TLTP Ceilidh Project
Feedback Questionnaire Summary
RM 95/6

Greg Michaelson

Department of Computing and Electrical Engineering
Heriot-Watt University
Riccarton
Edinburgh EH14 4AS

1. Introduction

The Ceilidh Project was funded from 1992 to 1995 by the UK Higher Education Funding Councils Technology for Learning and Teaching Programme(TLTP). Based on work from the University of Nottingham, it sought to develop and disseminate the Ceilidh automatic assessment system for computer programs.

This report summarises responses to the questionnaire sent out to sites who had acquired the Ceilidh system by the spring of 1995.

The questionnaire is in Appendix 1.

Raw results are summarised in Appendix 3.

The respondents are listed in Appendix 2. The numbers preceding each respondent are used subsequently to identify them in the raw results.

2. Overview

130 questionnaires were sent out. 29 responses were received.

There were 22 responses from UK institutions of which 14 were from "old" Universities and 8 from "new" Universities.

There were 7 non-UK responses.

3. How did you hear about Ceilidh?

9 respondents mentioned colleagues, 5 mentioned conferences, 4 mentioned the Computing CTI and 4 mentioned the Ceilidh flier which was distributed throughout the UK. There were 7 other responses.

4. Which version(release) did you take?

16 respondents took the UNIX version, 4 took the PC version and 6 took both. 1 had taken an early version.

5. Which courses did you take?

19 respondents had taken the C course, 14 had taken PR1, 12 had taken PR2, 5 had taken DB, 3 had taken FP1 and 6 PAS.

6. Have you taken & installed Statistics/X interface?

15 respondents had taken/installed the Statistics package and X interface and 9 had not. 5 did not respond.

7. Non-installation of Ceilidh

9 respondents had not installed Ceilidh. The main reason given was lack of time.

8. Installation problems

There were 17 mentions of installation problems. The most frequent were problems with paths, difficulties with the X windows version and incompatibilities with local UNIXish systems.

9. Ceilidh installed but not used

9 respondents had installed but not used Ceilidh for a variety of reasons. See Appendix 3.

There were 4 PC, 4 SUN and 1 HP installations mentioned here.

10. Ceilidh installed and used

11 respondents had installed and used Ceilidh.

There were 7 SUN, 4 DEC, 2 HP, 1 PC and 1 UNIX installation mentioned here.

11. System/course modifications

9 respondents mentioned modifying notes and exercises or adding new ones. 7 mentioned fixing system bugs or making minor system changes.

12. Ceilidh use

Of UK respondents: 3 institutions used the C course on 7 occasions with ˜287 students; 2 institutions used the PR1 course on 3 occasions with 335 students; 2 institutions used the PR2 course on 2 occasions with 194 students.

Of overseas respondents: 2 institutions used the C course on 3 occasions with ˜660 students; 1 institution used the C++ course on 1 occasion qith 20 students; 1 institution used its own course on 1 occasion with 100 students; 1 institution used a Fortran course on 1 occasion with ˜300 students.

13. What did your students like about Ceilidh?

There were 5 mentions of Ceilidh’s immediate response, 2 mentions of students’ ability to pace their own work and 9 other reasons.

14. What did your students dislike about Ceilidh?

There were 6 mentions of marking, 2 mentions of the interface, 2 mentions of error messages and 6 other reasons.

15. What did you & your colleagues like about Ceilidh?

There were 10 mentions of savings in administration and staff resources, 8 mentions of the automatic marking and provision of coursework and 4 other reasons.

16. What did you & your colleagues dislike about Ceilidh?

There were 8 mentions of system problems, 4 mentions of the marking system, 3 mentions of documentation, 2 mentions of the menus, 2 mentions of the exercises and 4 other reasons.

17. Used Ceilidh & intend to use again?

There were 7 mentions of Ceilidh's advantages for marking and managing large classes, 4 mentions that Ceilidh was better than alternatives and 3 other reasons.

18. Used Ceilidh & do not intend to use again?

3 different reasons were mentioned. See Appendix 3.

19. Considered Ceilidh but decided not to use it?

3 different reasons were mentioned. See Appendix 3.

