ANALÝZA ZAROBENEJ HODNOTY (earned value)

Figure 10–3. Illustrative Tabular Performance Report

WBS Element	Budget ($) (BCWS)	Earned Value ($) (BCWP)	Actual Cost ($) (ACWP)	Cost Variance ($) (BCWP–ACWP)	Cost Variance (%) (BCWP÷(ACWP)	Schedule Variance ($) (BCWP–BCWS)	Schedule Variance (%) (BCWP÷BCWS)
1.0 Pre-pilot planning	63,000	58,000	62,500	–4,500	–7.8	–5,000	–7.9
2.0 Draft checklists	64,000	48,000	46,800	1,200	2.5	–16,000	–25.0
3.0 Curriculum design	23,000	20,000	23,500	–3,500	–17.5	–3,000	–13.0
4.0 Mid-term evaluation	68,000	68,000	72,500	–4,500	–6.6	0	0.0
5.0 Implementation support	12,000	10,000	10,000	0	0.0	–2,000	–16.7
6.0 Manual of practice	7,000	6,200	6,000	200	3.2	–800	–11.4
7.0 Roll-out plan	20,000	13,500	18,100	–4,600	–34.1	–6,500	–32.5
Totals	**257,000**	**223,700**	**239,400**	**–15,700**	**–7.0**	**–33,300**	**–13.0**

Note: All figures are project-to-date.

BCWS - budgeted cost of work scheduled

BCWP - budgeted cost of work performed (suma plánovaných nákladov ukončených činností k danému dátumu)

ACWP - actual cost of work performed (k danému dátumu)

METRIKY:

rozdiel nákladov CV = BCWP - ACWP

rozdiel rozvrhu SV = BCWP - BCWS

index výkonu nákladov CPI = BCWP/ACWP

↓

predpoveď nákladov na dokončenie

index výkonu rozvrhu SPI = BCWP/BCWS

ANALÝZA ZAROBENEJ HODNOTY

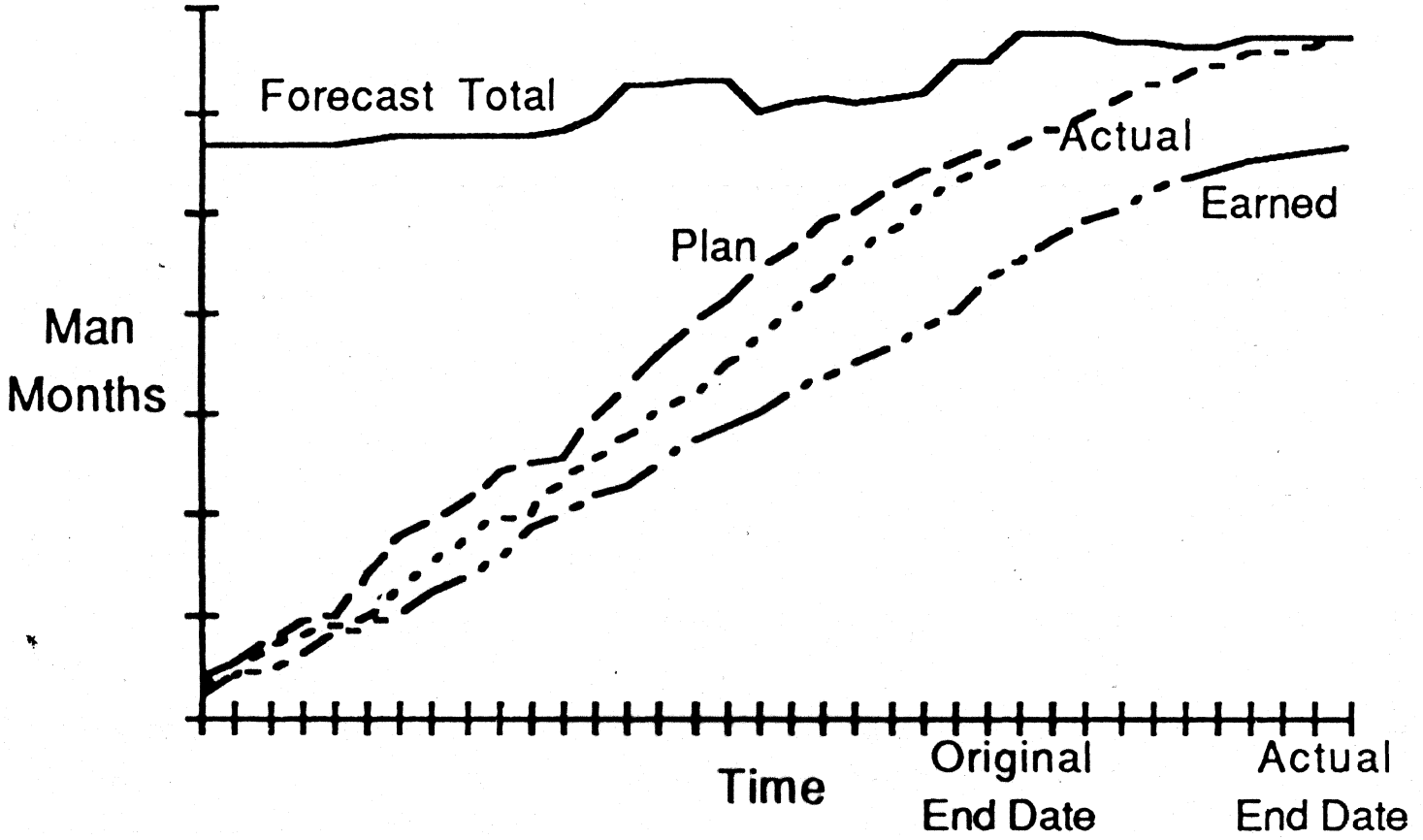


Figure 3.6: Planned, actual and earned progress

Notes 3.6: At the end of the project the earned value will equal the value of the costs in the original plan.

