

# **Cognitive Systems Design**

#### **Update April 2013**

### **New Tutorial Social Organization Analysis**

Far less attention has been paid to social organization analysis than to other stages of cognitive work analysis. In this tutorial I seek to correct that neglect by detailing the analysis for a first-of-a-kind system, the most general and most challenging case. I intend that the description I present in this tutorial will serve as a guide to social organization analysis for diverse social organization design problems.

Social organization analysis results in a description of the organizational structures and communication processes that support collaboration between peers and coordination across hierarchical levels within an organization. The aim is to develop an organizational structure composed of a loose federation of work teams that are coordinated via lean connectivity. The work teams will be modular, having all essential resources and capabilities or development and delivery of the desired work product. Where essential for development and delivery of the desired work product, those modular work teams will be highly cohesive and intensely collaborative as supported by dense connectivity.

Download from the **Tutorials** page of my site.

### **New Paper Cognitive Error, Cognitive Design**

Within healthcare, cognitive errors can compromise patient safety. We can reduce the frequency of cognitive errors but we cannot eliminate them. Nor can we always mitigate their consequences or detect a cognitive error when one occurs. Even more problematically, we do not always intervene when we notice a cognitive error even if we know how to mitigate its

Memory slips constitute one particular category of cognitive error. They are not unique to healthcare but rather, are pervasive in human experience. However, in contrast to many other walks of life the consequences within healthcare of a memory slip can be immediate and tragic. Because of that, we would like to know what to do about them. Can we prevent them or at least reduce their frequency? How can we adapt and recover the situation when one occurs.

In this note I review some of the issues surrounding memory slips and briefly discuss ideas for reducing their frequency and for dealing with their consequences when they occur.

Access this paper from the Unpublished Notes page of my site.

## Joker One: A Tutorial in Cognitive Work **Analysis**

In this book-length tutorial. I take narratives from a work system in action and show how they can be represented within the framework of cognitive work analysis. What I do here is most specifically aimed at familiarising you with the mechanics of the framework. I proceed systematically through the framework of cognitive work analysis to demonstrate how to develop each of the representational products and how to use them for design. My tutorial illustrations draw on US Marine combat narratives from Donovan Campbell's book, Joker One, which offers an account of his experiences in Ramadi, Iraq where his platoon battled insurgents for seven months in

I promised this tutorial for April but I will not make that deadline. I have comments from reviewers and am in the process of working through them. I now anticipate a July release date.

#### **Existing Tutorials Refreshed**

Over the past few weeks I have adjusted a few of my existing tutorials, correcting some minor errors and clarifying some ambiguities

- Cognitive Work Analysis
- · Work Domain Analysis brief (wildfires)
- Work Domain Analysis tutorial
- What is wrong with this abstraction-decomposition space?

The new versions of these tutorials are now available on my website. You may download them from the tutorials page of my site.

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