20. Any other comments?

See Appendix 3.

21. Summary

In terms of dissemination, the Ceilidh project has been very successful given that 130 sites have investigated or acquired the system. However, the use rate has been somewhat low. If we optimistically scale up proportions from the questionnaire then it would appear that 38% (11/29) of sites expressing interest in or acquiring Ceilidh use it. If, however, we assume more realistically that a high proportion of actual users returned the questionnaire then only around 8% (11/130) of those initially expressing interest in or acquiring Ceilidh have eventually used it.

Note there were no responses from TLTP Ceilidh Project lead sites who are using internally Ceilidh as well as developing it. This depresses the apparent use statistics.

Many respondents identified difficulties with installing the system. A wide variety of platforms are in use for Computing teaching and small differences between different varieties of "UNIX" appear to affect Ceilidh's portability. Furthermore, the lack of a client/server PC version may be limiting takeup. Problems with the early X Windows version were also mentioned. Several respondents commented on poor documentation as hindering installation and use.

Ceilidh was successfully prototyped at Nottingham University where there is a high degree of local expertise and commitment. However, it is a major step to convert a prototype to a production system which can be installed at an arbitrary site by someone with limited system programming experience. The TLTP project has been successful in enabling Ceilidh to be developed in this way. Now, a small further effort should be made to round off a fully distributable version of the system, meeting the above concerns.

Those who persevered with Ceilidh seem happy with it. In particular, respondents mention savings in staff time for course management and marking, the primary stated objectives of the project. Ceilidh courses have been used on 12 occasions with 816 students by UK respondents. If we assume that each occasion would represent one staff member administering and marking a course and that 1 hour would be spent on marking and administration for each student then the above use by respondents is equivalent to am average saving of 68 hours on each of 12 68 student courses. (For example, the author can confirm that it takes around 1 hour to mark by hand the full set of exercises for the Ceilidh Functional Programming course.) Offset against this guesstimate saving is the unknown one off cost of the initial Ceilidh installation, and the subsequent costs of setting up and monitoring a course with a new cohort of students. Any further investigation of Ceilidh should seek respondents' impressions of costs and savings in using the system.

Acknowledgements

I would like to thank Neil Gutteridge for distributing and collecting the questionnaires.

The original questionaires are held by the author. For more information phone 0131 451 3422 or email greg@cee.hw.ac.uk

Appendix 1 - Questionnaire

[Note that this version of the questionnaire has the same text but less space for responses than the original.]

TLTP Ceilidh Project Feedback

We are now nearing the end of the Ceilidh project. During the last 2 years the system has been distributed to over 100 sites world wide. Our records show that you have taken a copy of the system. We would be very grateful if you would tell us about your use and experiences by completing this questionnaire and returning it in the enclosed envelope by 21st April. This will help us to assess its overall impact and identify areas where improvement is required.

Name:
Address:
Email:
Tel:

The following section is to show us which aspects of the system you were interested in:

How did you hear about the Ceilidh system?

Which version of the system have you taken(UNIX, PC or BOTH) and which release?

Have you taken and installed copies of the Statistics package and X interface?

What type of machine did you install the system on?

What problems have you had with the installation process (if any)?

Please give details if you modified the system or courses:

Comments:

Please make an entry in the following table for each of your modules with which you have used a Ceilidh course. If you have used the same Ceilidh course with the same module on different occasions, please make additional entries in the "Course Dates" and "No. of Students" columns:

```
Ceilidh|Module|Course Level|Course 4|Course Dates|No. of
```

```
Course1|2     |3           |Duration|5           |Students
-------+------+------------+--------+------------+--------
       |      |            |        |            |
 ...
1: C, C++ (part1 or 2), Pascal, SQL
2: Name of your course
3: 1st, 2nd, 3rd, 4th, MSc etc
4: Course duration
5: Course Dates, Start & Finish
```

The following section is to enable you to express your opinions (and the opinions of your students) about the system.

What did your students like about Ceilidh?

What did your students dislike about Ceilidh?

What did you and your colleagues like about Ceilidh?

