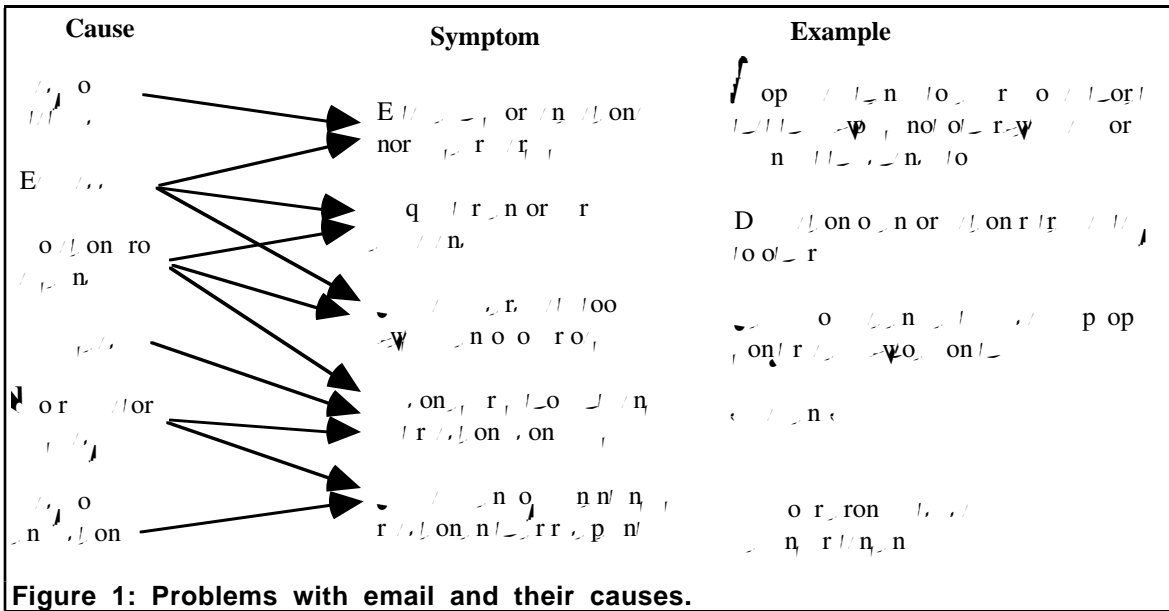


Coordination Breakdowns: Why Groupware is so Difficult to Design

1. Introduction
2. Coordination Breakdowns
3. Groupware Design
4. Conclusion

Abstract

The complexity of group interaction means that there will be many uncertainties in the requirements for software support tools. Many existing software systems rely on the adaptability of human users to overcome such uncertainties. One of the biggest problems is that existing analysis techniques fail to predict how collaboration will change as a result of the introduction of a new system. In this paper we demonstrate the extent to which group support systems can change an organisation. To address this problem, better theories of how collaboration evolves



... A C ... A E ...

3. Definitions

... or ...

3.1. Shared Understanding

... or ...

... or ...

3.2. Coordination Breakdowns

... or ...

or /o/ or /ɔ/, on /ɒ/ on /ɔ/ A /r/ /r/ /r/ n/ n/ on
/o/ /o/ /n p / / /no/ r p r on n/ o
/r/ n / or / p / n /o / / p /,
r /pon / / / /no/ r p r on /o/ / r /
/r / n/ /r / r / no/

/r / n /o / / p /,

op n/ o-ψ r l- n r/n, n /n
o l- r, on/r, l- r -ψn ξ/rn
r pr n/l on
or /n , on, r l- ro o ξ/rn
r pr n/l on or, on n n r/n, n /n
ξ/p o /p r on r /l n l- /or o /r, l- n/
p n p n, /n p p r, p /ro n on /l/
r l- l- ξ/rn r pr n/l on ppor/
n/r, l- n l- l- ro o, o n l- /r, l- l- /
n/ p, n o r/ l- l- o, o n, /l

Abstraction, differentiation, definition, summarisation

pro, p o n/ -ψ r -r,
n r/n, n ξ p, l- /n, l- n, l- /
A /r, l on, /o, nor /l- n or /r /o /l- /
l- o r, on, p/ /r /l on, l- /r r
o/ -l o, /l- l- o l- n -n n, r /oo,
orr, l- /n, n, /l on o, o r on /op,

