THE SPECIFICATION WRITING PROCESS GUIDE

The Specifications
The specifications are broken down into a 3-stage evolution of documentation that coincides with different stages of the whole product development cycle. The object of the process is to produce three different documents based on who utilizes them and the information that is needed at a certain point of the cycle.

The three different documents are as follows:

- **Product Specification**- The first, high level document for company wide distribution.
- **Functional Specification**- The second, intermediate level document with requirements for QA and Programmers.
- **Design Specification**- The ultimate detail level document as a final reference on the product design for all of Engineering.

Most of the specs written so far are Product Specs. The M6 for Metering is the first, official Functional Spec. No Detail Specs have been written yet.

The Process
Each level of specification will go through the same process of drafts and reviews as well as a walk-through for final approval.

The process flow for each spec is as follows:

Draft Stage
- **First draft-** First draft is written after receiving the necessary information/requirements.
- **First review-**Submit the first draft back to author/project lead for review.
- **Rewrites-** Hopefully, this will only involve one or two rewrites to get everything ironed out with the author/project lead.

Walk-Through Stage
- **Walk-through draft-** By this point, the spec should be close to golden with no questions or issues still open. It is handed out for review before the walk-through.
- **Walk-through-** Conduct the walk-through review with the key people involved and go through the document point by point.

Final Stage
- **Final draft-** Write the final draft based on feedback from the walk-through.
- **Final approval-** Submit final draft to the key decision-maker(s) for final approval.
- **Document release-** The official final document is handed out to the world with a release date and rides off into the sunset.

Versions and Revisions
Changes and updates may come up even after a spec has been officially released, but that doesn't mean that it has progressed to the next level of documentation or that the version has changed. These will be handled as revised releases with a revision history posted at the top of the spec highlighting what has changed.

I don't want to put different version numbers on the documents to be confused with the version number of the product. I would like to track the changes by the revision releases. For example the title, "Amoeba Product Specification v1.0", will not change until the actual product changes to v1.1. However, there can be a "Amoeba Product Specification v1.0 rev A" for revision A, "rev B" for revision B, etc.

Specification Outlines
The following pages contain information pertaining to each of the specifications as well as a general outline to follow. However, don't worry about the format and getting it all right. As long as I get the necessary information and requirements, I can take care of the rest.

First stage- The Product Specification

Purpose- The **high level**, general outline document that **defines exactly what the product is** so that everyone knows what to promote, what to set up for testing, training, support, etc.
Emphasis- **Features and benefits** of product to promote, test, support, etc.

Primary audience- Sales/Marketing and the rest of the company.
Resources- Developers, Human Interface Engineer.
Distribution list- Sales/Marketing, QA, PSO, and the other departments involved with the product.

Level of Detail- ***1-2 levels max*** with brief descriptions of each item like the following:

1. Maintain customer info.
1.1 Add customer file

2. Maintain order info.

3. Maintain inventory.

General Outline and Headings

OVERVIEW
This section gives the **scope of the product** and the **Big Picture**, especially if the spec is describing a unit of a larger whole.

DEFINITION
This section **defines what it is** and **where it's located** if the object is a part of a larger whole.

TERMINOLOGY
This section is for defining and **clarifying terms** that are unique to Speiros so that we are all talking about the same thing. For example, it's "Speiros Run Time Environment" instead of "Core", and it's "Catalog" instead of "Catalog Browser" or "Resource Browser", etc.

FEATURES
This may be a larger section and gives **the benefits** or **selling points** of the product. It can be a starting point for QA requirements, but it should be written with Sales and Marketing in mind. In a sense, it is the **"idea"** behind the product. Features should cover the following:

- Everything the product can do
- Usability and appearance
- Ease of navigation
- Security features
- Any support it will have (on-line, manual, etc)
- Anything that makes the product unique

Note: Don't worry if you can't make this section into pretty "markety butterflies". Just give me your list of "technical caterpillars" and I'll take care of the rest.

FUNCTION
This section gives the **"what"** behind the idea and the actions it takes. For example, does it follow a certain protocol? Is it associated with an application? Is it client side or server side, etc?

COMPONENTS
This section gives a brief description or list of what the **different components** are in the product.

