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**COMP 361 - Sequence and Communication Diagrams**

A sequence diagram is a more detailed picture of the inputs and outputs in a system demonstrated in an SSD. Donald Bell at IBM states that the purpose of the sequence diagram is to "...primarily to show the interactions between objects in the sequential order that those interactions occur [1]." This is useful show how the system will behave in a particular use case.

Communication diagrams are similar to sequence diagrams. Their purpose, according to the IBM website, is to show "...the interactions between the objects or roles associated with lifelines and the messages that pass between lifelines [2]." With this diagram we can visualize how objects work together in a system.

According to the course textbook, these two diagrams are similar in that "...they are both interaction diagrams and they capture the same information [3]." In fact, they are so similar that they use the same process of design, and the same symbols for actors, objeccts and messages. It is then up to they analyst to decide which diagram they want to use. Nevertheless, there are differences between the two diagrams. The sequence diagram, as the name implies, shows the use case a sequence of steps, whereas the communication diagram places more importance on the connections between objects. Also, the text mentions that communication diagrams are "easier to use to sketch design ideas [and]… easier to rearrange on the fly [4]."

The advantages of the sequence diagram comes from its focus on sequence. The order of flow is much easier to see than with a communication diagram, and according to Craig Larman, they can be "...generated from source code with a UML tool [5]." However, in a complicated system with many objects, the diagram can become quite wide, making it difficult to display on a page or website. Larman notes that the communication diagram solves this problem by "...allowing *vertical* expansion for new objects—much more can be packed into a small visual space [6]." Additionally, as mentioned above, these diagrams are easier to sketch, making the more useful to quickly draw in meetings or on a whiteboard.

**References**

[1] Donald Bell, “UML Basics: The Sequence Diagram,” *IBM developerWorks*, last modified February 16, 2004, <http://www.ibm.com/developerworks/rational/library/3101.htm>.