Report writing

or, / ro p /o /l o /l- r
n r/n, n ξ p, l- o/ l- l- pro, n /r por/
o n/n, /r n o r o n /n, on, l- /l- /
r por, no/ n, /r n o, / o-ψ r -ψ l- r l-
r por/ r l- /r, n r/n, n or, /r /
on, l- l- /o /l n /l o /l n r l- l- l- /l on
ξ p or, A/ l- r /l r por/ -ψ l- n n r l- l-

o po ... on n/n, p/on o ... ro, rr n.
= /n ... o no/ r p n l ... on on /n
n. r/n/ ... o/n ... o p n r / ... o ... /n
... on/ or ... on, r n l ... r lo ...
r o l ... r, r r o l l r l on p
l ... n l ... r n/ o ... or r p p r p n/
/ p r ... l r lo ... r, n r r/n, n ... l r
or no/ n ... r, n r r/n, n ... l ...
l ... lo or ... n/ o ... o ... r l l o
p r, r r l l on ... r l ... *team models*
... o ... r ... p ... p r p n
no/ ... lo, on, o r ... on or l ...
r, l ... n r p ... r, or r p ...
r o l ... r l ... n/ o ... o
o ... l ... o p r l ... n, n ... r l r r /r
r n ... o p r p, l ... n ... r l r r, on, l
n l ... o r ... n l ... l ... or n, r l
o ... o l ... l ... o p r l on p r p ... n l ... lo
/ ... n, or r, l p r, l on ... o l ... o ... r ... r o
l ... l ... p r or n ... n l l on
... r lo ... o ... r ... r p ... /n
... r ... o ... l ... l ... /n r p o l
r / ... o ... n, on ... Con ... on o, r ... n l l
o ... no on r l, r l ... l ... l
l l on ... n ... n ... n/ o
... o, or r ... l ... o ... loo
... on r ... r l
n ... o ... r ... op, r p, n r pon lo
/ r n l on l ... on on ... or l ... l
/ r n l on ... r l ... n r p ...
r o l on o ... on, l l ... o ... p l l,
... o l ... n n ... l ... n ... o
/ l l ... lo, n/ r n ... n lo p p n/ r l n
o ... pro on l ... on on
n pro ... n ro p ... p p, l l on ... l
l ... o, r r n, o r ... n l ...
r p n l l ... lo p r l ... r n/ o ... o l ... r
p r on l ro ... pro, o r ... l on pon l ... on /n
, on/ n/ o l ... r o l pro ... l
r p l l on or, o ... n, l on l ro ... r l,
on n/ o ... o ... r or o n/ r, l on ...
l p on ... r ... n /n ... lo ... o ... n, l on
A ... o no/ pro ... l ... n o l
o ... r ... r ... o ... nno, ... n l ... p r o o
, on ... on, pro on

6. Conclusions

n l ... p p r ... r ... l ... r ... p p r o ... lo l
/ n ... o ro p ... l ... o no/ ... q ... p r ... l
r ... o ... n/ r o ... n ... n ... o l ... r ... o
... on r l l ... r l n/ o l ... pro ... l ... o ...

r l l ... p ro p p p o r l ... l ... /n
... r n o pro ... n/ r r p ...
ro p or n l l on / n, l r nor
o ... r l ... pro ... n/ o, op/
o ... o ... or l ... o r l ... o, on l
on p l o ... r, n r r/n, n r / ... o ... n, on, l
n p r, r r r, o ... n ... n ... l ro n
ro p n/ r, l on n r ... n l ... l on o ... r,
n r r/n, n /n r ... n, on, l
... n, l ... n ... o ro p n/ r, l on
... l ... o r ... o ... p r p o l ... n
no/ lo ... o, r ... o ... r l ... r lo, pro o r
n r r/n, n o l ... ro l ... l ... p ... n ro p
n/ r, l on ... o n ... r on n ... n
... p, op ... r, n r r/n, n
... o ... n ... lo ... n l ... op n/ o
n ... ro p ... r ... p p, l l on n l ... r l l
/ n ... o r ... o ... n ... r on l l on ... n
pro ... n n ... l ... r ... r o ... l
/ l ... r, ro ... l ... o ro p n/ r, l on, n
n/ r p r l ... on, propo ... n or ro p p p o r l
... n ... l ... n/ r o p p o r l or l
... n ... lo pr ... o ... r o p ... r p r o

Intellectual Teamwork: Social and Technological Foundations of Cooperative Work,

Ernst A. Steyer, Ed. 1996. Cambridge, MA: MIT Press. 320 pp.

Distributed Cognition: An Alternative Framework for Analysing and Explaining Collaborative Working.

John H. Collins, Ed. 1996. Cambridge, MA: MIT Press. 320 pp.

Reducing social context cues: electronic mail in organizational communication.

John H. Collins, Ed. 1996. Cambridge, MA: MIT Press. 320 pp.

Interacting with electronic mail can be a dream or a nightmare: a user's point of view.

John H. Collins, Ed. 1996. Cambridge, MA: MIT Press. 320 pp.

Foundations of Cooperative Work, Edited by E. Steinberg, EA p

Rational Analysis for a Problematic World: Problem Structuring Methods for Complexity, Uncertainty and Conflict, Edited by R. B. Stammers, on

Cognitive Dimensions of Design Rationale, Edited by D. D. P. R. N. R. on, Edited by C. R. C. R. N. R. R.