UK Atomic Energy Authority

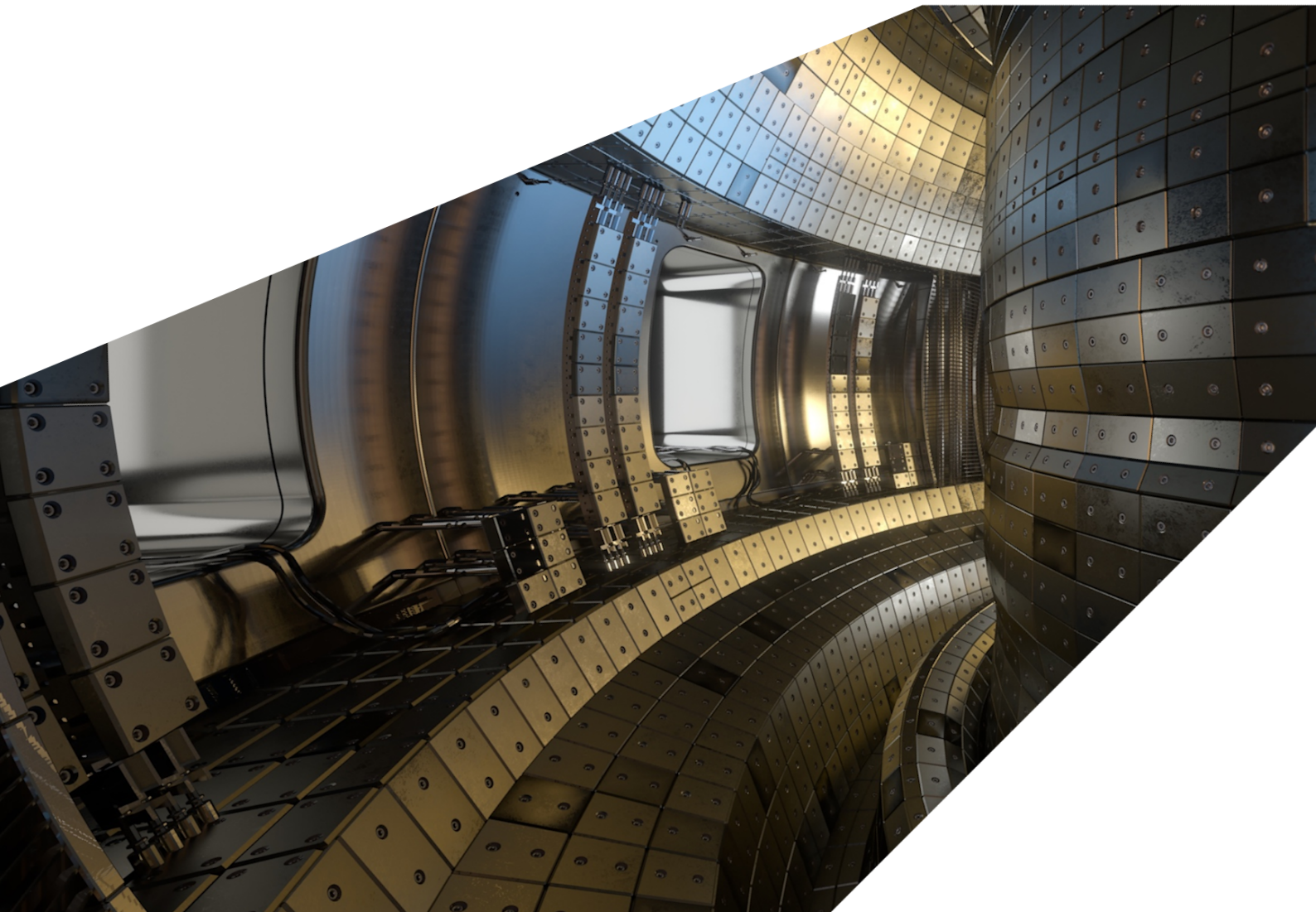
ExCALIBUR

Software Specification Web-site

D3.1

Abstract

The report describes work for ExCALIBUR project NEPTUNE at Milestone 3.1. The formal specification document to be used for a rational design of software for NEPTUNE, consists of a website laid out as indicated in previous reports and at the workshop of 7th October 2021. The website will be a living “document”, requiring further amendments as more details are agreed and features become more refined. The present report contains indicative screenshots of a preliminary version of the site.