What did you and your colleagues dislike about Ceilidh?

If you use Ceilidh and intend to use it again, please tell us why:

If you used Ceilidh and do not intend to use it again, please tell us why:

If you considered Ceilidh but decided not to use it, please tell us why:

Any other comments:

Please return this form to:

Neil Gutteridge, Learning Technology Research,
Dept. of Computer SCience, University of Nottingham,
Nottingham, NG7 2RD

Thank you for your help.

Appendix 2 - Respondents to questionnaire

1 Dept of Bio-Medical Physics, Univ of Aberdeen
2 Dept of Computing Science, Univ of Aberdeen
3 Anglia Polytechnic Univ
4 Dept of Computer Science, Birkbeck College, Univ of London
5 Dept of Computing Mathematics, Univ of Wales College of Cardiff
6 Dept of Computing Univ of Central Lancashire
7 School of MIS, Univ of Coventry
8 Dept of Engineering, Glasgow Caledonian Univ
9 Dept of Artificial Intelligence, Univ of Edinburgh
10 Dept of Mathematical Sciences, Goldsmiths College, Univ of London
11 School of Computing & Applied Maths, Greenwich
12 Dept of Computing & Electrical Engineering, Heriot-Watt Univ
13 School of Computing & Mathematics, Univ of Huddersfield
14 Computing Laboratory, Univ of Kent
15 Faculty of Applied Sciences, Univ of Luton
16 School of Computing, Univ of North London
17 Dept of Computer Science, Queen Mary & Westfield College, Univ of London
18 Dept of Mathematics & Computer Science, Univ of St Andrews
19 IT Institute, Univ of Salford

20 Sheffield Hallam Univ
21 Dept of Electronics & Computer Science, Univ of Southampton
22 Dept of Computer Science, Univ of Warwick

23 Dept of Computer Science & Engineering, Auburn Univ
24 Dept of Arqitecturas de Computadors, Univ Politchnica de Catalunya
25 Dept of Computer Science, Univ College Cork
26 Dept of Computer Science, Univ of Cyprus
27 Dept of Computer Science, George Mason Univ
28 Rechenzentrum, Fachhochschule Konstanz
29 Dept of Computer Science, Helsinki Univ of Technology

Appendix 3 - Raw results summary

```
130 sent out, 29 responses

UK: 22, UK old Unis: 14, UK new Unis: 8

Overseas: 7

How did you hear about Ceilidh?

CTI newsletter/centre : 1 7 13 20
Flier: 3 4 6 18
TLTP project lists: 5
Journal: 8
Other Dept contact/colleague/Nottingham contact: 9 10 14 17 19 23 27 24 28
Conference/seminar: 6(Head of Computing York) 11 15(Salford) 29(CLCE 94)
                    16(Salford)
Project member: 12
Mists of time/can’t remember: 21 26
Usenet news article: 22
Papers: 25

CTI: 4, Flier: 4, colleague: 9, conference: 5, Other: 7

Which version(release) did you take?

UNIX: 1 4 5 9(2.2) 11(2.4) 13(most recent) 17 18 20(4.2) 22(several) 23 24(2.3)
      25(2.4) 26 28 29
PC: 3 6 10(1.0) 16
both: 7(2.3) 8 12 15 19 27
early copy: 21

UNIX: 16, PC: 4s, both: 6, early: 1

Which courses did you take?

C: 1 3 4 5 8 9 11 12 13 15 18 19 20 21 22 23 24 25 29
PR1: 1 3 7 10 11 12 15 16 17 20 22 23 24 27
PR2: 1 3 7 11 12 15 16 17 20 22 23 24
DB: 15 20 22 23 25
FP1: 20 22 23
PAS: 7 11 13 20 22 23
No response: 2

C: 19, PR1: 14, PR2: 12, DB: 5, FP1: 3, PAS: 6
```

Have you taken & installed Stats/X interface?
Yes: 1 5 7 9(X) 11(X) 12(X) 13(X) 15(X) 17(not installed) 20(not installed)
21 22(installation problems) 23(not installed) 25(X) 27(not installed)
No: 3 4 8 10 16 24 26 28 29
No response: 2 6 14 18 19

