

WP6

D6.4 V2me System User Manual V.4

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1. Introduction

The V2me System User Manual deliverables created in four versions by *WP6 – System development* provide detailed descriptions of all hardware and software components of the V2me system from the viewpoint of users and administrators. Updates of the V2me System User Manual document are delivered periodically to formalize iterative modifications during project development. This deliverable is based on the deliverable *D2.1 User requirements report* and *D2.6 System Architecture Specification V4* and closely related to deliverables *D3.3 Communication tools manual*, *D4.3 User interaction platform implementation report V.3*, and *D5.2 ICT platform and extension manual V.2*.

Virtual Coach Reaches Out To Me, V2me, combines real life and virtual social network elements to prevent and overcome loneliness in Europe's aging populations. Its overall goal is to enhance the joy of life of the network members. To fulfill this goal this service supports active ageing by increased integration in the society through the provision of advanced social connectedness and social network services and activities.

The service is encouraging elderly users to continue participating in the society, to share their knowledge and experiences, to stay mobile and cognitively agile.

As an intelligent combination of off-the-shelf and innovative technology (hardware and software) hiding behind a simple, user friendly interface, the service presents itself as a coach with two distinct functions:

1. Mediating relationships by supporting communication with other users from family, friends, professional networks and potential new communication partners (enriching social networks).
2. Interacting with the user in an adaptive personalized way, to establish a para-social relationship (as an additional contribution to preventing loneliness).

From a user's point of view it is important to get a reliable application that provides a good usability. These requirements have been taken into consideration during the development of the service. The service provides several beneficial functionalities, so the user can take care of his/her social life or organize daily activities.

With this service the user can arrange video calls to his/her family or friends via Skype that is installed in the tablet. Traditional phone calls are also possible. Calendar events or appointments can also be organized with the tablet.

The Home Platform is mainly responsible for displaying a Virtual Coach (VC) as a guide in the system. The Virtual Coach carries out all tasks in terms of user assistance. The Virtual Coach is also voiced so that the user feels like speaking to a person while interacting with the system. On the other hand, by interacting with the 3D model the user can enhance the para-social relationship rather more than just a "talking tablet".

Interaction with the Virtual Coach is performed using the tablet. The coach asks questions and gives specific lessons regarding friendship in which the user has to interact with the Virtual Coach. The interaction will mostly be by answering "Yes/No" questions and sharing the current mood with the Virtual Coach.

It has to be noted that similar to other work packages and their deliverables that additional functionality for the home platform has to be delayed in accordance with continued delays in the preceding A²E² project. The final software version on which the home platform should have been built upon was not available in time. As a consequence, we are working on a separate, solution independent from A²E² for the Home Platform (see deliverable *D4.2 – User interaction platform implementation report V.2* for more information).

D4.4 User Interaction Platform prototype manual was merged into this document and the previous iteration D6.3. It is incorporated mostly in the sections 2.2 Mobile Platform, 2.4 Home Platform, 3.1 Tablet Initialization, 3.3 Home platform Initialization, 3.4 Scene Editor and Viewer, 3.5 Kinect Recorder and 3.6 V2me Lesson Editor.

2. User manual

2.1. System Description

The system physically contains three core components:

- Mobile-Platform / Tablet
 - Coach interaction with the elderly people to do Friendship Lessons and to be motivated to contact others or to attend events
 - Mobile input device for the user with touch screen
 - Interface for the elderly people to access Social Network functionality
- Home-Platform
 - 3D animation of the Coach and the Avatar as user representation
 - Control of Shared Exercising via Kinect
- Servers: S7 and Content DB
 - Provides services for the Coach functionality
 - Storage of data
 - Web interface for caregivers and relatives to communicate with the elderly people, to join discussion forums and to administer the Coach functionality and users

A brief overview of the complete V2me system can be seen in Figure 1. Talking about manuals means that only the hard- and software used by the end user and administrator will be described. In this way, the user and/or admin will get an understanding of all the necessary parts of each application and how to use it in the right way.

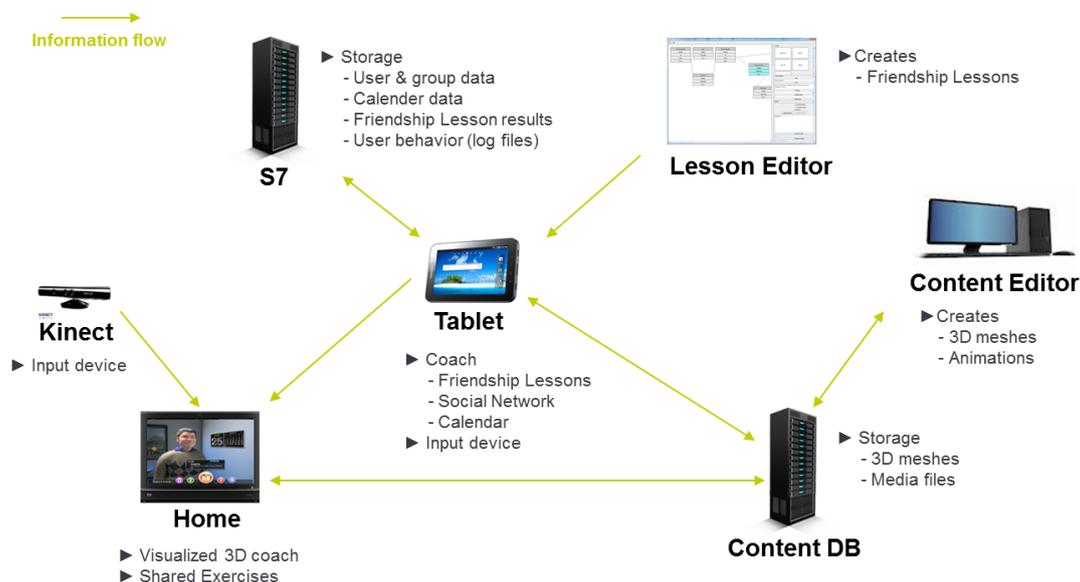


Figure 1: V2me system architecture

Generally speaking, the system can be described by three main components:

- **The Mobile Platform** is a framework on which all mobile based applications and services are running. In general, this part of the system is the portable tablet to be used independently at elderly person's home. It provides the VC

functionality and enables interaction with other users with several applications, as, for example, video calls or social network.

- **The Home Platform** is a stationary system at the elderly person's home. It is an internet connected device, e.g. a large screen all-in-one PC. It communicates with the server allowing synchronization with the V2me mobile platform and provides the 3D animated Virtual Coach (VC) and its functionalities.
- **The Web Platform** or V2me Portal is a web based portal engine, using the Mawell S7 eServices platform as a framework that combines multiple web applications into a single view. The main purpose of the web platform is to connect all interest groups and their members with each other. Furthermore, this platform provides the Mawell S7 NetNurse module to be utilized as social networking channel. In addition, the calendar functionality is managed in via the web platform V2me Portal, as well as the synchronization towards the tablet.

2.2. Mobile Platform

The mobile platform is a framework on which all mobile based applications and services run. In general, this part of the system is meant to be used when the elderly person is not in his/her home.

The mobile platform is an online device receiving most of its content via network. It connects to the home platform in order to exchange the configuration data, and this information is then updated in the local database. Furthermore, the mobile platform uses the functions of the virtual coach and the local user interface. All the applications are adjusted to the screen resolution of the used device in order to obtain high usability and acceptance by the elderly user.

The mobile platform can be used on tablets with an Android operating system. Within this manual the screenshots are taken from an Asus Google Nexus 7 tablet with a 7" screen size. It will host a classic user interface, described also in the following sections, to provide the services to elderly users. Using Android will allow the consortium to easily switch to other mobile device form factors (e.g., 4" smartphones or 10" tablets) if initial reactions of the different pilots will show that these are preferred over the selected tablet size.

2.2.1. Tablet Usage

In general, the Android tablets possess a touch screen. This technology is considered to make the use of computers, tablets, and smart phones very much enjoyable and convenient since you can directly interact with the device using your hands (like interacting with other real world objects). Touch screens provide you several advantages over the conventional keyboard and mouse interfaces of which the most important ones are:

- The touch screen technology gives you a “real time access” allowing you to navigate in real time to almost all applications by performing different kinds of touch gestures on the screen.
 - A touch screen is hence very intuitive and easy to use, as you can simply touch and interact with what you see on the display.
 - Moreover, touching a visual display requires little thinking as it is a form of direct manipulation that is easy to learn, even for children.
- The use of this technology is also beneficial in reducing the required working space, because it is no longer necessary to install additional keyboards or mouse pads in your working area.
 - Additionally, touch screens are less demanding concerning hand-eye coordination compared to mouse or keyboard.
 - Touch screens are also the fastest pointing devices, hence saving time while working.

2.2.2. Tablet Gestures

In order to use the mobile platform several basic Android-specific touch gestures have to be explained.¹

Tap – Briefly touch the surface with the fingertip.

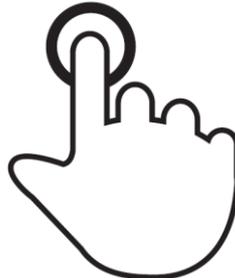


Figure 2: Tap gesture

Drag – Move the fingertip over the surface without losing contact.

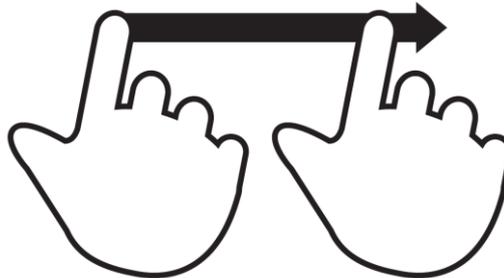


Figure 3: Drag gesture

Flick – Quickly brush the surface with the fingertip



Figure 4: Flick gesture

¹ Figures in this section are taken from <http://www.lukew.com/touch>, last accessed on 14. Feb. 2013;

2.2.3. Generic screens of the mobile V2me system

General screen layout

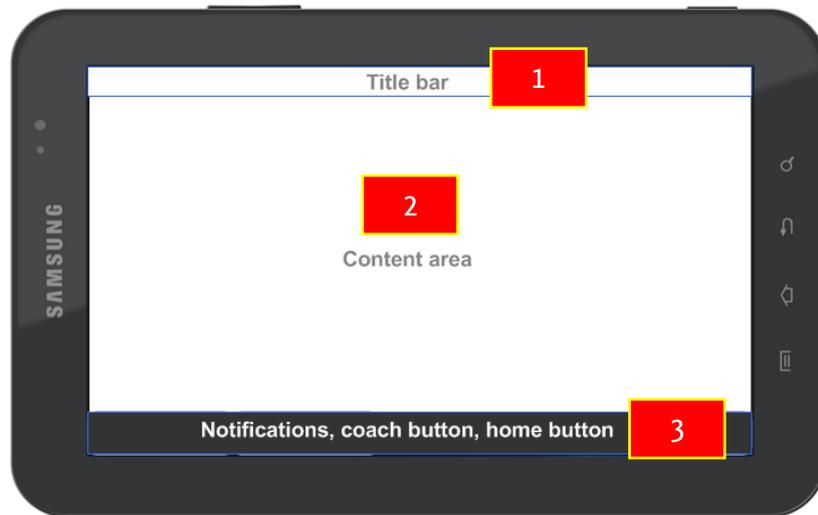


Figure 5: Generic screens - General screen layout

The workspace on your mobile V2me device is separated into the following three main sections as shown in the illustration above:

- (1): Area for screen titles and additional information such as the current local time, or the battery status.
- (2): Area reserved for the Virtual Coach (VC), contextual interaction elements such as buttons for navigation, or other contents such as the VC's speech bubble.
- (3): Area for system notification messages, e.g. incoming emails, imminent events, and the fixed buttons for the *Virtual Coach* screen and *Home* screen.

Please note that the mobile V2me platform is available for different tablet devices and Android versions. Figure 5 shows the Samsung Galaxy 7" P-1000 tablet as an example.

Virtual Coach screen



Figure 6: Generic Screens - Virtual Coach screen

›How to access this screen:

(1): The *Virtual Coach* screen can be accessed via the "Coach" button in the lower left corner of the notifications bar and comprises VC related options and functions.

›What to find in the content area:

(2): The left side of the screen contains two options to select the different VC modes:

- Talk to me now: Initializes a conversation with the VC including the possibility to start a session with the coach.
- Deactivate Coach: Deactivates the VC completely. The VC will not attempt to approach you again.

(3): The section on the right side includes the following functions:

- My Stories: Access and listen to your recorded stories.
- Homework: Check the status of your homework.
- Mood: Adjust your current mood level.

Home screen

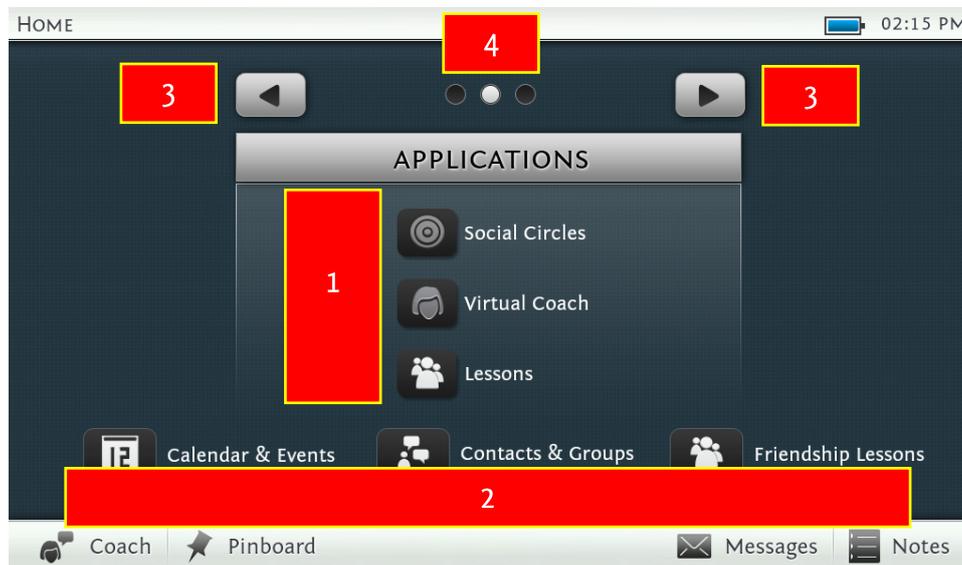


Figure 7: Generic screens - Home screen

›How to access this screen:

The *Home* screen offers access to all available applications and can be reached via the "Home" button in the lower left corner of the screen.

›What to find in the content area:

(1): The middle area of the *Home* screen contains all applications that are currently installed on the mobile V2me device. Applications can be opened by tapping on the corresponding button. Six applications are displayed in this area at the same time. This includes frequently used applications such as "Calendar & Events", "Contacts & Groups" and the friendship "Lessons".

(2): In case you have installed more than six applications, you can browse through several application pages by using the arrow buttons or by performing horizontal swiping gestures on the screen.

(3): The dotted page indicators show the total number of application pages and facilitate your orientation. In the illustration above there are altogether three application pages and therefore three dotted page indicators of which the second page is currently selected.

Pinboard screen

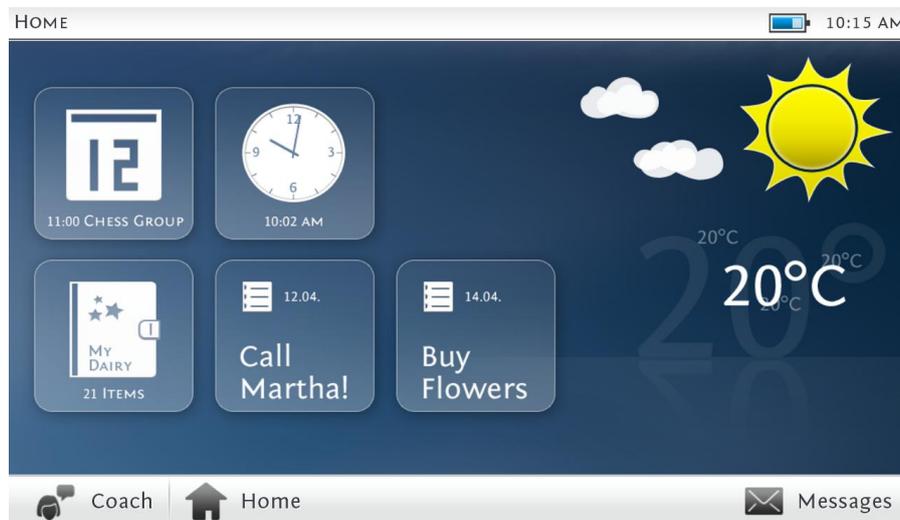


Figure 8: Generic screens – Pinboard screen

Please note: The intended purpose and corresponding functions of the *Pinboard screen* described hereafter are not implemented in the latest version of the mobile V2me platform.

›When does the idle screen appear?

The *Pinboard* screen appears whenever there are no activities up and running in the system. The idle state is triggered if no user actions are detected on the tablet within a predefined time span. Moreover, you can call up the *Pinboard* screen via the *Home* screen by tapping on “Pinboard” in the notifications bar.

›What to find in the content area:

- (1): The indicated applications can be individually chosen and placed. In the example above, five different applications are currently located on the *Pinboard* screen. Pressing any of these buttons will open the corresponding application.
- (2): In the background there is wallpaper. It changes its appearance depending on the current weather situation, daytime and season of the year.
- (3) & (4): You can access the *Home* and *Virtual Coach* screen from here as well.

2.2.4. Virtual Coach sessions - Making decisions & giving input to the coach

During a session or lesson with the Virtual Coach, you are often required to make decisions or give input to the mobile V2me device. The following passages are concerned with the most frequently applied interaction patterns and elements, their usage and effects.

Skipping parts of a VC session & postponing or agreeing to a request



Figure 9: Virtual Coach session - Skipping something

The main function of the “Skip” button (1) is to ignore the current part of an ongoing session and to tell the VC to proceed with another session-related topic.

Regarding the illustration shown in Figure 9, this means that you can reject the VC’s question (*How are you today?*) by tapping on “Skip”.

Please note: The VC will usually not ask you this question again in the course of the currently running session or lesson, but he may come back to this issue on some other occasion.



Figure 10: Virtual Coach session – Postponing and agreeing to something

You can also tell the VC to postpone a decision, request (*Do you want to record a story which involves a close friend now?*), or a task by using the “Later” button (2) as shown in the example above. Depending on the context this button may have a different label such as “No, not yet” or “Remind me later”.

Please note: When postponing a decision, request, or task the VC will come back to this issue at a later time.

By contrast, if you want to agree to the VC’s request, simply tap on the “Yes, I want to” button (3).

Simple “Yes” / “No” decisions



Figure 11: Virtual Coach session - “Yes”/”No” decisions

Some requests of the Virtual Coach can simply be answered with “Yes” **(1)** or “No” **(2)**. The illustration above shows such a typical case. Depending on your choice, the VC will react accordingly and proceed in a suitable manner.

Confirming & discarding an action



Figure 12: Virtual Coach session - Making a confirmation

From time to time, you are being encouraged (Figure 12) by the VC to give some subjective feedback such as stating your current mood (compare section 2.2.9 for further details). In these cases you have to confirm your individual input first before the VC will continue with the current session or lesson. You can do this by tapping on the “Confirm” button **(1)** after having selected your mood via the slider control (compare section 2.2.7 for further details).

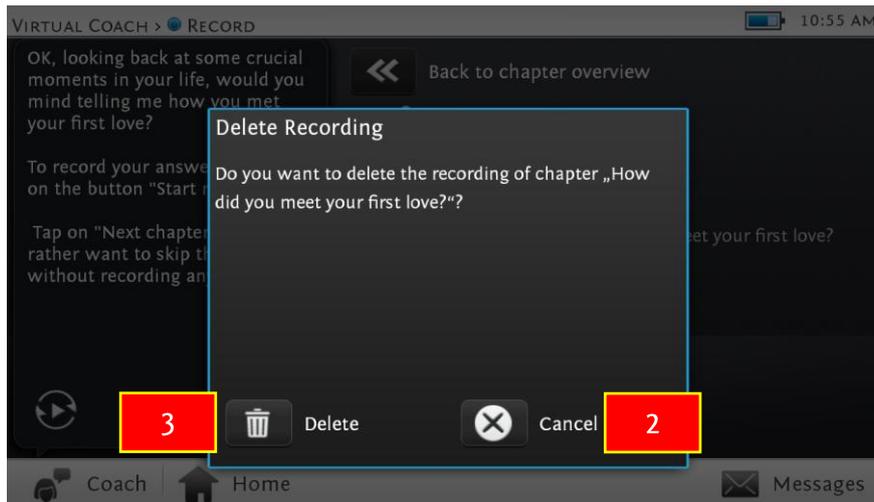


Figure 13: Virtual Coach session - Making a confirmation or discarding an action

In other situations you may be asked to confirm a critical action first before the system executes this action. A corresponding example is shown in Figure 13. Here, you are about to delete an existing audio recording. Tapping on “Cancel” (2) will abort this action whereas “Delete” (3) will execute the deletion.

