

case study student management system

In November 1998, several Victorian TAFEs implemented a new Student Management System. The system had 5000 function points and a \$2 million budget.

Despite its size, the project was completed on schedule and on budget. This is an impressive achievement (only 9% of large software projects achieve this and almost 60% of large software project do not complete at all <http://standishgroup.com/>).

The Student Management System was completed in less than 13 months and project managers strictly observed the 'dollar per function point' principle to ensure it was completed on budget.

student management system in a nutshell

The Student Management System is an integrated approach to managing student information. The system handles information such as:

- applications to enrol;
- collection of fees;
- student satisfaction;
- class scheduling;
- student and lecturer allocation; and
- calculation of performance measures.
- reporting and data export functionality.

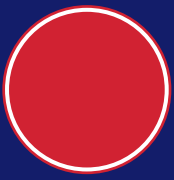
Student information is core to the operation of TAFEs, so a key role for the system is holding a consolidated view of all student information. By providing appropriate access to an increased number of institute staff, the system reduces the duplication of student information maintained at TAFEs.

the student management system project

With the assistance of a Scope manager, the Office of Post-compulsory Education, Training and Employment (PETE) prepared a Request for Tender. The Scope manager measured the preliminary system specification at 4300 function points.

With large projects often going significantly over budget and over-time, the Request for Tender document issued asked for tenders on a 'dollar per function point' basis. It also stated requirements that would influence the price, such as the use of client/server architecture operating on UNIX or Microsoft Windows™ NT Server.

Several companies submitted tenders, with a three to one range between the lowest and highest 'dollar per function point' tendered. PETE chose the company that offered a solution based on an existing software package at a price of \$390 per function point.



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While the chosen package solution provided 50% of the required functionality, the project still required an analysis phase.

The analysts together with the users reviewed the package documentation and analysed the necessary requirements for a new function point count. The Function Point Count came in at 5000 function points, which kept the project under its budget of \$2 million.

The subsequent function point measurement of the Requirements Specification helped PETE prioritise the functionality, identifying high-cost functionality that had low value to the users.

Tony Mulligan, one of PETE's project managers, commented that "Function points helped tightly monitor scope creep, making sure that we kept the project under budget, but still delivering the most important functionality".

On the advice of the Scope Manager, it was decided not to use function point analysis to measure changes. Instead, the project used the normal change management process of raising changes with the developer, receiving quotes and deciding whether to proceed.

lessons learned

PETE project managers learned several lessons about the 'dollar per function point' method:

- Using the method provided more for the budget dollar, as it provided a clear productivity benchmark to evaluate suppliers. More importantly, it allowed PETE to prioritise budget expenditure to high-value functionality and drop low-value functionality from the budget.
- There was less difficulty for the client and supplier because function points provided an objective measure to control the main factor influencing budget - the amount of functionality the developer was to provide.
- They suggested that package customisation projects would benefit from refining the single dollar per function point figure into several figures based on a classification of the function points. This would make the budget changes that result from scope changes fairer, and make it easier to apply the 'dollar per function point' method to change management.

for more information

For more information on the BLIS Channel <http://www.business.channel.vic.gov.au/>

For more information on the southernSCOPE method and to find out how to manage your custom built software development project on time and within budget visit the Multimedia Victoria website at www.mmv.vic.gov.au/southernscope.