

# **How Distance Between Subject and Interviewer Affects the Application of Qualitative Research to Extreme Programming**

**Samantha J. Butler, Sian Hope, Robert Gittins**

School of Informatics

University of Wales, Bangor

Dean Street, Bangor, Gwynedd

LL57 1UT, United Kingdom

+44 1248 382686 ext. 2724

[sbutler@informatics.bangor.ac.uk](mailto:sbutler@informatics.bangor.ac.uk)

Extreme Programming (XP) is the emerging software development technique, the study of which relies strongly on the results of impressions and feelings of developers within the environment. Traditional research techniques in Software Engineering, Quantitative Research, deal in solid numerical facts, and are unable to deal with such rich cultural and contextual results. For this reason we have turned to disciplines more mature in dealing with this type of data, such as the social sciences.

Qualitative Research techniques have been developed by such disciplines to suit areas of study that do not deal in solid numerical data. A qualitative process has been developed at the University of Wales, Bangor using the qualitative techniques of qualitative interviews and questionnaires to track the deployment of XP, the process allows the returned results to be analysed and interpreted at will. The process can be split into data collection and data analysis. Data collection involves the collection of large amounts of data using questionnaires, and interviews of both 'guided' and informal type. Guided interviews are transcribed and data from questionnaires consolidated using spreadsheets. At the same time the deployment of the XP processes are recorded using a tracking Database. Once the information has been collected the data will be analysed using qualitative techniques, and the information coded so patterns can then be recognized. Information from the spreadsheet is graphed and charted. The charts and code are viewed alongside the information supplied in the tracker database. The deployment and evolution of XP in a company and the experiences of developers can thus be monitored.

Initially this process has been employed in the orthodox qualitative manner, both researcher and subject are in the same room. The researcher observes the process in the environment and forms reports based on feedback and interpretations. Previous studies at University of Wales,

Bangor have shown that this process provides a good technique for the evaluation of the deployment of XP within a company.

Early research in two companies at different stages of deploying XP, Workshare and Secure Trading, is being carried out. In both instances research is being carried in a traditional qualitative way following the process described. The hope is to progress so that a number of companies are under study with differing levels of contact with the researcher. The quality and volume of data collected must remain consistent between the companies.

This research will investigate novel ways of collecting data remotely using currently available technologies including email, telephone, teleconferencing and web meetings:

1. All interviews face to face, many visits to company
2. Initial interview conducted face to face within company, remaining interviews at a distance. Visual contact will still be established with each developer at each interview, but only few visits to the company.
3. All interviews conducted from a remote location. Visual contact would still be established at each stage of the investigation but no person-to-person interaction away from interviews would occur.

The most prominent problem in qualitative research is the collection of large amounts of data from numerous companies. The aims of this research are to discover what effect the different levels of interaction between researcher and company under study have on the value of the results that are being returned and propose methods that could be used to collect the data from a distance without impairing the quality of the collected data.