Generic navigation elements

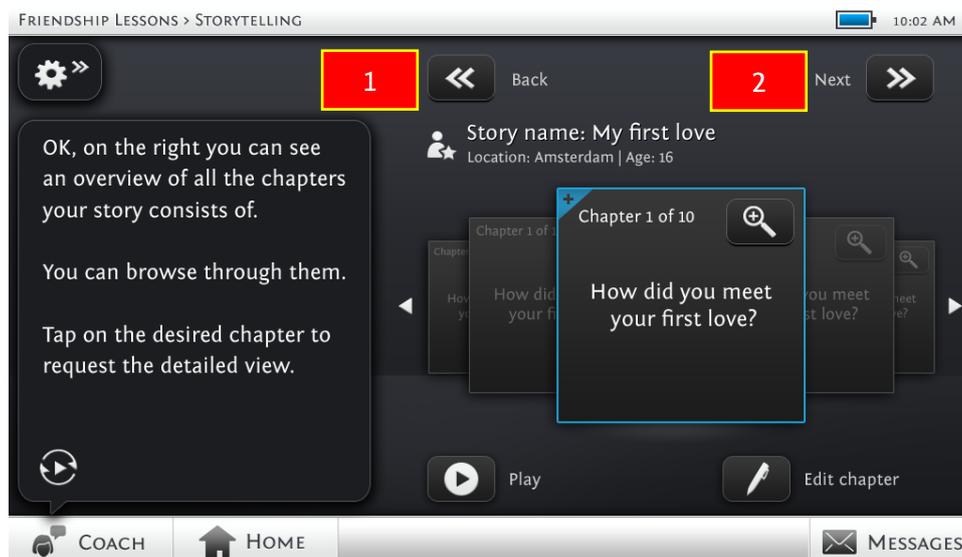


Figure 14: Virtual Coach session - Generic navigation elements

(1) & (2): You can navigate to the previous or next screen by using the “Back” button or the “Next” button. In this way, you can for instance go back to correct one of your previous decisions, or proceed with the next step in the course of an ongoing VC session.

Please note: These buttons are displayed on the screen depending on the context you are currently involved in. They are not permanently visible.

2.2.5. The speech bubble of the Virtual Coach

> What is the speech bubble and where do I find it?



Figure 15: Maximized speech bubble

The speech bubble is always situated within the content area on the left side of the screen (**1A**, Figure 15). It contains the text currently spoken by the VC in the course of a running session. The screen area to the right of the speech bubble is reserved for contextual user interaction elements (e.g. a "Start recording" button as illustrated) or other topic related information (**1B**).

In case you did not completely understand or missed hearing the VC's voice, please tap once on the "Repeat" symbol (**2**). Afterwards, the VC will repeat what was said.

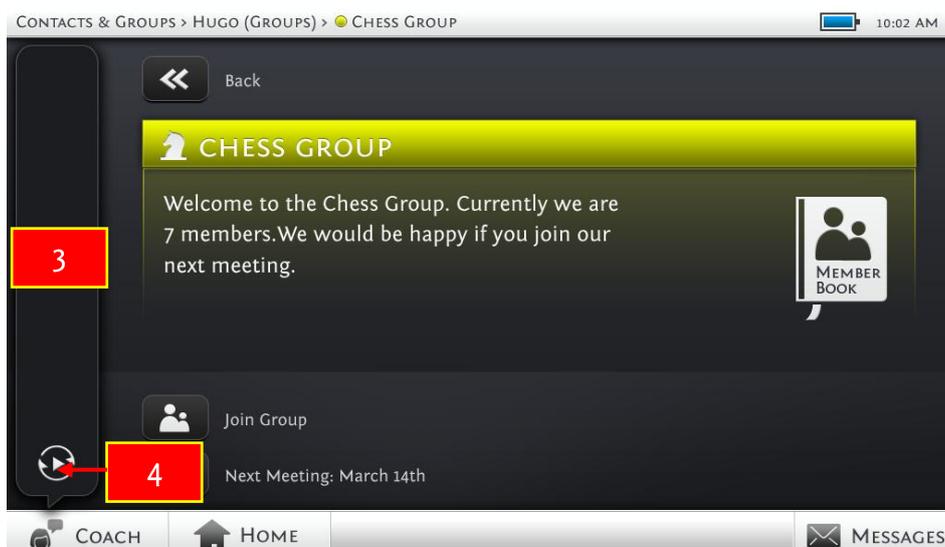


Figure 16: Minimized speech bubble

Depending on the application that is currently active, the speech bubble can have a smaller width (3, Figure 16) in order to provide maximum space for the content area.

Please note: When minimized, the text spoken by the VC is not visible within the speech bubble. However the voice is audible via the built-in speakers of your mobile V2me device.

As before, every time you tap on the “Repeat” symbol within the speech bubble the VC will repeat the text again (4, Figure 16).

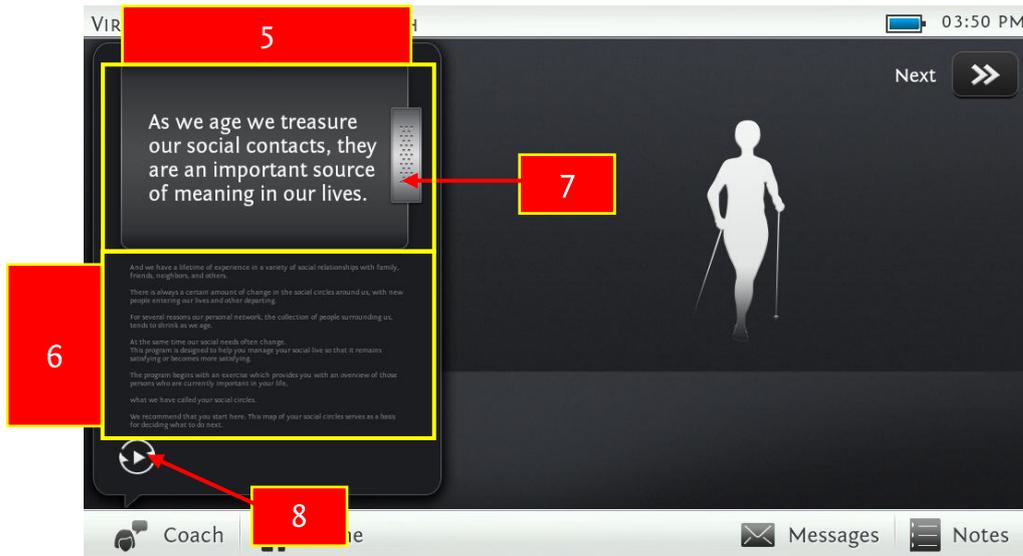


Figure 17: Speech bubble - Magnifier glass feature

Space within the speech bubble is limited (Figure 17). In case of long text passages, several lines are magnified (5) whereas the remaining text appears in a downscaled format (6). This magnifying glass synchronously moves to the next few text lines while the VC is speaking.

You can directly drag the magnifying glass (Figure 17) to the desired text passage by means of the small bar (7). It is also possible to scroll through the text manually by swiping your finger up or down across the speech bubble.

Please note: The VC will stop talking once you have started scrolling. Tap on the “Repeat” button (8, Figure 17) to reactivate the VC’s voice again.

2.2.6. Displaying and hiding contextual information on the same screen

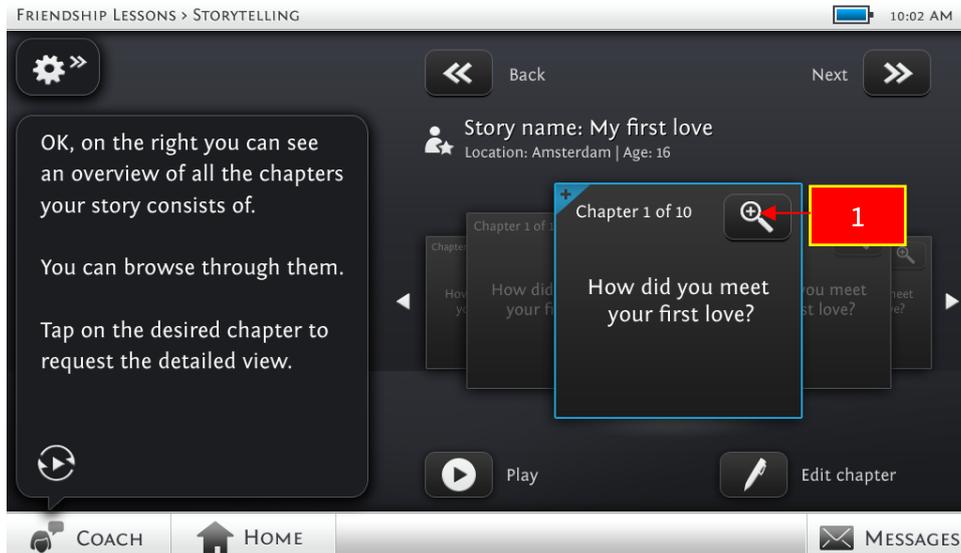


Figure 18: Displaying and hiding information (Part 1)

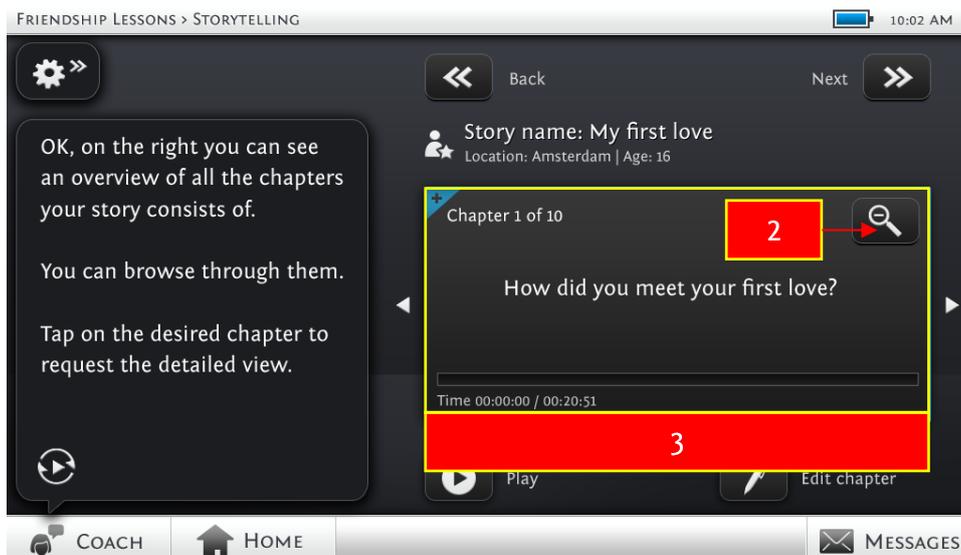


Figure 19: Displaying and hiding information (Part 2)

A magnifier symbol in the content area always indicates that you can display additional information regarding the associated object on the screen. By tapping on the magnifier glass symbol (1), you can either display or hide further details about a certain object on the screen (3):

- To display more details, tap on the magnifier glass containing a “+” sign (1, Figure 18).
- To hide the details, tap on the magnifier glass containing a “-” sign (2, Figure 19).

With respect to Figure 18 and Figure 19, you can display for instance the detail view of the story chapter (*How did you meet your first love?*) by tapping once on the magnifier glass symbol (1). As a result, the chapter card maximizes revealing more information (3). To hide this information and minimize the chapter card again, simply tap on the magnifier symbol (2) with the “-” sign inside it.

2.2.7. Special controls

This section shall give you more detailed information about special controls appearing throughout in the V2me system:

- Slider control
- Carousel control
- Picker control

Slider control:



Figure 20: Special controls - Slider control

The example illustrated in Figure 20 is taken from a typical session or lesson with the Virtual Coach. You are asked to state your current mood by means of the displayed slider control.

Each slider-control has got an adjustable slider (1) which can be moved via swiping gestures from left to right. To do so, we recommend that you use one of your fingers:

- Touch the slider and keep your finger on the tablet's surface (no tapping).
- Move your finger to the left or right (as indicated by the arrows) until the slider reaches your desired position.
- Finally, release your finger from the tablet.

Please note: The setting range of the slider-control is divided into several segments. When the slider reaches a certain segment, the descriptive text (e.g. *Very Good [Heel Erg]*) above the slider-control (2) will change accordingly. In this way, you can directly see which setting is currently active.

Carousel control:



Figure 21: Special controls - Carousel control

With the help of a carousel control you can browse among a set of similar objects on the screen allowing a continuous, circular navigation through the content.

As shown in Figure 21, you can browse through the different chapters of your recorded story (*My first love*). To do so, we recommend that you move the carousel with one of your fingers:

- (1): Put your finger onto the chapter currently in the foreground (*Chapter 1 of 5: How did you meet your first love?*) and keep your finger on the tablet's surface (no tapping).
- Then swipe across the screen horizontally and release your finger afterwards.
- Swipe gestures to the left will cause the carousel and its objects to turn clockwise whereas swiping to the right will turn the objects in the carousel counterclockwise.

In this way, you can easily browse through the different chapters the story consists of. Once the desired chapter is in the foreground, you can display further details by tapping once on the magnifier glass symbol that was discussed earlier in this document.

Alternatively, you can use the arrows to switch back and forth (2).

Picker control:

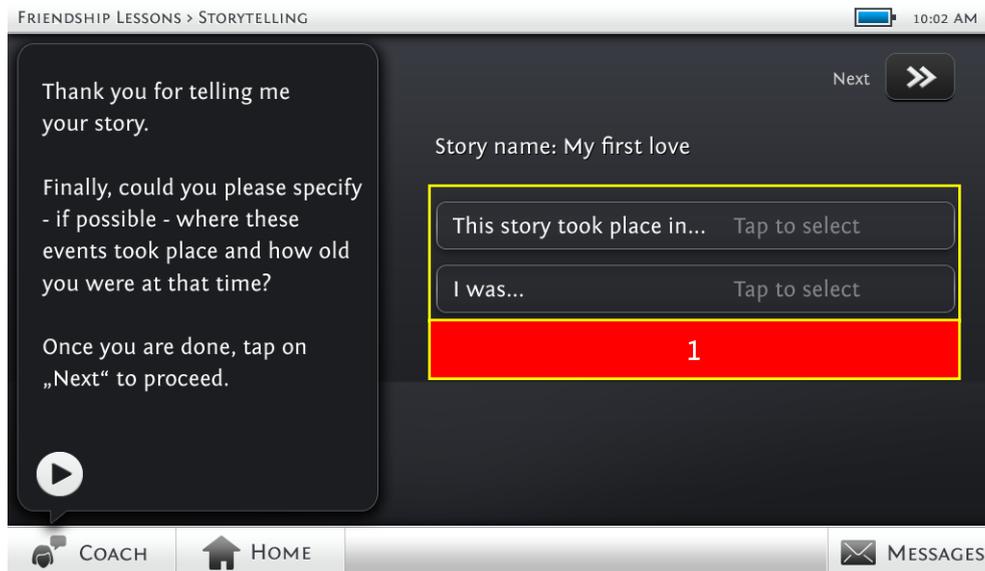


Figure 22: Special controls – Picker control

Picker controls are used in various situations in the V2me system. They allow you to quickly select a certain numeric value or other items from a given set. A typical example is shown in Figure 22:

- **(1):** The two options are clickable. By tapping on the text “Tap to select” or on the label next to it (e.g. “This story took place in”), the corresponding picker control will open inside a pop-up window as illustrated in Figure 23.

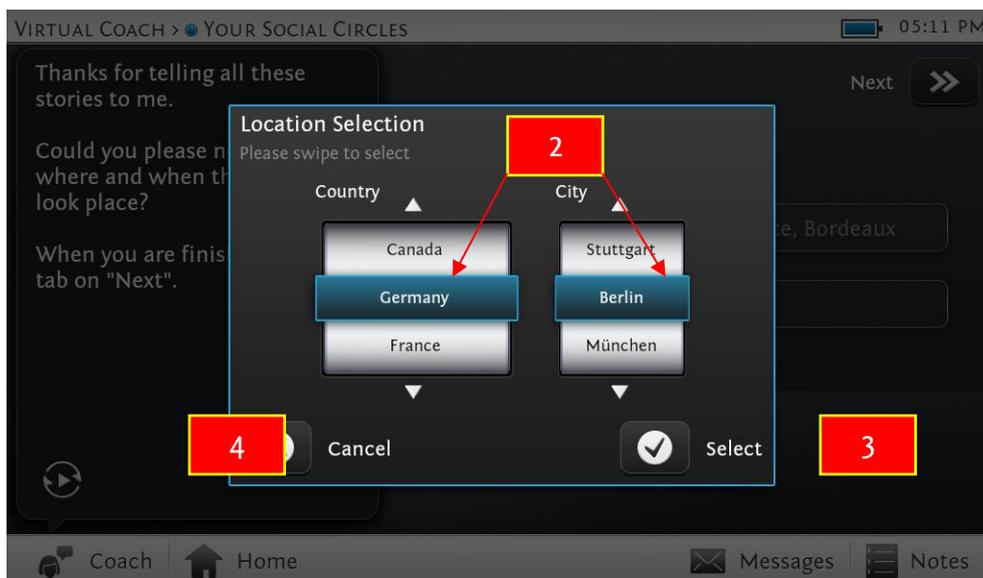


Figure 23: Special controls – Picker controls

This example (Figure 23) shows a picker-control for selecting a country and a city. There are also other types of picker-controls used in the V2me system, all of which can be operated in the same way:

- **(2):** Selecting a country and city is done by swiping up or down with your finger. Depending on the currently focused country (here: *Germany*), the list of cities to the right adapts accordingly (the town of *Berlin* is currently focused).
- **(3):** If you tap on “Select”, you confirm your selection. The picker closes, and the selected value will be displayed in the corresponding field.
- **(4):** By tapping on “Cancel” the picker will close as well. In this case however, you would abort the current action. None of your selections would be taken over.

2.2.8. The calendar function

Introduction

The calendar function is supposed to facilitate your everyday scheduling. To take as much work as possible out of your hands, the V2me system automatically finds and suggests adequate events based on your personal interests, preferences, and abilities. The VC will assist you in managing these events by guiding you through an interactive event planning process.

You can call up the calendar by hand via the home menu (compare [Home screen](#), *Home menu > Calendar & Events*).

The following subsections address the main functions of the calendar and elaborate on how to use it.



Figure 24: Calendar function – overview

Your interactive calendar shown in the previous illustration comprises all your events and appointments. Calendar entries can either be created by hand or in collaboration with the VC in the course of an event planning session as indicated before.

- (1): Each calendar entry is graphically shown as a calendar event in the overview.
- (2): There are different event types (e.g., unconfirmed or user-created events). The different types are coded by color and by an overlay icon to facilitate their differentiability. An overview of all types is shown in Table 1.
- (3), (4): Each weekday is represented by a separate column. The respective date is displayed on top of the column.
- (5): Four labeled timelines (6AM, 12AM, 6PM, 12PM) run horizontally across your calendar. They help you to read the approximate start time and duration of your events and appointments, respectively.

Overview – Event types

Table 1: Different event types (list not yet complete)

Example:	Explanation:
	A) Confirmed single events or appointments are coded in green.
	B) <u>Periodic</u> events or appointments are coded in green and by a corresponding overlay icon.
	C) Events or appointments that are <u>suggested by the VC</u> are coded in grey.
	D) Events or appointments that have been <u>postponed</u> by the user are coded in grey and by a corresponding overlay icon.
	E) <u>Rejected</u> events or appointments are grey hatched and coded by a corresponding overlay icon.
	F) Currently focused events or appointments are always highlighted in blue.

Calendar views & calendar menu



Figure 25: Calendar function – menu and general view

(1): The week overview of the current week is the default view.

(2): To add events or schedule your week, please tap on the context menu button in the upper left corner of the screen. Afterwards, a separate menu expands providing access to various options and functions:

(3): You may also switch between weeks using the arrows on top.

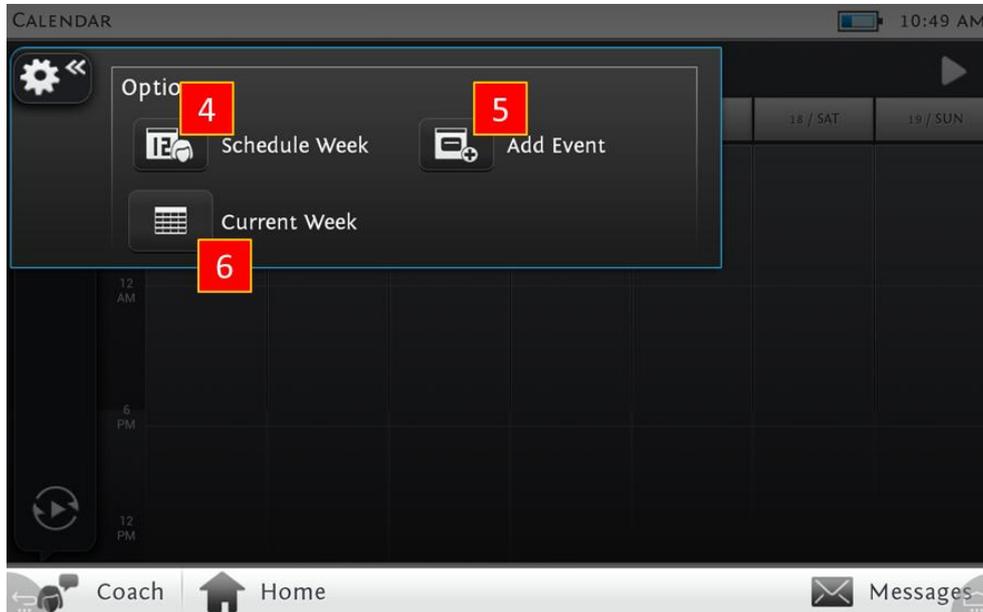


Figure 26: Calendar function – select different views

(4): Press this button to start scheduling your week. This only works if there are new events set up by administrators in the current period.

