Matchmaking framework - simplified version for Milestone 2

Munz Michael[1]

Abstract. The matchmaking framework is developed and implemented by an iterative software development approach. In Milestone 1 a full funcationality of all requirements isn't supported, but it's for evaluation and an early user experience. It is only used in the intranet of SOPHIA, because of security issues. At first the system won't be accessible from the outside via web, to prevent misuse of the system and unreliable offers. Core requirements for Milestone 1 are searching for and offering «help» and «activities» by particiants (seniors and volunteers).

1 INTRODUCTION

This report is a summary of a meeting with SOPHIA held september 25th, 2012. In this meeting new requirements came up and were defined for the matchmaking framework. It is based on the requirements already defined in [1]. There is going to be an early version of the framework, called Milestone 1[2]. Among other things a simplified userinterface for matchmaking is going to be implemented, for profil creation and for initiating a search. The definition of «help» and «activity» also has been redefined.

Because the matchmaking framework is mainly based on neighbourly help, it focuses on helping and supporting each other without getting payed in any form. It is important to distinguish it from similar approaches and plattforms already available where users getting payed by some form of credits for helping someone.

There is also a second difference to those plattform. During the project the plattform won't be open to everyone. That's mainly because of preventing misuse of the system and to keep out untrustworthy users. That step is necessary because the focus of the project is to improve mobility and social life of older people and trust is here a really important issue.

2 SIMPLIFIED MATCHMAKING FRAMEWORK

For the purpose of an early user experience and evaluation of the system a simplified version of the matchmaking framework is going to be developed. It won't have all requirements implemented, and only just the basic requirements will be supported in this early version. There should be two kinds of forms provided: a form for creating «senior profils», and a form for creating «volunteer profiles». Older people who want to participate in the project and are not already registered in any way at SOPHIA have to fill out a form. In this way a user profile will be created. The same is true for volunteers. The form creating a new volunteer will be similar to the one SOPHIA has

proposed, see appendix 5. Each new volunteer has to fill out this kind of form. At this stage, the matchmaking algorithm won't work in a sophisticated manner, but it should work in a naive way. It simply returns all results for an existing category. Possible categories are for example activities, culture, and sport. At first, the matching is going to be realised by the employees of SOPHIA. This approach is acceptable, because the early version of the framework is going to be used only in the intranet of SOPHIA and the group of senior participants and volunteers is in a small manageable number. A matching between volunteers and people who need help or looking for activities can be done manually. Furthermore, the employees of SOHPIA are instructed in how to handle personalised data and are aware of existing privacy regulations. Access to the matchmaking framework to the public via web will be realised later in a more stable version.

3 HOW TO ENSURE USERS ARE TRUSTWORTHY?

A major concern of the security of older people is to make sure that nobody can misuse the matchmaking framework other than the intended purpose of neighbourly help. During the project people offering their help are only volunteers which have been screened by SOHPIA. That is, people who want to work as volunteers have to announce their interest. To become a volunteer one has to fill out a form, either via an online form or by making an appointment at SOPHIA. Before anyone will be accepted as a volunteer a screening has to be passed and afterward a training on working with older people. These steps are necessary to ensure that volunteers are truthworthy and qualified in handling older people. It is especially true when working with seniors.

As already said, in the first phase of the project the system is going to be accessible only via intranet of SOPHIA, because of security issues. That also means, it won't be accessible via web to other people during that phase. But in general, it is open to everyone in the participating cities of Bamberg, Erlangen and Nürnberg. But here are still conflicting goals. On one side, the system should be open to everyone to get the maximum benefits. Only a system which is used frequently and by a lot of people will make a contribution to the benefit of the system. The more offers the system has the more likely it is to find the help or activity someone is looking for. On the other side, misuse of the system has to be prevented. When allowing everyone to register freely to the system it's difficult to ensure that offers made via the system are reliable and legitimate. This is a requirement which hasn't been solved yet in a satisfiable way.

---

[1] University of Bamberg, Germany, email: michael.munz@uni-bamberg.de
[2] The matchmaking framework is realized by iterative development

4 HELP VS. ACTIVITY

The goal of the project is to improve mobility and social life of older people. Therefore, two core requirements of the matchmaking framework are support for searching and announcing *help* and *activities*. People who are looking for help can use the framework to find someone who offers a helping hand and vice versa. And it can also be used to find someone else to do activities together. Between helping and doing activities though exist differences we try to clearify in the following.
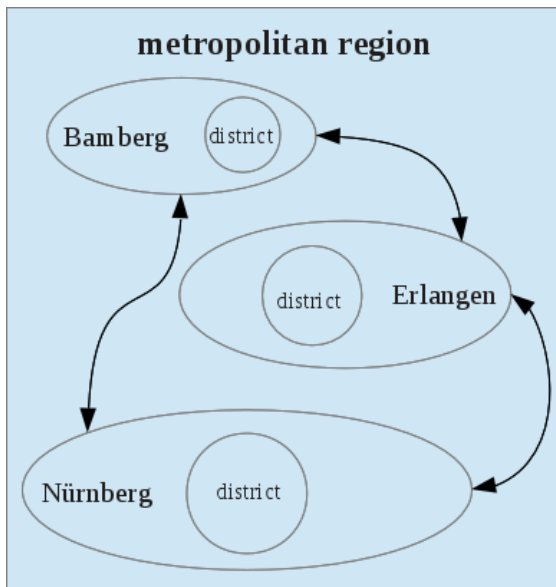

Figure 1. Action radius of activities and helping. Most of the time helping someone covers a small area. It is in the neighbourhood or the district one is living in. Doing an activity covers the whole city and even across cities.

