# Feasibility Guidance

## 1. Purpose of the document

The Feasibility document will the product of collaborative efforts from within the RSE team to assess how practical the proposed project is and to ensure that proper consideration is given to the likelihood of a successful outcome. At a minimum, a successful outcome would be considered achieved if all **Must Have** requirements are completed at the end of the project. The most effective assessment will be ensured if opinions are sought from all RSE team members who will be involved in producing the requirements and from those with specialist experience.

At this point, a collective decision by the RSE team has been made to investigate the **Feasibility** but this does not preclude a subsequent decision that the project in its current form is not feasible. An evolving understanding of the research goals and the context of the project may feed into this decision.

In discussing the Feasibility as a team it is necessary to suggest suitable time allocations for the various tasks that can be agreed upon. A **High Level Cost** calculation spreadsheet can be used to model time allocations.

It is intended as an internal facing document, though considerable portions of this document may be reused in the creation of a **Product Quote** and may be used in technical appendices to a funding application.

Unlike the Terms of Reference document, the Feasibility must be peer reviewed internally and approved before progressing to the **Product Quote** stage.

## 2. Completing the Feasibility

## 2.1 BUSINESS CASE

This section requires a considered justification for the project from strategic perspective. This section must demonstrate that the project has research value and is in alignment with the strategic goals of the RSE team and the wider institutions involved. The content of this section might borrow considerably from the completed Terms of Reference document, in particular the Background Context section.

|  |  |
| --- | --- |
| Example Questions and prompts | Check |
| What distinguishes this research as particularly ambitious or innovative? |  |
| Does the project align with current internal goals and strategies? |  |
| Does the project align with internal research interests? |  |
| Does the project offer an opportunity to engage with new technology and approaches? |  |
| Does the project offer an opportunity to develop a mutually beneficial strategic relationship with an interesting partner? |  |

### 2.2 REQUIREMENTS

This section builds upon and refines the project requirements identified in the Terms of Reference. High level requirements might be broken down into more specific tasks and new requirements may emerge after consultation with Developers and UI/UX Developers that are pre-requisites for other requirements. As before, all requirements should be considered from infrastructure upwards, and it may be helpful to apply the same tests as before:

***Must Have*** *requirements (M) are those that would compromise the rationale of the project if not delivered. Test whether the core goals of the research can still be met, even at considerable inconvenience, if this requirement were not fulfilled.*

***Should Have*** *requirements (S) are those that would significantly improve workflow and reduce inconvenience for users attempting to achieve a core goal of the research. Additionally, these requirements, if not directly applicable to a particular* ***M*** *requirement, may be of secondary importance to the core research goals.*

***Could Have*** *requirements (C) are those that provide marginal improvements in workflow and may be aesthetic or of tertiary importance to the core research goals.*

***Would Have*** *requirements (W) are those that are likely to be aspirational in nature but present significant technical and practical obstacles given the timeframe and funding proposed. They may present very marginal benefits to the overall project goal, or may be more suited to follow on research pending the successful completion of the initial project.*

The matrix below offers some prompts and key questions for effectively completing this section. It is not exhaustive but aims to stimulate internal conversation in a productive way.

|  |  |
| --- | --- |
| Example Questions and prompts | Check |
| Will the project require dedicated infrastructure? If so, where will it be hosted? |  |
| What key services will any dedicated infrastructure need to provide? e.g. Image server, Web server, High Powered Computing etc. |  |
| How much disk storage is likely to be required? |  |
| Is there a minimum appropriate technical specification for the infrastructure? |  |
| Does the project require a website? If so, list the essential user actions that must be accomplished. |  |
| What are the key user interactions that should be possible? e.g. textual search, faceted search, free browsing, data entry, moderated contributions, forums, map visualisations, data visualisations, API etc? |  |
| Does the project require bespoke data structure? If so, which forms are most suitable? e.g relational database, graph database, XML etc. |  |
| Are there domain specific conventions and standards that must be observed, such as data formats, ontologies etc? |  |
| What are the design requirements of the website? e.g. a landmark resource with a strong brand identity, limited brand identity with a focus on specialist functionality, or a completely standard backend interface which will only be used by the project team etc. |  |
| Will the resource draw upon third-party data or resources? |  |
| Will there be consultancy products? e.g. reports, scoping documents, design guidelines, etc. |  |
| *Categorise these requirements into the MoSCoW classification* |  |