Yes: 15, No: 9, no response: 5

Haven't installed Ceilidh: 2 6 7 14 18 22 23 26 27 == 9
2 - no opportunity
6 - no time
7 - DEC MIPS Ultrix 4.4 - still working on it
14 - only took intro
18 - set up cost to great near start of course
22 - SUN SPARC SUNOS 4.1.3 - system manager unhappy
23 - not yet
26 - little C teaching
27 - Ultrix installation failed - will try OSF

DEC: 2, SUN: 1 == 2

Installation problems?

setting up environment: 3
changes to C for DEC: 5
awk: 5
script bugs: 8
paths: 8 15 29
manual installation: 11
reported to Nottingham: 12 16
tar error messages: 20
can't compile X/X won't work: 22 29
other various: 22
changes to code for HP: 24
DB package won't work with local Ingres: 25
Ultrix installation fails: 27

Installed but haven't used Ceilidh: 3 10 11 13 16 19 20 25 28 == 9
3 - 486DX - personal investigation
10 - PC486 - asked to install by HoD who hasn't tested it yet
11 - SUN workstations - plan to use next year
13 - SUN SPARC SUNOS 4.3.1 - course change - no longer C but Pascal
16 - PC486 - PC version not ready for use over network
19 - Novell file server - only stand alone PC version available
20 - SUN - used bits of it but not all with students
25 - SUN SPARC 20 SUNOS 4.1.3 - still in set up/evaluation phase
28 - HP9000/700 - not in use - (implies installed on HPs)

486/Novell: 4, SUN: 4, HP: 1 == 9

Used Ceilidh: 1 4 5 8 9 12 15 17 21 24 29 == 11
1 - SUNs
4 - SUNOS 4.1.3 - alternative to own system
5 - DEC/SUN workstations
8 - MVAX/HP700/PCs
9 - SUN4 SUNOS 4.1.3 - for individual student use - not part of official course
12 - SUN/DECStation
15 - SUN SPARC10 30 Solaris 1.1

21 - UNIX
24 - SUN 4/HP9000
29 - Digital Alpha Workstations

SUN: 7, HP: 2, DEC: 4, PC: 1, UNIX: 1 == 15

System/course modifications?

new/modified notes/exercises: 5 8 12 15 17 20 24(translated to Catalan)
                              27(new C++ for PC) 29(C changes & Fortran use)
system bugs/mods: 5(WWW link) 6(attempting PC networking)
                  15(added "press return to continue") 17
                  20(C++ comments in plagiarism) 24 29

new/mods: 9, system: 7

Use

5 C C 2nd 1 term Oct-Dec 60
12 C Software Development MSc 6 weeks Oct94-Nov94 ~80
12 C C Conversion evening class 8 weeks Oct94-Dec94 18
12 C C Conversion evening class 8 weeks Jan95-March95 20
12 C C Conversion evening class 8 weeks Jan95-March95 17
12 C C Conversion evening class 8 weeks Jan95-March95 22
15 PR1 Intro Prog 1st semester Oct94-Feb95 141
15 PR1 Intermediate Prog 1st semester Feb95-May95? 94
15 PR2 Intermediate Prog 1st semester Feb95-May95? 94
17 PR1 Intro Prog 1st semester Oct94-Mar95 100
17 PR2 Intro Prog 1st semester Oct94-Mar95 100
21 C Prog Princ 1st 12 weeks Oct92-Jan93 70

24 C Intro Prog 1st semester Sept94-Jan95 40
24 own Advan Prog 2nd semester Sept94-Jan95 60
24 C Intro Prog 1st semester Mar95-June95 20
24 own Advan Prog 2nd semester Mar95-June95 40
24 C++ C++ 3rd semester Mar95-June95 20
29 C IT 1st-2nd 3 months Oct94-Dec94 ~600
29 Fortran Fortran 1st-2nd 1 month April95-May95 ~300