SLEDOVANIE POSTUPU PRI RIEŠENÍ PROBLÉMOV

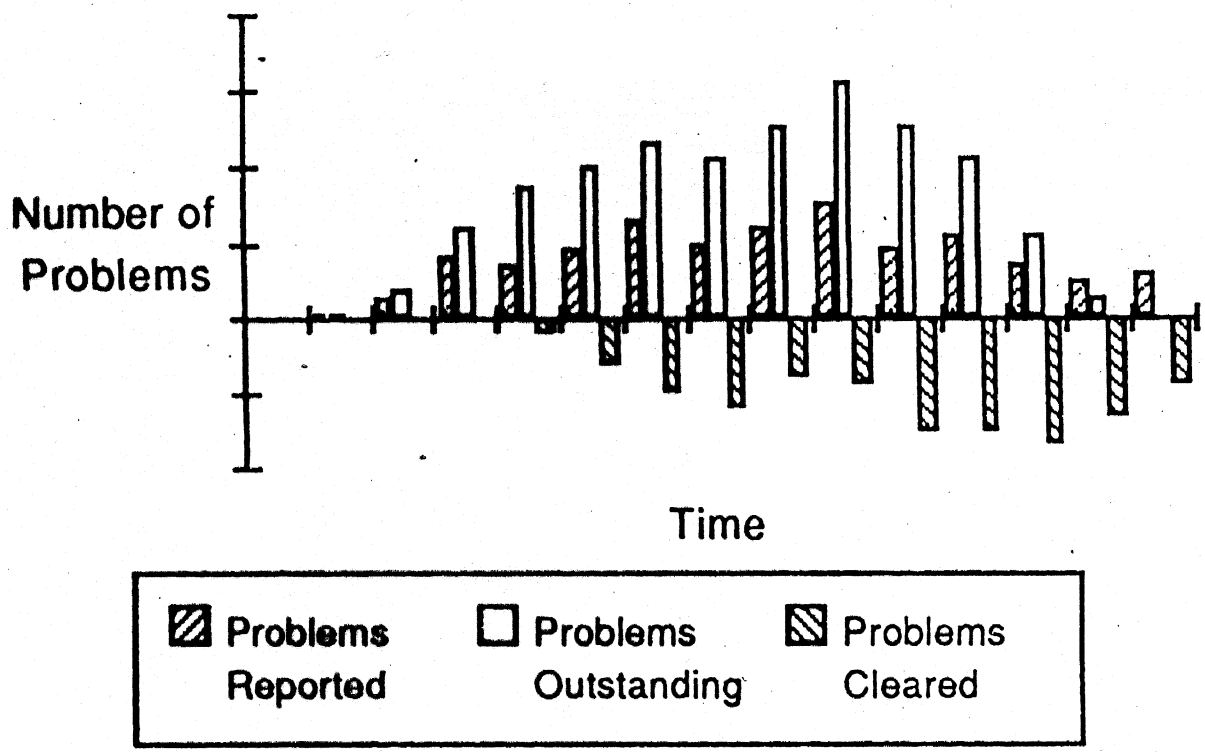


Figure 4.14: Progress of problems in each period

SLEDOVANIE SPRÁVNOSTI ODHADU DÁTUMU UKONČENIA PROJEKTU

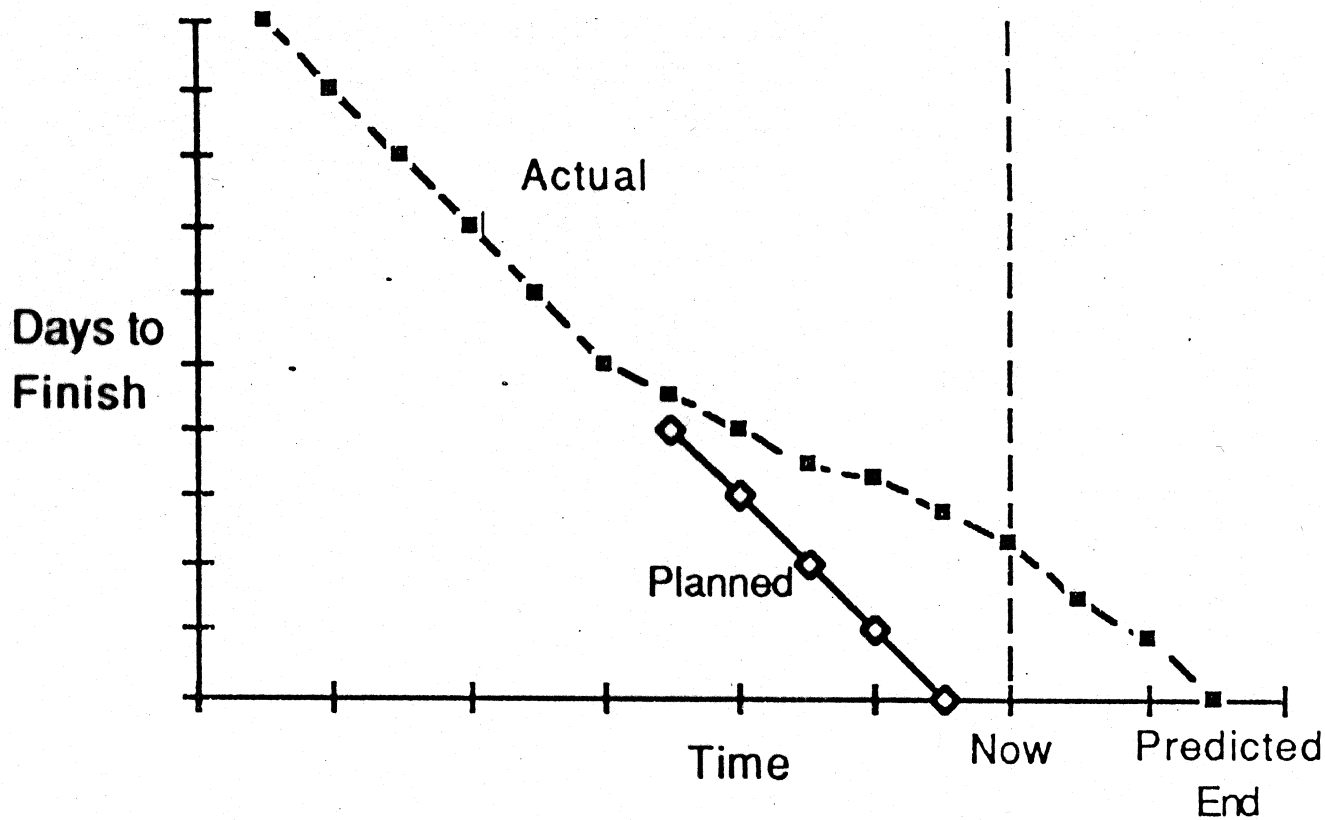


Figure 3.9: Historical view of predicted end date

sklon = 45° uhol - správne odhady

SLEDOVANIE VYTVÁRANIA VÝSLEDKOV

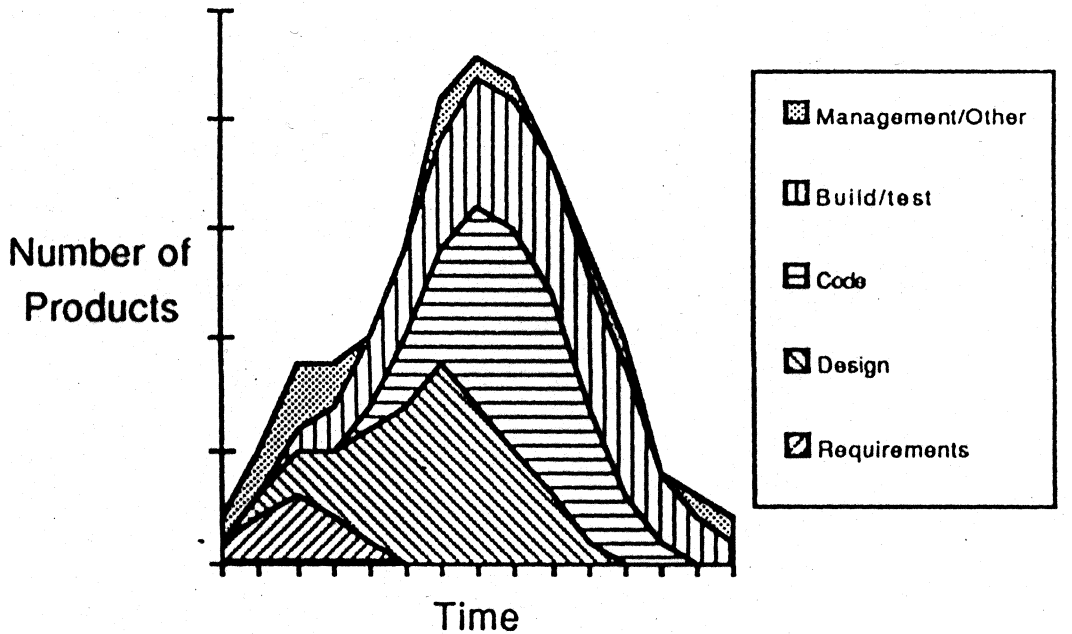


Figure 3.11: Weekly production of products

Notes 3.11: Each area in the graph shows the total number of products created in a certain category. Comparison between areas is not appropriate because the size and complexity of products can vary dramatically between categories. What is most important to the project manager is that the products are produced at a reasonable rate. My own experience is that production of authorised documents can be zero for several weeks until management issues orders for reviews to occur. This graph will help the manager monitor production and ensure that peaks and troughs rarely occur.