UKAEA REFERENCE AND APPROVAL SHEET

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	UKAEA Reference:	CD/EXCALIBUR-FMS/0054
	Issue:	1.00
	Date:	31 October, 2021
Project Name: ExCALIBUR Fusion Modelling System		

	Name and Department	Signature	Date
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Approved By:	Rob Akers Advanced Computing Dept. Manager		31 October, 2021

The specification website is laid out as explained in the concordance described in the Development Plan [1]. Material available in LaTeX, which includes nearly all internal reports and many of the reports by grantees will, where appropriate, in time be arranged compactly and accessibly by use of LaTeX2HTML to form the site on Linux machines. Other material such as .md (Markdown files), may be convertible into LaTeX using the PANDOC software, and in particular the Markdown variant recognised by PANDOC is described in ref [1, Annex A]. Ref [1] further explains how a site may be produced in a subdirectory of the directory containing the document file, ie. the file containing \begin{document} ... \end{document}.

The website need not be confined to a single directory, since links may be provided to places in other local documents in many cases by use of commands in the `html` package, eg.

```
\externallabels{file:///home/wayne/excalibur-wa/tex/test/rp2}
          {/home/wayne/excalibur-wa/tex/test/rp2/labels.pl}
```

Naturally the `url` package may be employed to link to other files, such as those of type .pdf, whether they are on the local machine or elsewhere on the web.

The website constitutes a living "document", requiring further amendments as more details are agreed and features become more refined. Presently it is not appropriate or necessary to make it public. Although many details as to how to develop software have been agreed at the workshop [2], not everything in ref [3] has been subject to full scrutiny by other grantees. However it is expected that in time, the site will be made publicly available, when it will serve as a reference for the project, particularly useful for newcomers, and in the development of proxyapps, which may extensively quote many of the generic features, such as the reference material. (The last may be achieved by use of the LaTeX\input command, which works across directories.)

The present document confines itself to screenshots of sample webpages. Note that, although for longevity, there are arguments in favour of maintaining a 'classical' appearance, it is intended to employ experienced web designers to update the style to a more contemporary one for the world-wide-web.

The home-page is split across two snapshots, see Figure 1 and Figure 2. Other pages in their fullest form are not easily presented in this manner, and indicative examples are provided for others, to indicate important features such as linkages, see Figure 3, Figure 4 and Figure 5. Lastly the bibliography page appears as Figure 6