(5): Press this button to add your own events to the schedule.

(6): Reset the overview to the current week.

Interaction with the calendar during a VC-guided event planning session



Figure 27: Calendar function – event suggestion 1

> The screen layout adapts when planning your events:

(1): When the VC starts with the first event suggestion, the week overview of your calendar is still visible, but in a minimized form.

(2): Minimizing the week overview creates space for detailed information about the currently selected event.

(3): Currently selected events are always highlighted in blue.

> Navigating between suggested events in the minimized week overview:

You can navigate between events by directly tapping on the desired calendar entry in the minimized week overview (1). This kind of interaction is only possible with regard to events suggested by the VC (3 + 4).

Please note that other event types, as, for example, the periodic events (5) remain visible in the minimized week overview, but they are non-interactive and no actions or functions will be triggered when you tap on them.



Figure 28: Calendar function – event suggestion 2

> **Detailed information area:**

As mentioned previously, the lower part of the screen is reserved for event details (6). Tapping on another event will pull up the details of this event in the detail view.

Note that it is possible to confirm two or more overlapping events at the same time, since you might not want or need to attend each event from start to end.

Three different buttons are provided to tell the VC your decision about a certain event:

- (7) “Reject event”: Use this option to reject events that you do not want to attend. Rejected events will be marked accordingly and deleted from your calendar once you save the whole week plan.
- (8) “Postpone decision”: Use this option to postpone your decision in case you are still unsure. Postponed events will be marked accordingly. The VC will remind you of these events in a timely manner so they will not be forgotten. Consequently, events marked as ‘postponed’ will remain in your calendar when you save your week plan.
- (9) “Attend event”: Tap on this button if you want to attend that event.

Creating an event

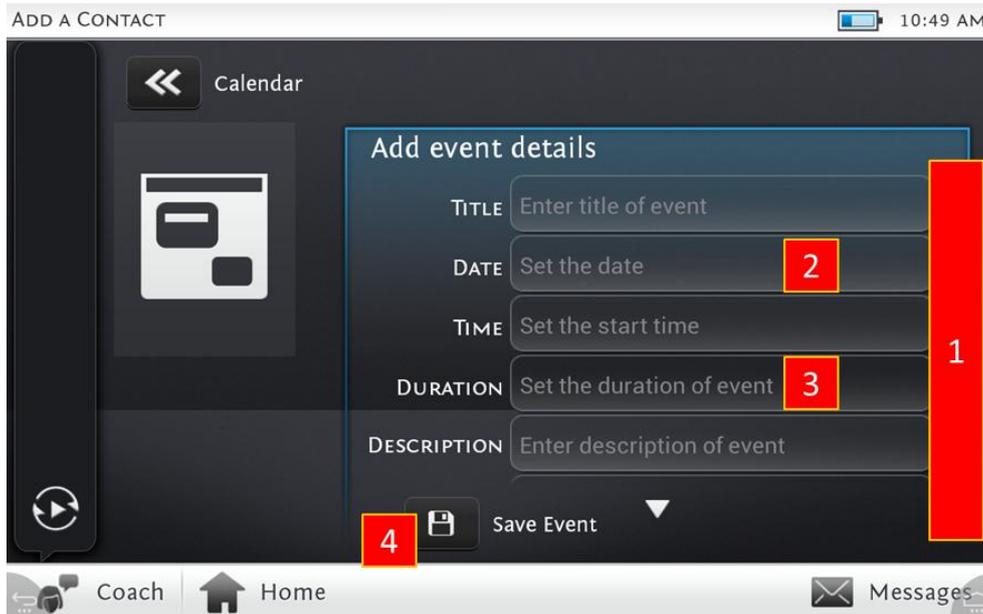


Figure 29: Create event screen

Once the user decides to create an event he will be presented with the screen shown in Figure 29. The event details are shown in a scrollable view (1). Some of the details such as date of the event (2) and duration of the event (3) can be set in specific screens that are shown in Figure 30.

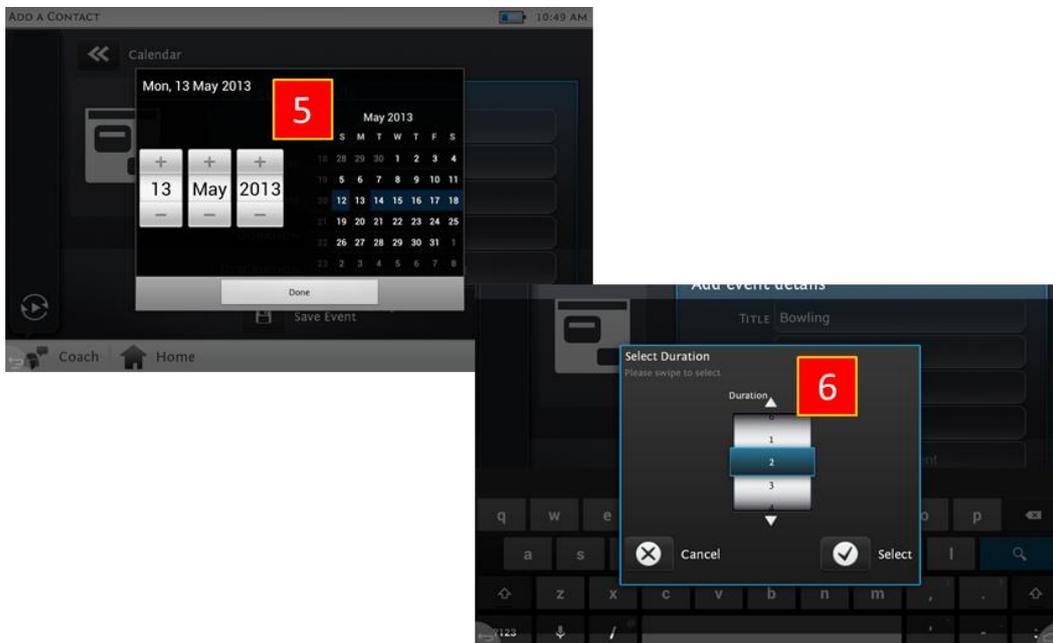


Figure 30: Date and duration selection

- (5): Date selection screen that allows setting the date by either manipulating the controls on the left side or by clicking the desired day on the right side.
- (6): Duration selection that allows setting an amount of hours for a date between 1 and 6.

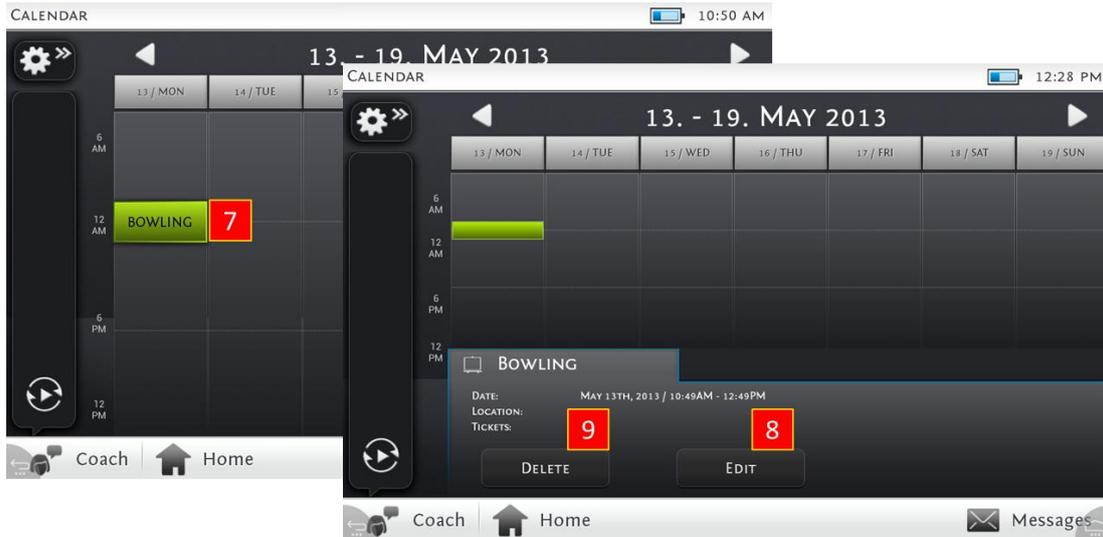


Figure 31: New event added

Once a new event is added it will show up in the calendar overview (7). Different to the events of the scheduling workflow the options in the detail view change and allow further editing of the event (8) or deleting it (9).

2.2.9. Contacts & Groups: Managing your personal contacts and groups

Introduction



Figure 32: Contact & Groups – home menu button

The *Contacts & Groups* section constitutes an important element of the V2me system allowing you to manage your personal contacts, groups, and media files. Therefore, it is displayed prominently in the bottom area (1) of the *Home* menu at a fixed position.

Main usage and functions



Figure 33: Contact & Groups – overview screen

When you visit the *Contacts & Groups* area via the *Home* menu, you will see the overview screen at first comprising the following screen elements:

- (2): A carousel control on the left side in the content area allows you to scroll through your contacts via vertical swiping gestures or using the up / down arrows.
- (3): A carousel control on the right displays all groups that you are a member of. You can browse through these items via vertical swiping gestures or using the up / down arrows.
- (4): It is easy to return to the Home screen using a dedicated button.

How to: Invite a contact to a group



Figure 34: Contact & Groups – adding a contact

(6): You can select a contact that you want to invite to one of your groups. Both the currently focused contact (e.g. *Deelnemer 61*) and the currently chosen (*Schach*)

group (7) are highlighted in blue. Clicking on the “Invite to” button (5) will initiate the invitation process, and the person will receive a message.

The context menu: Adding and deleting contacts and groups

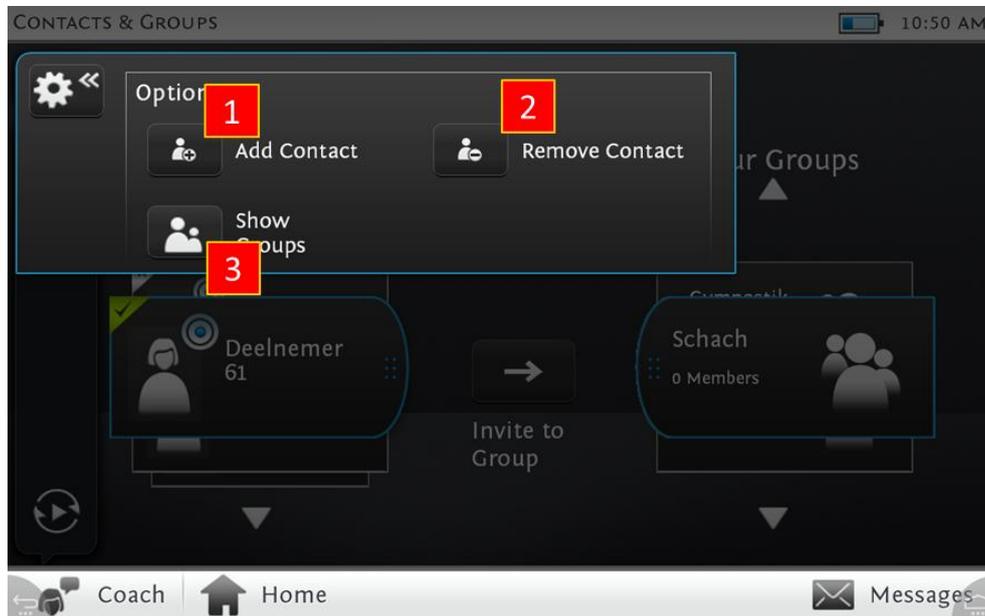


Figure 35: Contact & Groups – adding and deleting contacts and showing groups

The context menu in the upper left corner of the screen provides several options:

- (1): Adding a contact.
- (2): Deleting a contact.
- (3): V2me group overview

> Adding new contacts



Figure 36: Contact & Groups – adding a new contact

When you tap on “Add contact” **(1)**, the contact data screen opens (Figure 36). Here, you can specify the contact data by means of the provided input fields including the contact’s full name, street, town, phone number etc. **(4)**. When you are done, tap on the “Save” button **(5)** to store the new contact in the V2me system. Afterwards, the new contact will appear in your contact carousel situated on the *Contacts & Groups* overview screen (Figure 34).

> Removing existing contact

By tapping on the button “Remove contact” **(2)** in the context menu, the currently focused contact in the respective carousel will be deleted. As these are critical actions, a pop-up message is displayed in each case where you must confirm **(6)** the deletion first. Alternatively, you can abort the current action by tapping on “Cancel” **(7)** (Figure 37).

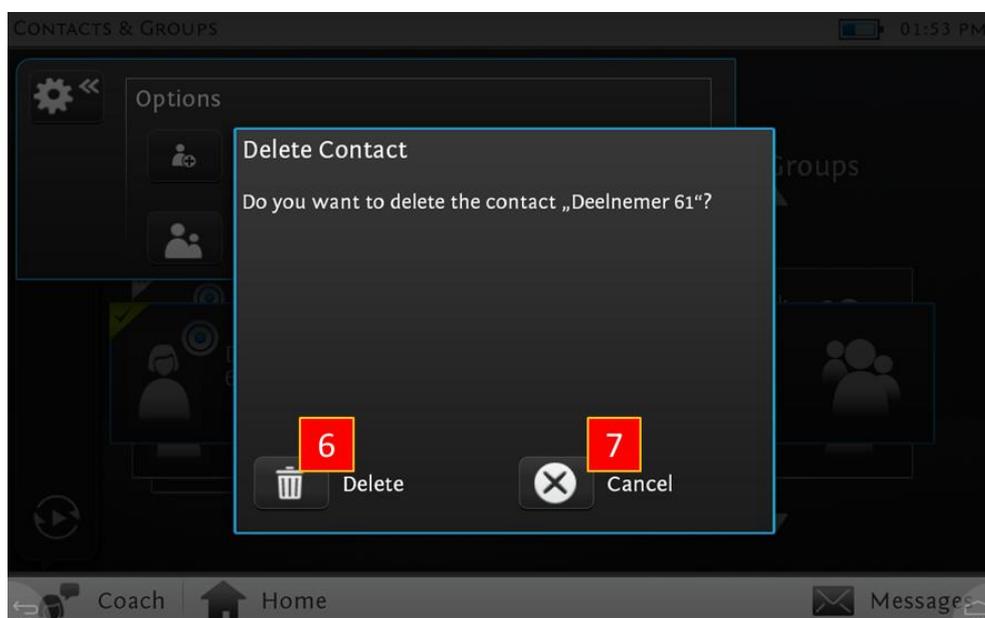


Figure 37: Contact & Groups – deleting an existing group

Contact details: Editing contact data / Groups section

(1): For each contact in the contacts carousel you can call up additional information by tapping once on the corresponding contact card (here: *Deelnemer 61* is focused). As a result, a new screen with two tabs opens (Figure 38):

- Tab 1: Contact data (default view)
- Tab 2: Groups



Figure 38: Contact & Groups - editing a contact

(2): The button “Contact” allows you to get in touch with the currently selected person via the communication tool all V2me systems are connected with and that is explained in more detail in section 2.2.11 VideoCall.

> **Contact data tab:**

(3): The *Contact data* tab allows you to edit the contact's data (full name, street, town etc.). Simply tap on the corresponding input fields to change the data if necessary.

> **Groups tab:**

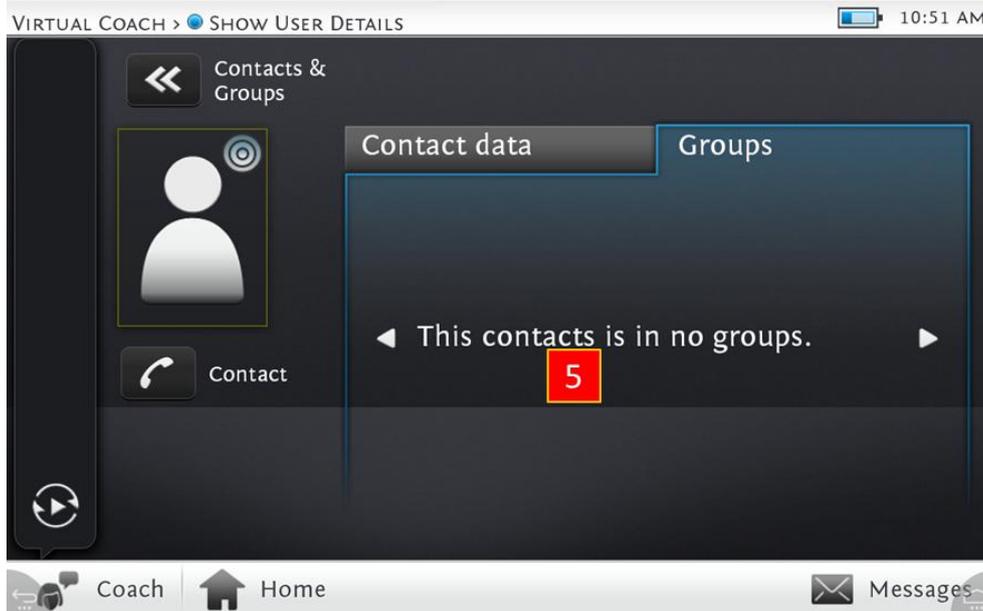


Figure 39: Contact details - Groups tab

(4): The *Groups* tab shows you all groups that the contact (here: *Deelnemer 61*) is a member of or has been invited to. These groups are represented within a carousel control (compare chapter 2.2.7). You can browse through the different groups by swiping horizontally or by means of the up / down arrows provided on the screen. By tapping on a certain group card, you can also call up further information (e.g., the member book) about that group. If the contact is in no groups yet, this will be indicated by a short onscreen text message (5).

Group details: Joining and resigning from groups / group members

(1) For each group in the groups' carousel you can call up additional information by tapping once on the corresponding group card (here: *Schach* is focused). As a result, a new screen with two tabs opens (Figure 40):

- Tab 1: Group details
- Tab 2: Members

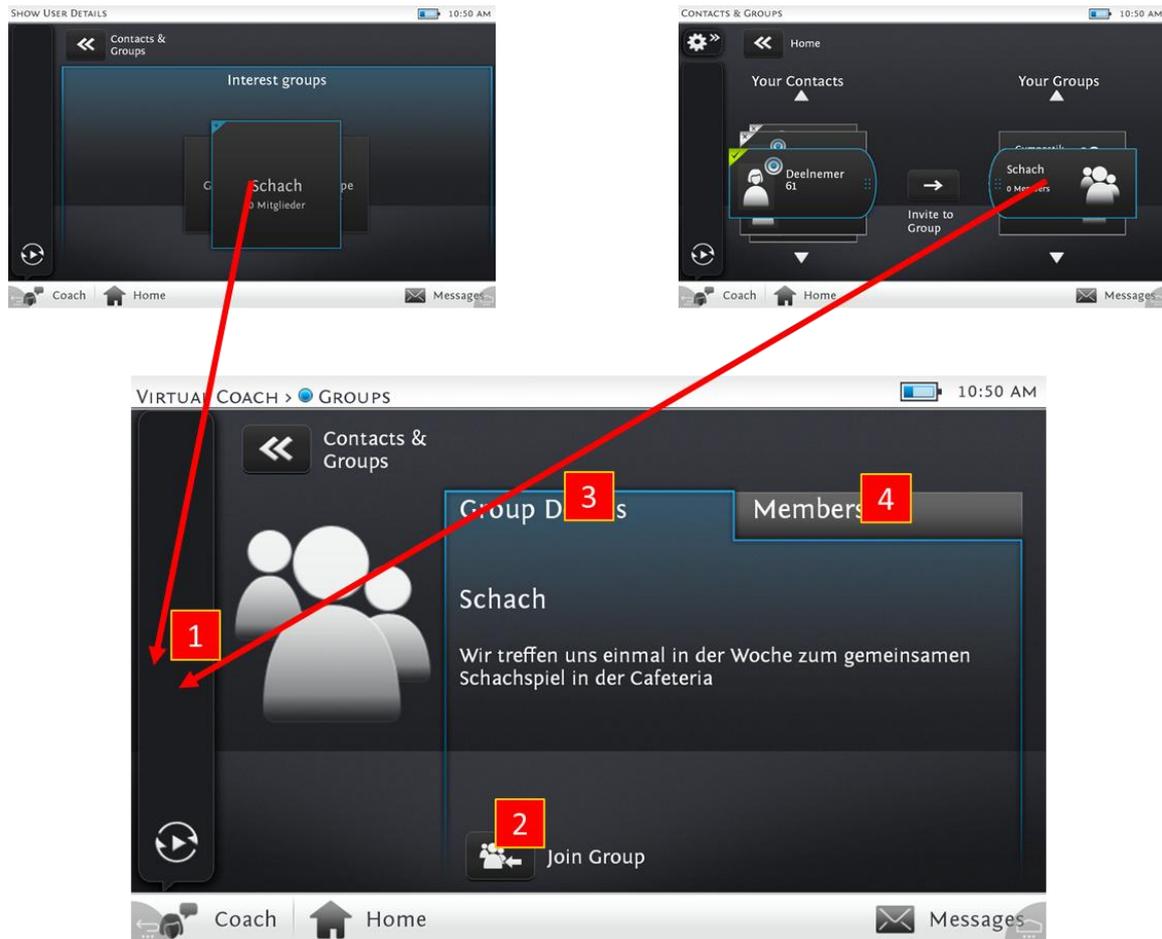


Figure 40: Getting into group details and main elements

> **Group details tab:**

(3): The *Group details* tab allows you to view additional information about the selected group. Furthermore, if you are currently no member of this group you may join it (2), or, if you are already in, it is possible to resign. The button (2) will change its graphics and text accordingly. When resigning from a group a selection screen will appear where you can confirm (5) or cancel (6).

