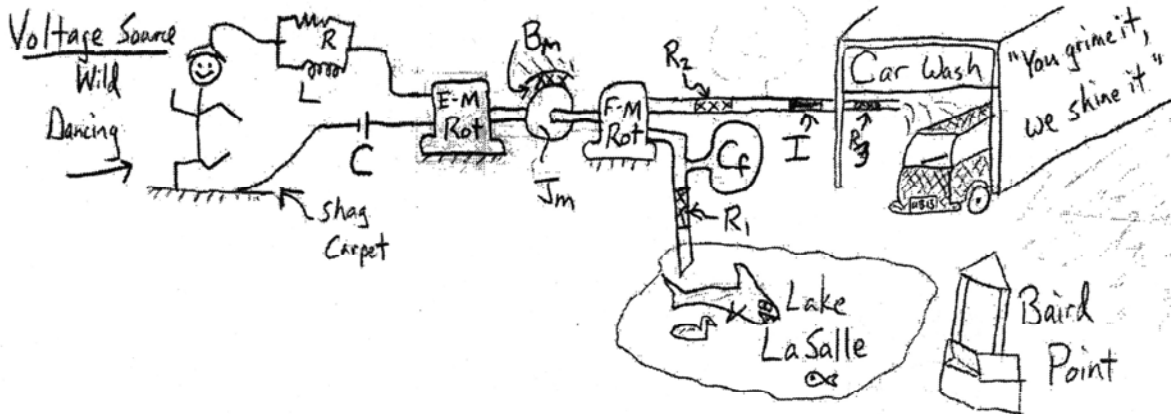Some enterprising SYS 336 students decide to hold a car wash to raise money for tuition and/or refreshments. Working as a team, the produce a translational input with linear force F and linear velocity v as shown on the left side of the drawing. The input goes through a compliant shaft, modeled by the linear spring k. The team captain sits on the input to the M-E translational transducer, modeled with mass m and linear friction coefficient b. The output of this transducer drives an electrical circuit, which in turn drives a rotational motor with damping Bm and inertia Jm, which drives a pump, which pumps water from Lake LaSalle and through a fluid system to the car wash. The output of the system is the output flow rate at the car wash.

An enterprising SYS 336 student decides to hold a car wash to raise money for tuition and/or refreshments. The student engages in some wild dancing on shag carpeting as shown on the left side of the drawing. The friction produces a voltage source input es, which drives an electrical circuit, which in turn drives a rotational motor with damping Bm and inertia Jm, which drives a pump, which pumps water from Lake LaSalle and through a fluid system to the car wash. The output of the system is the output flow rate at the car wash.