KLASIFIKÁCIA PROBLÉMOV A SLEDOVANIE FREKVENCIE ICH VÝSKYTU

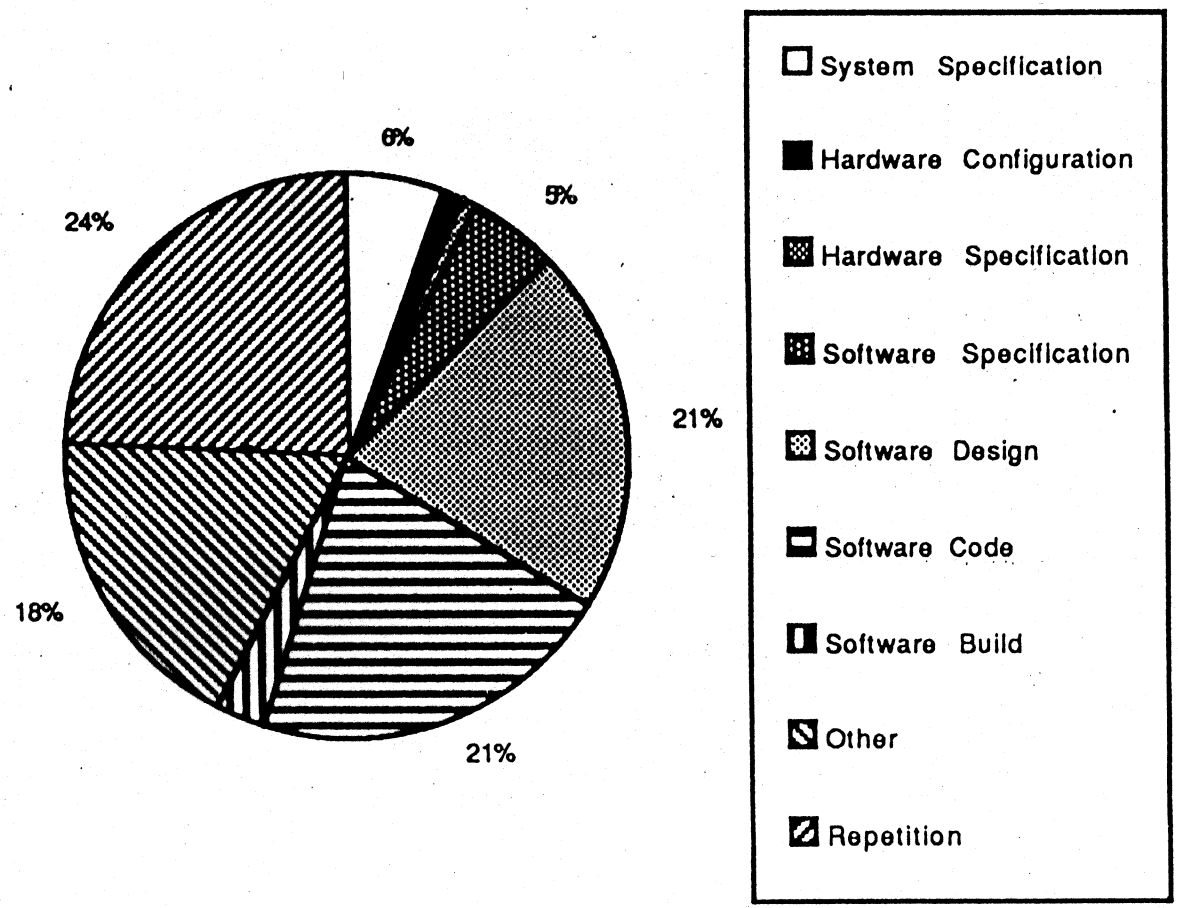


Figure 4.17: Count of problem reports by category

KLASIFIKÁCIA CHÝB A
SLEDOVANIE FREKVENCIE ICH VÝSKYTU

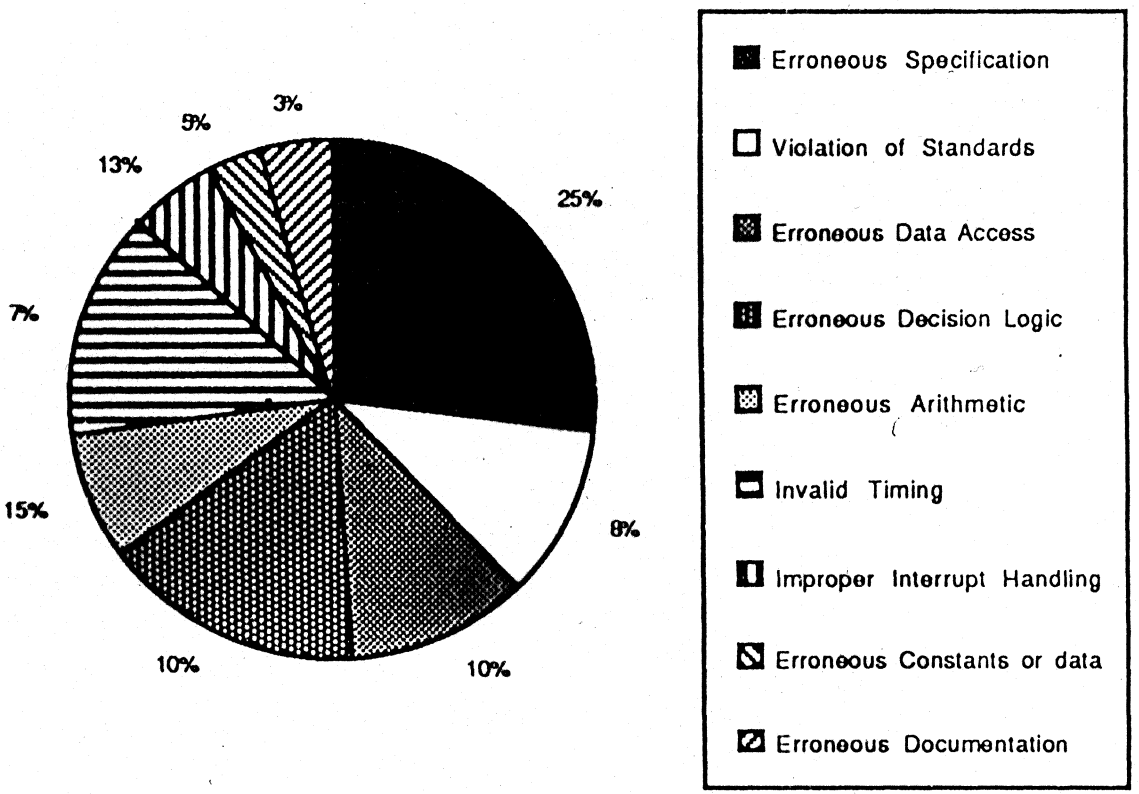


Figure 4.5: Defect frequencies

Notes 4.5: The figure shows 10 categories of defect in this example. Whereas the larger the number of categories that are monitored the greater will be the visibility provided, the large number of choices can cause confusion and annoyance to a test team who may have to fill in many forms. Often one defect may overlap categories so analysis of this graph requires care.