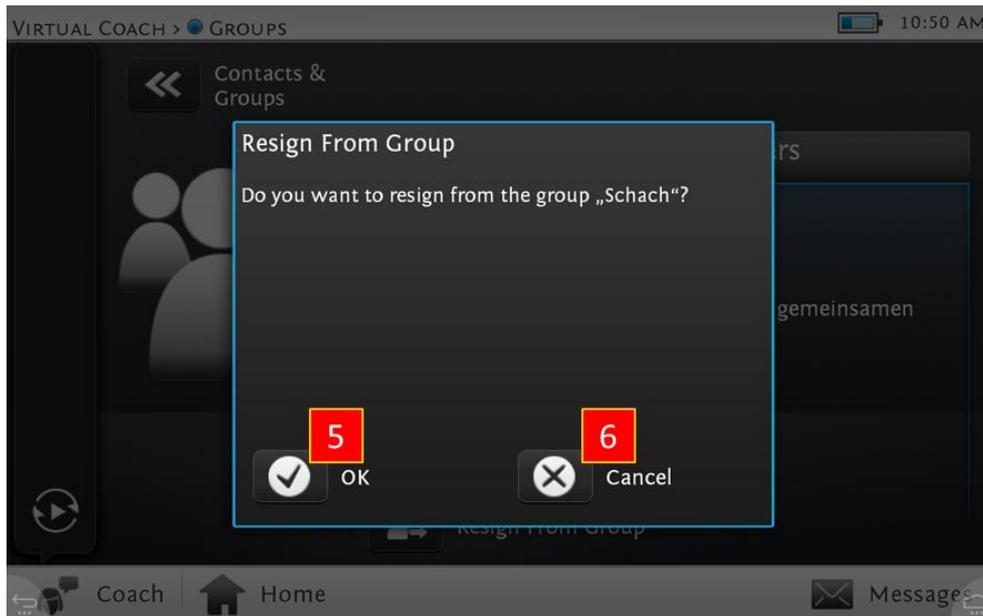


Figure 41: Selection when resigning from group

> **Members tab:**

(4): The *Members* tab allows you to view all the current members of a group in a carousel view (7).

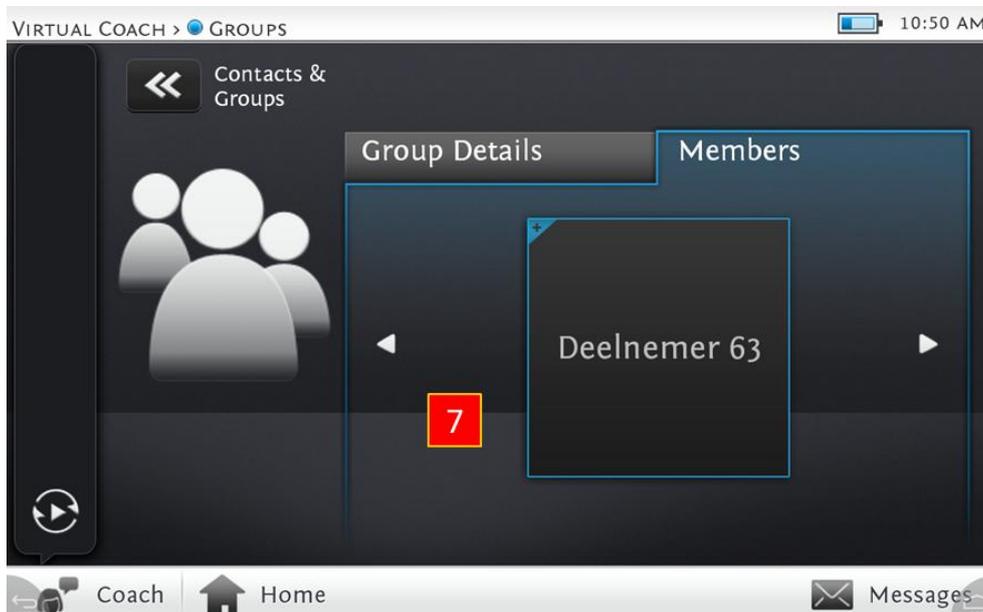


Figure 42: Group members tab

2.2.10. Friendship Lessons

Introduction

Making new friends and renewing old friendships is a worthwhile activity. It makes life more colorful.

Through friendship it is possible to develop and express various facets of yourself. There are friends for taking walks, for going shopping, for sharing books and secrets, for talking on the phone or writing long letters.

On the other hand, there is one person who is always present, and that is you. Being friends with yourself means recognizing and enjoying your good qualities, being good company for yourself whenever you choose, or when no one else is available. Discovering what you like to do on your own, doing things that you want to do, spoiling yourself are also part of being friends with yourself.

Being comfortable with yourself and being comfortable with others, go hand in hand. When you appreciate yourself as a woman/man and as a friend, you radiate a quality that attracts others. At the same time, the appreciation of friends helps you to be positive or mild in your judgment of yourself.

These are the main reasons why this program was developed, which should help people searching for new contacts and friendships in later life. So the V2me system supports you by developing the relationships which you desire, either by improving or fostering existing ones or by creating new ones.

Goal of the program

What we hope to accomplish (do) in this program is to think about friendship together, its meaning and purpose in each of our lives; each person will renew one's inspiration of friendship in her life at this moment, analyze what there is and what there isn't in terms of friendship; each person will decide which new friendships she wants to develop and which old ones she wants to improve, figure out strategies how to do this, and begin to take action. Together we will share our successes and disappointments, what we discover and learn.

2.2.10.1. Accessibility of the friendship lessons in the V2me system

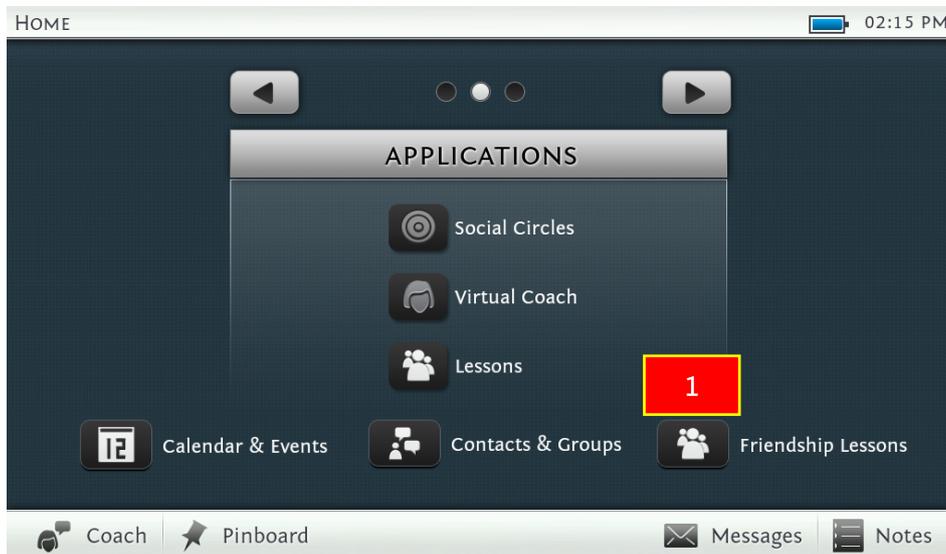


Figure 43: Accessing the friendship lessons screen (Step 1)

The friendship lessons are a central part of the V2me system. Therefore, they can be directly accessed in the bottom area of the *Home* screen at a fixed position (1).

By tapping on the “Lessons” button (1), the *Friendship lessons* screen appears (Figure 44). On this screen you can access various lessons and related functions all of which belong to and finally make up the friendship lessons program. This screen consists of two main parts:

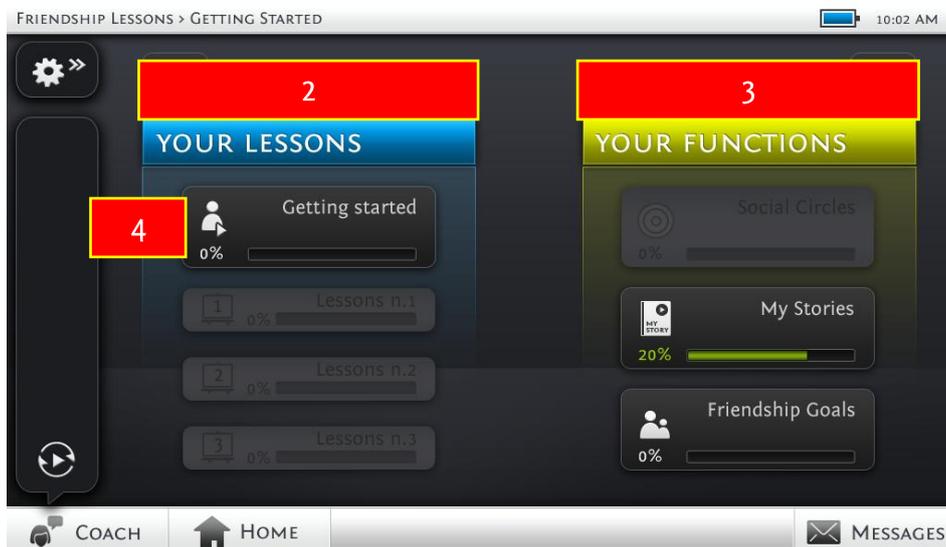


Figure 44: Accessing the friendship lessons screen (Step 2)

- (2): On the left side of the screen you can access the different lessons.
- (3): The right side of the screen contains frequently used friendship functions such as the “My stories” section.

Please note: The *Getting started* lesson (4) must be completed first before all lessons and functions are available. Also see section 2.2.10.2 for further details.

2.2.10.2. Friendship lessons: Getting started & setting up your social circles

First steps: The “Getting started” lesson

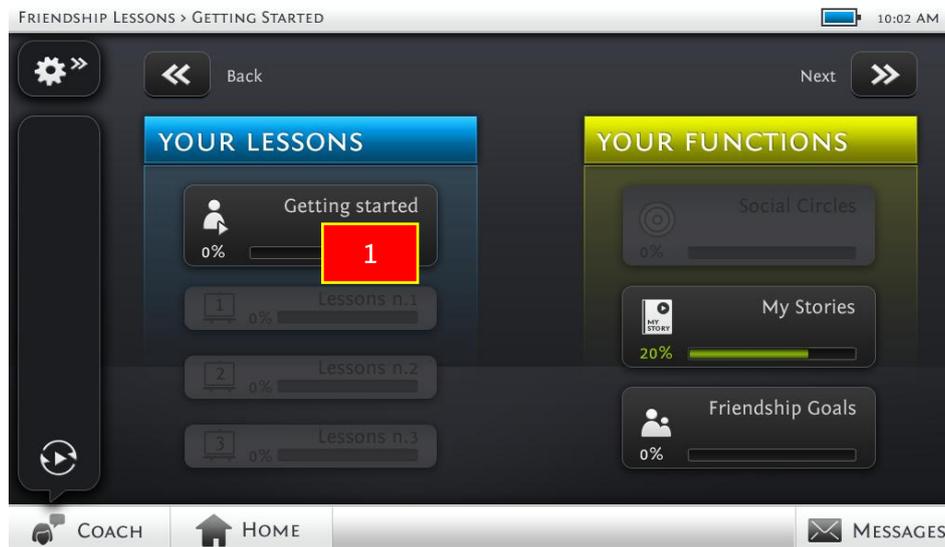


Figure 45: The “Getting started” lesson

As stated in section 2.2.10.1, when the *Friendship lessons* screen is visited for the first time, not all lessons and functions are available in the first place.

That is, you have to do the *Getting started* lesson **(1)** first in order to receive an introduction to the friendship lessons from the VC. This lesson is mandatory and the starting point for the friendship lessons program. In the course of this lesson, you are encouraged to set up your social circles which are explained in the following subsection.

Tap on this button **(1)** to start the workflow.

The social circles - An introduction by the Virtual Coach

At the beginning of the *Getting started* workflow the Virtual Coach will introduce you to the social circles. The social circles are supposed to give you an overview of those persons who are currently important in your life.

The subsequent illustration (Figure 46) represents the initial situation when the social circles are still empty. Your task during the *Getting started* phase is to fill these circles with your personal contacts. The Virtual Coach will assist and guide you through this process. There are altogether three different social circles:

- **(1)**: In the inner circle you should place those persons you feel closest to – it is hard to imagine life without them (e.g. your husband or wife, your children etc.).

- **(2):** In the middle circle you should place persons who are quite important, but less close to you than those in the inner circle.
- **(3):** In the outer circle you should place persons who are still important to you. However, they are less important and less close to you than those persons situated inside the other two circles **(1)** and **(2)**.

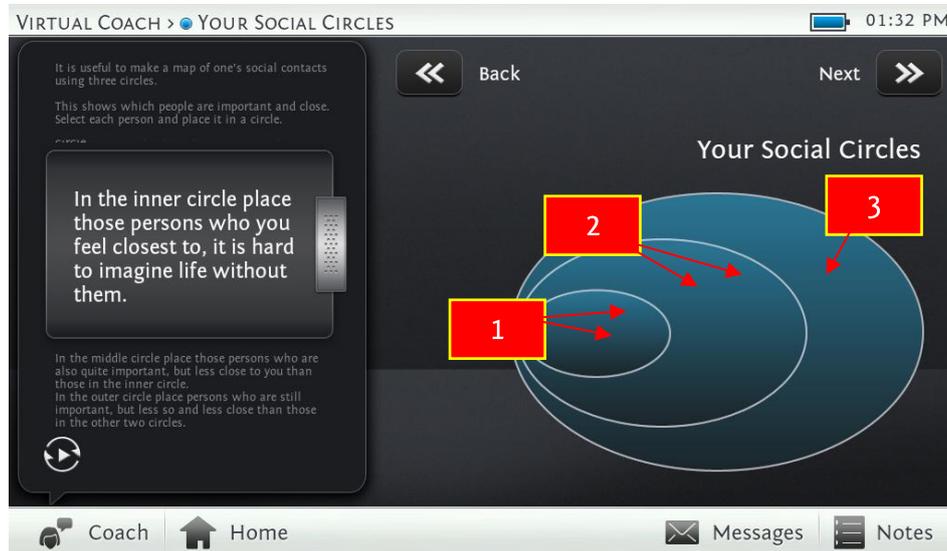


Figure 46: The overall structure of the social circles

Assigning your personal contacts to the social circles



Figure 47: The contacts carousel control

When the Virtual Coach asks you to assign contacts to the social circles, you can browse through your existing contacts by means of the carousel control **(1, Figure 47)** on the left hand side simply by swiping or by using the up and down arrows **(2, Figure 47)**. Please refer to section 2.2.7 to learn more about how to operate carousel controls.

> Which elements do I see in a contact card?

Each contact in the carousel is represented by a dedicated contact card. Besides the contact's name (e.g. *Johannes Schwaig*) and photo it contains two icons (Figure 48):



Figure 48: Contact cards and status symbols

- (3): The upper left icon indicates whether the contact is online (= green coloring) or offline (= grey coloring & x-symbol).
- (4): The “circle icon” below encodes to which circle the contact was assigned to (inner, middle, or outer circle).

> How can I add a contact to one of the three social circles?

As indicated before, one crucial part of the *Getting Started* lesson is to set up your social circles for the first time. For this purpose the V2me system offers you two possibilities to add your contacts one by one to the desired social circle.

> Possibility 1: Drag & Drop



Figure 49: Using drag & drop to assign a contact to a social circle (Step 1)

The first possibility is to use drag & drop. Simply drag the currently focused contact card (5) into the direction of the desired social circle, as, for example, towards the middle circle (Figure 49).



Figure 50: Using drag & drop to assign a contact to a social circle (Step 2)

While dragging (Figure 50), a miniature version of the contact card is visible under your finger (6A). Depending on your finger's position, the inner, middle, or outer circle is highlighted in blue – in this case the middle circle (6B).



Figure 51: Using drag & drop to assign a contact to a social circle (Step 3)

When the desired circle has been reached, release your finger from the tablet. Afterwards the miniature version of the contact card will disappear. The previously selected contact (*Johannes Schwaig*) now appears as a miniature image (6C) in the middle circle (Figure 51).

Please note: A miniature image (6C) is always highlighted in blue when the corresponding contact card is focused in the carousel control on the left hand side. In this way it is much easier for you to identify a certain contact in the circles, especially when the number of contacts in the social circles increases.

> Possibility 2: Tap



Figure 52: Alternative way to assign a contact to a social circle (Step 1)

Alternatively you can assign the currently focused contact (7A) to a circle by tapping once on the circle of your choice (7B), as, for example, the middle circle (Figure 52).

Please note: As long as your finger remains on the tablet, the selected circle is highlighted in blue in order to give you a visual feedback (7B).



Figure 53: Alternative way to assign a contact to a social circle (Step 2)

The moment you release your finger from the tablet, the highlight disappears, and the contact (*Johannes Schwaig*) will show up in the middle social circle as a miniature image (7C).

Moving a contact from one social circle to another one



Figure 54: Moving contacts from one to another social circle

Once a contact has been assigned to a social circle, the position is not fixed. You can still move that person from one circle to another one. Figure 54 represents a situation in which *Johannes Schwaig* has already been assigned to the middle circle. There are two possibilities for moving:

> Possibility 1: Drag & Drop



Figure 55: Moving contacts within the circles via drag & drop (Step 1)

The first possibility is to use drag & drop. Simply drag the currently focused contact (**1**, Figure 55) into the direction of the desired social circle, as, for example, towards the outer circle (**1B**, Figure 55).



Figure 56: Moving contacts within the circles via drag & drop (Step 2)

While dragging, a miniature version of the contact card is visible under your finger (2A, Figure 56). Depending on your finger's position, the inner, middle, or outer circle is highlighted in blue – in this case the outer circle (2B, Figure 56).



Figure 57: Moving contacts within the circles via drag & drop (Step 3)

When the desired circle has been reached, release your finger from the tablet. Afterwards the miniature version of the contact card will disappear. The previously selected contact (*Johannes Schwaig*) now appears as a miniature image (2C) in the outer circle (Figure 57).

> Possibility 2: Tap



Figure 58: Alternative possibility to move contacts within the circles (Step 1)

Another possibility is to tap once on the desired circle. That is, in order to move *Johannes Schwaig's* miniature figure (3A) from the middle to the outer circle, you must tap once on the outer circle area (3B, Figure 58).



Figure 59: Alternative possibility to move contacts within the circles (Step 2)

As long as your finger remains on the tablet, the selected circle is highlighted in blue in order to give you a visual feedback (3C).



Figure 60: Alternative possibility to move contacts within the circles (Step 3)

The moment you release your finger from the tablet, the highlight disappears, and the miniature image of *Johannes Schwaig* will appear in the outer social circle (3D).

Removing a contact from the social circles



Figure 61: Removing a contact from the circles (Step 1)

Once a contact has been assigned to a social circle, you can remove him or her again (Figure 61).

To do this, simply select the contact, such as *Johannes Schwaig* (1), and tap onto the 'Remove'-symbol in the lower right corner (2).



Figure 62: Removing a contact from the circles (Step 2)

While dragging (Figure 62), a miniature version of the contact card is visible under your finger (3). Now move the card right on top of the 'Remove'-symbol (2, Figure 61) and release your finger from the tablet.



Figure 63: Removing a contact from the circles (Step 3)

After dropping the miniature version of the contact card on the 'Remove'-symbol, it will disappear. The previously selected contact (*Johannes Schwaig*) has now disappeared from the social circles as well (Figure 63).

Please note: When a contact person is removed from the social circles, the person remains in the contacts carousel on the left (4). No permanent deletion is performed in this context! That is, you could simply add *Johannes Schwaig* (5) to the circles again after removing him!

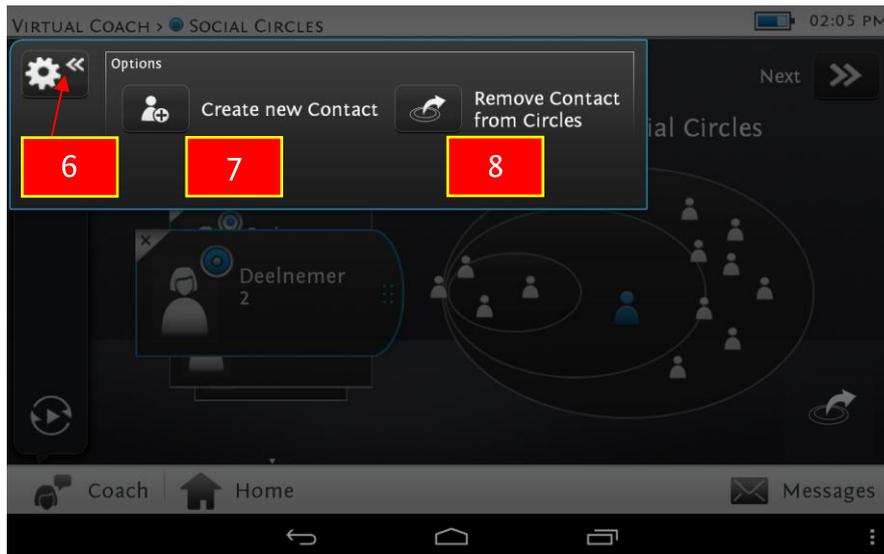


Figure 64: Removing a contact from the circles via the context menu

You can also remove the currently focused contact from the circles by opening the context menu in the upper left corner (6, Figure 64). Afterwards tap on the option “Remove Contact from Circles” (8) and follow the instructions displayed inside the dialogue pop-up in order to complete this action.

