

Supplier Deliverable S2—Design Documents

Description

The functional specification and the conceptual design together describe the proposal to your customer. When accepted, these documents are a contract between you and your customer about what you intend to deliver. Changes can be negotiated later and should be recorded as an appendix. During the design process you should focus on the parts of the design essential to producing a core system, and merely outline extensions to a more complex system—one of your major goals is to get something working by the deadline! The main goal of the design process is a detailed design document (the technical design document) that is sufficiently complete to be a reference from which any competent computer scientist or engineer can produce code and a user manual, and carry out tests. This document will eventually evolve into the code and into a system maintainer's guide. An intermediate goal is the conceptual design specification which is a draft of the detailed design document with some of the details missing.

Interfaces between modules should be clearly defined. Once the design has been written down, everyone in the group should read the entire document to make sure they understand the design. Individuals should be assigned responsibility for particular modules and should design these in more detail. Each person should review carefully at least one other person's section and all sections should be reviewed by someone other than the author. Pick the one(s) with which your module has the strongest interaction(s).

Supplier Deliverable S2a—Conceptual Design Documents

Length

No more than thirty (30) pages, excluding an *Executive Summary*.

Description

The conceptual design document should tell the customer exactly what the system will *and will not do*, in language that the customer can understand. Talk about where data for the system will be coming from and how it will be used within both the system itself and the environment the system will occupy (e.g., interfaces, environment, or context). Moreover, discuss what a user of the system will see and work with as well as how the users will work with it (e.g., user interface operations, use cases, actors, context, or screenshots). Detail how it will be organized sequentially (e.g., what steps a user has to take to complete a given task) and what happens when someone takes a wrong turn in the system (i.e., error handling, exceptions). Talk about what output will be generated and how it will look.

What you present in this document should not necessarily be limited to the above topics: the basic idea is to propose a system to your customer that will fulfill their needs (e.g., use cases). You have to do it in a way so that the customers will be able to understand and relate to, and thus provide you with feedback and revisions that you can discuss in an appendix of future documents. This is a high-level, top-down description of your system (e.g., UML diagrams). Include sections discussing the modification and the management questions, an executive summary and a list of contents. *It is a good idea to frequently consult with your TA when designing this document during your lab.*

Include an *Executive Summary*, one to two pages long, to summarize your design proposal in point form.

The complete contents of your S2a deliverable must be made available as part of your supplier website.

Marking

See course website for details.

Due date

See course website for details. Ensure your information is available at your own group's website. Please respect the deadline—customer teams depend on having your S2a document available for evaluation.

Submission

Post on your group's website.

Supplier Deliverable S2b—Presentation to Customer

Length

No more than 10 minutes, including questions from the customers. You will have 5 minutes between presentations to break down or set up your presentation. Please be organized to allow following groups a chance to properly prepare.

Description

A preliminary review of your project—lasting about five minutes—will be presented in class and labs, with up to five minutes of questions and discussion from the customer. Marks will be deducted if this is not well organized or runs over time. In this presentation you will finish the job of “selling” your system to the customer, so it must reflect your response to their feedback and comments (i.e., officially from C0, C1 and C2, and unofficially from inter-group contact).

Presentations must be professional. You will be responsible for arranging your presentation hardware and software. If your group wishes to use PowerPoint, but does not have access to a laptop, then please make arrangements with the instructor no later than 48 hours before the presentation date. If PowerPoint is used, the .ppt or .pptx file must be made available for downloading from the customer’s website by the start of the first lecture at which groups will present (and ensure all typefaces are embedded into the document).

Marking

See course website for details.

Due date

See course website for details. Presentations are scheduled as shown on the course website. The order of group presentations will be decided randomly at the start of the class on which presentations will be made (i.e., be prepared and ready to present).

Customer Deliverable C2— Evaluation of the Conceptual Design Document

Length

No more than ten (10) pages, including an *Executive Summary*.

Description

The functional specification and the conceptual design together describe the proposal from your supplier. When accepted, these documents are a contract between you as a Customer and your supplier about what they intend to deliver. Changes can be negotiated later and should be recorded as an appendix. Mark clearly, in *italics* or **bold** type, any comments or amendments on the supplier's overall design document. You may add up to two additional pages.

In addition, define a *set of tests* to be performed to verify that the system meets your requirements when delivered. You need not describe tests for every feature of the system. Rather, focus on three or four key requirements. The acceptance tests should specify inputs, outputs, and exceptions. The tests should also cite non-functional requirements as appropriate.

The complete contents of your C2 deliverable must be made available as part of your customer website.

Marking

See course website for details.

Due date

See course website for details.

Submission

Post on your group's website.

Supplier Deliverable S3a— Technical Design Document

Length

No more than 80 pages.

Description

The final design step is to prepare the technical design document. The technical design document (about 60 to 70 pages) extends from the conceptual design document) and represents a technical picture of the system specification. The goal is to basically create a “cookbook” for your system. You will need to describe in detail the flow of data within the system and how individual modules interact. Also, it is a description of the hierarchy and function of the software components. Write pseudo code or code outline for all modules—this should be in terms of calls to other high-level functions and be easy to read, standards are important. It should include answers to all the questions for as many levels as possible. Include test schedules as part of this document. Update the sections describing coding responsibilities. Most of the work will be done by individuals filling in the details of their modules, but you must review the document as a whole to ensure people are using the same interface definitions and to make sure that everything has been covered and that all parts of the document integrate and work together.