KLASIFIKÁCIA PRÁC V ÚDRŽBE

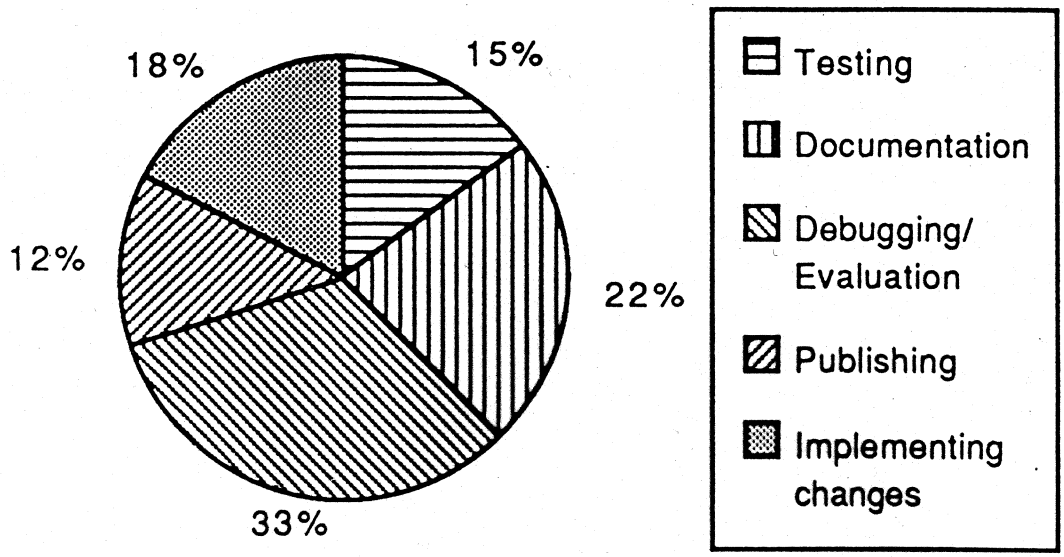


Figure 7.8: Categories of rework

Notes 7.8: This graph was drawn based on the accumulated costs of maintenance over a year. During a period, the type of maintenance will vary and often one change can have a major effect on all costs. It may therefore be appropriate to monitor the costs of rework in categories over many periods and record the data in a histogram. Other categories in which rework may need to be monitored include: software enhancements, performance enhancements, user documentation.

KLASIFIKÁCIA PROBLÉMOV V ÚDRŽBE

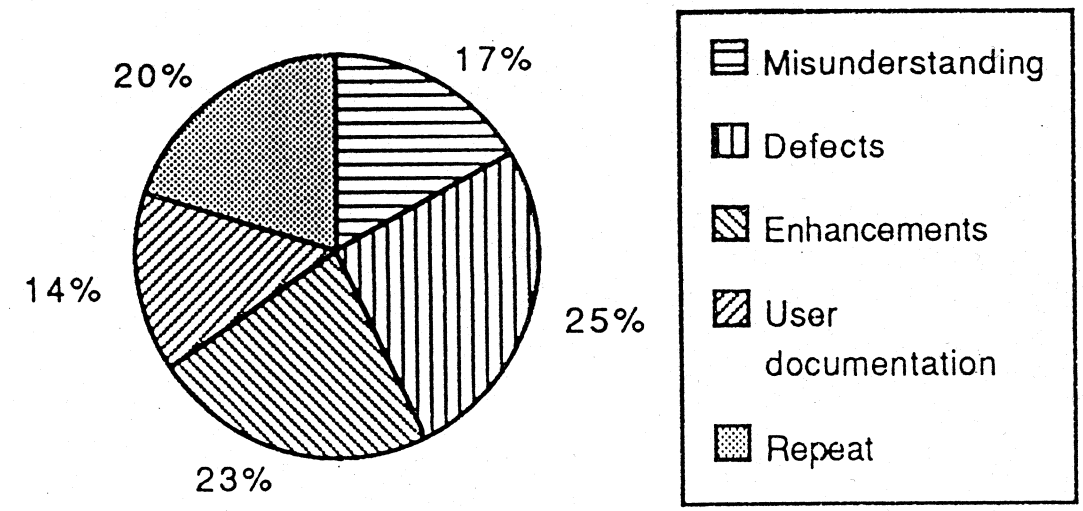


Figure 7.4: Categories of problems reported

SLEDOVANIE KVALITY - TESTOVANIE → analýza údajov s cieľom stanovenia kedy možno ukončiť testovanie

