

Agile Project Estimations

Effort Prediction for Software Development Projects

Customer Orientation

Software Project Cost Prediction for Agile Projects

Project estimation is a difficult task. It requires predicting the future, and this is much more difficult than explaining the past – although this might be difficult as well, sometimes.

Today's lean and agile software developers have been accustomed to use various kind of Delphi techniques, to assign Story Points to developing tasks, and never commit anything but the next sprint to the Financial Officer responsible for the customer's financial health.

Nevertheless, software must be created and ICT is crucial for the survival of all but very few organizations – difficult to name some of them. Financial officers tend to squeeze developers to get reliable quotes, in order to have reliable plans for financing investments into software and ICT. And woe to the developers, if they give inconsistent estimates! It won't remain undetected for long.

Keep it simple

The Euro Project Office has developed a method to establish new estimations based on the agile teams existing know-how and past experiences with similar projects. In order to compare the cost of software projects with different scope, we use cost driver profiles for soft factors that impact cost. Depending what cost driver has high or low ratings, we know how much they have influenced the cost of the software project and can compute the impact of cost drivers using multivariate regression analysis . Each project estimations thus is associated with its unique cost driver profile, as shown in the figure below.


Lean Six Sigma

Agile Processes

Process Metrics

Customer Identity Management

Transfer Functions

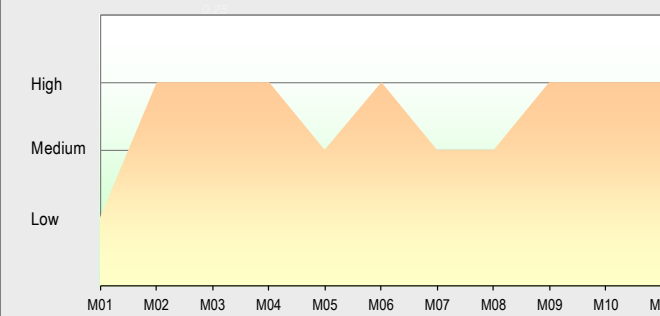

Close

Detail Estimation

Application:	Estimation ID	Estimation Item Description:		Release:	Based on:	Estimation Point:	
SoftFactorEstimations	SW-101	SIM Card Identification		V1.0		Initial	

Func Size Expert:	Size	Sizing Method	Expert Estimator:	Reviewer:	Approver:	Status:	Estimation Date:
Initial: Me	8	CFS (COSMIC)	She	He	Boss	Approved	6-Jun-2012
Mid:							
Final:							

Cost Driver Profile



Cost Driver ID:	Cost Driver (unit):	Low	Medium	High
M01	Requirements Volatility (#CR):	0.25	●	●
M02	Privacy Level (L-M-H):	1.25	●	●
M03	Technical Complexity (L-M-H):	1.25	●	●
M04	Communication Needs (#Sh):	1.25	●	●
M05	Team Size (#Tm):	0.75	●	●
M06	Team Skills (L-M-H):	1.25	●	●
M07	Stakeholder Skills (L-M-H):	0.75	●	●
M08	Duration Constraint (#day):	0.75	●	●
M09	Availability Requirements (#h):	1.25	●	●
M10	Reliability Requirements (%):	1.25	●	●
M11	Documentation Needs (L-M-H):	1.25	●	●

Talk - Team Communications:	6 Days
Dolt - Design, Development & Unit Tests:	7 Days
Test - Verification and Validation:	11 Days
Adm - Technical & Financial Admin:	2 Days
PM - Project Management & Tracking:	4 Days
Initial Calculated Effort:	29 Days

Comment:
Ask the SIM card for its ID. This can be done within a phone, or when a phone is connected to a computer. It needs a service call that usually is available in a phone; however, each phone is different! It might even differ within same operating system; thus it might be necessary to prioritize phone models. However, such a service might already be available somewhere in the globe.

