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**Class:** Web Programming Fundamentals -Section 1

**Assignment Name:** Problem Solving

A cat, a parrot and a bag of seed:

A man finds himself on a riverbank with a cat, a parrot and a bag of seed. He needs to transport all three to the other side of the river in his boat. However, the boat has room for only the man himself and one other item (either the cat, parrot or seed). In his absence, the cat could eat the goat, and the goat would eat the cabbage. Show how he can get all the passengers to the other side, without leaving the wrong ones alone together.

**1) Defining the problem:**

• This man is having some difficulty in trying to figure out how to get himself and his items

across the river without trouble and not over crowding his boat.

• At the beginning of the story, the goat and the cabbage were not mentioned.

• Over all goal would be to get everything he needs across with minimum conflicts.

**2) Break the problem apart:**

• The size of the boat is the constraint. As well as, deciding what item to take across first while

trying to avoid any problems.

• The sub-goals would be, having to travel back and forth multiple times in order to get everything

across safely.

**3) Identify potential solutions:**

• The man can take the cat first, then the parrot, bring back the cat to take the seed. Once the

seeds are across, the man can then return for the cat.

• Leave the bag of seed with the cat. Take the parrot across the river first. Get the cat across

after dropping off the parrot. Once the cat is across, return to get the seeds, but bring the parrot

back so the cat wont eat it. Leave the parrot at the starting point. Then take the bag of seed

across. Afterwards, return for the parrot.

**4) Evaluate each potential solution:**

• Yes, the solution meets the goal. Being able to get everything across with minimum conflict

for the animals.

**5) Choose a Solution and develop a plan to implement:**

• A possible solution would be, if you assume the goat is the parrot and the cabbage is the seed, the

cat can be the first to travel across the river. The man can then return for the parrot. Once he’s

taken the parrot to the other side, he can then bring the cat back with him. Leaving the cat

back to the starting point so that he can pick-up the seeds. After dropping the seeds off, he then

returns again for the cat.