This context menu also provides a shortcut for creating a completely new contact (7) which you can add to the social circles afterwards. Refer to section 2.2.9 as of page 32 for more details about creation and managing your personal contacts.

Completion of the “Getting started” lesson



Figure 65: Getting started lesson – Setup of circles completed

Once your social circles (Figure 65) are set up (1), the main goal of the *Getting started* lesson has been accomplished. As of this moment, when you return to the *Friendship lessons* screen (Figure 66), you will have full access to:

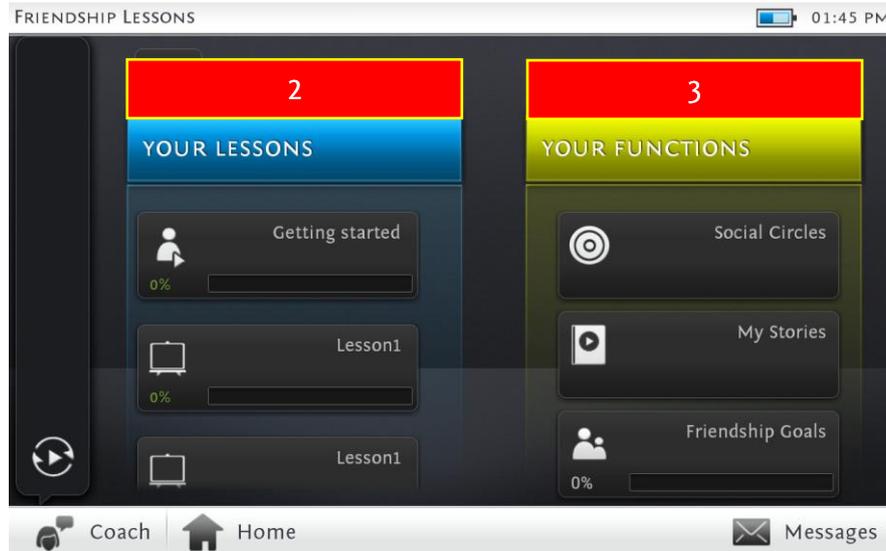


Figure 66: Friendship lessons screen

- (2): All buttons situated below the label *Your lessons*.
- (3): All buttons situated below the label *Your functions*.

2.2.10.3. Friendship Lessons: Your Social Circles

Introduction

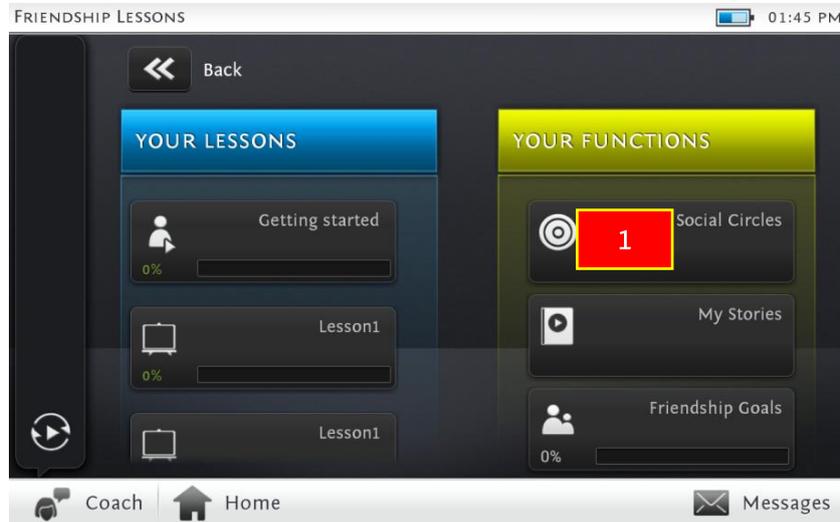


Figure 67: Accessing your social circles

> How to open the social circles

The social circles are a core element of the friendship lessons. Hence, they are directly accessible on the *Friendship lessons* screen (Figure 67). To open your social circles, tap on the button “Social Circles” (1).



Figure 68: Social circles screen

On the *Social circles* screen the circles are represented by ellipses to make better use of your tablet’s widescreen. All contacts that you have assigned so far to the three circles (e.g. during the *Getting started* phase) are visible here in the form of miniature images (2). The image above (Figure 68) shows a situation with five assigned contacts.

Social circles: Possible actions and provided functions

> Zooming into the inner, middle, and outer social circle



Figure 69: Social circles screen – Default view

> Possibility 1: Zoom-Buttons

The first possibility to change the zoom-level of the social circles is using the two dedicated buttons on the right-hand side of the screen (Figure 69):

- (1): In order to zoom one level in, tap once on the button with the magnifier and the “+” symbol inside it.
- (2): If you want to zoom out again, tap once on the button with the magnifier and the “-” symbol inside it.

> Possibility 2: Tapping



Figure 70: Inner circle zoomed in

Figure 70 shows the social circles with the inner circle zoomed in (3A). If you do not want to use the zoom buttons (cf. Figure 69), simply tap once onto the inner circle to zoom one level in.

The zoom is also semantic. That is, if you zoom in one level the names of the existing contact persons become visible such as *Ich* (3B).

Please note: When one of three circles is expanded, the others are minimized. It is not possible to zoom into two or all three circles at the same time.



Figure 71: Middle circle zoomed in

Figure 71 shows the social circles with the middle circle zoomed in (4A). As before, if you do not want to use the zoom buttons (cf. Figure 69), simply tap once onto the middle circle to zoom one level in. As a result of the zooming, *Marta Bucher's* name is now visible (4B) in the middle circle.

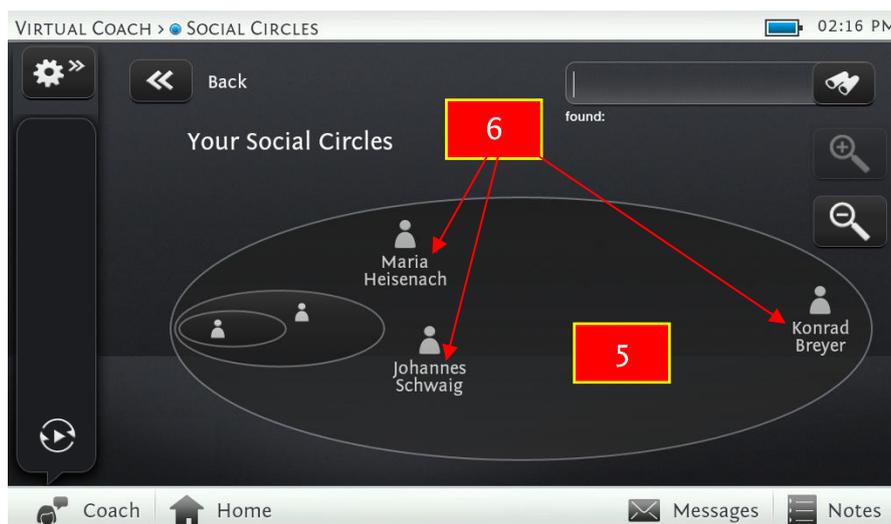


Figure 72: Outer circle zoomed in

Figure 72 shows the social circles with the outer circle zoomed in (5). Again, instead of using the zoom buttons shown in Figure 69, simply tap once onto the outer circle to zoom one level in. As a result, the names of three contacts are now visible (6, Figure 72).

> Searching for a contact



Figure 73: The search function (Step 1)

The search function can be used to find a specific person within the circles and might come in handy when there are a vaster number of contacts (Figure 73). Please tap once on the search field (**7A**) in order to begin with the search process.

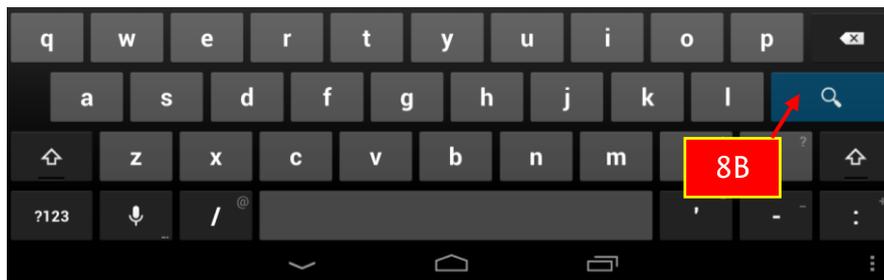


Figure 74: The search function (Step 2)

As a result, an alpha-numeric keyboard (Figure 74) will appear on the screen allowing you to enter a search word. To execute the search, please tap on the blue search button located in the keyboard area (**8B**). Afterwards, the keyboard will disappear automatically.

Alternatively you can use the button with the binocular symbol (**8A**, Figure 73) next to the search field in order to execute the search. In this case the keyboard remains visible so can immediately perform another search in case no search results are found.



Figure 75: The search function (Step 3)

Figure 75 illustrates a situation in which a search for contacts has already been executed by entering the query “konrad”. All potential matches, in this case “Konrad Breyer” (9), are now highlighted in blue. Moreover, the corresponding middle circle has automatically zoomed in allowing you to read the full name of the found contact without delay.

Important note:

The V2me system will not zoom automatically into a specific circle if several matching results belonging to different circles are found. This is due to the fact that only one circle (inner, middle, or outer circle) can be zoomed in at the same time.

So, in case of multiple matches across several circles, please search them by zooming in manually (cf. page 54 ff.) until you find the contact you were looking for.



Figure 76: The search function (Step 4)

To reset the search word, tap on the reset button (9B) next to the search field.

> Detailed contact information



Figure 77: Opening the contact information pop-up

For each of your contacts located in the social circles you can open an individual pop-up window. This window contains further contact related information and functions.

To open the pop-up simply tap once on the miniature figure of the desired contact, as, for example, on *Konrad Breyer* (10, Figure 77). A corresponding example is pictured in Figure 78.

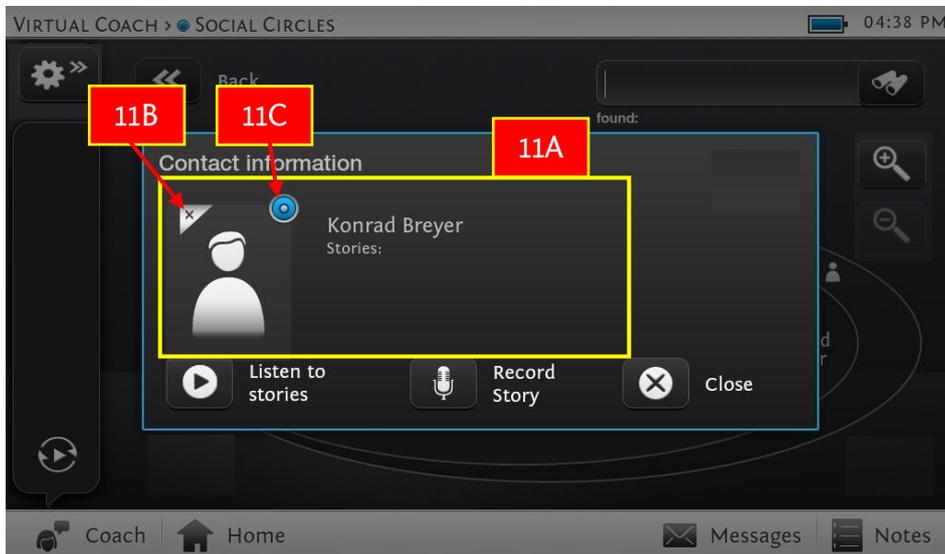


Figure 78: Contact information pop-up reveals more details (Part 1)

The middle area of the pop-up (11A) contains the contact's name and profile picture. Furthermore, this area provides information about the contact's online-status (11B) and the social circle this contact was assigned to (11C).

Please note: As long as the pop-up window is open, the background area is greyed-out and disabled. Hence you cannot trigger any other functions than those provided within the active pop-up in the foreground.

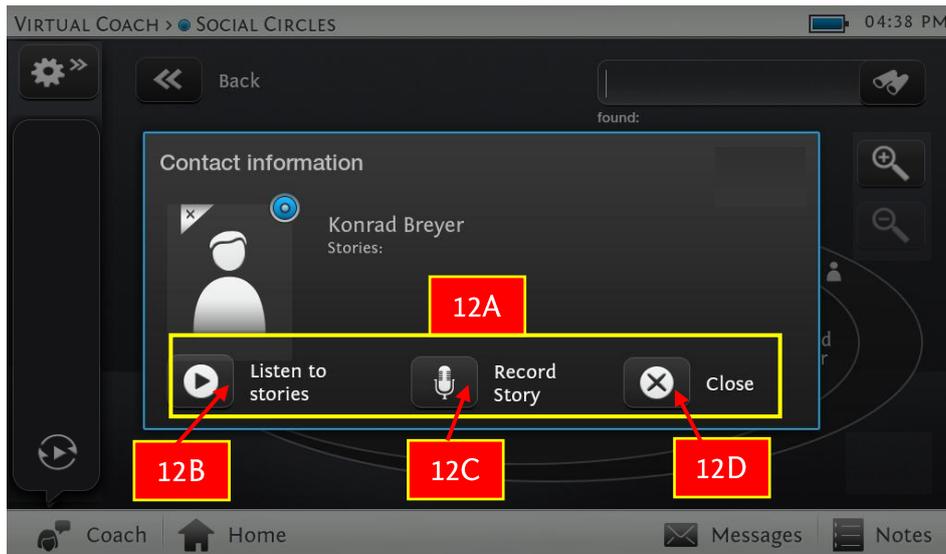


Figure 79: Contact information pop-up reveals more details (Part 2)

The lower area of the pop-up window (12A) contains three buttons allowing you to listen to user-related stories (12B) or to record a story (12C) about the currently selected contact. Please refer to section 2.2.10.4 for more details about the storytelling process. Also note in this context that the “Listen to stories” button (12B) remains disabled as long as no story about the selected contact exists.

Finally, in order to close the pop-up window, tap once on the “Close” button (12D). Alternatively tap once on an arbitrary spot outside of the pop-up window.

2.2.10.4. Storytelling: Accessibility and main functions

Introduction

The storytelling feature is based on the idea of recording stories about crucial memories from your past or other memorable events that happened in your life.

There is no fixed starting point for the storytelling workflow within the V2me system. Essentially, storytelling is triggered by the Virtual Coach (VC) while you are working with the V2me system - for instance in the scope of certain friendship lessons. Conceivable examples:

- The VC might suggest recording a story when you add a new contact to one of the social circles (compare section 2.2.10.3).
- The VC might suggest listening to a happy story after stating that you are for instance in a bad mood (compare section 2.2.4).

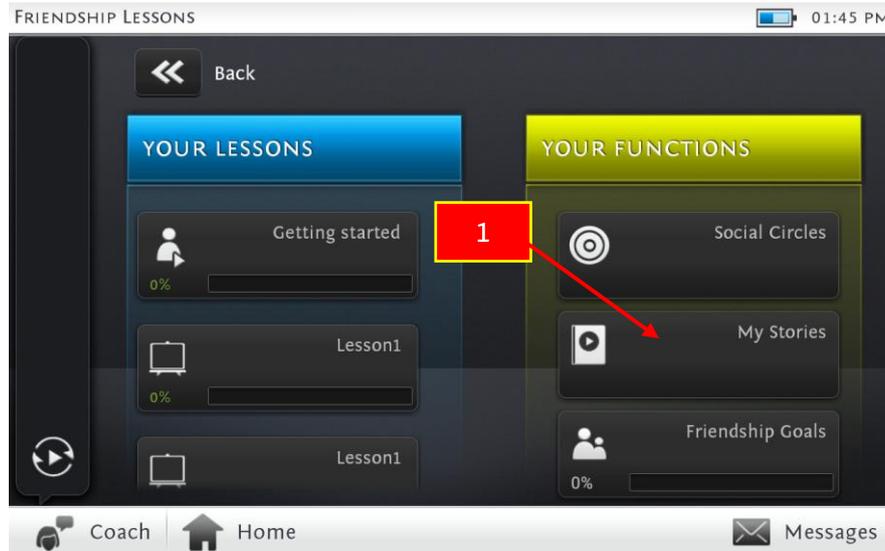


Figure 80: Accessing your recorded stories

The V2me system also allows you to manage your stories via the so-called *timeline* and *map-line* views, which will be presented in section 2.2.10.5 in more detail. By means of these views you have the possibility to listen to your stories whenever you want to, or you can share your narrated stories with other people. At the same time, other people can also share their stories with you. In this way, you can build up step by step a multimedia library full of memories. The timeline and map-line can be displayed via the *Friendship lessons* screen by tapping on the button “My stories” (1, Figure 80).

The following subsections are supposed to explain to you how to record, playback, and edit a story.

Storytelling together with the Virtual Coach

› What do I have to do to record a story?

When the storytelling process is initialized by the Virtual Coach, a suitable story topic is suggested automatically by the V2me system depending on the current situation and the background knowledge that the V2me system possesses about you. Usually, each story is separated into so-called story chapters which in turn are always connected to a certain subject-matter (e.g. *How did you meet your first love?* or *How was your first day at school?*).



Figure 81: Starting the storytelling workflow

Figure 81 illustrates a common situation in which the Virtual Coach tries to encourage you to record a story about some happy memories from the past. Tapping on “No, not yet” (1A) will immediately abort the storytelling workflow, and the VC will proceed with another issue. If you tap on “Yes, I want to” (1B), storytelling will start.

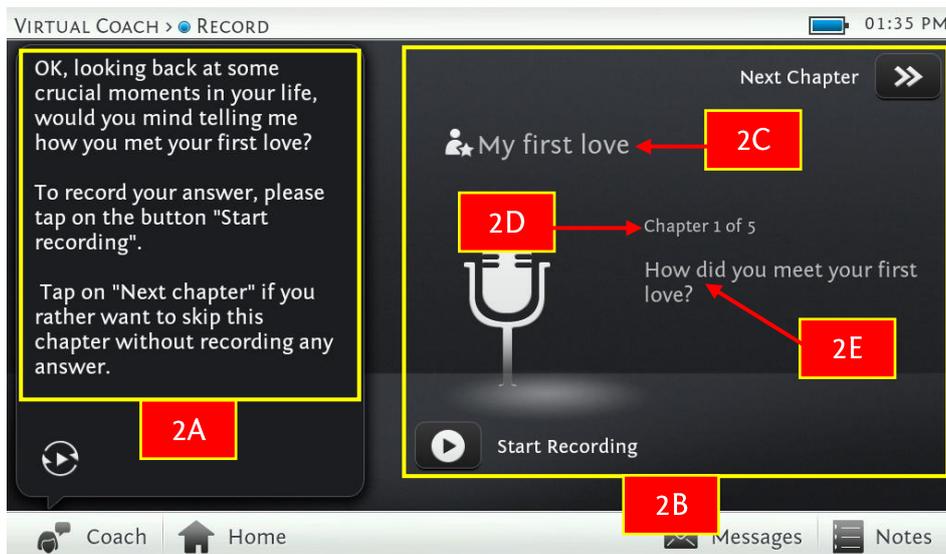


Figure 82: Recording screen (Part 1)

Figure 82 shows a typical recording screen. The coach’s speech bubble (2A) on the left hand side contains contextual instructions which shall help you recording a story. The area on the right (2B) includes information about the story’s name (2C), the current and the total number of chapters that story consists of (2D) as well as the subject-matter of the current chapter (2E).

Please note: The total number of chapters may vary depending on the story.



Figure 83: Recording screen (Part 2)

At all times you can freely decide if you want to start an audio recording about the suggested subject-matter (e.g. *How did you meet your first love*) or not.

If you rather intend to skip chapter 1 of 5 (cf. Figure 83), please tap on the button labeled with “Next chapter” (**3A**) in the upper right corner. Afterwards chapter 2 of 5 will be presented to you etc.

If you choose to record an answer, simply tap on the “Start recording” button (**3B**) displayed below the big microphone symbol. As of this moment, the V2me system is ready for recording. You can start speaking now to tell the VC your memories or experiences. Your voice will be picked up by the built-in microphone in the tablet.



Figure 84: Recording screen (Part 3)

While the system is recording, the button below the microphone symbol turns into a “Stop recording” (**4A**) button. Once you have finished speaking, please tap once on this button. This will end the recording process for the current chapter (*Chapter 1 of 5 / How did you meet your first love?*).

Please note: The “Next chapter” button is greyed-out while the system is recording as you are not allowed to skip to another chapter now (4B, Figure 84).



Figure 85: Recording screen (Part 4)

Afterwards the VC will inform you that your answer has successfully been recorded (5A, Figure 85).