Agile Project Estimations

Effort Estimation for New Projects using Benchmarking

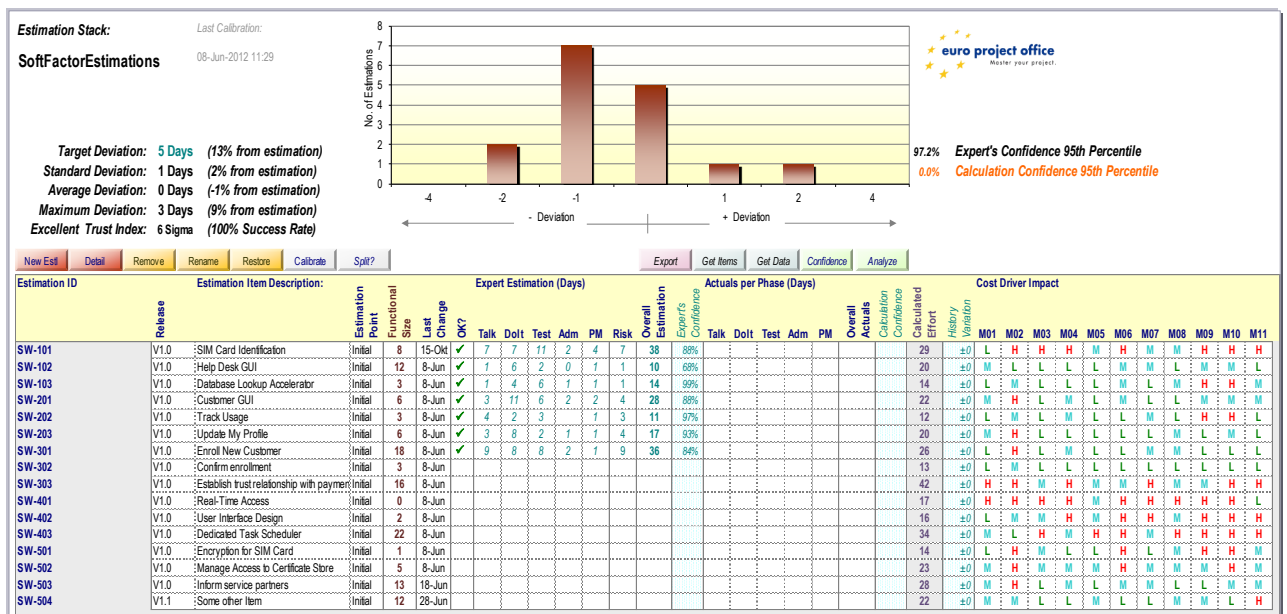
Customer Orientation

Calibration of Cost Drivers for a group of Estimations

With the regression analysis we calibrate cost drivers for a group of estimations that share the same technical or business application characteristics. With good calibration data, we can use the calibrated cost drivers to estimate new projects.

Good calibrations yield estimations within the required tolerance range. If the variance is six times smaller than tolerance, we have sound ("Six Sigma") base for estimations; if tolerance is less than six sigma, our estimations are less reliable.

Lean Six Sigma



Agile Processes

Process Metrics

An MS-Excel®-Tool

This method adapts to the individual needs of a CMMI conformant organisations. The project life cycle, the User Story breakdown and thus the detail estimation method may vary. Also, the choice of soft factors cost drivers may depend from the application type and business area.

The advantage of using Microsoft Excel® is that we are able to adapt to these specific needs with minimum effort. Everybody can use Excel®; users must learn the method only, not the tool.

Introduction and Training

The tool is open for modifications with small effort. A user training is needed to learn how to use statistical data in order to distinguish how to use the method. The process responsible must be trained in how to manage the use of the method. For installation and deployment, any suitable collaboration platform will do.

Benefit

Bad estimations will be recognised immediately. With a good calibrated set of estimations and actuals, new estimations are issued immediately.

Customer Identity Management

Transfer Functions