UK
C: 3 institutions, 7 uses, ~287 students
PR1: 2 institutions, 3 uses, 335 students
PR2: 2 institutions, 2 uses, 194 students

overseas
C: 2 institutions, 3 uses, ~660 students
C++: 1 institution, 1 use, 20 students
own: 1 institution, 2 uses, 100 students
Fortran: 1 institution, 1 use, ~300 students

What did your students like about Ceilidh?

immediate response 4 15 17 21 24

self paced 8 29

consistent response 4
generally liked 5

integrated environment 8
ability to read notes/questions/example I/O 8
automatic marking 12
skeleton progs 12
easy to use 15
playing getting points 17
compare own marks with class average 24

immediate response: 5, self paced: 2, other: 9

What did your students dislike about Ceilidh?

small prog change==large mark change 4
poor marks for "correct" progs 5
"features" marks unclear 8
style marks 12
mark loss for typos & complexity 15
poor quality of marking 21

interface 5 29

odd errors 5
don't know if error is in system or their prog 24

lack of human feedback 4
slow 8
lack of consistency in early days 15
lecturer changing submission test data 17
lecturer changing mark manually after cheating 17
big exercise files filling home directories 29

marking: 6, interface: 2, error messages: 2, other: 6

what did you & your colleagues like about Ceilidh?

automatic marking 1 5 12 15
formalised/consistent marking 8 24
individual/variable sized assignments 20 29

frees staff time/less admin/course management 4 5 12 15 17 19 24
always available/students self sufficient 4 8
more assignments than with manual marking 20

structured approach to program support 1
ready made courses/solutions 5 15
motivates lots of programming 17

coursework/marking: 8, admin/resources: 10, other 4

What did you & your colleagues dislike about Ceilidh?

documentation unstructured 1
inadequate PC documentation 3
lack of full documentation 15

complexity of levels at which it can be accessed 1
confusing menu structure 29

odd bugs 5
PC Ceilidh platform sensitive 8
delivered with bugs 15
bugs 17
hard wired code eg paths 15
some parts didn’t work in environment 29
maintenance problems 29
security problems 29

marking system not good enough 4
total mark not related to no of exercises attempted 12
can’t mark course until exercises closed 12
hard to find errors in marking process 24

exercises 17
exercise not focused enough on topic eg intro new features 8

poor response time from Nottingham people 15
courses 17
colleagues will find it hard to set up assignments 20
students spend more time than necessary on exercises 24

documentation: 3, menus: 2, system probs: 8, marking: 4, exercises: 2, other: 4

Used Ceilidh & intend to use again?

generally satisfactory teaching tool 5
excellent as teaching aid 8
advantages outweigh disadvantages 15
system satisfactory despite limitations 24

course management tool appreciated 15
only way to keep track of 100 student’s attendance 17
consistent rapid coursework marking increases student progress 15
marking acceptable early in course 17
manual marking impossible with lots of students 20
assessment 24
homework for huge numbers of students 29

insulation from UNIX command line 12
independent learning of C 9
good skeleton progs 12

good/better than alternative: 4, managing/marking big classes: 7, other 3

Used Ceilidh & do not intend to use again?

developed own system 4
student response 21
late X system 21
(complex software 22, confusing documentation 22, worried about robustness 22)

3 response (22 did not actually use Ceilidh)

Considered Ceilidh but decided not to use it?

need PC networked PC version 19

own submission system 22
failed installation 27

Any other comments?

C++ used informally with MSc IT, considering formal C use 1
no time to evaluate 3
need for more Ceilidh-like tools to handle increasing class sizes 4
want batch PC Ceilidh 8
want PC Ceilidh to use temp files on hard disk 8
love better description of how to write marking schedules 8
marking scheme harsh on programs 9
more robust X interface needed 9
would use stats package but won't compile with new compiler 15
plagiarism test easy to get round 15
want proper manuals 15
want proper help desk 15
sorry not to be more positive 21
happy to use if rewritten from scratch 22
have automated PC use with students & sending to UNIX for marking 24
intends to use SUNOS Ceilidh in fall 27
will attempt OSF installation 27
documentation of programming should be better 29
wish to collaborate with Ceilidh group to develop better system 29