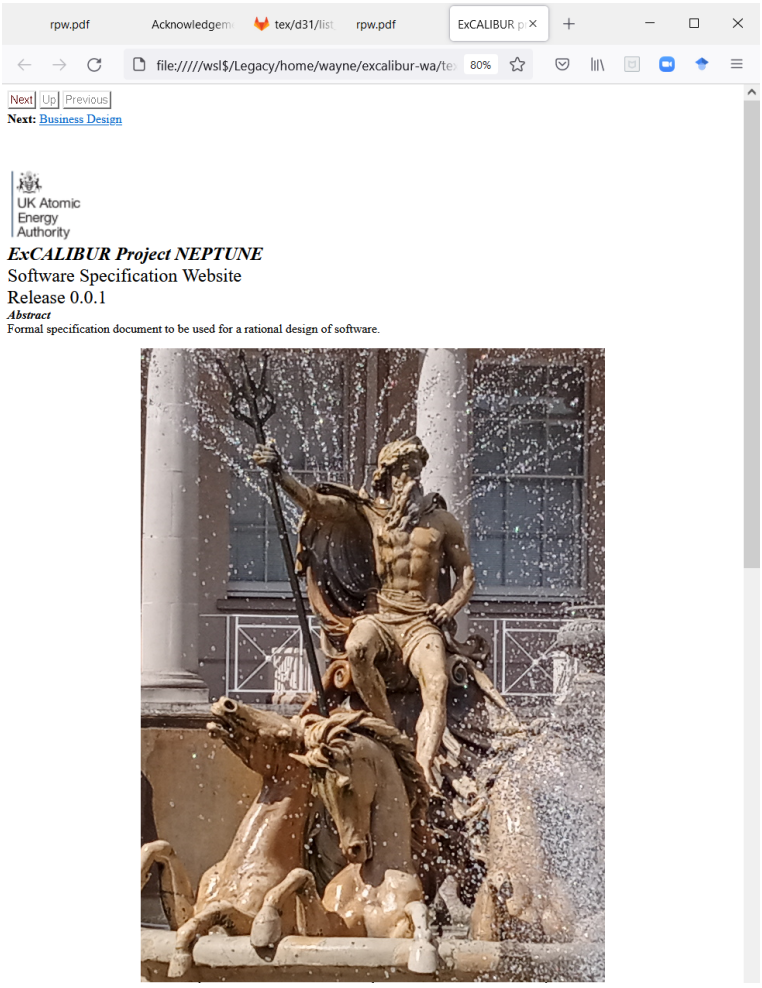

Figure 1: Home page of specification website (top).

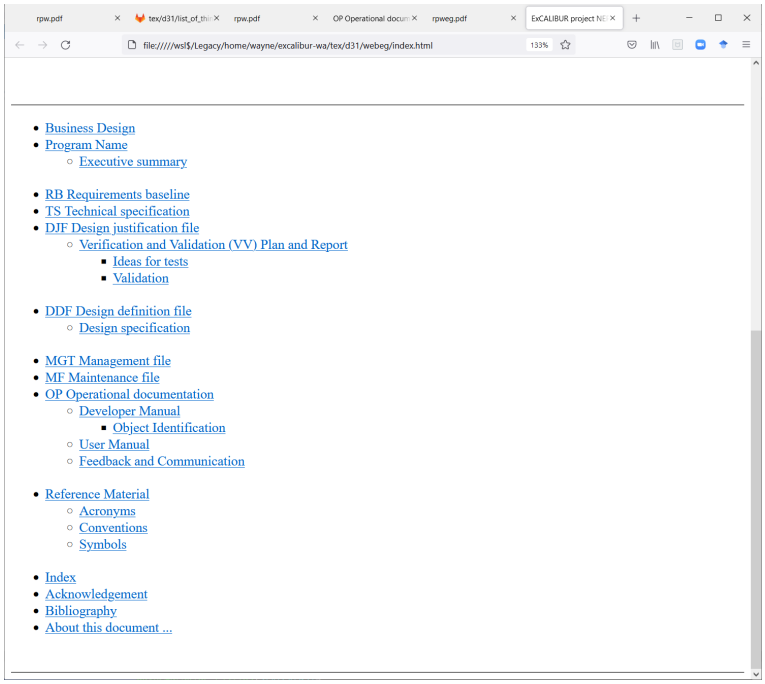

Figure 2: Home page of specification website showing links to pages within the site.