Testing must be carefully planned and documented as to the order in which modules are to be integrated and the order in which the individual modules are to be completed and tested in isolation. Testing and debugging methods must be agreed on, documented, and carried out. Several stages of tests must be scheduled, and several testing procedures should be explored. Scheduling is required for unit tests, integration testing, functional testing, performance evaluation, and an acceptance test (demo). These should include practice in the techniques of walkthroughs, logic testing and input/output testing. The test and evaluation plan should contain a statement of objectives and success criteria, integration plan (e.g., the order in which modules are to be combined), testing and evaluation methodologies, and responsibilities and schedules. You must devise a monitoring process to ensure that tests are designed and carried out on schedule, report lack of compliance to other group members, and decide on a procedure for reporting and correcting bugs.

The test plan (i.e., about 10 to 15 pages) should contain an introductory section that summarizes the objectives, a list of tests and dates and people responsible, summary of the monitoring, reporting and correcting procedures, and proposed dates for submission of individual test reports; a discussion section covering a short defence of the integration plan, details of the tests with objective and success criteria, details of monitoring, reporting and testing procedures, and details of individual group member assignment. Each person should be involved in at least one set of tests. You are advised to use walkthroughs regularly, and to consult your TA during your lab sessions as you discuss and plan this document.

Include a 1-2 page *Executive Summary* that summarizes your design and test plan.

Marking

See course website for details.

Due date

See course website for details.

Submission

Post on your group’s website.

Supplier Deliverable S3b—User Manual

Length

No more than 10 pages.

Description

This should be a self-contained description of how to use your system. It should have a clear structure, a table of contents, and an index. Do not discuss any implementation. It should contain an introduction, a section on how to use the system, error recognition and handling, and a section showing a sample interaction complete with screen dumps, and a list of known bugs and deficiencies. Note that you may not have enough code to list all bugs, but some room should be left in the document for their addition.

Marking

See course website for details.

Due date

See course website for details.

Submission

Post on your group's website.

Customer Deliverable C3— Evaluation of the Technical Design Document

Length

No more than ten (10) pages, including an *Executive Summary*.

Description

The functional specification as well as the conceptual and technical design together describe the proposal from your supplier. When accepted, these documents are a contract between you as a Customer and your supplier about what they intend to deliver. Changes can be negotiated later and should be recorded as an appendix. Mark clearly, in *italics* or **bold** type, any comments or amendments on the supplier's overall design document. You may add up to two additional pages.

In addition, define a *set of tests* to be performed to verify that the system meets your requirements when delivered. You need not describe tests for every feature of the system. Rather, focus on three or four key requirements. The acceptance tests should specify inputs, outputs, and exceptions. The tests should also cite non-functional requirements as appropriate.

The complete contents of your C3 deliverable must be made available as part of your customer website.

Marking

See course website for details.

Due date

See course website for details.

Submission

Post on your group's website.

Supplier Deliverable S4—Demonstration

Length

Fifteen-minute system demonstration; followed by up to ten minutes for questions and discussion.

Description

This should exhibit the best features of your system and cover the acceptance tests submitted by your customer (i.e., from deliverable C2) and developer tests (i.e., from deliverable S2c). It will be followed by questions from your customer, with suggestions of input to try, along with discussion. With your demonstration you must submit the complete code as indicated on the Course Website (i.e., file must be *tarball* or zipped) and include a transcript of your demo in pdf format. Marks will be deducted if the demo is not well organized.

Decorum

Unless already excused, all group members must be in attendance. Dress is to be professional.

Demo period

As indicated on the Course Website. Presentation dates and times will be posted

Marking

See course website for details.

Due date

See course website for details.

Deliverable C4 – Assessment of system demonstration

Length

No more than two pages.

Description

Use the demo time to assess the system and the (possibly revised) user manual. Everyone from the customer group must attend and take part. You should assess the demo to determine how closely it relates to what has been negotiated and agreed in previous documents. Check that your acceptance tests are performed during the demo. Please note that this document will be, by definition, relatively short. It is only concerned with the demo.

Marking

See course website for details.

Due date

See course website for details.

Group Website

Polish your website all the way to the end of term.

Each group maintains a website with two components:

- (1) supplier/developer
- (2) client/customer.

Supplier/developer website component

This should be a (start-up) company website including company name, company logo, employees, and materials to attract customers. The website must be attractive (e.g., a page on each employee including interests and skills; goals of the company; ...). The website can evolve over time. All group members must contribute contents to the website.

<http://www.onextrapixel.com/2014/08/07/16-great-startups-with-stunning-website-designs/>

<https://onpagelove.com/gallery/startup>

<http://www.inc.com/drew-hendricks/50-websites-your-startup-needs-to-succeed-in-2015.html>

All the S* deliverables must be posted on this site.

Client/customer website component

This website does not have to be attractive and simply hosts the C* deliverables.