**MACHINE DESIGN 111**

**MEE 586**

**EKWUEME VENATIUS IFENJIKA**

**15/ENG06/025**

**MECHANICAL ENGINEERING**

1. An integrated CAD/CAM system provides one model supporting both design and manufacturing functions instead of having various file formats, numerous data translations/conversions, and different CAD and CAM models. ... Working with the same data is analogous to speaking the same language.

**A)    Efficiency:-** An Efficient software is that which can use less resources such as CPU in terms of time and usage to give a better output.

**B)    Simplicity:-** A software must be simple to use and easy to understand and must be be user friendly.

**C)  Flexibility: -** The software must be able to incorporate the design modification with out much of difficulty.

**D)   Readability:-** This provides the capability within the software to help the user as and when required.

**E)    Portability: -** The software must have the capacity to get transferred from one system to other.

**F)     Reliability: -** To avoid causality the software must be able to avoid unwanted operation.

**G)    Recover ability: -** AGood software must be able to give warnings before getting crashed and must be able to recover.

1. A) Medical imaging

B) Cloud Standard

C) Software Assurances

A). **Medical imaging**: The computational science metrology effort focuses primarily on computational science and measurement issues related to analysis of biomedical microscopy data. Analysis of multiscale imaging data is an increasingly important component in many areas, including biomedicine and materials science.The quality of this work is extraordinarily high, but the group would likely increase the impact by broadening focus to supporting a broader range of scientific driving problems. A broader set of microscopy-based applications could be entertained. In addition, the group might consider metrology issues associated with the analysis of other types of imaging.

B) **Cloud Standard**: SSD’s work on cloud computing standards has had a substantial impact on government and industry, both within the United States and internationally. Indeed, SSD’s body of definitions related to the various kinds of cloud computing—its reference architecture—is now internationally accepted, and it has led to a voluntary, consensus ISO standard. As an impartial and regular convener of cloud service providers and consumers, the SSD continues to provide a forum for technical interchange and a venue for development of an evolving series of standards and a reference architecture. Reflecting interest levels and SSD credibility, the working groups on architectures and services, metrics, security, and interoperability continue to attract hundreds of participants. In the federal government, cloud adoption is perceived as having both high benefit and high risk. Identifying the decision criteria and navigating the trade-offs that realize the benefits with acceptable risk requires a high level of technical understanding. The SSD is facilitating this process by working with industry to assist in the decision and adoption process, identifying the full range of criteria and, importantly, collaborating to develop the necessary metrics and guidance. This is creating a benefit for a broad range of stakeholders.

C) **Software Assurance:** Software assurance is one of the most critical challenges for software-reliant systems of all kinds. It is key for cyber security defense, safety-critical systems, infrastructural systems, national security systems, and mainstream personal consumer systems. Software assurance failures are unfortunately ubiquitous, even in the most heavily evaluated systems.

The SSD software assurance project has done an excellent job of building useful data sets that can benefit producers of software tools and in raising awareness about the existence of these data sets. This includes databases of common software risks and security vulnerabilities and of test cases. The software assurance effort at the SSD builds on the Common Weakness Enumeration and Common Vulnerabilities and Exposures resources from the MITRE Corporation, which are inventories of specific kinds of software weaknesses and instances of vulnerabilities. The SSD effort takes on the challenge of linking these inventories with influences on development and evaluation practice.