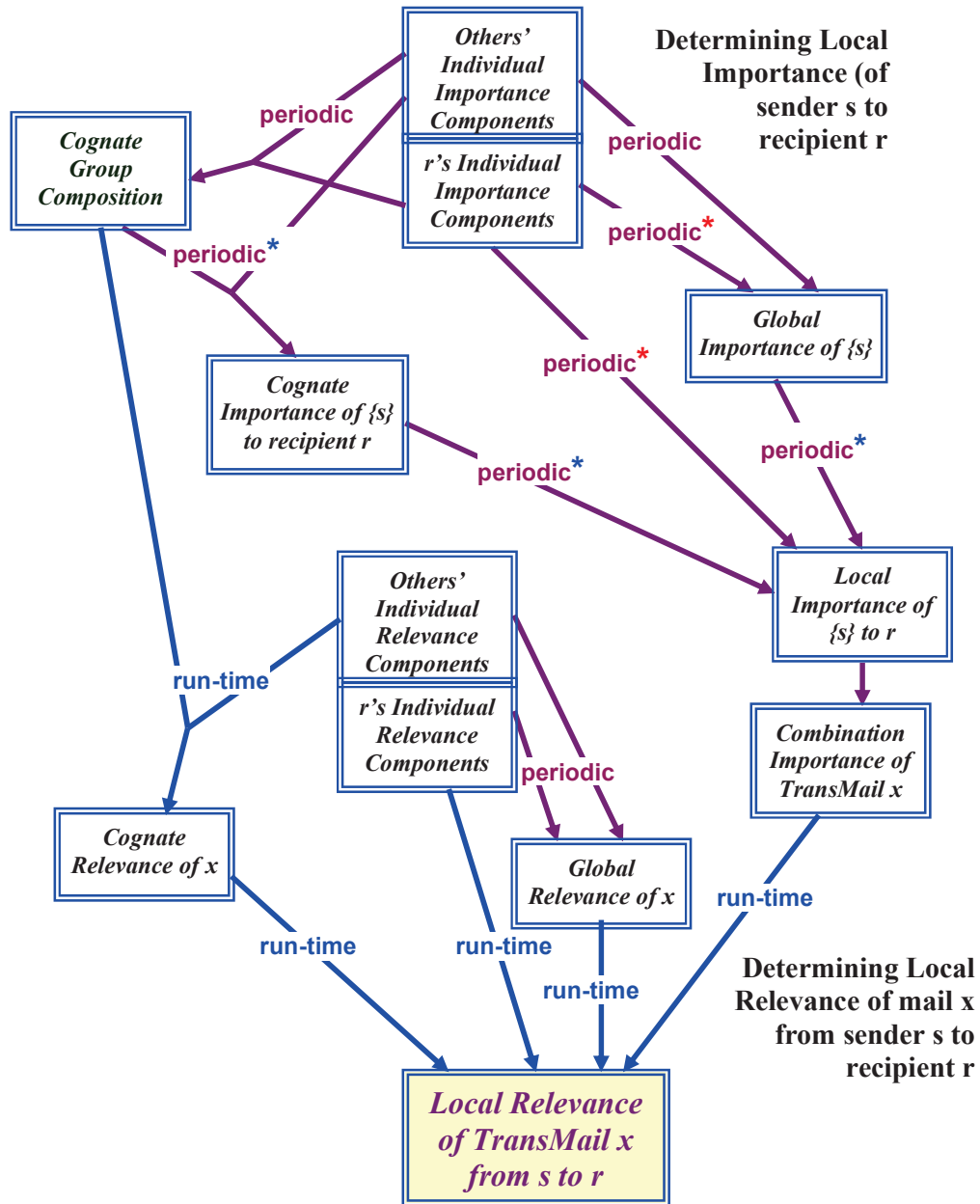


This paper contains the essential summary of what I think I agreed with Justin – I am sending it separately for you to look at but will also incorporate it in the document:

The diagram will now look like this:



Note: If this is the first contact between s and r then the arrows marked * will be absent and the arrival of mail will trigger the calculations of arrows marked * (which are usually done only on periodic review) because no local importance figure will previously exist.

Basically, any individual users' actions on a particular piece of transmail have two effects:

- they contribute scores to that user's **INDIVIDUAL RELEVANCE COMPONENTS (IRCs)** for that TransMail x
- they contribute scores to that user's **INDIVIDUAL IMPORTANCE COMPONENTS (IICs)** for the sender(s) $\{s^x\}$ of that TransMail

In the communal sphere:

- The user's *IRCs* then contribute to a **GLOBAL RELEVANCE** score – and are available to contribute to any **COGNATE RELEVANCE** scores for other users.
- The user's *IICs* then contribute to a **GLOBAL IMPORTANCE** score – and are available to contribute to any **COGNATE IMPORTANCE** for other users.
- **GLOBAL IMPORTANCE** scores for senders are calculated periodically using the *IIC*'s.
- **GLOBAL RELEVANCE** scores for each mail are calculated periodically using the *IRCs* (being revised more frequently in initial stages of a mail).