CYCLE OF OPERATION
This section is written more for Sales/Marketing, Customer Service, etc, and gives a brief, **end-user** description of how **the product works** from start to finish.

Second stage- The Functional Specification

Purpose- The **intermediate level** document that gives more details on how **it behaves.**
Emphasis- **Requirements** for QA and the **specific operational characteristics/internal structure** for the Programmers.

Primary audiences- QA, Programmers
Resources-Programmers, Human Interface Engineer
Distribution list- QA, PSO, Programmers

Level of Detail- ***3 levels max*** like the following:

1. Maintain customer info.
1.1 Add customer file
1.1.1 Enter the name, address and phone number
1.1.2 Create customer number if they are a new customer
1.2 Change customer file
1.3 Delete customer file

2. Maintain order info.

General Outline and Headings

OVERVIEW
This section should not have any changes and is **copied over** from the Product spec.

DEFINITION
This section should not have any changes and is **copied over** from the Product spec.

TERMINOLOGY
This section should hopefully not have any changes and is **copied over** from the Product spec.

FEATURES
This section should not have any changes and is **copied over** from the Product spec.

FUNCTION
This section should not have any changes and is **copied over** from the Product spec.

PARAMETERS
This section is **new** and is written more for the Programmers. It would include the following:

- Any special commands
- Programming interface instructions
- Linking conventions
- Platform or OS issues
- Any special limitations that need to be noted
- Any special responses, error messages and return codes that are not directly covered in the Requirements

REQUIREMENTS
This section is **new** and is the **"how"** behind the "idea". It is written more for QA, so keep in mind that they **need specific information** added to what was listed as a feature. For example, it is difficult to write a plan for testing a sink if you just say, "hot or cold water is easily controlled with the unique faucet system." How hot is hot? What do you mean by easy? They need to know that the water temperature can be controlled by different settings on a dial, how much the dial can be turned for each setting, and the specific range of temperature each setting is expected to produce.

COMPONENTS
This section adds **more details** (3 levels max) to what was listed in the Product spec.

Last stage- The Design Specification

Purpose- The ultimate detail document that **lays out every thing** from field names, performance rules, to implementation language and hardware configuration for installation. Bugs and any issues uncovered in the preliminary testing should already have been addressed and dealt with to make this the **final** reference of the whole product design.
Emphasis- **Everything** regarding how it was built and the interactions between the different components and interfaces.

Primary audience- QA, PSO, Programmer groups.
Resources- QA , Programmers, bug reports.
Distribution list- QA, PSO, Programmer groups.

Level of detail- ***Whatever it takes*** to get all the details in like the following:

1. *Maintain customer info.*
1.1 *Add customer file.*
1.1.1 *Enter the name, address and phone number.*
A*. Enter the full name.*
1. Last name first.
2. First name last.
B. *Enter the complete address.*
1*. Enter the street address.*
2. *Enter apartment number if necessary or leave blank.*
a*. Press the tab key to skip this field.*
I*. Etc...*
II*. Etc...*
1.1.2 Create customer number if they are a new customer.

2. Maintain order info.

General Outline and Headings

OVERVIEW
Add any information that was not covered in the previous specs for final reference.

DEFINITION
Add any information that was not covered in the previous specs for final reference.

TERMINOLOGY
This section should hopefully not have any changes and is **copied over** from the previous specs.

FEATURES
This section should hopefully not have any changes and is **copied over** from the previous specs.

FUNCTION
Add any information that was not covered in the previous specs for final reference.

PARAMETERS
Add any information that was not covered in the previous specs for final reference.

REQUIREMENTS
Add every last detail that was not covered in the Functional spec for final reference.

COMPONENTS
Add any information that was not covered in the previous specs for final reference.

SYSTEM RESOURCES
This section is **new** and lists the **system resources the product requires** along with any other product related information for final reference.

INSTALLATION
This section is **new** and gives the details for **the procedures and tools** necessary for installing the product as a final reference.

STANDARDS
This section is **new** and details anything that **relates to industry acceptance, compatibility and migration** regarding the product for final reference.

THEORY OF OPERATION
This section **expands** on the Cycle of Operation given in the Product spec. It should be a **complete description** on how the product works from a **technical perspective** for final reference.