**Example 1:**

According to the XY university mission statement, the university seeks to provide students with a safe, healthy learning environment. Dormitories are one important aspect of that learning environment, since 55% of XY students live in campus dorms and most of these students spend a significant amount of time working in their dorm rooms.

However, students living in dorms A B C, and D currently do not have air conditioning units, and during the hot seasons, it is common for room temperatures to exceed 80 degrees F. Many students report that they are unable to do homework in their dorm rooms. Others report having problems sleeping because of the humidity and temperature. The rooms are not only unhealthy, but they inhibit student productivity and academic achievement.

In response to this problem, our study proposes to investigate several options for making the dorms more hospitable. We plan to carry out an all-inclusive participatory investigation into options for purchasing air conditioners (university-funded; student-subsidized) and different types of air conditioning systems. We will also consider less expensive ways to mitigate some or all of the problems noted above.

**Example 2:**

Currently, Guyana is experiencing a diabetic chronic condition crisis where an alarmingly high number of patients are dying from diabetes as a result of poor self management of the condition and ineffective care delivery.

A PHR integrated with an EMR can help alleviate this problem as it presents itself as an ideal system for self management and care delivery. It is the contention of the researchers that the following vision will be realized should the system be implemented:

There is more efficient patient/provider contact as both parties benefit from a convenient and standardized platform for communication. The entire care management process is more effective as the system acts as a diabetic management portal. Through this portal the patients transmit the details of their condition for example, results from home monitoring devices, to the physician in real time in a structured format. This allows for more enriched patient-provider visits or even the option of online consultation. The physicians in turn use the portal to send test results and other informative and personalized content to patient so as to encourage improved lifestyle practices. The technology also facilitates improved planning and scheduling as it offers appointment management and reminder functions. The PHR aspect of the system provides patients with a durable and portable record of their diabetic condition. It is therefore possible to share this information seamlessly with other doctors for alternative consultations or even in emergency situations. The system is an improvement of the standalone PHR. Patients do not have to manually and tediously enter their initial health details. Instead, credible information from the EMR is automatically inserted into the record.

To bridge this gap between the current situation and the realization of an ideal scenario there is need to overcome various technical integration barriers (Detmer et al.,2008). Additionally, in order to encourage implementation, sufficient empirical evidence of the success of the system must be generated.

**Example 3:**

Usability has been acknowledged as an important factor which contributes towards the development of successful software applications. Usability testing improves user satisfaction, enhances product quality, saves on resources and fosters competitiveness. Software companies that create usable products profit from increased customer loyalty, customer references and favourable reviews.

Furthermore, both the vendor and customer benefit from increased productivity and vast reductions in training, maintenance, errors, support as well as decreased development, installation, configuration and deployment costs. Therefore, one example of an area that can benefit from usability testing is form based application interfaces, since some companies have reported a loss of customers and/or data, due to poor software usability.

Despite the significance of usability testing, many developers consider them to be one of the most expensive, laborious and least rewarding assessments to conduct. As a result, they forego usability assessments for the sake of perceived improvements in project speed, cost reductions and increased competitive advantage, when the software design is found to be appealing from their perspective. However, the converse is often the case. Foregoing usability testing leads to usability issues such as inefficiencies in performing tasks, difficulties learning to use a system and poor aesthetics, which could bypass the development team and make their way into the final product, resulting in poor product acceptance.

As a means of alleviating software developers’ indifference towards performing usability testing, one strategy that researchers and developers have experimented with in recent years is automated usability testing. However, existing tools are challenging to adopt and possess a number of shortcomings. Furthermore, automated usability testing and debugging is less frequently integrated within software development environments. For these reasons, the researcher has chosen to study automated usability testing in order to fulfill the objectives listed as follows.

**Objectives:**

* + To identify the strengths and weaknesses of existing automated testing tools that promote usability
  + To find out the practices and opinions of web developers with respect to promoting and testing the usability of software
  + To determine the popularity of using automated usability approaches for debugging software