4.1 Action radius

One important difference in helping and doing an activitiy is the action radius. It refers to the distance one is willing to cover. The action radius in helping someone is usually a great deal smaller as the action radius of doing an activity. Most of the time helping someone will only affect the direct neighbourhood or the district one is living in. The radius of an activity can not only cover the whole city but even include cross city activities. In figure 1 these circumstances are indicated by different action radii. The differences can be explained by the time one associates or one is willing to spend. The time span associated in helping is smaller as it is in activities. Therefore, the action radius is smaller, too.

4.1.1 *Help*

Older people can use the system to search for someone when they need help in everyday life. And volunteers can use the system to offer their help. One characteristic of helping someone or looking for help is that it is usually limited to a certain radius and that has to be taken into account. Someone is usually only willing to help someone else when it is in the same neighbourhood or district. The motivation to help someone based on neighbourly help is therefore restricted to a small radius. The distance increases only when people already

know each other very well. The situation might be slightly different when a volunteer offers her help. Volunteers are more willing to help someone even if she has to go to someone who is farther away or is located at the opposite side of the city. In the matchmaking process these situations has to be taken into account.

4.1.2 *Activity*

Beside searching for help and offering help a user (senior, volunteer) should also have the possibility to search for and announce activities. As already mentioned, doing an activity covers a greater area and a greater amount of time is usually spend in doing so. A typical activity is taking a walk in the park, doing a bicycle tour, or accompany someone to the medical doctor.

5 SYMMETRIC VS. ASYMMETRIC RELATIONSHIP

Another important point one has to be aware of is which users are involved in an activity or in helping. There are two basic situations possible: someone is looking for help or someone is looking for one or more activity partners.

The first situation - looking for help - is «asymmetric». Needing help is asymmetric, because only a specific user group is considered for a mapping and furthermore the matched parties are not at the same level. That is, a person (possibly a senior) who is looking for help depends on someone willing to help, see figure 2. A helping situation is described by two distinct sets of user groups: a senior and a volunteer. A request of the person looking for someone is going to be mapped to available volunteers and vice versa. Note, only volunteers are considered for someone who is looking for help as a possible match. Because of the asymmetry in the situation the matching is done by *best fit*, as described in [1, 3 Scenario, 5 Components of a matchmaking framework].

The second situation in which someone is looking for activity partners is «symmetric». The request of a user is mapped to both seniors and volunteers. These two sets are then used to find similar matches. The involved people in this situation are at the same level. That means, nobody depends on someone else to do the activity as it is in the above situation of helping. What matters here is, that the matching is done by finding similar activitiy partners, see [1, 4 Requirements, 5 Components of a matching framework].
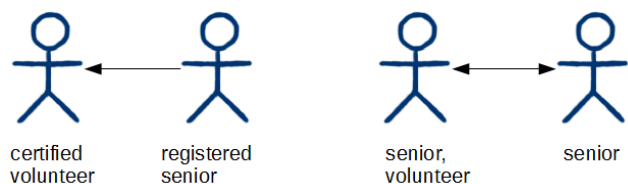
Figure 2. *left:* A helping situation is an asymmetric relationship. The older person depends on someone who is willing to help, because she can't do it on her own. *right:* The relationship of activities is symmetric. Involved parties are at an equal level, no one depends on someone else to do the activity.

References

[1] Michael Munz, Klaus Stein, Martin Sticht, and Ute Schmid, 'Matchmaking: How similar is what I want to what I get?', in *SAMAI, Similarity and Analogy-based Methods in AI, 1st International Workshop, Montpellier, France*, (2012).

7 online
7 danach betätigen

Name, Vorname:
Anschrift:
Telefonnummer/Handy:
E-Mail:
Geburtsdatum:
Ausbildung/Beruf:
Besondere Kenntnisse und Fähigkeiten, die ich gerne einbringen würde:

Mein freiwilliges Engagement möchte ich anbieten am:

☐frühen Vormittag (6-9 h)   ☐später Vormittag (9-11 h) ☐Mittag (11-13 h)

☐früher Nachmittag (13-15 h) ☐Abend (17-20 h)   ☐Nachts (20-6 h)

☐Mo ☐Di ☐Mi ☐Do ☐Fr ☐Sa ☐So

☐gerne dürfen Sie mich für spontane Einsätze anrufen   _Urlaubszeiten Krankheit_

☐sonstiges:_____

Soviel Zeit kann ich schenken: _____ Stunden   ☐wöchentl.   ☐monatl.

Ich möchte folgende Aufgabe übernehmen:

☐ Treppenlotsen   ☐ Begleitung zu Fuß

☐ Begleitung zu Fuß & mit öffentl. Verkehrsm.

☐ Begleitung mit eigenem Auto   ☐ Besuch   ☐ Mitnahme   ☐ Abholung

☐ sonstiges: _____

☐ Ich kenne mich im Quartier aus   ☐ Ich habe keine Quartierskenntnis

☐ Ich bin bereit Personen mit Hilfsmitteln zu begleiten (Rollator, Rollstuhl, ...)

Möglicher Einsatzbeginn:

Ort, Datum: Unterschrift:

Benachrichtigung über   Tel   SMS   Internet
_☐   ☐   ☐_