For each user:

- A **COGNATE GROUP** of n users is identified, whose *IICs* correlate most closely with that user. As we have noted, this means that it is quite possible for John to be in Joan's cognate group but not *vice versa*. The identification of this n users does not have to change rapidly, and it is done on periodic review, with the identities of the n stored locally for user r .
- A **LOCAL IMPORTANCE** value for each sender with whom a recipient r has interacted is calculated periodically and stored locally to r . This utilises the recipients own *IIC*'s for s , the global importance of s , and a value for cognate importance for s found from the combination of *IICs* amongst the current n identified as cognate to r .
- When a TransMail arrives its mail data may include inputs from a **SET OF SENDERS** $\{s^x\}$ who have forwarded or contributed to the history of that mail. A **COMBINATION IMPORTANCE** for that TransMail x is calculated when it arrives, using the mail data to identify senders $\{s^x\}$ and stored locally to r . If any key senders in $\{s^x\}$ have not previously interacted with this recipient, there will be no stored value for local importance for them. In this case a local importance figure is calculated for that sender when the mail arrives, using just the global and cognate importances because there are, of course, no *IICs* at that point.

Finding Local Relevance:

In run-time a **LOCAL RELEVANCE** figure for recipient r for that mail x is calculated, using as inputs:

- **Combination importance of mail x** (as cached on arrival)
- **Global relevance of x** (as stored on periodic review)
- **Recipient r 's *IRCs* for x** (ie any actions done on the mail)
- **Cognate relevance for x** (calculated looking at the *IRCs* of the n in the cognate group)

The last two will alter each time the browser is refreshed, the first two change only on periodic review.

Some points to note:

- (a) The recipient r 's *IRCs* consist of actions done by him on this TransMail. His *IICs* consist both of these and of any past actions done on TransMail from the same sender. These are stored locally to him.
- (b) The cognate group composition is determined by correlating the *IICs*. The n other users with the most similar *IICs* to r , will be his cognate group. This is done on periodic review basis, as it does not need to change rapidly.
- (c) The sender s 's global importance is found from all the *IICs* (including that of r) on a periodic review basis. As noted, because importances are used to weight the *IICs* to determine importances this is circular – but it is solved to a given accuracy on this periodic review basis.
- (d) The Cognate Group has two effects:
 - One is through [Cognate Importance ► Local Importance ► **Local Relevance**] which looks at how the Cognate group in general have rated the sender.
 - The other effect is through the direct actions of the cognate group on this particular TransMail ie [IRCs of Cognate Group on this Transmail ► Cognate Relevance ► **Local Relevance**].
- (e) The end aim, of course, is to produce a “good” figure for local relevance, which is the browser relevance seen by the recipient. The system offers a rapid effect of actions on the mail of (in decreasing order of importance and so rapidity of change):
 - the actions of user r himself on TransMail x
 - the actions on the TransMail x of the group cognate to r
 - the actions of all the other recipients on TransMail

The Process is now as follows:

Let us remember that the end aim is to produce a “good” figure for local relevance, which is the browse relevance seen by the recipient. If the system is to be any use, then we want to have a rapid effect of actions on the mail or (in decreasing order of importance)

- *the actions of user r himself on TransMail x*
- *the actions on the TransMail x of the cognate group to r*
- *the actions of all the other recipients on TransMail x*

As it stands:

- **The user r 's actions act as IICs and immediately affect the local importance of s to r which in turn affects the local relevance of mail x** [If a user thinks little of a sender then this needs to be reflected rapidly – and in any event requires only local calculations.]
- **The user r 's actions act as IRCs and immediately also affect the local relevance of mail x directly.** [If a user thinks little of a sender then this needs to be reflected rapidly – and in any event requires only local calculations.]
- **The actions of any of r 's cognate group on mail x will act as IICs on the importance of s , but this will not immediately affect the cognate importance of s to r , because this is done under periodic review.** [It would be nice for this to happen more rapidly, but this is probably impracticable.]
- **The actions of any of r 's cognate group on mail x will also act as IRCs and in this guise will immediately affect the cognate relevance of mail x , and through this the local relevance of x to recipient r .** [If this is *not* effective in run-time or at least very rapidly then there is almost no point in having the system. The point is, however, that the numbers in the cognate group are not large. Hopefully, the calculations are therefore realistic. If it is not practical to update the cognate relevance real time, it could alternatively be triggered by a “refresh” instruction from the user at the point where he actually wants to browse his mail. This latter would be just as satisfactory, and would require less updating. This could be indicated by a different coloured arrow signifying a triggered process if you wished.]
- **The global relevance changes less rapidly – although it is an input to local relevance in run-time, the figure itself does not change in run time.** [Either the global relevance will be done in run-time or in periodic review – there is no possibility of any user triggering a recalculation because the figure is global. It would be nice for it to change rapidly, but the rapidity may depend on traffic and capability.]

EXHIBIT 2064

metadata slip sheet

BegDoc	REV0001041
BegAttach	REV0001041
File Name	Alterations to document.doc
LastCreateOn	10/8/2005 4:50 AM
LastModifiedDate	10/8/2005 11:14 AM
Custodian	Marston, Paul
Author	Marston
SortDate	10/8/2005 11:14 AM
Office-Revision Number	7
Last Saved By	Marston
Exhibit No	