**CS590 Week 8 Thursday RESEARCH DESIGN:**

**Describing your theory/solution/idea**

**Please come up with an appropriate section title for Quick Sort.**

**First, state the overall theory/solution/idea**

**What is the overall idea that has led to your contribution to CS?**

You came up with a new approach at the end of Phase II literature review.

This is what you want to discuss.

**For Machine Translation: Refer back to the Background section on how people translate. Then conclude that**

To translate ungrammatical sentences with missing parts,

use contextual knowledge to fill in the gaps.

**For Quick Sort: Refer back to the Background section on Merge Sort. Then conclude that**

In order to achieve O(NlogN) time complexity without using extra

space

* At each level of recursion do N comparisons.
* Try to split the list into equal halves at each level of recursion so that there will be log N levels.
* Do not require a resulting list to be passed back up

**Then, state the above in a little more detail**

MW: How will you use the contextual knowledge?

For missing nouns? Use the verb to predict nouns

For missing verbs? Use sequence of events

For missing particles? Use common relations between the verb and nouns

QS: What do you do at each level of recursion?

i.e. what are the N comparisons for? Why there is no need to pass back the list?

In other words, the overall description of your algorithm (not pseudo code)

**(I will go over the Quick Sort algorithm)**

***The next section will describe your solution in detail.***

* ***Detailed algorithm description with pseudo code and examples.***
* ***System description (many sub-sections with tables, figures, etc.)if your project involves developing a system.***

**Please start writing this section today.**

**HW3: Hard copy to me Week 9 Tuesday; bring a soft copy for peer review.**