

Software Maintenance Concepts

- From surveys of real world software development organizations, it appears that the majority of software maintenance cost is expended for non-corrective actions, that is, evolution of the software to enhance it. This means 20% of maintenance is corrective. If a higher percentage of effort is spent on corrective maintenance, the organization is evolving shoddy software!
- Categories of software maintenance
 - **Corrective:** reactive modification to correct discovered problems
 - Correct coding errors
 - Correct for design flaws
 - Correct for misunderstood requirements
 - **Adaptive:** modification to keep it usable in a changing environment
 - Interface with other systems
 - Convert to use other hardware such as migrating legacy systems (mainframe) to newer platforms
 - Retire systems gracefully
 - **Perfective:** improve performance or maintainability
 - Make human-interface enhancements
 - Improve the design (efficiency, business process streamlining)
 - **Preventive:** modification to detect and correct latent faults
 - Preventing system performance from degrading to unacceptable levels
- Issues
 - Maintaining control over system modification
 - Sustaining the system's day-to-day operations during maintenance
 - Measuring the effort expended on software maintenance