SAN DIEGO STATE UNIVERSITY
Leadership Starts Here

SDSU
presents
MS Computer Science
THESIS DEFENSE

Wednesday,
March 9, 2016
12:30pm GMCS 418

Preethi Prabhu

Software Development Estimation Using Parametric Cost Modeling

Abstract

The purpose of this thesis is to analyze the software cost estimation model COCOMO II and examine the effects of its cost model parameters on effort and schedule of a software project. This research is based on the parametric cost model algorithm for COCOMO II which couples historical data to predict software development cost and schedule. The estimate is comprised of cost drivers typically involving design, physical characteristics and operational factors of the software project.

To conduct this analysis, the first important step is to re-engineer and re-implement the existing COCOMO II Post Architecture model as a modern accessible Java desktop application, with embedded key mathematical functions. The next aspect is to develop profiles to record changes in effort and schedule estimates with respect to variations in program size and complexity. This stage is accomplished through boundary value analysis and equivalence partitioning by graphically evaluating the correctness and accuracy of the developed application.

Overall, this thesis encompasses the research for software development cost and schedule outcomes as influenced by the COCOMO II parameters on the software lifecycle phases.

Thesis Committee

Carl Eckberg, Thesis Chair, Department of Computer Science
Jo Ann Lane, Department of Computer Science
Mark Dunster, Department of Mathematics & Statistics