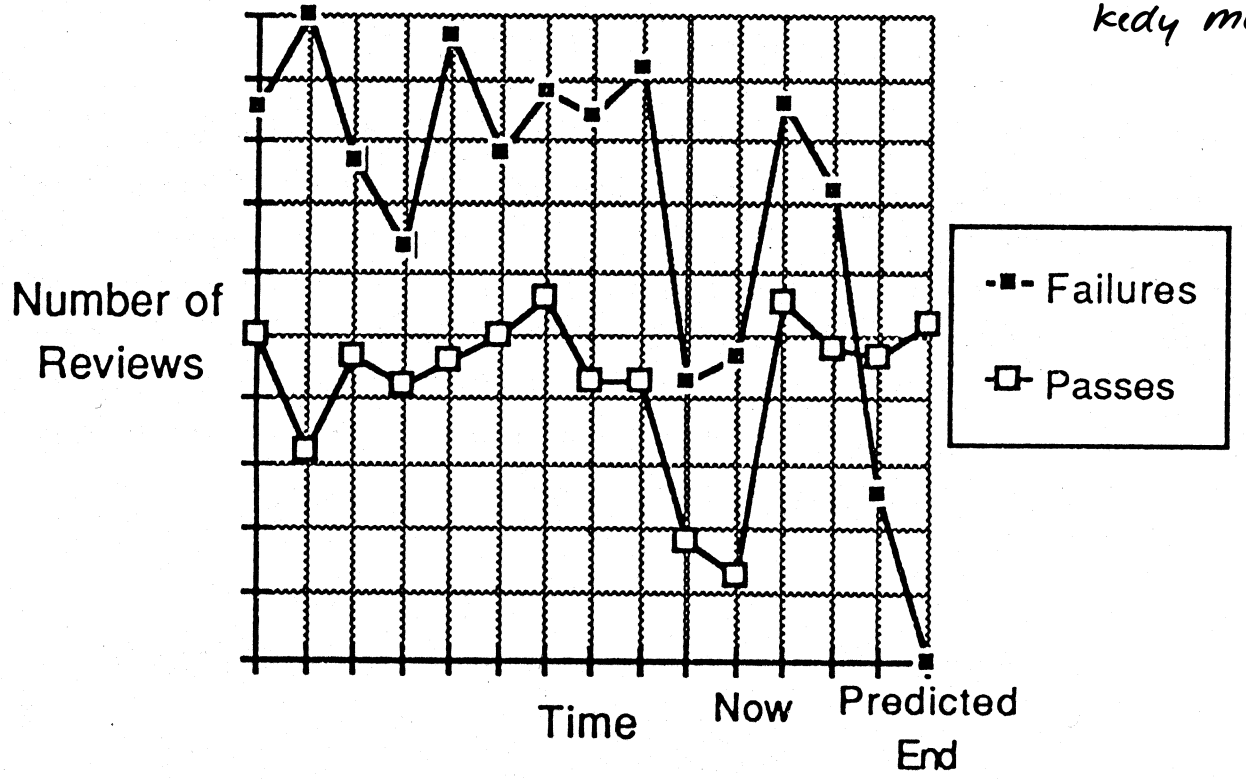


Figure 4.2: Reviews in each period

Notes 4.2: The gap between the "failure" and the "pass" lines will probably be large at an early stage in the project since basic human error will stop "right first time" occurring. Later on in the project, an increasing number of reviews will be second or subsequent reviews so they are more likely to pass. At the very end of the project we can expect few failures. Note also that the ratio of review passes to failures can vary from project to project. The example shown in figure 4.2 reflects some of my experience, but should not be taken as a guideline.

SLEDOVANIE KVALITY - TESTOVANIE -

počet chýb v závislosti od času

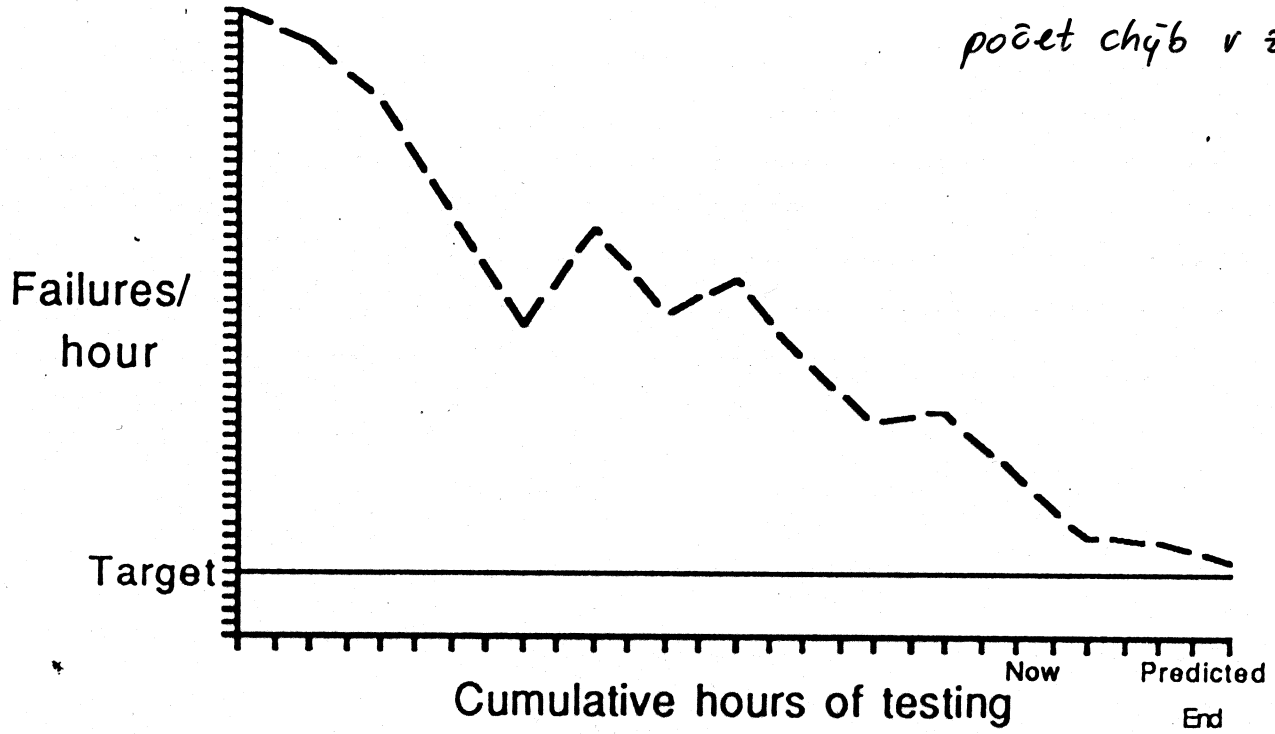


Figure 4.9: Failures per hour

Notes 4.9: An alternative form of this graph can be produced by recording failures per hour against hours of testing. A number of researchers have investigated the theoretical shape of these graphs to see if they can predict when the target level will be achieved. Although their efforts have been useful in some projects, the wide range of factors affecting the shape of the curve make predictions difficult. However, the graph is still a valid indicator of when software can be released and of the quality of the testing (poor testing would lead to a rapid achievement of the target level).

