

SOFTWARE DESIGN PROCEDURE

I. General:

This document describes the steps involved with the design of new software in the Electronics Facility. The purpose of this procedure is to improve communications between the requestor and the Electronics Facility and to align the expectations of both parties toward a common plan and to provide acceptable project results.

II. Initiation:

Work Order. A requestor initiates a new design project by completing a work order on a work order computer. All required items must be completed before the system will allow a work order to be printed. The requestor is advised to use the space provided on the work order to indicate the maximum number of hours to be spent on the project. This allows the requestor to maintain a reasonable amount of cost control and to communicate the expectations regarding cost. This is particularly important if a formal estimate has not been requested. The work order is to be printed and delivered to the Electronics Facility manager.

Software Design Specifications. The manager will have the requestor complete the form entitled "Software Design Specifications" and the manager will attach it to the work order. The project PI and the Electronics Facility manager will be required to sign the Software Design Specifications sheet before work can commence on the project. The Electronics Facility manager will ensure that sufficient information is included on the Software Design Specifications sheet to permit the design to be implemented. This may require that Electronics Facility personnel visit the laboratory where the software will be used to see first-hand how it will be used. The manager may require that the requestor provide specific information, examples, or algorithms to be attached to the Software Design Specifications sheet. Information on the Software Design Specification sheet should be complete enough to allow software to be designed from the data given. If certain specifications are unknown but must be investigated as part of the design and development work, they should be noted as such. Any additional specifications or changes to the Software Design Specification sheet may incur additional time and costs and therefore must be approved by the Electronics Facility manager and the PI before they can be implemented. The Software Design Specifications sheet allows the requestor to specify the software characteristics such as user interface, inputs, outputs, interfaces, and instrument control. It also allows the requestor to specify that a formal estimate of time and cost is needed. This estimate can consist of a rough estimate (the Facility will generate an estimate based on previous similar projects), a fixed-fee estimate (the Facility guarantees a design for a specific price), or a fixed-fee plus cost estimate (the Facility guarantees certain milestones for the fixed fee, but the cost will ultimately be determined by the hours required beyond meeting the milestones). When requesting an estimate, the PI agrees to pay for the time spent by the Facility in generating an estimate. The rough estimate requires the least amount of time to generate. The requestor can also specify milestones and timing for complex projects. In addition, the requestor can specify and schedule interim reports.

SOFTWARE DESIGN SPECIFICATIONS

GENERAL DESCRIPTION OF SOFTWARE:

PROGRAMMING LANGUAGE(S):

INPUT LIST:

Input #	Parameter	Source	Description
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OUTPUT LIST:

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FRONT PANEL CONTROLS:

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MODULES:

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FLOW CHART ATTACHED? YES NO

MISCELLANEOUS COMMENTS:

ESTIMATE REQUIRED? YES NO

Type of Estimate: Rough Fixed Fee Fixed Fee Plus Cost

Estimate Attached

Note: Time required to produce estimates will be billed at the design rate.

MILESTONES ATTACHED? YES NO

INTERIM REPORTS REQUIRED? YES Schedule: _____
 NO

ESTIMATED COMPLETION DATE: _____

Approved – Electronics Facility Manager

Date

Approved – Principle Investigator

Date