



An Early Look at COQUALMO at JPL

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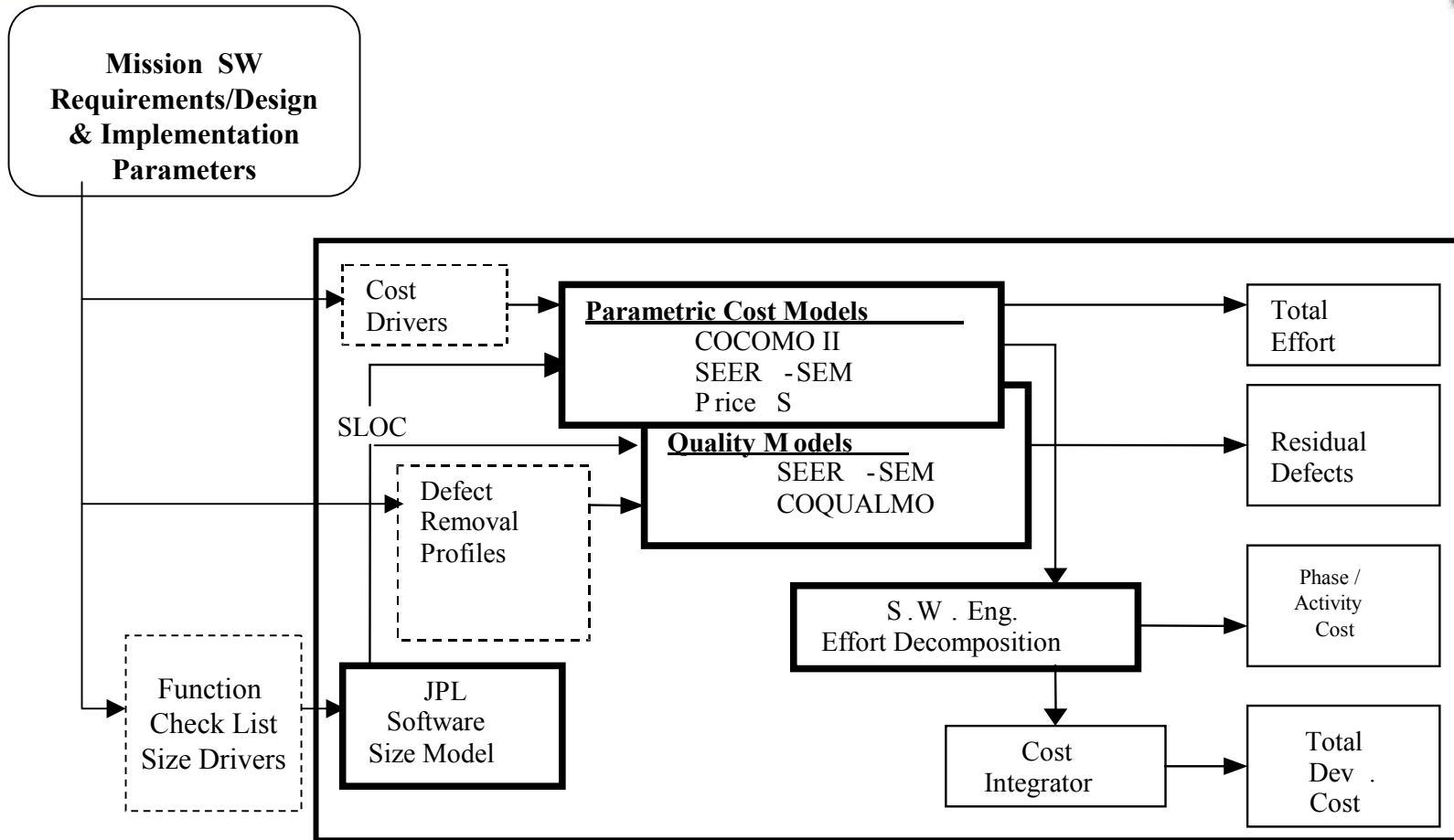
Acknowledgements



- JPL Software Quality Improvement Project
- JPL Costing Office
- NASA Independent Project Assessment Office



