

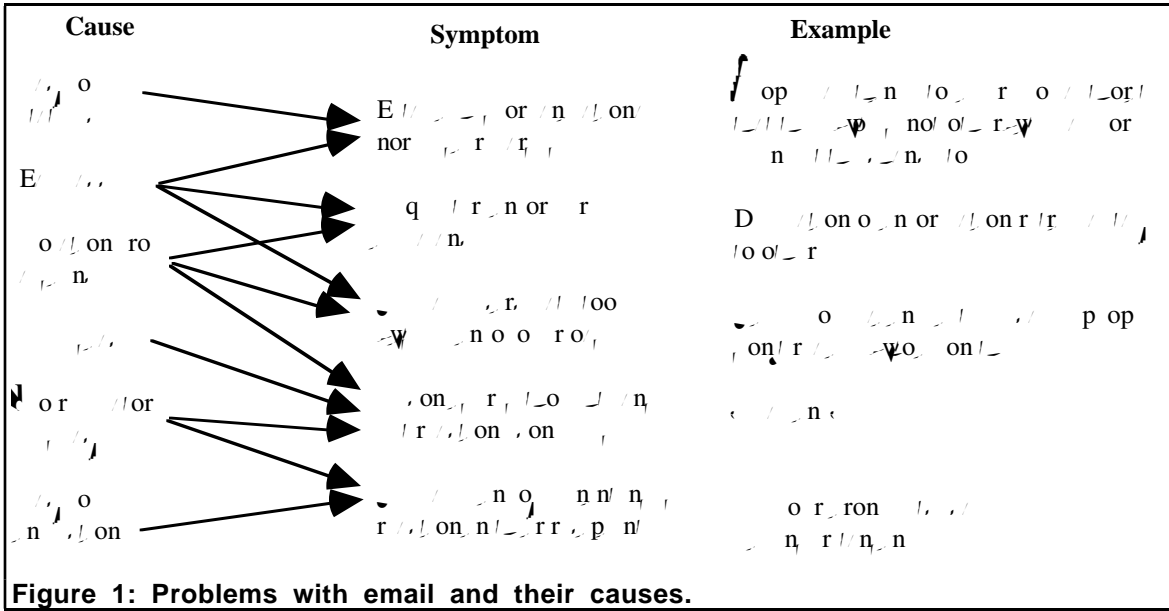
# Coordination Breakdowns: Why Groupware is so Difficult to Design

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*





But problems with email can be caused by a lack of shared understanding. For example, if a user does not know how to use a feature, they may not be able to use it. This can lead to frustration and a loss of productivity. To avoid these problems, it is important to provide clear instructions and training for users.

### 3. Definitions

There are several definitions of shared understanding. One definition is that it is a state of knowledge where all members of a team have a common understanding of the tasks, goals, and roles of each team member. Another definition is that it is a state of knowledge where all members of a team have a common understanding of the tasks, goals, and roles of each team member, and they are able to communicate and coordinate their actions effectively.

#### 3.1. Shared Understanding

Shared understanding is a state of knowledge where all members of a team have a common understanding of the tasks, goals, and roles of each team member. This is important for teams to be effective because it allows them to coordinate their actions and work together to achieve their goals. Shared understanding can be developed through communication, training, and experience. It is important for teams to have shared understanding in order to be successful in their work.

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#### 3.2. Coordination Breakdowns

Coordination breakdowns occur when team members do not have shared understanding of their tasks and roles. This can lead to confusion, conflict, and a loss of productivity. Coordination breakdowns can be avoided by ensuring that all team members have a shared understanding of their tasks and roles.





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, 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  
n/ p, n o r / /l o, o n, /l

**Abstraction, differentiation, definition, summarisation**

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

**Report writing**

or, / ro p /o / 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 /l  
/on, /l- /l o /l n /o /l n r /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 ...  
p r, r ... l on ... r l ... *team models*  
... o ... r ... p ... p r p n  
no/ ... lo, on, o r ... on or ...  
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 on  
... r lo ... l ... o ... r ... r p ... l/n  
... r ... l ... o ... l ... /n r p o l  
r ... o ... n, on ... Con ... on o, r ... n ... l  
o ... no on r ... r l ... l ... l  
l ... on ... n ... n ... n/ o  
... o, or r ... l ... l ... o ... loo  
... on r ... r l  
n ... o ... r ... op, r p, n r pon lo  
/ r n ... on l, on on ... or ... l  
/ r n ... on ... r l ... n r p ...  
r o l on o ... on ... l ... o ... p ... l,  
... p ... o l ... n n ... l ... n ... o  
/ ... l ... lo, n/ r n ... n lo pp/n/ r ... n  
o ... l ... pro on l, on on  
n pro ... n ro p ... p p, l on ... l  
l ... o, rr n, o r ... n l ...  
r p n l ... lo p ... 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 ... on or, o ... n, l on l ... ro ... r ...  
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 ... lo l ...  
/ n ... o ro p ... l ... o no/ ... q ... p r ... l ...  
r ... l ... n/ r o, ... n ... n ... o l ... r ... o  
... on r ... l ... r l ... n/ o l ... pro ... l ... o ...

r l ... p ro p p p r ... l ... /n  
... r n o pro ... n r p ...  
ro p or n ... on /n, l r nor  
o ... r ... l ... pro ... n/ o, op/  
o ... o ... or ... o r ... o, on l  
on p l o ... r, n r r/n, n r ... o ... n, on, l  
n p 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 ...  
... 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 on n l ... r l ...  
/ n ... o r ... o ... n ... r on l on ... n  
pro ... n n ... l ... r ... r ... o ... l  
/ r, ro ... l ... o ro p n/ r, l on, n  
n/ r p r ... on, propo ... n or ro p p p r  
... n ... l ... n r o p p r or l ...  
... n ... lo pr ... o ... r o p ... r /r lo



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