Week 5 Homework Problems

**Exercise 9.1:**

A software system that is used in a real-world environment must change or become progressively less useful because the environment it operates in is constantly changing. This changing environment can result in new requirements, changes in regulations, new technologies, and user demands.

For example, new technologies and advancements may make the system outdated, regulations and standards may change, and user demands may increase, requiring the system to be updated to meet these changing needs. If the software system does not change to keep pace with these changes, it may become less relevant and valuable over time, leading to reduced user adoption, lower customer satisfaction, and decreased profitability.

Moreover, as the software system is used and interacts with other systems, new bugs, security issues, and performance problems may arise. These issues must be addressed to ensure that the software system continues to function correctly and securely.

In conclusion, software systems that operate in real-world environments must change to stay relevant and useful. This change can be in the form of updates, bug fixes, or new features, and it is necessary to ensure that the software system continues to meet the changing needs of its environment and users.

**Exercise 9.4:**

An organization might decide to scrap a system even when the system assessment suggests it is of high quality and high business value under the following circumstances:

* End-of-life: The technology or platform that the system is built on may have reached its end-of-life and no longer receives support or security updates. In this case, it may be more cost-effective to replace the system with a new one that uses updated technology.
* Integration issues: The system may be difficult or impossible to integrate with other systems and technologies that the organization is using or plans to use. This can lead to compatibility and scalability problems, making it necessary to replace the system.
* Technical debt: The system may have a high level of technical debt, making it difficult and expensive to maintain and upgrade. In this case, the organization may choose to replace the system with a new one that is easier to maintain and upgrade.
* Cost: The cost of maintaining and upgrading the system may be too high, even if the system is of high quality and high business value. In this case, the organization may choose to replace the system with a more cost-effective alternative.
* Business goals: The business goals of the organization may have changed, making the system no longer aligned with the organization's objectives. In this case, the organization may choose to replace the system with one that better supports its new business goals.

In conclusion, even if a system assessment suggests that a system is of high quality and high business value, there may be other factors that influence the organization's decision to scrap the system. These factors include the end-of-life of the technology, integration issues, technical debt, cost, and changing business goals.