



## CRC Cards

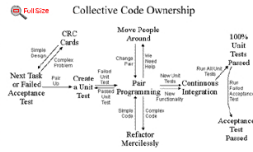


Use Class, Responsibilities, and Collaboration (CRC) Cards to design the system as a team. The biggest value of CRC cards is to allow people to break away from the procedural mode of thought and more fully appreciate object technology. CRC Cards allow entire project teams to contribute to the design. The more people who can help design the system the greater the number of good ideas incorporated.

Individual CRC Cards are used to represent objects. The class of the object can be written at the top of the card, responsibilities listed down the left side, collaborating classes are listed to the right of each responsibility. We say "can be written" because once a CRC session is in full swing participants usually only need a few cards with the class name and virtually no cards written out in full. A short example is shown as part of the coffee maker problem.

A CRC session proceeds with someone simulating the system by talking about which objects send messages to other objects. By stepping through the process weaknesses and problems are easily uncovered. Design alternatives can be explored quickly by simulating the design being proposed.

If you find too many people speaking and moving cards at once then simply limit the number



of people standing and moving cards to two. When one person sits down another may stand up. This works for sessions that get out of hand, which often happens as teams become rowdy when a tough problem is finally solved.

One of the biggest criticisms of CRC Cards is the lack of written design. This is usually not needed as CRC Cards make the design seem obvious. Should a more permanent record be required, one card for each class can be written out in full and retained as documentation. A design, once envisioned as if it were already built and running, stays with a person for some time.



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