Rice University Collaborative Capstone Design
Documentation Instructions

Documentation Management

Why you do it

The capstone course requires a lot of documentation as well as communication deliverables. Most of the documentation gets put into the team's binder, in order to streamline the grading process and to provide a compact record of your project for your team, for follow-on teams, and potentially for accreditation agencies.

Documentation management standards and procedures

The key to documentation management is the Design Documents Grading spreadsheet, which can be found online. Each line item in the spreadsheet corresponds to section in your team's binder. The section dividers should be placed in the binder in the same order as in the spreadsheet. Documents should be placed under the relevant divider, with **newer revisions of documents on top of older ones**. Documents due at the Design Cycle end dates will be graded and returned in the binder.

By the end of Cycle 2, team should include on the **cover of their binder** a sheet that lists the team name, team members' names, and sponsor name (if any). The cover should also include an eye-catching graphic such as the team logo. The binder spine should contain the team name and graphic/ logo.

Most line items in the Design Documents Grading spreadsheet correspond to documents that are due on a Design Cycle. The due dates for the Design Cycles are listed at the top of the 5 columns corresponding to Design Cycles 1-5. Such documents should be included in the appropriate section in the binder and turned in on or before the due date/ time. You can tell which documents are due in a particular cycle by the existence of point values entered into the spreadsheet in the corresponding row & column.

A few documents are due on dates other than the end of cycles; those documents have separate due dates listed in the appropriate column in the spreadsheet. Such documents should be submitted in the appropriate inbox in the OEDK. They will be graded and returned to the teams in the appropriate outbox in the OEDK.

if a document has more than one due date, then subsequent due dates are for revisions or extensions, as discussed in the associated instructions. In many cases, teams can recover a fraction of missed points by submitting revisions in the next cycle. Additional opportunities for document revision are marked with a ^ symbol in the spreadsheet.

Some notebook sections do not require students to include documents. The faculty will include rubrics or other comments in these sections:

Execution of design specifications -- course faculty will award points based on the team's performance vs. objectives specified in prototype goals or design specification sheets.

Oral presentations grading and feedback -- Faculty will place feedback forms and points awarded for the various communications deliverables in this section.

Documentation management -- the graders will insert a graded rubric for how well the documents conform to the standards set forth in this document.

Gantt Chart -- this only needs to be submitted online in the SVN repository (see below)

Weekly Updates, Agendas, and Minutes -- These should go online in a folder in your Subversion repository.

Team Check Out -- At the end of the year your OEDK table has to be cleaned up to the satisfaction of one of the OEDK staff, who need to sign the form that will go in this section.

Team Video -- The team will post the video online; the faculty will put a graded rubric in this section.

Archival of documents via Subversion (SVN)

Each team will be given an online SVN repository based on its team name. At a minimum, ***softcopies of all the hardcopy documents submitted should also be uploaded to the SVN repository*** by the Design Cycle due dates listed in the course schedule. **In the final cycle team should also place final copies of software they developed in the course of their project including but not limited to- Arduino code, matlab code, NI Labview code, and microcontroller code.** Teams may use SVN for their internal document-management purposes as desired. SVN is useful for maintaining a software project or sometimes a large LaTEX document, for instance, but for most projects SVN will simply be a shared drive for submitting softcopies of documentation. The main purpose of requiring online submission of documents via SVN is to allow the faculty and follow-on teams to easily refer to all the key information about your project. Grading for most of the documents is done on the hardcopies submitted in the binder.

File naming conventions

In order to make it easy for the profs to refer to these files later, please adhere to the following naming convention. The files can be in any common format (Word, pdf, ppt, etc.) that the faculty will be able to access later.

- Include a separate folder for each Design Cycle with team name in the folder name. E.g. "MegaProjectTeam_Cycle3".

- Within each folder include the appropriate documents, labeled with the corresponding section number from the Design Binder as specified in the Design Documents Grading spreadsheet. E.g. "04_MarketAnalysis_MegaProjectTeam_Cycle1" or "M_UsersandSafetyManual_MegaProjectTeam_Cycle4", etc.

Additional documents to include

In addition to documents that are due on the Design Cycle Due dates, in each Design Cycle, teams should include the following items that are not submitted via hardcopy:

- The team's Gantt chart (please include an easily viewable version such as a PDF plus source file in standard format such as Project or Smartsheet)
- A folder for Weekly updates, agendas, and minutes (with the documents inside the folder)

Additional folders in Cycle 5

Many projects generate significant engineering files outside the documentation as well. This includes source code, softcopies of CAD drawings, circuit designs, simulations, etc. These files may may well represent a large fraction of the engineering effort of the team. In Cycle 5, include one or more separate folders that includes such engineering files. The purpose is to allow follow-on teams to access all the relevant technical information of your project in one location, so please be complete in what you include. Use an obvious file naming convention, e.g. you could add folders like "MegaProjectTeam_Cycle5_MatlabCode" or ""MegaProjectTeam_Cycle5_PCBDesign" . The files within the folders can be zipped or otherwise compressed, at the team's discretion. If appropriate, include README files so the users will understand the scope of the contents of each folder or zipfile. If the team has their source code stored in a repository somewhere else (such as github) please include a text file with enough info that a follow-on team can access it.

Resources related to setting up and using Subversion (SVN)

Note this information is subject to change every year. Items highlighted in yellow may be in need of updating. Check with the course faculty or TAs for specific questions about file names, etc.

At least one person on each team needs to have a subversion client loaded on to his/ her personal computer. This person can then upload documents to the SVN server at Rice. The information below should be sufficient to get started.

Collaboration and file management for Capstone Design

Subversion (SVN) is a version-control system that can be used to track changes to documents and files over time and collaborate with your team members on those documents. Think of it as a shared drive where each time you save ("commit") a file, a

new copy of that file is created so that you can "revert" back to an older version if you realize much later that you've made a mistake. Subversion has already been described in much better detail elsewhere. Here are some useful websites.

What is Subversion?: http://www.youtube.com/watch?v=8wYiabh2hpM

Clients

Windows: TortoiseSVN (http://tortoisesvn.net/)

Mac: http://mahilab.rice.edu/content/svn-setup-mac

Linux: RabbitVCS (http://www.rabbitvcs.org/)

How to find your repository

Your team repository has already been created and is located at **https://svn.rice.edu/r/Capstone/2015/[teamname]**, where ***teamname*** is your team's chosen name, with spaces removed but capitalization preserved.
Ex: if your team's name is Basket Weavers, your repository URL is https://svn.rice.edu/r/Capstone/2015/BasketWeavers.

How to put a file in your repository

You should be able to *view* the files in your repository simply by using a browser. You will need to login using your Rice netid. To *upload* or *change* the files in your repository, you need to use an SVN client. Using SVN you can sync a local copy of a file on your laptop to the repository copy on the server. Changes you make to the local copy will be propagated to the repository copy when you "Commit" the changes.

Subversion resources

1. Rice's SVN policies: https://docs.rice.edu/confluence/display/ITPUB/Campus+Repositories Note that there is not a hard cap on storage space, but you are expected not to abuse the system and follow best practices in order to avoid unintentionally abusing the system (once you commit a file, it is impossible to "delete" – if you commit something that shouldn't be there, it will be there forever).
2. Watch these introductory tutorials… How to use TortoiseSVN: http://www.youtube.com/watch?v=4sUYnEylvU0 SVN best practices: http://www.youtube.com/watch?v=MfLLDg7zWQg
3. Refer to the SVN handbook for more detailed information on SVN than your brain has room for: http://svnbook.red-bean.com/en/1.5/index.html

Documentation Management and SVN Rubric