Meanwhile, the “Stop recording” button has turned into a “Start recording” button again (5B). As you have just recorded an answer, you cannot create another recording for the time being. That is why the “Start recording” button (5B) is inactive and hence greyed-out.

Please note: You can edit each chapter at a later time in the course of the storytelling workflow. Please read this manual as of page 64 to learn which possibilities exist.

Finally, please tap on “Next chapter” (5C) to proceed to the next chapter of the story.



Figure 86: Recording screen (Part 5)

As a result, the next chapter is presented (6, Figure 86). As before, you can now decide if you would like to record an answer concerning the question *How did you*

realize that you were in deep love? or if you rather want to skip this topic. In this way, the VC guides you through all chapters one by one.

› **What about the story chapters that I skipped? Are they gone?**

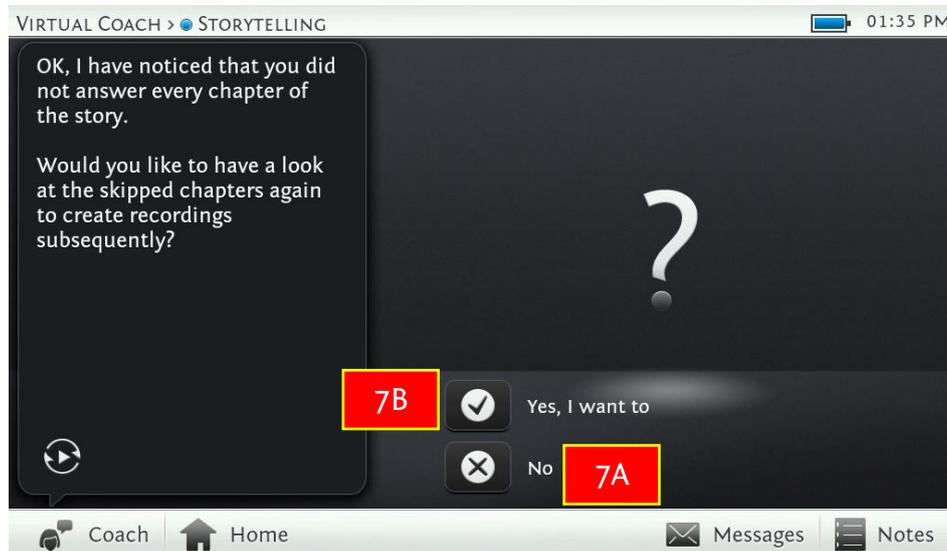


Figure 87: Revisiting skipped story chapters

The V2me system detects whether one or several chapters of the story were skipped. If applicable, the VC will ask you one more time (Figure 87) if you would like to have a look at those chapters again. This gives you the chance to subsequently create some audio recordings.

Tap on “Yes, I want to” (7B) if you feel the need to revisit the skipped chapters. Otherwise please tap on “No” (7A) in order to continue with the storytelling workflow.

Meta-data: Specifying a location and your age



Figure 88: When and where did the story take place? (Step 1)

Once you have completed your audio recordings (Figure 88), the VC will ask you to state where the events took place (**1A**) and how old you were at the time of those events (**1B**). By default, your current place of residence (e.g. *France, Bordeaux*) and your current age (e.g. *92*) are displayed here. This meta-data is needed to class your story in the *timeline* and *map-line* discussed later in section 2.2.10.5 of this manual.

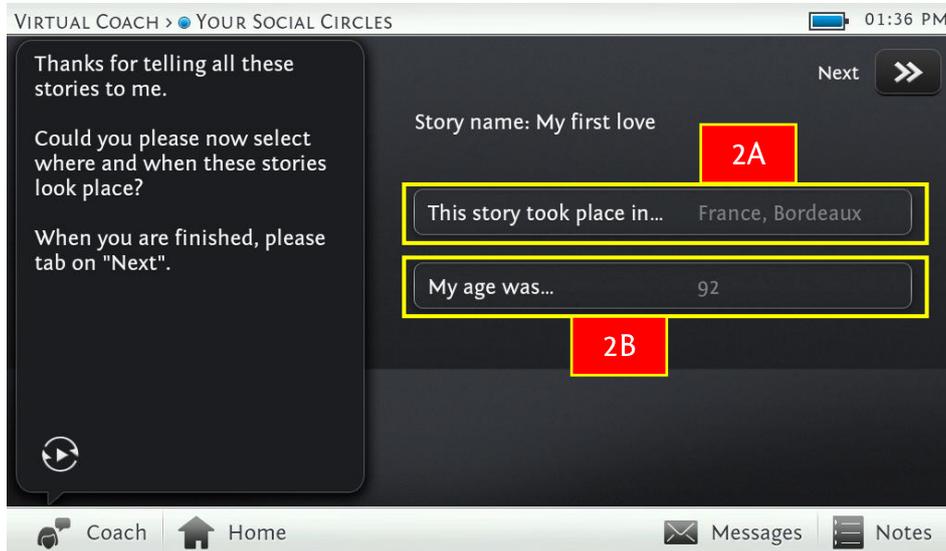


Figure 89: When and where did the story take place? (Step 2)

In order to change these default entries (Figure 89), simply tap once on the desired input field (**2A or 2B**). If you wish to edit the location first, please tap on the input field (**2A**). Afterwards, a pop-up window with two picker-controls (cf. section 2.2.7 in this user manual to learn how to operate a picker-control) will open as illustrated in Figure 90.

> Location selection



Figure 90: Location selection via picker control

Now you can select the desired country and city (e.g. *Finland, Oulu*) by swiping vertically **(3A)**. Once you are done, tap on “Select” **(3B)** to accept the new settings. To discard your changes, please tap on “Cancel” **(3C)**. In either case the pop-up window will close automatically.



Figure 91: Location has been changed

The new settings (*Finland, Oulu*) for the location of the story have been applied **(4A)**. Now, to edit the currently selected age (92), tap once on the dedicated input field **(4B)**.

> Age selection

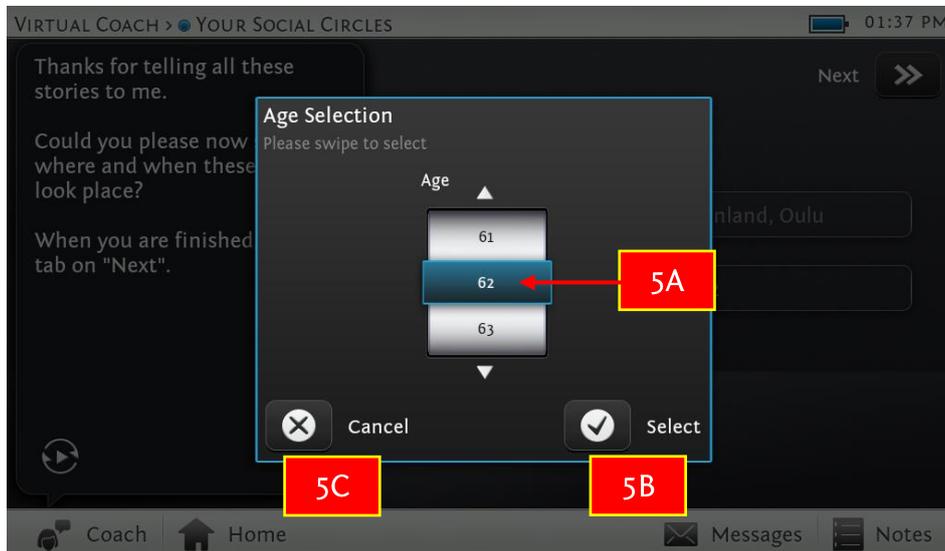


Figure 92: Age selection

By swiping vertically, you can now change your age for instance to 62 **(5A)** as indicated in Figure 92. Once you are done, tap on “Select” **(5B)** to accept the new settings. If you rather want to discard your changes, please tap on “Cancel” **(5C)**. In either case the pop-up window will close automatically.

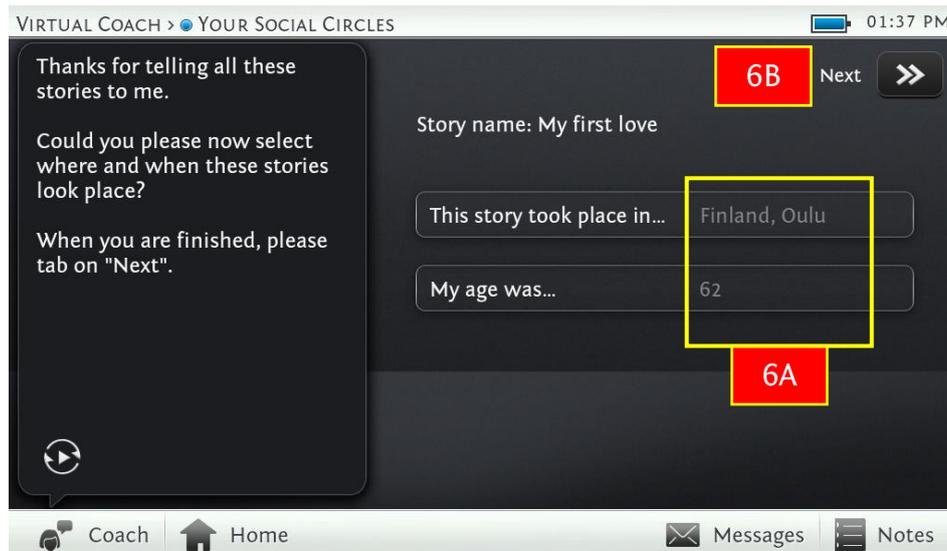


Figure 93: Location and age have been changed

Now that the location and age have successfully been changed (6A), you can proceed with the storytelling workflow by tapping on the “Next” button in the upper right corner (6B). The next screen will be shown automatically (Figure 94).

Checking your audio recordings one more time

> First steps



Figure 94: Decision - Listening to your previous audio recordings

At this point the VC will now offer you the possibility (Figure 94) to listen to your recordings so you can check and edit them again if necessary. Please tap on “Yes, I want to” (1A) in order to agree to this suggestion - otherwise tap on “No” (1B).

Tapping on “No” (1B) will cause the VC to continue with another context related topic. In this case you will not be able to check your recordings again. The whole story will automatically be moved to the timeline and map-line views (compare section 2.2.10.5 in this manual for more details) where you can access it at a later point of time.

The button “Back” (1C) will lead you to the previous screen where you can change the meta-data (location and age) if you feel like to.

By tapping on “Yes, I want to” (1A), you will be forwarded to the next step in the storytelling workflow as shown in Figure 95.

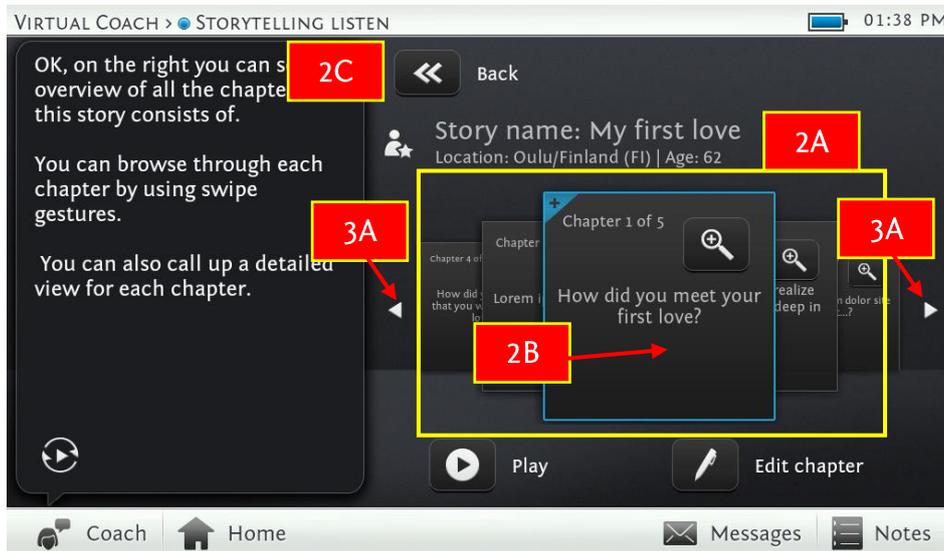


Figure 95: Overviewing your created recordings

> Introduction to the chapter carousel

Figure 95 constitutes a screen where you can overview all chapters your story consists of. The carousel control (2A) allows you to browse through the story chapters one by one.

To do so, simply perform horizontal swiping gestures to the left or right with one of your fingers (read section 2.2.7 in this manual to learn how to use carousel controls). The carousel will revolve accordingly hence bringing the desired chapter to the front.

Alternatively, you can use the arrows to switch back and forth (3A).

Moreover, each chapter is represented by a so-called chapter card (2B), which includes basic information about the chapter itself, such as the chapter number (e.g. *Chapter 1 of 5*).

The “Back” button (2C) will lead you to the previous screen (Figure 94).

Please note:

- The carousel always contains all chapters that were suggested by the VC during the recording phase discussed earlier in this manual. That is, the chapters that you skipped on purpose are also displayed here.
- By having skipped chapters shown in the carousel you have the chance to create subsequent recordings for any skipped chapters if needed.
- Refer to the following paragraphs to learn how to create subsequent recordings for empty story chapters (Figure 96 & Figure 97).

> **How do I notice if an audio recording exists for a specific chapter?**

As you are not obliged to create an audio recording for every story chapter suggested by the VC, it may be the case that certain chapters are empty.

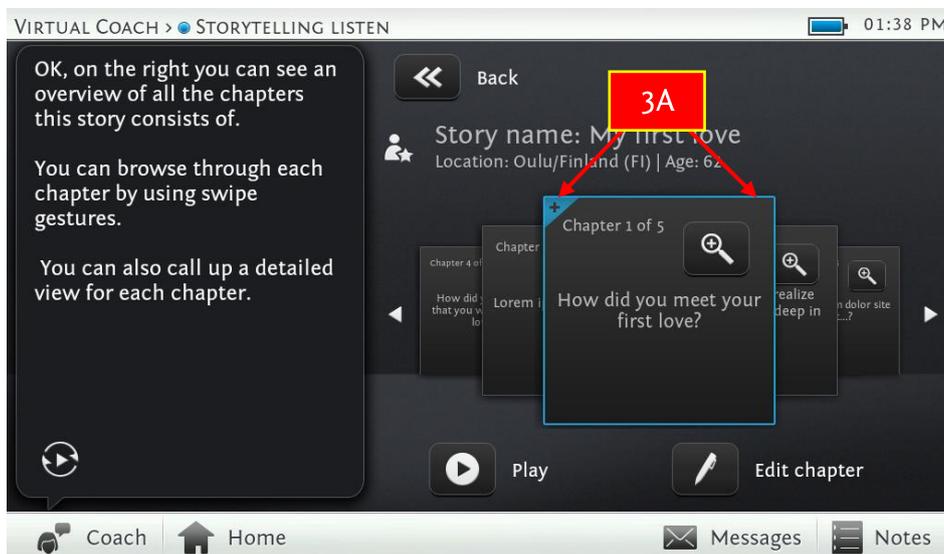


Figure 96: Color-coding is used to indicate whether an audio recording exists (Part 1)

As far as new stories are concerned, chapters which actually contain an audio recording are highlighted in blue (Figure 96). More specifically, the corresponding chapter cards within the carousel possess a blue fringe with a small “+” symbol in the upper left corner (3A).



Figure 97: Color-coding is used to indicate whether an audio recording exists (Part 2)

Empty chapters do not possess this bluish highlighting. The corresponding chapter cards possess a light grey fringe instead (3B). Furthermore, the “Play” button is inactive and hence grayed-out if no recording exists (3C).

> How can I listen to an audio recording belonging to a specific chapter?



Figure 98: Playback of an audio recording (Step 1)



Figure 99: Playback of an audio recording (Step 2)

In order to listen to one of your audio recordings, bring the desired chapter card (e.g. *How did you meet your first love?*) to the foreground first (4A, Figure 98).

By tapping on the “Play” button (4B, Figure 98), the focused chapter card will expand horizontally as illustrated in Figure 99 (5A, Figure 99), and the audio playback starts automatically. Alternatively, you can tap once on the button with the magnifier symbol (4C, Figure 98) to produce the same effect.

You can stop the audio playback any time by tapping once on the “Stop” button (5B, Figure 99). When you do this, the “Stop” button will turn into a “Play” button again. Afterwards, simply tap on “Play” to resume the playback from the last position.

To restore the chapter carousel view (Figure 98), tap once on the magnifier symbol (5C) in the upper right corner of the expanded chapter card.

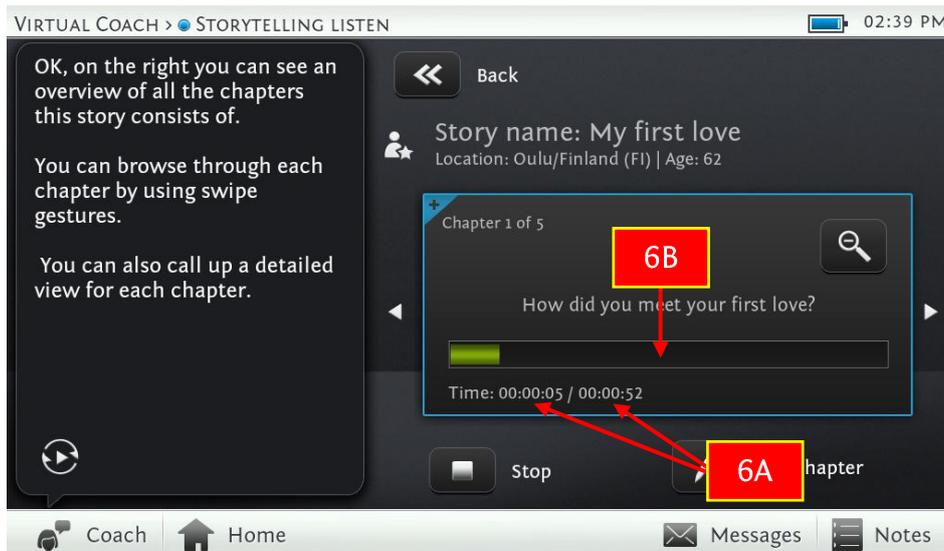


Figure 100: Playback of a recording (Step 3)

During playback (Figure 100) the total length of the recording (00:00:52) and the elapsed time (00:00:05) are displayed next to each other (6A) within the expanded chapter card.

The progress bar situated above the time indicators (6B) is supposed to serve you as an additional visual feedback. In this way you can roughly approximate how much time has already elapsed (= green bar) and how much time is left until the end of the audio recording (= remaining part of the progress bar).

Please note: The time format must be read as hh:mm:ss (h = hours; m = minutes; s = seconds). Hence 02:04:12 would equal a time length of 2 hours, 4 minutes, and 12 seconds.

Audio editing functions

You have the possibility to delete existing audio recordings as well as creating a new recording for empty chapters. This functionality comes in handy for instance if you are not satisfied with one of your previous recordings upon review.

> Deleting an existing recording



Figure 101: Editing a story chapter (Step 1)

To edit a certain chapter (Figure 101), bring the desired chapter card (e.g. *How did you meet your first love?*) to the foreground first (1A). Then tap on the button “Edit chapter” (1B).



Figure 102: Editing a story chapter (Step 2)

You can finally delete an existing recording by pressing the “Delete recording” button (2A, Figure 102). To return to the chapter carousel (Figure 101) without editing, tap on “Back to chapter overview” (2B).

Please note: The deletion process is irreversible. Make sure you have selected the correct recording before deleting anything.

> **Creating a new recording after deletion**



Figure 103: Editing a story chapter (Step 3)

After successful deletion (Figure 103), you can directly create a new recording. To do so, please tap on the “Start recording” button that is now available at the bottom of the screen (3). The recording will commence without delay so you can start speaking immediately.



Figure 104: Editing a story chapter (Step 4)

While recording (Figure 104), the “Stop recording” button is visible (4). Once you are done, please tap on this button once.



Figure 105: Editing a story chapter (Step 5)

This will complete the creation of the new audio recording (Figure 105). As a result, the “Stop recording” button (4, Figure 104) has turned again into a “Delete recording” button (5A, Figure 105) allowing you to delete the new audio file if wished.

To listen to your new recording, tap on “Back to chapter overview” (5B, Figure 105). You will be guided back to the chapter carousel where you can start the playback as discussed earlier in this section of the manual.

> Creating a new recording for an empty chapter

As indicated before, some story chapters might be empty because you have not recorded anything for this chapter in the first place.



Figure 106: Editing a story chapter (Step 6)

In case you have changed your mind, you can easily do some catching up on this. First, select the empty chapter (e.g. *Chapter 2 of 5*) via the chapter carousel (Figure 106) you would like to create a recording for (6A). Then tap on “Edit chapter” (6B).



Figure 107: Editing a story chapter (Step 7)

On the next screen (Figure 107), tap on “Start recording” (7A) to initialize the recording process. Otherwise tap on “Back to chapter overview” (7B) in order to return to the chapter carousel (Figure 106).



Figure 108: Editing a story chapter (Step 8)

While the V2me system is recording (Figure 108), the “Stop recording” button is visible (8) on the screen. Once you are finished, please tap on this button to finalize the recording.



Figure 109: Editing a story chapter (Step 9)

As a result, the story chapter (*How did you meet your first love?*) is no longer empty. Meanwhile, the “Stop recording” button (8, Figure 108) has also turned into a “Delete recording” button (9A, Figure 109) allowing you to delete the newly created audio file if wished.