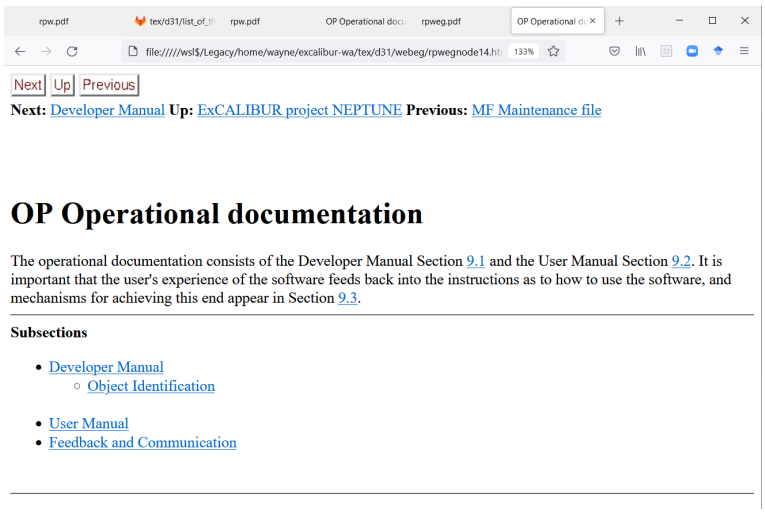

Figure 3: OP page, showing onward links (indicative example).

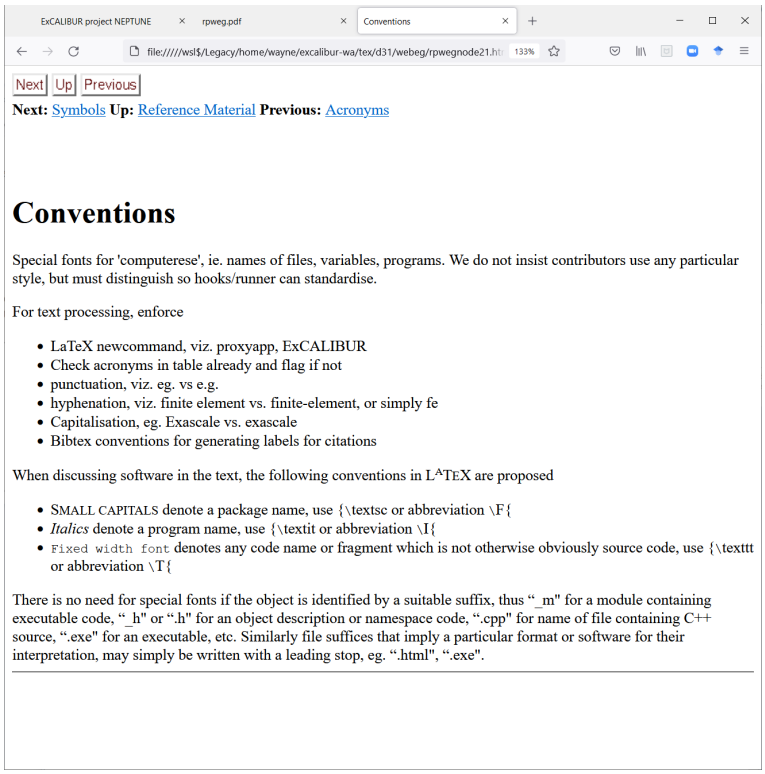

Figure 4: Page describing textual conventions to be used when documenting software.

