

## CSC 454/554 Homework #5

Created: October 14, 2006

Due: October 21, 2006

Same drill... uno, dos, tres:

1. Take your best shot, sketch some UML and notes. (2 points)
2. Read up and then try to apply the pattern I give you. Again, your output should be UML and some notes. (2 points)
3. Implement your pattern-based solution in Java or C++ and place it on the k: drive. Please build it for me, so that I don't have to. (1 point)

In grading, I'll be looking for completeness and correctness, and a sign that you have spent some time working and thinking on this problem. So, I'll be looking for your notes and thoughts and other artifacts in addition to your final UML diagrams.

### OO Design Problem: Red Hot Chili Kriegers

The high point of any Krieger family reunion is, of course, the chili cook-off. All the little Krieger's gather round and taste a gaggle of different chili recipes prepared by family members: Prof Bill's Skyline Ripoff Chili, Mozy's Mellow Chili, and Uncle Brian's Hot Mama Chili.

In this assignment, we're going to simulate the preparation of these chili recipes and any others we might care to add.

Here's each of the three chili recipes:

<b>Prof Bill's Skyline Ripoff</b>	<b>Mozy's Mellow</b>	<b>Uncle Brian's Hot Mama</b>
<ol style="list-style-type: none"><li>1. Prepare hamburger</li><li>2. Add chili beans</li><li>3. Add cayenne pepper &amp; chili spices</li><li>4. Add noodles</li></ol>	<ol style="list-style-type: none"><li>1. Prepare steak</li><li>2. Add low-carb chili beans</li><li>3. Add regular old pepper &amp; mild chili spices</li></ol>	<ol style="list-style-type: none"><li>1. Prepare hamburger</li><li>2. Add spicy chili beans</li><li>3. Add extra-hot cayenne and chili spices</li><li>4. Add jalapeno peppers &amp; wasabi extract</li></ol>

So, it looks like there's a sort of standard set of steps to all chili, with just variations to the theme. These steps are:

1. Prepare meat
2. Add beans
3. Add spices
4. Add any extra stuff (optional)

OK, build a simulator with (I expect) classes for each of the chili recipes that I've described. Now "simulation" may be a stretch here. All I think you'll need in your test driver is to create an array of chili recipes and then print out the recipe for each. Also, you're certainly free to add your own chili recipe if you like.

Three steps:

1. Show me your UML and notes on a design for this problem before reading the pertinent patterns chapter.
2. Read **Chapter 19 of DPE** on the **Template Method pattern**. Complete a new and improved UML class diagram, with your notes on why you think things are better.
3. Code up your classes in Java or C++.

My email is [wtkrieger@noctrl.edu](mailto:wtkrieger@noctrl.edu)  
enjoy... yow, bill

PS – Guys, I humbly submit that DPE Chapter 19 is not a really great description of the Template Method pattern. Sorry. If you feel likewise, the Wikipedia summary may be a nice supplement for you:

[en.wikipedia.org/wiki/Template\\_method\\_pattern](http://en.wikipedia.org/wiki/Template_method_pattern)

PPS – And holy cats guys, if you're ever cruising through Cincinnati, pull over at the nearest [Skyline Chili](#). Yup.