If you want to listen to your new recording, please tap on “Back to chapter overview” (9B). You will be guided back to the chapter carousel where you can start the playback as discussed earlier in this section of the manual.

2.2.10.5. Timeline & Map-Line overview screens

This chapter describes the timeline and map-line views including the corresponding screen types and interaction patterns.

Primarily, both the timeline and map-line allow you to overview, search, and listen to your stories. These views also offer the possibility to share a story with somebody else, to delete a certain story chapter, or to manually start a storytelling process.

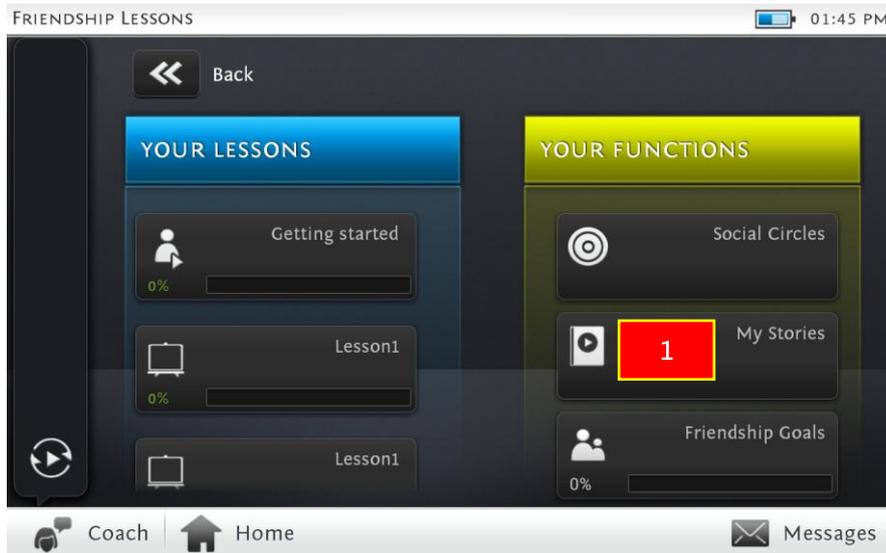


Figure 110: Friendship lessons screen – How to access the timeline view

As already mentioned in section 2.2.10.4 (page 60) of this manual, you can overview all your stories by going to the timeline or map-line views which are accessible via the “My Stories” button (1) on the *Friendship lessons* screen (Figure 110).

The timeline view

> What is the timeline good for?



Figure 111: The timeline view (Part 1)

After tapping on the “My stories” button (Figure 110), the timeline view is shown by default. This view (Figure 111) displays all currently existing stories as a function of the age timeline.

The age timeline (2) is situated in the lower part of the screen. Essentially, it comprises the following information in a simplified way:

- The currently selected age interval.
- The number of stories within this age interval.

> How do I operate the timeline?

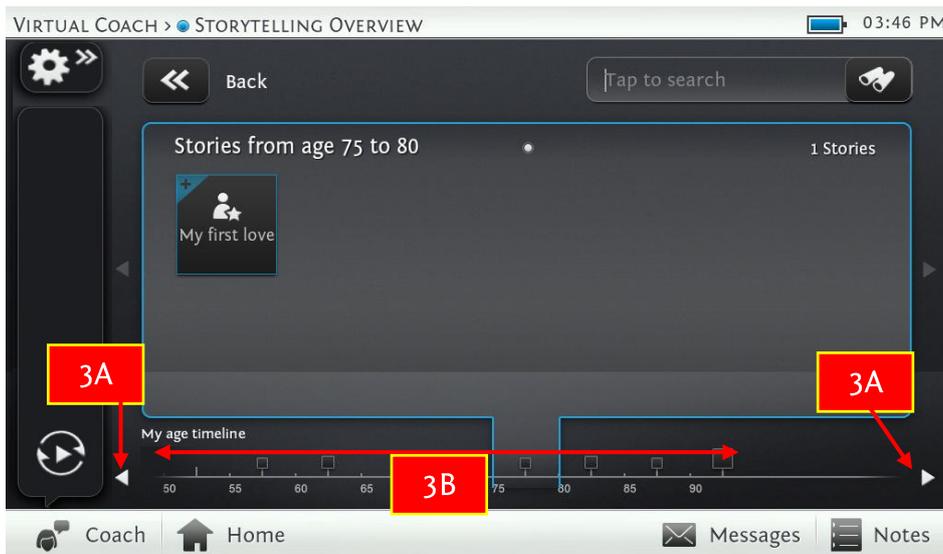


Figure 112: The timeline view (Part 2)

The timeline starts with your birth at age 0 on the left end and stops on the right end with your actual age. You can scroll through the age timeline either by tapping on the arrows (3A) or by performing horizontal swiping gestures (3B).



Figure 113: The timeline view (Part 3)

The 'spotlight area' always highlights the currently selected age interval (4A, Figure 113) to facilitate orientation. This area has a fixed position on the screen. That is, the age timeline (cf. Figure 112) is solely moving in the background of the spotlight area from left to right and vice versa.

Please note: The selected age interval is also displayed in the upper left area of the screen (4B) as text.

› What is in the content area of the timeline view?



Figure 114: The timeline view (Part 4)

The content area is reserved for displaying your stories (5, Figure 114). It adapts automatically depending on the chosen age interval (here: age 90-95).

Twelve stories, each represented by a dedicated square 'tile' (6A), can be displayed at the same time within the content area. The total number (here: 12 stories) of stories within the selected age interval is always displayed in the upper right corner (6B).



Figure 115: The timeline view (Part 5)

In case there are more than 12 stories as illustrated in Figure 115, they are divided over several pages. You can scroll through these pages either by using the arrows (7A) or by using horizontal swiping gestures.

Please note: The arrows (7A) are inactive if there exists only one story page (i.e. if there are only 12 or fewer stories within the selected age interval).

Dotted page indicators (8A) signify the total number of story pages for better orientation. In this case (Figure 115) there are altogether two pages - 12 stories on the first page, and two more stories on the second page yielding a total of 14 stories (8B).



Figure 116: Squares represent the number of stories in the timeline

The squares connected to the age timeline (9) represent the stories within a certain age interval in the following manner (Figure 116):

- Square size:
 - No square = no story exists
 - Small square = at least one story exists
 - Medium square = some stories exist, but less than 12
 - Large square = more than 12 stories exist

In this way, you can estimate in advance how many stories belong to a certain age interval without actually selecting it. At the same time you can immediately see which age intervals do not contain any stories.



Figure 117: Timeline view – stories are represented by tiles

Each story is represented by a square ‘tile’ in the content area of the timeline view (10A) as mentioned before. A small icon inside each tile always indicates the story

type **(10B)** so that is easier for you to identify a certain story among the existing ones. Moreover, the story name **(10C)** is always displayed below the mentioned icon.

Please note: The displayed story name inside the tiles is abbreviated if the length is too long.



Figure 118: Colors encode the status of a story

Recently recorded stories are highlighted in blue **(11A)** in content area of the timeline to facilitate recognition. These stories will lose their bluish highlighting after a predefined time period as indicated by **(11C)**.

External stories shared by other people possess a permanent yellow highlighting **(11B)**.

> How do I play back a story via the timeline view?



Figure 119: Timeline - Playing a story (Step 1)

In order to play back a story, tap on the desired story tile **(12, Figure 119)** first. Afterwards, you will be forwarded automatically to the next screen (Figure 120).



Figure 120: Timeline - Playing a story (Step 2)

The carousel shown in Figure 120 contains all chapters your selected story consists of. To listen to one of your audio recordings, choose the desired story chapter first; then tap on “Play” (13B). Alternatively, you can tap on the magnifier symbol (13C). In either case the chapter detail view (Figure 121) will be displayed automatically.

By tapping on “Back” (13A) you can return to the timeline view where you just came from.

Please note: Refer to section 2.2.10.4 (page 67 ff.) in this manual for detailed information about how to handle the carousel control and associated functions.

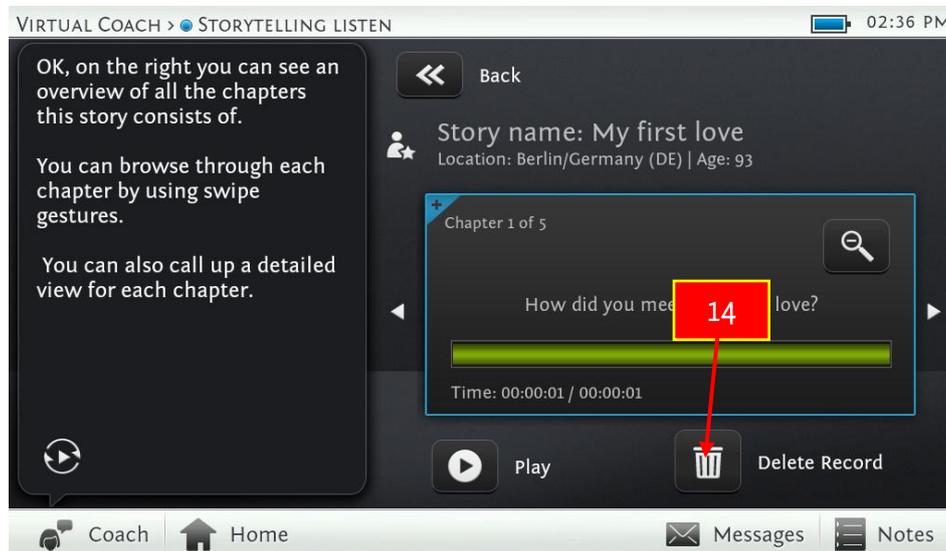


Figure 121: Timeline - Playing a story (Step 3)

Figure 121 shows the mentioned chapter detail view. Besides playing, stopping and resuming the audio recording, you also have the possibility to delete any chapter by tapping on “Delete Record” (14).

Please note: The “Delete Record” button is only visible on the level of the chapter detail view (Figure 121), but not on the level of the chapter carousel (Figure 120). Also keep in mind that the deletion is irreversible!

Refer to section 2.2.10.4 (page 70 ff.) in this manual for additional information on the chapter detail view.

> How can I search for a story in the timeline?



Figure 122: Timeline - Searching a story (Step 1)

You can search for a certain story in the timeline by using the search field situated in the upper right corner (15A, Figure 122) of the screen. Tap once on this field to proceed.

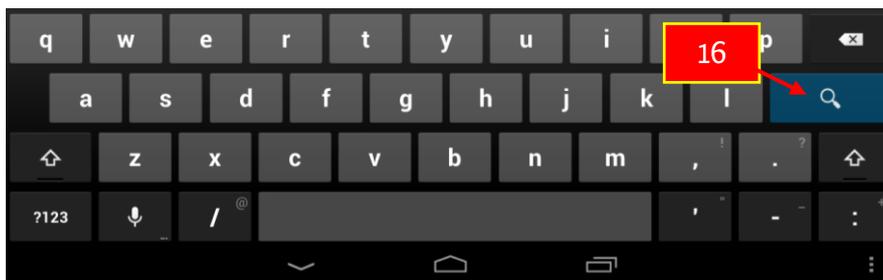


Figure 123: Timeline - Searching a story (Step 2)

As a result, an alpha-numeric keyboard (Figure 123) will appear on the screen allowing you to enter a search word such as ‘new’. To execute the search, please tap on the blue search button located in the keyboard area (16). Afterwards, the keyboard will disappear automatically.

Alternatively you can use the button with the binocular symbol (15B, Figure 122) next to the search field in order to execute the search. In this case the keyboard remains

visible so can immediately perform another search in case no search results are found. To close the keyboard, tap on the blue search button (16) once.

Please note:

- You can only search for story names. Other aspects as, for example, story chapters are not considered in the search.
- The search is always executed over all age intervals.
- Search queries are not case sensitive, i.e. it does not matter if you use capital letters or not.



Figure 124: Timeline - Searching a story (Step 3)

Figure 124 illustrates a situation, in which a search has already been executed by entering the query “new”. All potential matches are now visible on the updated timeline screen (Figure 124). In this example three potential matches (17A) have been found within the currently focused age interval (age 90 to 95). Each story name contains the word ‘new’.

The total number of potential matches (here: 3 Stories) is also displayed in the upper right corner (17B).

Inside the search field you can still see the currently active search query ‘new’ (17C). In order to reset the search, you must tap once on the “Reset button” (17D) in the uppermost right corner. That way the original state of the timeline is restored as illustrated in (Figure 122).



Figure 125: Timeline - No search results found

Figure 125 shows another situation in which no matches have been found (**18A**) based on the query 'friend' (**18B**). It is now up to you what to do next. You could for instance change the search query or browse through the timeline by hand without entering any search word in order to find the story you are looking for.



Figure 126: Timeline - Matches in more than one age interval have been found

Figure 126 depicts a situation in which numerous matches have been found across several age intervals. You can recognize this by the squares (**19**) sticking out of the timeline. Please also refer to Figure 116, page 80, for more information on this topic.

Hint: When you use the search function it is recommended to check the whole timeline for further matches outside the viewable area. This is due to the fact that the timeline might not be completely visible depending on its current position.

The map-line view

> How can I activate the map-line view?

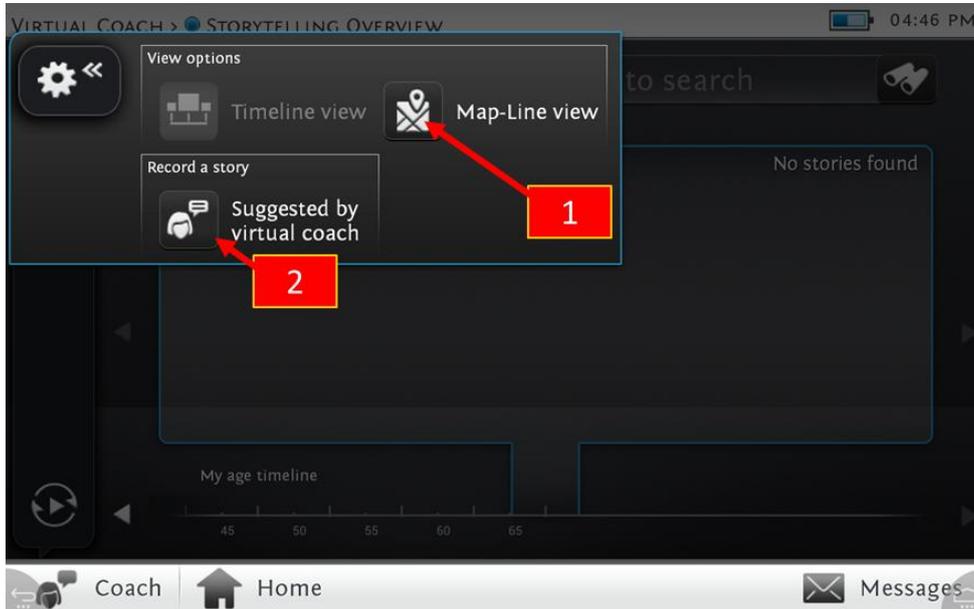


Figure 127: Timeline – Context menu with several options

You can switch from the timeline to the map-line view by opening the context menu in the upper left corner on the level of the timeline screen. Then tap on the button labeled with “Map-Line view” (1, Figure 130) to change the view.

Please note: The context menu also offers you a shortcut (2) in order to record a story. By tapping on “Suggested by virtual coach”, the VC will suggest a suitable story topic.

> What is the map-line good for?

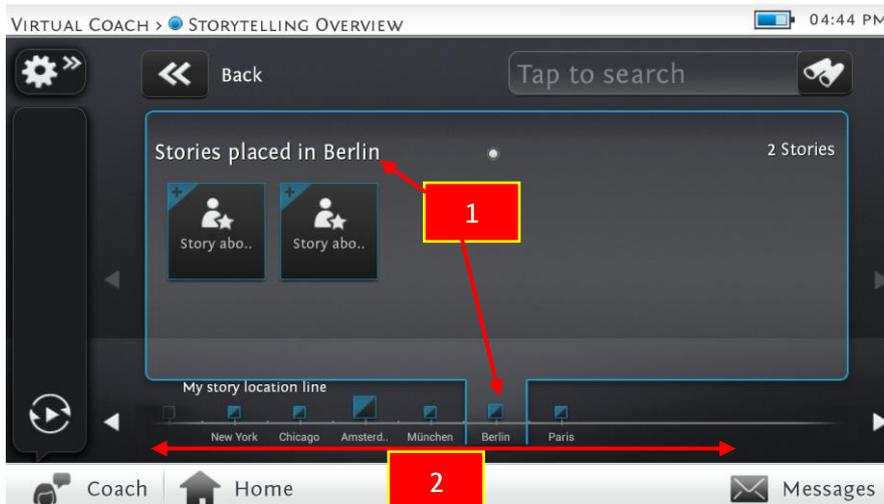


Figure 128: The map-line view

As for the operability and functionality, the map-line view (Figure 111) is very similar to the timeline view. Instead of using age intervals, the map-line displays all currently existing stories as a function of different locations, i.e. towns such as *Berlin* (1).

The so-called 'story location line' (2) is situated in the lower part of the screen. Essentially, it comprises the following information in a simplified way:

- The currently selected town.
- The number of stories related to this town.

› How do I operate the map-line?

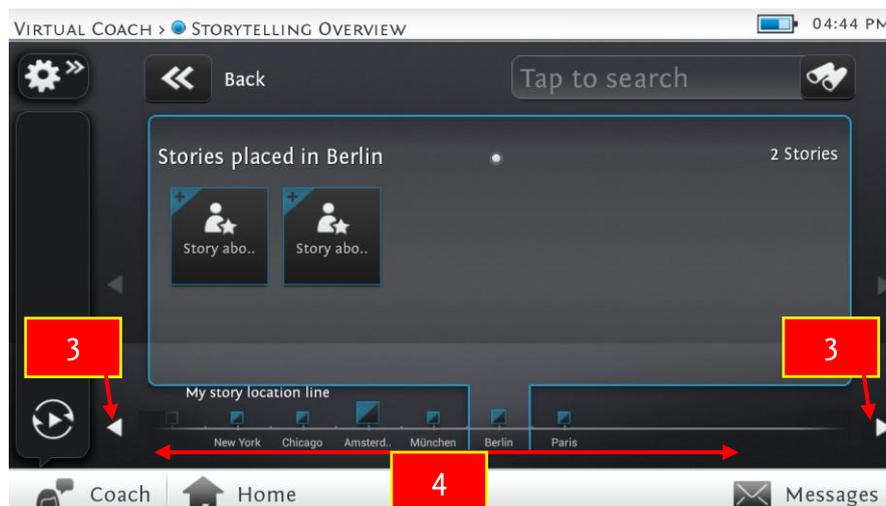


Figure 129: The map-line view (Part 1)

You can scroll through the mentioned 'story location line' either by tapping on the arrows (3) or by performing horizontal swiping gestures (4).

Due to the similarities between the map-line and timeline, please refer to pages 78 ff. in this manual for more information about how to operate the map-line and corresponding interaction patterns.

› What is in the content area of the map-line view?

The screen layout of map-line is almost identical to the layout of the timeline. Please refer to pages 79 ff. in this manual to learn more about the content area of the timeline. This information can be directly transferred to the map-line view.

› How do I play back a story via the map-line view?

The interaction patterns related to story playback are identical for the timeline and map-line views. Therefore, please refer to pages 81 ff. in this manual to learn more about how to play back a story.

› How can I search for a story in the timeline?

Searching a story via the map-line works exactly as for the timeline. Therefore, please refer to pages 83 ff. in this manual to learn more about how to search for a story.

2.2.10.6. Storytelling: Sharing a story

This section elaborates on two main aspects of the story sharing function: First, you will learn how to share a story with one of your contacts. Second, it will be explained what happens if somebody else tries to share a story with you while working with the V2me system.

This means that you can be:

- The initiator of a story sharing process (i.e. you recorded a story and would like to share it with somebody else).
- The recipient of a story (i.e. somebody else recorded a story and wants you to receive it).

When you are the initiator of a story sharing process...

There are numerous feasible situations in which you have the possibility to share a story. Just to give you an idea:

- The VC could suggest sharing a story with somebody else in the course of a friendship lesson.
- You could go to the timeline, choose one of your own stories, and then initialize the story sharing process by hand.

The subsequent paragraphs exemplarily explain how to share a story that is stored in your personal timeline (Figure 130).

> Step 1: Choosing a story



Figure 130: Sharing a story (Step 1)

First of all, you should be aware which story you would like to share. Then tap once on the corresponding story tile (1).

> **Step 2: Start the story sharing workflow**



Figure 131: Sharing a story (Step 2)

Afterwards the chapter carousel is displayed (Figure 131). Now tap on the button “Share story” to initialize the story sharing workflow (2).