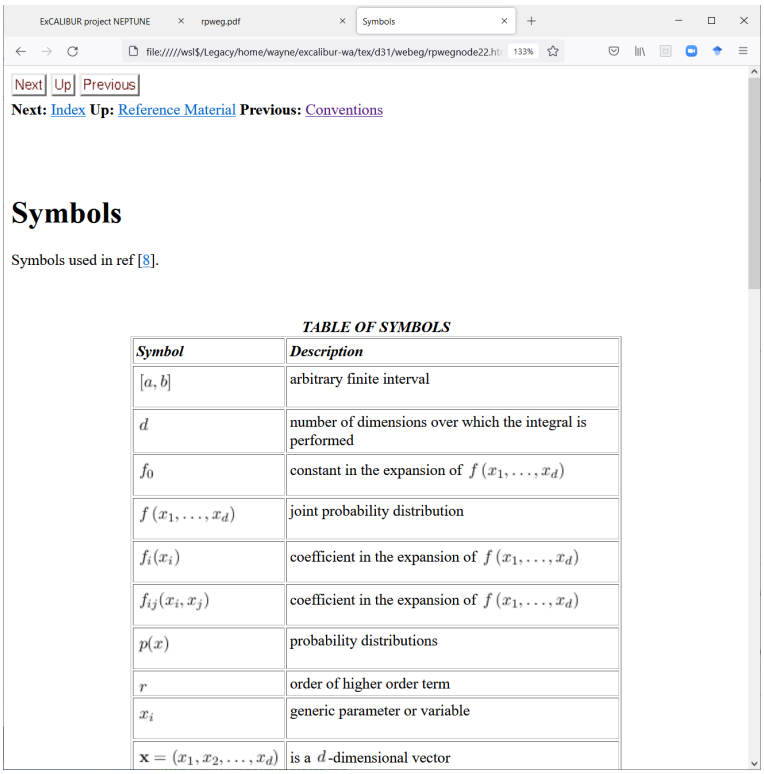

Figure 5: Page of index to mathematical symbols (indicative example).

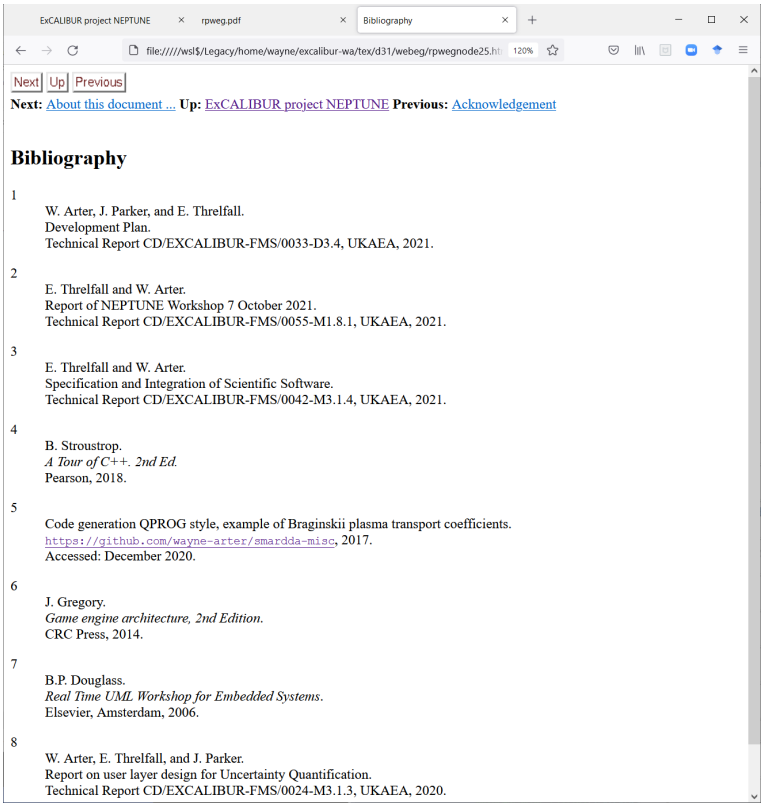

Figure 6: The bibliography page (indicative example).

Acknowledgement

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Bibliography

[1] W. Arter, J. Parker, and E. Threlfall. Development Plan. Technical Report CD/EXCALIBUR-FMS/0033-D3.4, UKAEA, 2021.

[2] E. Threlfall and W. Arter. Report of NEPTUNE Workshop 7 October 2021. Technical Report CD/EXCALIBUR-FMS/0055-M1.8.1, UKAEA, 2021.

[3] E. Threlfall and W. Arter. Specification and Integration of Scientific Software. Technical Report CD/EXCALIBUR-FMS/0042-M3.1.4, UKAEA, 2021.