

Title: Software Design Document Preparation**Number: SOP4130-001****Revision: 1.0****Author: Brian Bobo****Effective date: 25 Jun 2011**

PURPOSE

To describe the procedure for documenting the design description for custom software applications that will be developed by 4130 Software.

SCOPE

This procedure applies to any custom software application that 4130 Software has been contracted to develop for external customers.

This procedure also applies to any custom software application developed for company-wide internal use.

This procedure does not apply to custom software applications developed for internal use by a single employee or department.

RESPONSIBILITIES

The software development project manager is responsible for ensuring that a software development design document is prepared, reviewed, and approved prior to implementing the software for its intended use.

The software quality assurance manager is responsible for reviewing and revising the procedures in this document.

The document control manager is responsible for updating and distributing this document after each recommended revision

ACRONYMS

MS	Microsoft
PDF	Portable Document Format
GUI	Graphical User Interface
UML	Unified Modeling Language
XML	Extensible Markup Language

FORMS AND PUBLICATIONS

Software Design Document MS Word Template	SDD4130-001
Microsoft Manual of Style for Technical Publications	ISBN: 0-7356-1746-5
Chicago Manual of Style, 16 th Edition	ISBN-13: 978-0-226-10420-1

PROCEDURE

1. Document format.
 - 1.1 Format the document using SDD4130-001, Software Design Document MS Word Template.
 - 1.2 If submitting the document to another company employee for review or editing, submit electronically in Office Open XML word processing file (.docx) format.
 - 1.3 If submitting the document to the customer for feedback, submit electronically in Adobe Portable Document Format (.pdf).
2. Style.
 - 2.1 Follow the writing and design conventions of the *4130 Software Style Manual*.
 - 2.2 For style issues that are not addressed in the corporate style manual, refer to the *Microsoft Manual of Style for Technical Publications, Third Edition*.
 - 2.3 For style issues not addressed in the above documents, refer to the *Chicago Manual of Style, 16th Edition*.

3. Introduction.

3.1 Goals and requirements. Include a brief overview (such as bulleted list) of the specific goals and requirements that the software design is intended to meet.

3.2 Acronyms. Include a list of acronyms used in the design document.

3.3 Glossary. Define the technical terms used in the design document. Remember that some non-technical readers will be reviewing the design document.

3.4 Referenced documents. Include a list of external documents referenced in the design document.

4. Design overview.

4.1 Provide a brief functional description of the overall system design.

4.2 Provide a system flowchart.

4.3 Provide a brief functional description of each major component of the application.

5. Data design.

5.1 Describe the data structures used by the software.

5.2 Define the attributes of each data object.

5.3 Define the relationships and between data objects.

5.4 Use UML component diagrams to show the dependencies between objects.

6. Architecture design.

6.1 Provide a high-level overview of the system's functionality.

6.2 Describe the major responsibilities of the system.

6.3 Describe the collaboration between higher-level components.

6.4 Include a UML class diagram illustrating the system structure.

7. Interface design.

7.1 Provide a description of internal and external program interfaces.

7.2 Provide a description of the GUI.

7.3 Provide screenshots of the prototype GUI.

7.4 Provide a description of the help system implementation.

7.5 Describe error handling methods and how error messages will be displayed to the user.

8. Output.

8.1 Describe the reports to be output by the system. Provide samples if available.

8.2 Describe the files to be output by the system, and the output formats to be used.

SUMMARY

The software design document should serve as a stable reference that describes all components of the software and how those components will function. The design document will be used by all members of the development team, as well as by customers, to guide them through the software development life cycle.

CHANGE HISTORY

This is the initial release and first revision of this document (Rev. 1.0., effective date 25 June 2011).