COMP 145 UNC-Chapel Hill
Contract I

PROJECT TITLE

Submitted to

CLIENT NAME
and Prof. Greg Welch

Date

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(signature) AUTHOR NAME

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(signature) AUTHOR NAME

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(signature) AUTHOR NAME
PREFACE {LESS THAN 1/2 PAGE}
This should let the reader know the purpose of the document (the contract)—it is meant to make concrete, in a structured way, the agreed-upon requirements for the project. You should mention that this is the first version of the Contract, to be delivered to the Client on February 6. The Client will then have one week to review with the Team. The team will deliver a revised version (Contract II) on Feb. 13, which will include additional info on Verification and Validation.

GLOSSARY
Define anything you need to here. Omit if not appropriate/necessary.

1. Introduction {~1/2 page}
* Who is your client?
* What is the problem they are trying to solve?
* Other relevant history? (Interesting/relevant story?)
* Other?

2. User-Level Requirements Specification {~1-2 pages including diagrams}
* Include Context Model Diagram(s) w/ hierarchical numbering of blocks (see example below)
* Include Process Model Diagram(s) w/ matching hierarchical numbering
* Include User-level description of each block (w/ matched numbering—see examples below)

The following is an example Context Diagram for a toy cooking system.

![Diagram](image)

**Figure 1:** Context Model Diagram.
2-A. **User Interface**
So here is an example, the level 1 discussion of the user interface. This might be (for example) the level of the Context Model Diagram in the User Requirements Specification. Here you would describe the basic role/function of this major area of functionality.

2-B. **Database**
An example of a second major area at the top level.

2-C. **Processing**
An example of a third major area at the top level.

2-D. **Oven Control**
An example of a fourth major area at the top level.

3. **System-Level Requirements Specification** {~2-4 pages including diagrams}

3.1 **Functional Requirements**
* System-Level Context Model Diagram (see example below)
* Behavior Models
  * Data-Flow Diagram(s)
  * State Machine Diagram(s)
  * Interface Requirements (e.g., User Interface)
* Data Model Diagram(s)
* System-level description of blocks (w/ matched hierarchical numbering—see examples below)

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The following is an example of a system-level context model diagram.

![System-Level Diagram](image)

**Figure 2**: System-Level Diagram.
3.1-A. User Interface

3.1-A.1 Input
Here is the subsection where (continuing with this toy example) one might describe the input items of the user interface.

3.1-A.1.1 Serving Size
Yet at a deeper level, the Serving Size input of the user interface. Note I did not show this in the diagram. That would be too detailed of a diagram (for our purposes).

3.1-A.1.2 Number of Servings
At the same level, the Number of Servings input of the user interface.

3.1-A.2 Output
Here is the subsection where (continuing with this toy example) one might describe the output items of the user interface.

3.1-A.2.1 Next Step Indicator

3.1-A.2.2 Oven Setting Instructions

3.1-B. Database

3.1-B.1 Indices
The database might have a child object that contains the indices.

3.1-B.2 Recipes
Then (in our toy example) the database “has a” recipe (a bunch of them)

3.1-C. Processing
etc., etc.

3.1-D. Oven Control
...and so forth and so on.

3.2 Non-Functional Requirements
Match to hierarchical numbering where appropriate. For example...

3.2-A. User Interface
n/a

3.2-B. Database
n/a

3.2-C. Processing
Ingredient substitutions should not take longer than 0.5 seconds to compute.
3.2-D. Oven Control
The temperature of the oven should be checked every 1 second.

3.3 Domain Requirements
* Include here information about co-existence with external products, conformance to external specifications, etc.

3.4 Goals
* Include here general client intentions, spirit, etc.

4. Hardware and Software Resource Requirements {~1/2 page or less}
* Include here plans to procure, estimated schedule of procurement/delivery, alternatives (risk management), etc.

5. Preliminary Schedule (Task Budgeting) {~4 pages including diagrams}
Note that the goal here is to take a stab at budgeting time for the major phases of the project, identifying any known major tasks and milestones. The schedule will be refined as you go ahead, in particular as you begin the design specification.

5.1 Development Items {~1 page}
Major phases
Tasks and dependencies
Major milestones
Deliverables (documents, prototypes, etc.)

5.2 Schedule Diagrams
PERT chart {~1 page}
Identify the critical path
Gantt chart {~1 page}
Clearly identify the milestones

5.3 Risk Analysis and Management {~1 page or less}
5.3.1. Identified Risks
* What specific tasks/items are you concerned about?
5.3.2. Plans
* How are you addressing that concern?
Avoidance or assignment
Minimization or acceptance (w/ relevant contingency plans)

APPENDIX A
* Include appendices if necessary