

## Design Specification

### Due November 4, 2005

Your group must submit one design specification document. The document should clearly outline the modules or components of your system (software and hardware if necessary). For each component you must unambiguously describe its interface and internal requirements. For example, for a C++ class, you must describe the methods, their semantics, their inputs and outputs, and other specifications such as who is responsible for allocated memory, any dependencies in terms of the method call ordering, and any timing or memory requirements.

Modules or components refer to more than just an object class. Executables have interfaces and requirements. Hardware components (imaging devices for example) should also have specifications, although commonly assumed devices such as keyboards, monitors, and computational units need not be detailed.

The system need not be organized into object classes. However, some non-trivial decomposition into components must be specified. In addition to the component-level description, a system level description of how the components fit together must also be given. This description should explain the purpose of the modules, how they compose, and the desired overall effect.

You are free to select any specification method you see fit. Class diagrams and other charts will probably be useful in making your ideas clear. Your goal is to produce a document you could hand off to a team of undergraduate coders with some knowledge of CS 170, but no prior knowledge of your project. This team should be able to complete the specification. To this end, some degree of “why” explanation would be helpful. However, the document should focus on the technical specification.

Your document must meet the following layout specifications.

- Maximum of 10 pages long
- Minimum of 10-point font
- Minimum of 1-inch margins (all four sides)

It must include the following information.

- Project title
- Group name
- Member names
- Member e-mail addresses
- Brief description of target product (1-2 paragraphs)
- Outline of the components involved (at least 5 components)
- Specification of each component
- Specification of the composition of the components

It will be graded based on the following criteria.

- Writing Clarity (50%)
- Engineering Quality (50%)