### 2.3 SOLUTION ARCHITECTURE DEFINITION

This section should provide an overview of the stack of technologies to employed and justification for their applicability.

|  |  |
| --- | --- |
| Actions | Check |
| For each requirement, specify the technological solution suggested. |  |
| If possible, suggest a fallback solution for each requirement. |  |
| Make clear the level of RSE team experience in building solutions from the suggested software stack. |  |

### 2.4 DEVELOPMENT APPROACH DEFINITION

This section may be largely boilerplate text and should be specific to the RSE team's implementation of whichever project management model is being followed. This documentation assumes by default that RSEs are using a variant of an Agile workflow.

***Example text:***

*[RSE Team's] Software Development Life Cycle (SDLC) uses an Agile methodology whereby work proceeds in increments and the product is iteratively developed. Wherever possible and applicable, unit tests will be created to guarantee the quality and sustainability of the code. All the source code will be hosted in an open source repository on [versioning solution].  
 Work increments will address prioritised requirements (as detailed above). Each increment of work will followed by an internal review and partner to inform the focus of the next work increment and to re-prioritise the requirements according to circumstances. Work on subsequent increments will not progress until appropriate user tests have been documented by the project team and necessary feedback has been received.  
 Technical documentation will be maintained throughout the project for each of the components developed and for the processes used. The project will employ existing [RSE Team] project management tools for issue tracking and documentation. Project tasks will be logged, assigned and progressed through these tools.*

*A development change freeze will be in effect at XX weeks prior to the end of the project, after which no substantial changes to agreed functionality or design will be undertaken.*

*The project output will not reside on the [RSE Team's] infrastructure beyond the duration of the project without a signed Service Level Agreement with the commissioning project team.*

This text should make clear the commitments and responsibilities of the RSE Team and the Project Team in moving development forward effectively, by outlining the key stages of the development and establishing buy-in to the process.

### 2.5 DELIVERY PLAN

This section is used to outline the first phases of development and will specify the deliverables to be expected in the first increment. Since this SDLC assumes an Agile methodology, all subsequent increments are informed by the outcomes of the previous increments. It is appropriate therefore that detailed increment plans are reserved for the intervals between increments following a review.

Consider what essential underpinning is needed for the development to proceed; infrastructure, software configuration, data modelling, stakeholder workshops, solution scoping etc.

### 2.6 MANAGEMENT APPROACH DEFINITION

Building on the Development Approach Definition, this section should make clear the delegation of institutional and individual responsibilities. The **Roles** needed in the project should be clearly identified, though it is not necessary to specify individuals at this stage.

### 2.7 FORWARD PLANNING DEFINITION

It is becoming increasingly understood how important it is to have a long-term strategy for the maintenance of digital research outputs.

This section should address the question of archiving and assess the amenability of the digital product to archiving. Useful guidelines for this assessment are provided by Stanford University Press and have been deposited in this toolset as **Amenability\_to\_Archiving\_SUP**  in the Other Useful Guidance folder.

This section should additionally consider any requirements the funder might specify about archiving and sustainability and may contain some boilerplate text.

***Example boilerplate text:***

*Where funders require, [RSE Team] makes full provision for hosting and maintaining the project’s online resource for a period of XX years beyond the funded period. This provision is included in the costings, and will be formalised in a Service Level Agreement (‘SLA’) that will be signed by [RSE Team] and the project partners prior to the end of the funded period. Six months before the end of the initial SLA [RSE Team] will contact the partners to discuss available options, including ongoing maintenance under a new SLA, archiving and/or preservation to ensure the project is properly managed even in the event ongoing funding is unavailable.*