SLEDOVANIE ČASU SPRACOVANIA PROBLÉMOV

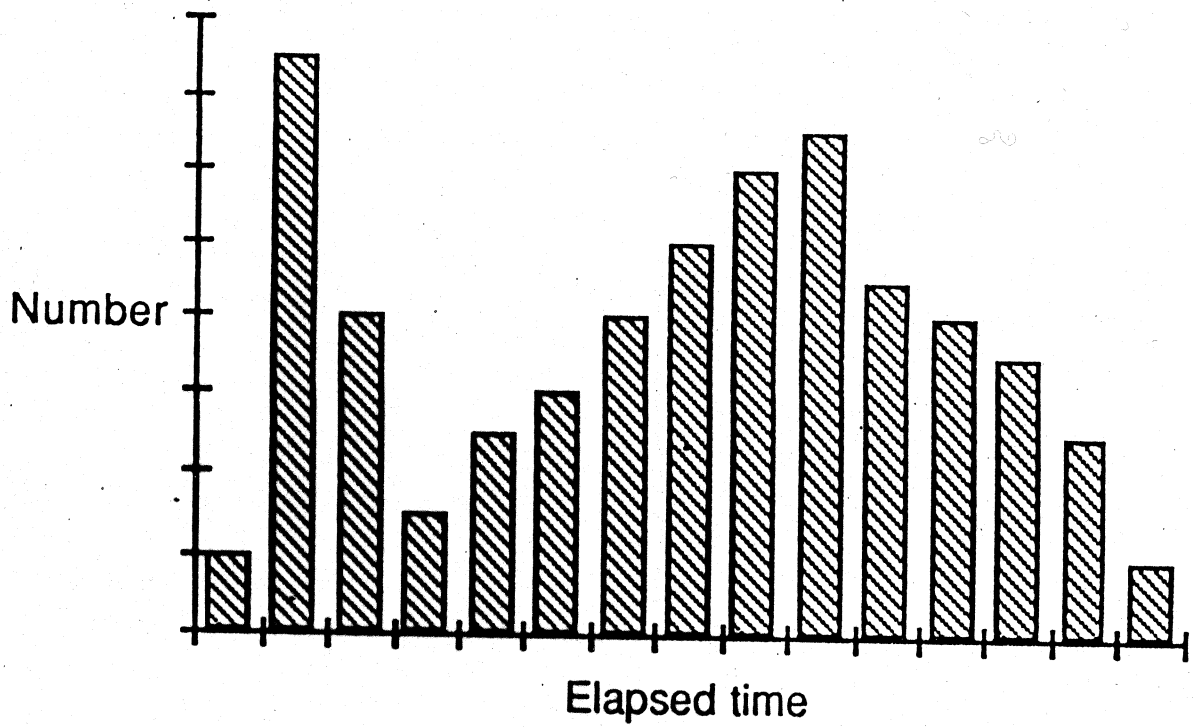
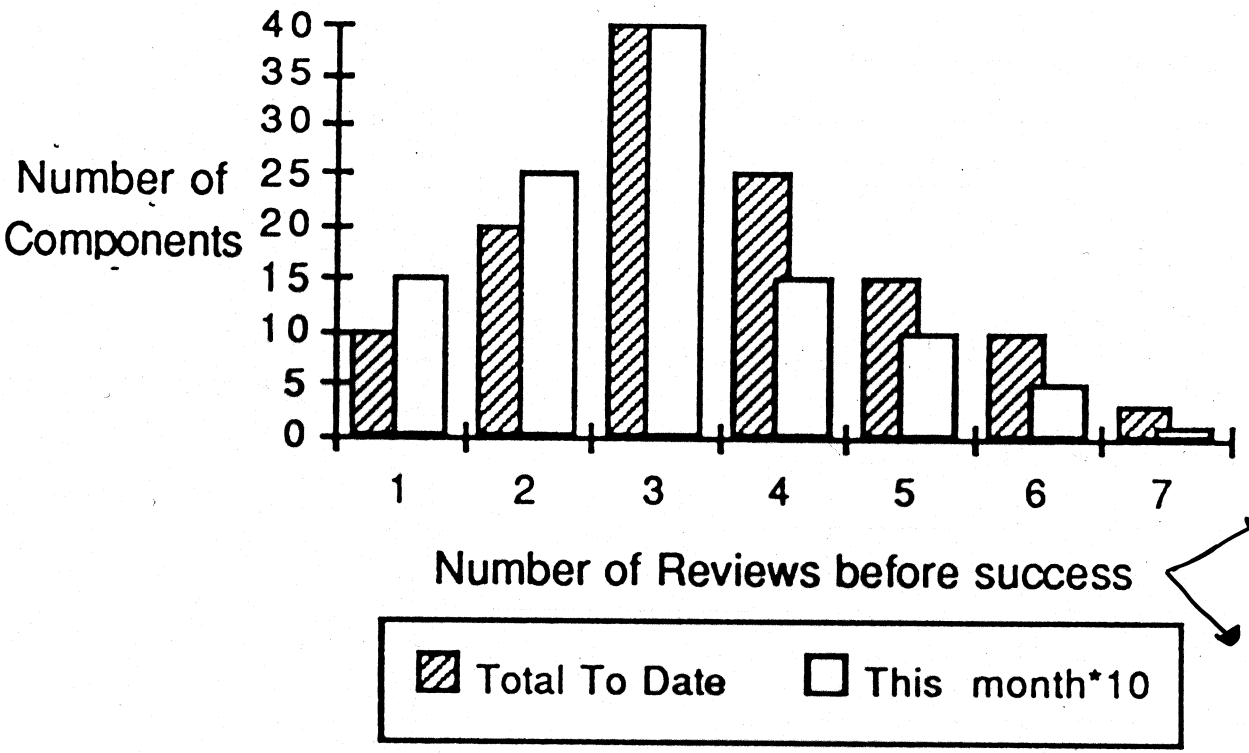