Cost & Quality Engineering Model Overview





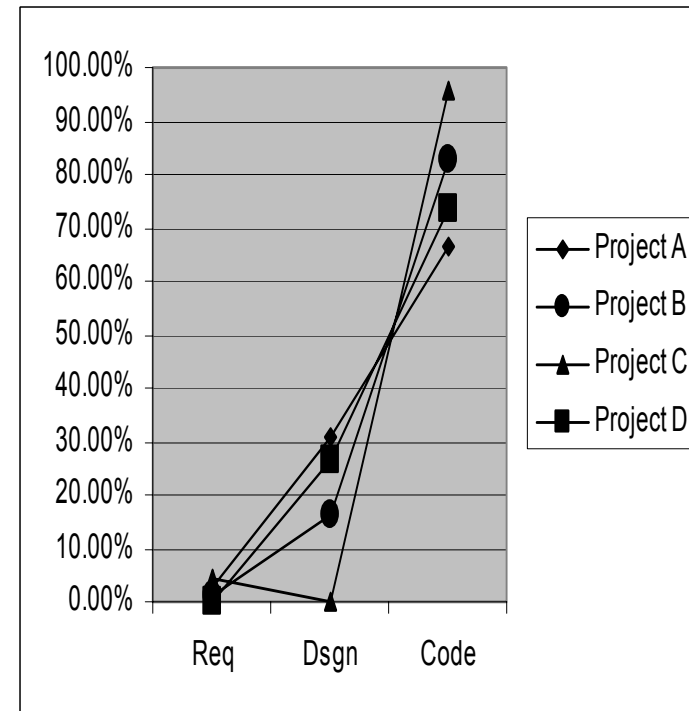
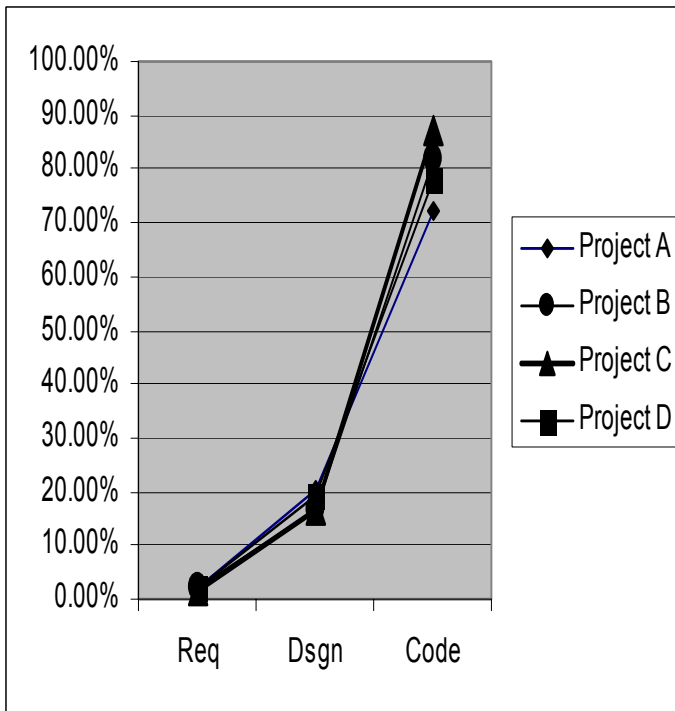
Projects

- Four Past JPL Software Projects
- Includes Flight and Ground Software
- Data Collection
 - Model Inputs
 - Historical Data
 - Interviews with Project Personnel
 - Actual Defects
 - Various JPL Defect Tracking Systems / Databases
 - Clarification Verification with Project Personnel as needed



Results

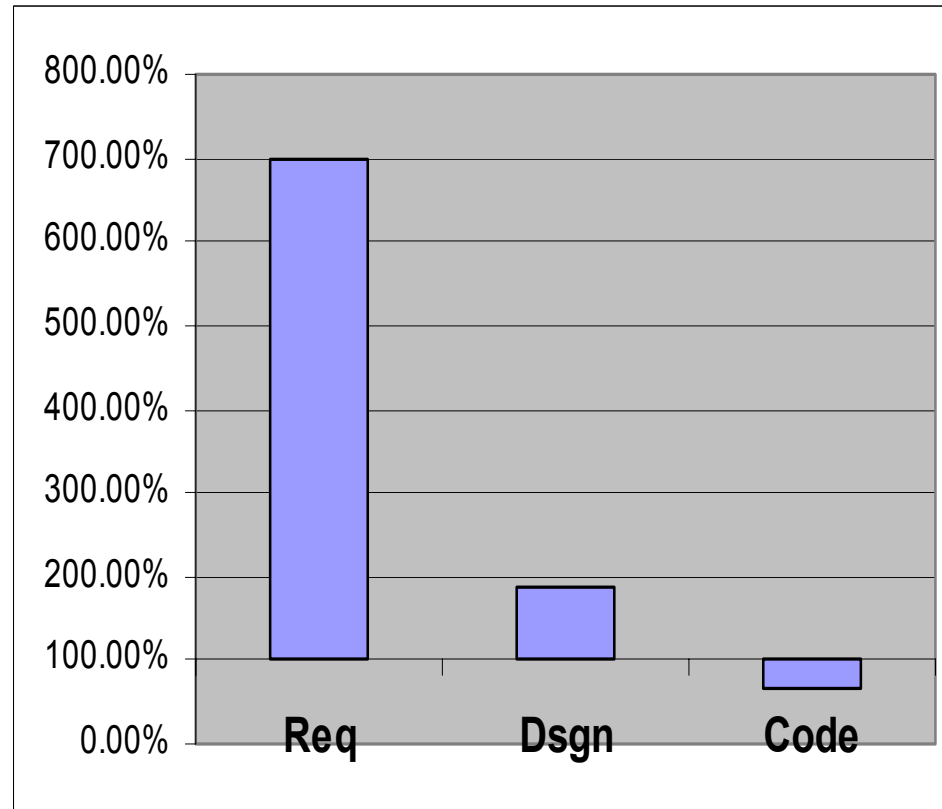
% of Defects per Category





Results

Error Rates by Category





Implication of Preliminary Results



- Under the assumption that the current trends continue to hold over a larger number of data sets
 - Prediction correlations and discrepancies remain consistent despite vastly different projects including Ground and Flight software projects
 - Data shows promise for systematic JPL calibration
 - Persistence in the percentage of errors in each category will allow for prediction of late phase defect rates from early phase experience



Summary



- Current data analysis show promise for JPL local calibration
 - Defect profile correlations consistent across differing projects
 - Defect prediction correlations consistent across differing projects
- Future commitment to a JPL adaptation of the COQUALMO model remains strong
- Increased data collection efforts for FY03
- Formal local calibration attempt planned by end of FY03