Software Engineer Packet 1 – Problem Statements
(Handout to be given to candidate and returned at conclusion of interview)

Allergy

Problem Statement:
You have been asked to build a system for entering and displaying the allergies that patients may have. The allergy will have its own set of symptoms or reactions. The allergy will also have a spectrum of severity which the clinician should be aware of, and allergies can be reported by the patient or by next of kin.

Person Demographics

Problem Statement 1:
Almost every health care solution requires a Person model and a person's demographics are intrinsic to a 'Person' model. Person demographics are useful for identifying a person, enables searching of persons, and could also be used to sort lists. How would you design a Person Demographics model?

Problem Statement 2:
The person's birth date is a very important piece of demographics to capture as it is frequently used as one of the key attributes used to match a person with their record. Because of this, capturing or displaying a birth date incorrectly can have patient safety impacts. For most patient's, the birth date needs to recorded to a precision-level of day, just like you were telling someone your birthday. For newborns we must capture the birth date and time. If we were to view a standard patient's birth date on two different systems in different time zones the day displayed must stay the same. If we were to view a newborn's birth date and time, the time should change to reflect the time zone of the system in which the data is being viewed.