David Gaska

10-1-2013

WPF

Problem Solving Activity

A Cat, A Parrot, and A Bag of Seed

The problem in this case is the man wants to get to the other side of the boat with all of his things, but he can only take one thing at a time. His boat only holds two passengers at a time so he has to be careful of who leaves together. What is not stated in the problem is that he will be making multiple trips.

The constraints in this problem are that if certain things are left together they will not make it across. The cat would eat the bird if they are left alone, and the bird would eat the seed if left with it. So not only does the man want to get to the other side him self, he wants all of things alive on the other side as well. Also when he goes back to get the other item he has to make sure the two he got across will not have an issue

No matter what item is taken first he will run into a conflict when he brings the second one across. If he takes the bird first, he then has to bring the cat or the seed second. Which means that the cat or the seed will be left with the bird. He would have to make more trips then just three. He still has to be careful which item he takes first as it will not always work.

The solution is actually simple. The man must first take the bird across. Then go back across the river to get one of the other items. He then takes the cat across to the other side and leaves him there, but on his return to get the seed he brings the bird back with him. He then leaves the bird on the original side and takes the seed across and leaves it with the cat. He then must go back to get the bird and he will have all items to the other side of the river.

I first tried to take one item at time then realized that no matter what something would get eaten. Then I thought maybe the parrot could just ride on the man’s shoulder the whole time, but that kind of breaks the rules of only taking one item at a time. I then realized that the man would have to take the parrot first and actually bring him back, so the bird got an extra boat ride.