SE 4376, Object-Oriented Design
Homework #4 – Radar/Infrared Design

A system periodically gets data from **N** different sensors: some are radar, some are sonar, some are infrared sensors. Each sensor reports a bearing and a signal strength (which can be used to estimate distance), perhaps in different units of measure. The sensor data is fused to provide an integrated view of the external environment, which is shown on a display. The user can adjust various controls to affect the information displayed and how the data is fused. Assume that the fusing function polls each radar in turn for its data on all objects that have been detected.

a) Draw a UML design class diagram to capture a static view of the system. (50 points)

b) Draw a UML sequence diagram to capture a dynamic view of this system. (50 points)

Grading Rubric

Classes need to have a reasonable set of attributes and methods, 25 points

- Note that you have only very general knowledge about sensors and fusing techniques, so make general statements about their attributes and methods.

Should have associations between classes in class diagram, 5 points

Classes in a design class diagram should match objects in the sequence diagram, 20 points

- exception is {abstract} classes

Messages in sequence diagram should match associations in design class diagram, 5 points each

Name, class, and assignment in filename and on submission, 5 points each