

# Enhancing Cost Estimation Models with Task Assignment Information

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## Abstract

Three task assignment metrics, intensity, concurrency and fragmentation, were previously found to significantly impact development effort. Intensity measures the degree of focus on a particular task. Concurrency refers to the degree to which team members are working together cooperatively on given tasks. Fragmentation measures the degree to which a team's time is fragmented across multiple tasks. Currently popular effort estimation models fail to take into account these task assignment factors. Rather than starting anew, we recommend adding multiplicative adjustment factors to reflect the impact of task assignment on development effort. We have shown significant improvement in predictive power by augmenting the popular COCOMO I and II models with effort adjustment factors to be applied when intensity, fragmentation, and/or concurrency vary dramatically from the norm.