3. Location-related choices:
   — only members in my country (MAY_{45}) m 45
   — only members who live less than 5/10/20/50/100/200/500/1000/2000/5000 kilometers away ($SHOULD_{46}$) S 46
4. Personality-type-related choices:
   — only members with the following TTT types <types> ($MUST_{47}$) M 47
   — only members with the same primary Enneagram type (MAY_{48}) m 48
   — only members with one of my Enneagram types as one of theirs (MAY_{49}) m 49
   — only members with one of their Enneagram types related to one of mine (MAY_{50}) m 50
5. Like/dislike-related choices:
   — only members whose life motto (any one) contains <string> ($MUST_{51}$) M 51
   — only members who share one of my likes ($SHOULD_{52}$, and MAY_{53} be extended into "share at least 1/2/3 of my likes") S 52 m 53
   — only members who share one of my dislikes ($SHOULD_{54}$, and MAY_{55} be extended into "share at least 1/2/3 of my dislikes") S 54 m 55
   — only members who dislike none of my likes ($SHOULD_{56}$, and MAY_{57} be extended into "dislike at most 0/1/2 of my likes") S 56 m 57
   — only members who like none of my dislikes ($SHOULD_{58}$, and MAY_{59} be extended into "like at most 0/1/2 of my dislikes") S 58 m 59
6. The member selects some choices (at least one) and submits the search
7. The portal finds all members that satisfy all of the filters and presents them as a *Member List* (2.5) that the member can then work with.

2.4.2 Notes

- x kilometers away: The comparison is performed based on the GPS coordinates alone. You need not implement spherical geometry computations, rather you $MUST_{60}$ use the following simple substitute: with a longitude difference of x and a latitude difference of y, the distance d is $d = \sqrt{x^2 + y^2}$, where the unit of d is 100 kilometers. If you make sure you choose the shortest way, this is correct with respect to latitude differences and tends to overestimate longitude differences (except near the equator, where it underestimates, since $40,000/360 \approx 111$). GPS M 60
- GPS data precision: The low precision that some users may have chosen for their GPS coordinates is ignored in the distance computation. All data is treated as if it was arbitrarily precise.
- You $SHOULD_{61}$ devise a nice interaction style for specifying a set of types. It needs not be capable of representing arbitrary sets; wildcards ("don't care") for individual dimensions are sufficient. It is useful if the member can quickly recall selections used in previous searches (MAY_{62}). S 61 m 62
- Related Enneagram type: Enneagram theory talks about relationships from each type to two other types, marked by arrows to and from in Figure 2.1. For example for somebody with type 1, the related types are 4 and 7. For somebody with types 1 and 2 they would be 4, 7, and 8.
- Choices that make no sense because of missing data (e.g. lack of TTT result, Enneagram type, or dislikes list for the current user) $SHOULD_{63}$ be disabled. S 63

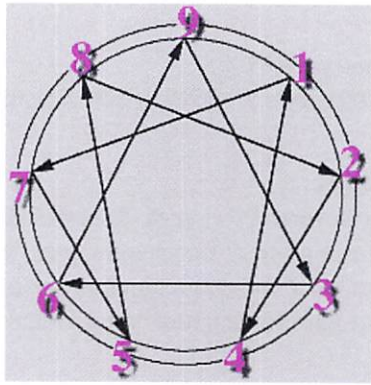

Figure 2.1: Enneagram type relationships

2.5 Member works with Member List

2.5.1 Main scenario

M 64 $MUST_{64}$

Precondition: User (member) is registered and logged in.

1. The portal displays a graphic with a 2-dimensional overview plot of the distribution of the members in the list ($MUST_{65}$, see notes). (M 65)
2. The member changes which variables are plotted in the graphic ($MUST_{66}$). (M 66)
3. The portal displays an updated graphic.
4. The portal shows the members of the list with the following attributes: username, town, country, life mottos, TTT type, and Enneagram types ($MUST_{67}$). (M 67)
5. The member selects some members whom s/he has not yet sent a Request For Contact Details (RCD, $MUST_{68}$, see 2.1.3). (M 68)
6. The portal sends an RCD to these members ($MUST_{69}$). (M 69)
7. The member requests to see the Status Page of one member from the list ($MUST_{70}$). (M 70)
8. The portal *shows the Status Page* (2.6).

2.5.2 Exceptions and variants

- 1b, 4b: If the member list is empty, the graphic is suppressed and the list replaced by a message (MAY_{71}). (m 71)

2.5.3 Notes on the graphical plot

Plot: Each member in the list (plus the user) is shown by one symbol positioned along two axes. See Figure 2.2 for an example. The horizontal and vertical axis each represent one of the following values for the member:

- E-I (positive values x for test results containing E+x, negative ones for I+x, $MUST_{72}$), (M 72)
- S-N accordingly ($MUST_{73}$), (M 73)