Figure 4.15: **Response time** to clear problem reports

Notes 4.15: Many problem reports might be easily cleared in a short time as they may require no investigation, hence the early peak in the graph. The second peak in the graph indicates the typical time that a problem report is processed in. This time should be monitored during the project since reducing it can improve staff effectiveness by reducing the time staff have to work with incorrect specifications.

SLEDOVANIE KVALITY - TESTOVANIE



malá hodnota → nedostatočné prehliadky

vysoká hodnota → problém vo výrobku (napr. zložitý návrh)

Figure 4.3: Number of reviews before success

Notes 4.3: This graph shows a comparison of the previous month's reviews against those during the earlier part of the project. To make the comparison easier, this month's figures are scaled by 10 (i.e. the number of previous months on the project). In this example, the average number of reviews to success is lower than in the earlier part of the project so the manager must investigate whether this is really due to improved quality, or the review procedures becoming more lax.

ĎALŠIE :

- počet chýb nájdených v komponente
- analýza typu chýb a ich frekvencie
- sledovanie pokrytia testov

SLEDOVANIE POSTUPU TESTOVANIA SOFTVÉRU

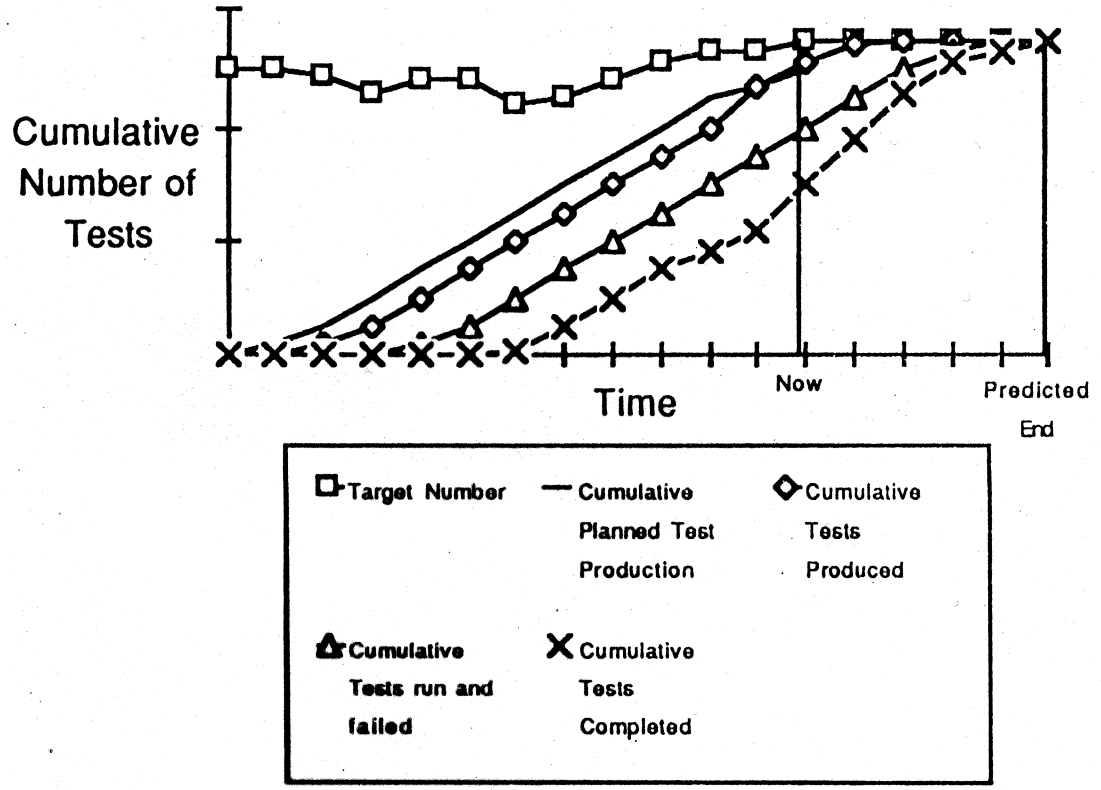


Figure 3.13: Test data plans/progress

Notes 3.13: *The number of tests produced on a project can be measured in a variety of ways and a standard must, of course, be defined for the production to be accurately monitored. Normally, every line of test data is counted, or simply files of test data can be counted. A delay between first running a test and completing the test is normal because the first run of a test often finds a fault which needs to be traced and corrected before the test can be run to successful completion. However, if this delay is unduly large, the graph will provide the project manager with visibility of the problem. Note that, in the graph shown, the delay between running a test for the first time and running the test successfully appears to shorten towards the end of the project. This would not be a typical situation. Note also that this graph could be drawn independently for different subsystems or for different phases of the testing programme.*