account. This is largely so that users can see it is the V&A providing this service. As we do not develop within most closed platforms, we will also need to discuss the security of any access you may also need if we have agreed that you will provide managed application support for the service lifespan.

18.4. We aim to limit the overall number of technology platforms used to manage support resources needed. We favour open source frameworks that are widely adopted, with good development prospects and an active and friendly open support community.

19. File types and information standards

The following file types and information standards can be used in V&A websites:

Component	Standard
Web mark-up	HTML5 (.html, .htm)
Styling	CSS3 (.css)
Client side scripting	JavaScript (.js) Please discuss any libraries you are proposing before starting
Viewer document file types	Adobe Acrobat document (.pdf)
	Microsoft Word document (.doc)
	Rich Text Format document (.rtf)
	Plain/Formatted Text document (.txt)
	Microsoft Excel spreadsheet (.xls)
	Microsoft PowerPoint document (.ppt)
Images	Joint Photographic Experts Group (.jpg)
	Graphics Interchange Format (.gif)
	Portable Network Graphics (.png)
Animation	Graphics Interchange Format (.gif)
Video formats	Normally streaming - see video section
Audio	Normally streaming – see audio section
File compression	Zip files (.zip)

Appendix – collaboration checklist

We will work with you to complete this.

Things to agree before starting

Check	Your approach	X
Application support model agreed?		
Hosting arrangement agreed?		
Code licence terms agreed?		
New in-house obligation understood (time/knowledge/cost)		
Technology used		
Non web-standard elements used?		
Coding frameworks being proposed?		
Clean URL structure agreed?		
Known technology preferences of target audience		
User data required? (e.g. logon)		
How will usage/behaviour data be recorded?		
How will accessibility be tested?		
Third party platforms used?		
Access available to code repository?		

Things to agree for completion and sign off

Check	Your approach	X
Application support agreement in place		
Hosting agreement in place		
Code licence terms in place		
Master media files delivered?		