The Scenario:

A small software development company has been approached by the School of Medicine of a local university. The School of Medicine would like to make a product to give to their medical students while performing their rounds assessing patients on a ward. During their rounds, medical students shadow junior doctors, who often have to prescribe drugs and treatments to patients. It is important for medical students to learn the correct drugs to treat certain conditions and to know and learn the correct dosages to give to patients.

However, tired and overworked junior doctors do not always have time to explain to medical students numerous facts about the drugs they prescribe for their patients. These facts include the following:

1) The class of drug to which a particular medicine belongs e.g. painkillers, antipsychotics, antibiotics, etc.
2) Illnesses the drug is used to treat
3) The mechanism of action of a drug (i.e. how it works on the body)
4) Dosages commonly given for different illnesses and categories of patient
5) Common side effects of the drug
6) The drugs' contraindications — other drugs which cannot be combined with the drug in question

This is a lot of information for a junior doctor to have to explain to a medical student. This means that medical students often have to write down the drugs they see being prescribed and look up information regarding the drug in a textbook at a later point in time. This produces a less than ideal learning scenario for the medical students.

The School of Medicine has recently received a grant from the government enabling them to give an Android smartphone device to each medical student. To this end, the School of Medicine would like the software company to develop an application to be run on the smart phones, termed *PharmAssist*. This program will assist the medical students in supporting their learning by containing all of the information that would ordinarily be provided by the junior doctor or a text book. As mobile phones must operate in a mode which does not use any wireless connectivity within a hospital, the application must run locally and not require a constant link to the internet — this is to prevent any interference of the mobile devices with sensitive medical equipment. The medical student should have the facility to make notes on certain drugs, and to be able to search for a particular drug using its standard prescription name through an alphabetical list and a search bar.