> **Step 3: Selecting the recipients of your story**

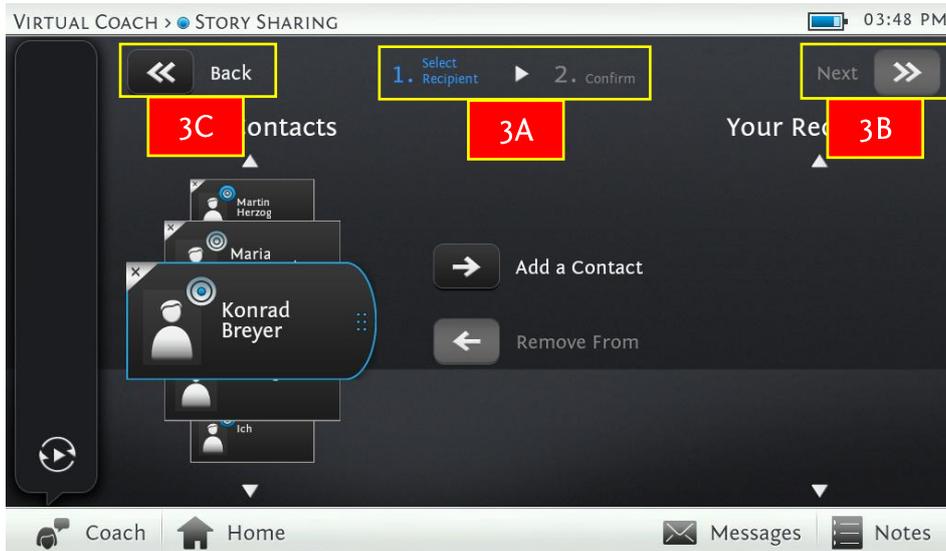


Figure 132: Sharing a story (Step 3)

Figure 132 constitutes the first of altogether two working steps regarding story sharing. The total number of working steps is shown as a roadmap in the upper area of the screen (3A). In this way you always know which step you are currently in (blue highlighting).

The “Next” button (3B) remains inactive as long as no recipient has been selected. This will change the moment you add at least one contact to the list of recipients.

By tapping on “Back” you can return to the previous screen (Figure 131).

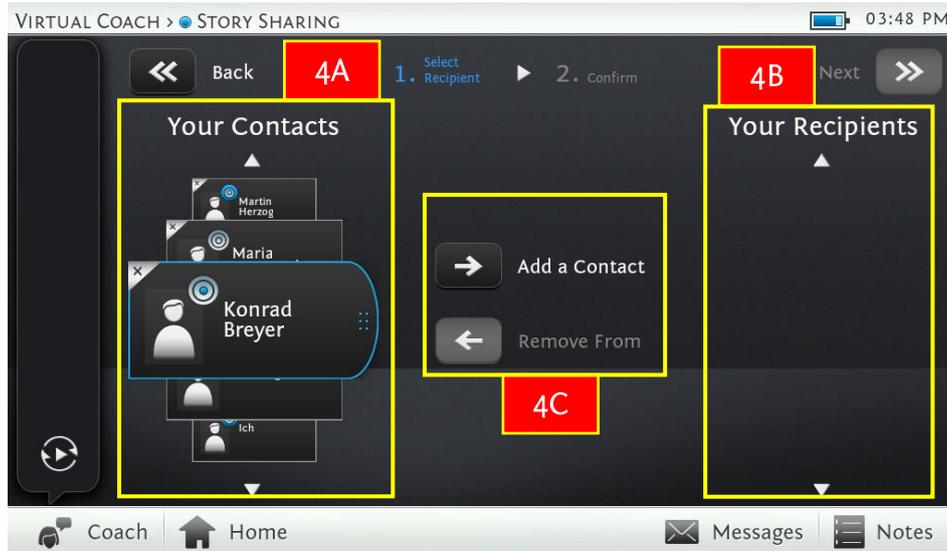


Figure 133: Sharing a story (Step 3)

The vertical carousel on the left (4A, Figure 133) contains all your personal contacts (refer to chapter 2.2.7 to learn more about how to operate a carousel control).

The carousel on the right will display all selected recipients (4B). At the moment it is empty as no recipient has been added to this area yet.

The two buttons in the middle screen section (4C) comprise possible actions between both carousels. You can either move any contact to the recipient's carousel on the right, or remove any contact from the recipient's carousel afterwards.

Please note: The “Remove from” button (4C) is currently inactive as there is no recipient that can be removed.

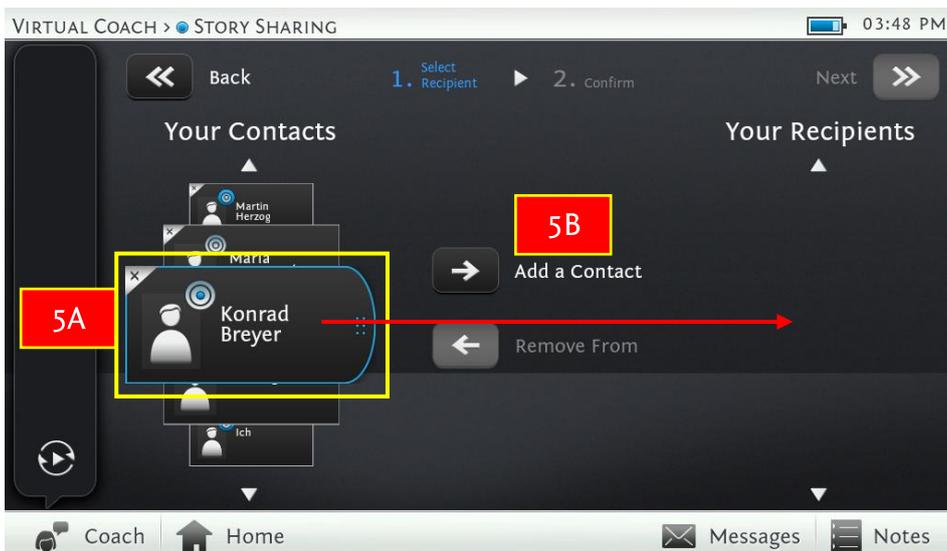


Figure 134: Sharing a story (Step 3)

Now, to move for example the currently focused contact *Konrad Breyer* (5A) to the recipient's side (Figure 134), tap once on the “Add a contact” button (5B).



Figure 135: Sharing a story (Step 3)

Once you have moved *Konrad Breyer* to the recipient's side (6A, Figure 135), he is no longer present in the contact carousel on the left. This is due to the fact that you cannot add the same person multiple times to the list of recipients.

At the same time the "Remove from" button has now become active (6B) allowing you to remove *Konrad Breyer* again from the list of recipients.

To add another contact to the recipient's side, simply choose the desired contact first (e.g. *Johannes Schwaig*, 6C). Then tap again on the "Add a contact" button (6D).

That way you can complete your list of desired recipients as illustrated exemplarily in (Figure 136).

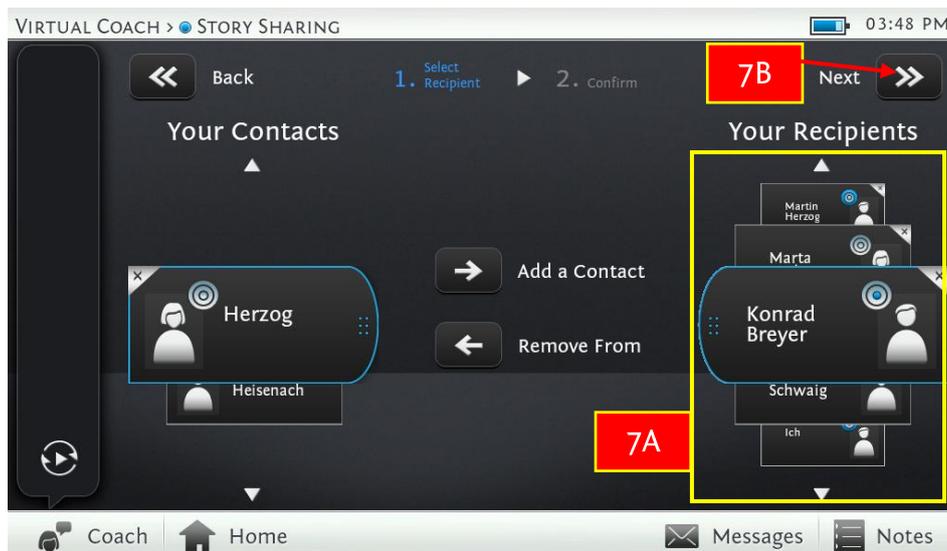


Figure 136: Sharing a story (Step 3)

You can browse through the contacts in the recipient's carousel (7A) to take a final look before continuing with the second workflow step. Tap on "Next" (7B) to proceed.

> Step 4: Confirm

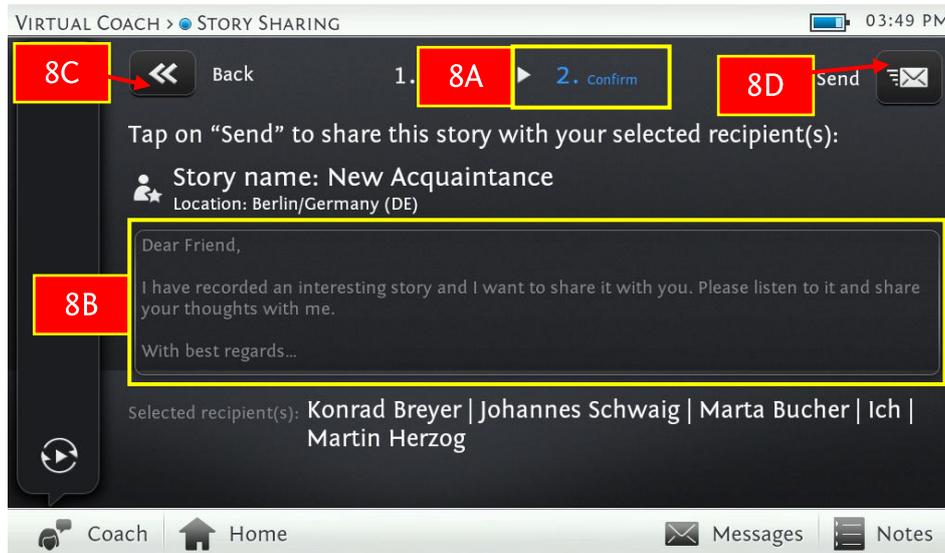


Figure 137: Sharing a story (Step 4)

The main purpose of the second and final workflow step (8A) is to check and confirm the contents you are about to send. This screen (Figure 137) summarizes the most important information such as the story's name and the selected recipients.

Furthermore, all recipients will receive a default message displayed in the middle area of the screen (8B).

In order to change the list of recipients, tap on the "Back" button (8C) to return to the first workflow step.

Finally, please tap on "Send" button (8D) in the upper right corner to send off your story. The recipients will receive a notification message regarding your concern.

When you are the recipient of a story...

While you are interacting with the V2me system, it may happen that somebody else wants to share a story with you. In this case you would receive a corresponding message popping up in front of the screen you are currently viewing (Figure 138).



Figure 138: Pop-up message on receipt of an external story (Part 1)

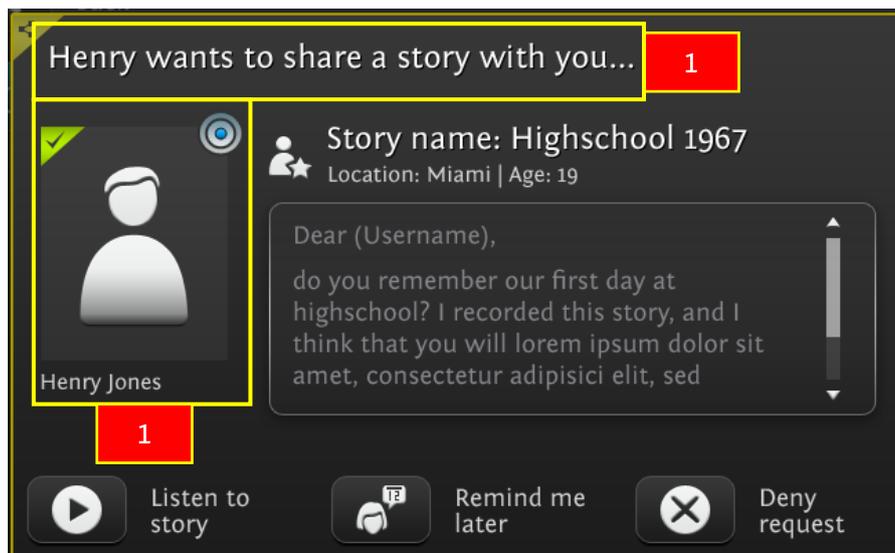


Figure 139: Pop-up message on receipt of an external story (Part 2)

The uppermost area of the pop-up plus the area on the left (1) contain general information about the sender of the story (Figure 139). This includes among other things the contact's online status (online / offline) and the current allocation to your social circles (inner, middle, or outer circle / not included in circles).

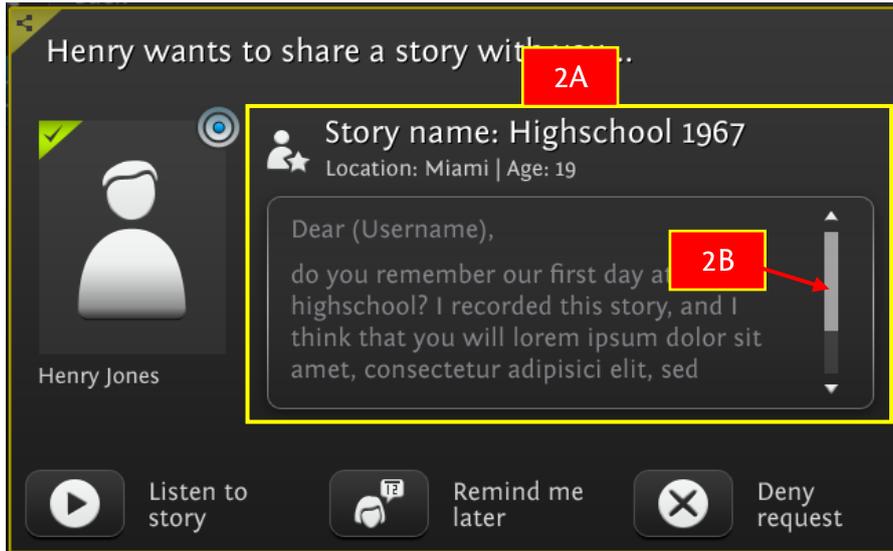


Figure 140: Pop-up message on receipt of an external story (Part 3)

The central area of the pop-up (2A) comprises some meta-data related to the sender's story; for example, the story's name and the sender's personal message dedicated to you and all other receivers (Figure 140).

In case of longer messages you can use the provided scrollbar (2B) to browse through the text up and down.

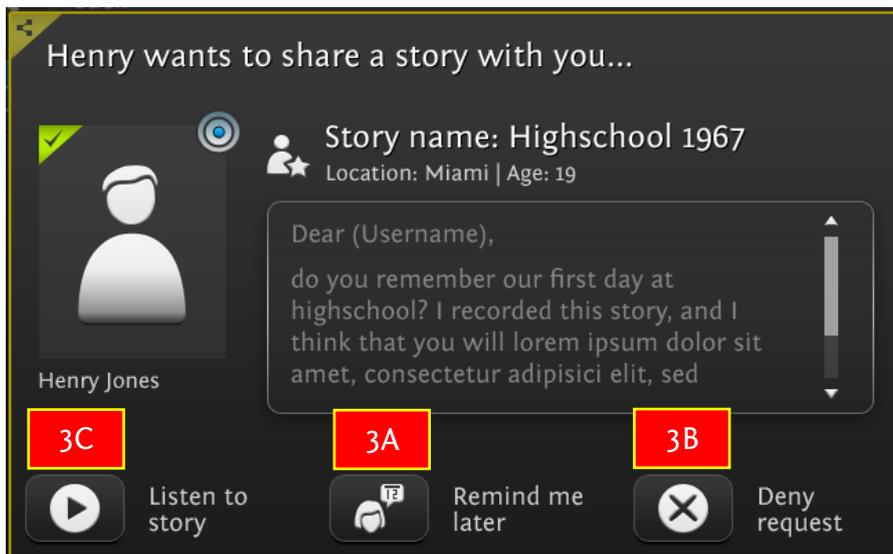


Figure 141: Pop-up message on receipt of an external story (Part 4)

At the bottom of the pop-up window you will find several buttons each with a distinct functionality (Figure 141).

By tapping on "Remind me later" (3A), the Virtual Coach is going to remind you of this request at a later time. The pop-up window will close automatically once this button is pressed. This option for instance makes sense if you are busy doing something else and would like to postpone your decision about accepting or rejecting the sender's story.

Furthermore, you can deny the sender's request by tapping on the button "Deny request" **(3B)**. This function comes in handy for instance if you do not want the sender's story to be stored in your timeline, or if you accidentally receive a request by a person you are not familiar with.

To have a closer look at the sender's story, tap on the button "Listen to story" **(3C)**. This will open the chapter carousel (Figure 142), where you can overview all the chapters the story consists of. Please refer to section 2.2.7, page 21 ff., to learn more about how to operate a carousel control.



Figure 142: The chapter carousel of an external story

To listen to a certain chapter, bring the desired chapter card (e.g. *Chapter 1 of 6*) to the front first, then tap on "Play" **(4A)**. The audio playback will start automatically. Repeat these steps for the remaining chapters if you want.

After listening and if you like it, you are free to accept the sender's story. To do so, simply tap on the button "Accept story" **(4B)**. This will store the story in your personal timeline (refer to section 2.2.10.5 for more details about the timeline). Afterwards, you will be notified that the story has successfully been added to your repository.

Please note: Once you have accepted a story, the "Accept story" button **(4B)** is grayed-out and inactive since you cannot add the same story multiple times to your timeline.

Use the "Back" button **(4C)** to return to the pop-up window where you initially came from (Figure 138 - Figure 141).

2.2.11. VideoCall

This section elaborates on the main aspects of the VideoCall function: First, you will learn how to setup the system to be able to make a video call. You will also learn how to access the VideoCall in the V2me system, make and end a call with your contacts and how to answer and end an incoming call².

VideoCall is based on the Skype application for the Android operating system and is meant to be launched within the V2me user interface. First the Skype client needs to be setup correctly according the following the steps below:

Setup

- › **Step 1:** Make sure you have an internet connection (WiFi/3G)
- › **Step 2:** Download the Skype client from Google Play (Android Market) - see section 3.1.2 for further instructions.
- › **Step 3:** Create Skype user account if you don't already have one. Use the Skype application or go to: <https://login.skype.com/account/signup-form>
- › **Step 4:** Login to Skype with your user account
 1. Go to Skype Settings → Synchronize contacts and tap Sync contacts
NOTE: This step is absolutely mandatory!
 2. Done!

Making a call

- › **Step 1:** From the Applications menu, tap the Contacts & Groups-icon **(1)** and the contact details will open.

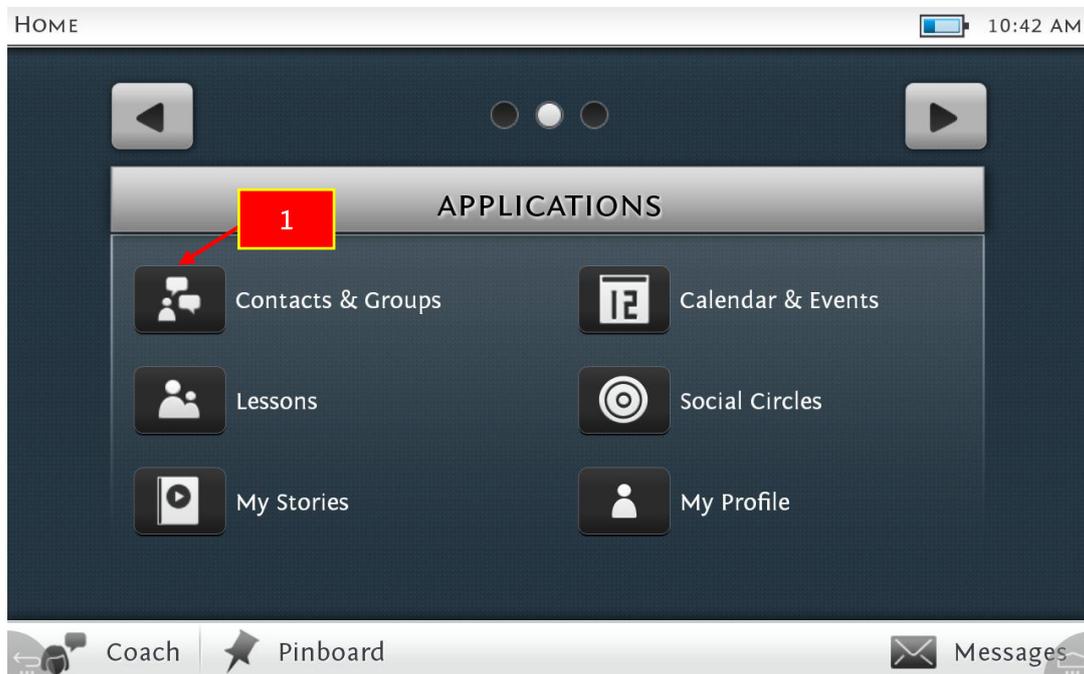


Figure 143: Accessing the VideCall (Step 1)

² Further information about the Skype application can also be found at: https://support.skype.com/en-us/category/SKYPE_FOR_ANDROID/

> **Step 2:** For each contact in the contacts carousel you can call up additional information by tapping once on the corresponding contact card (here: *Deelnemer* is focused) (2).



Figure 144: Contact & Groups – selecting a contact (Step 2)

As a result, a new screen with two tabs opens:

- Tab 1: Contact data (default view) (3a)
- Tab 2: Groups (3b)

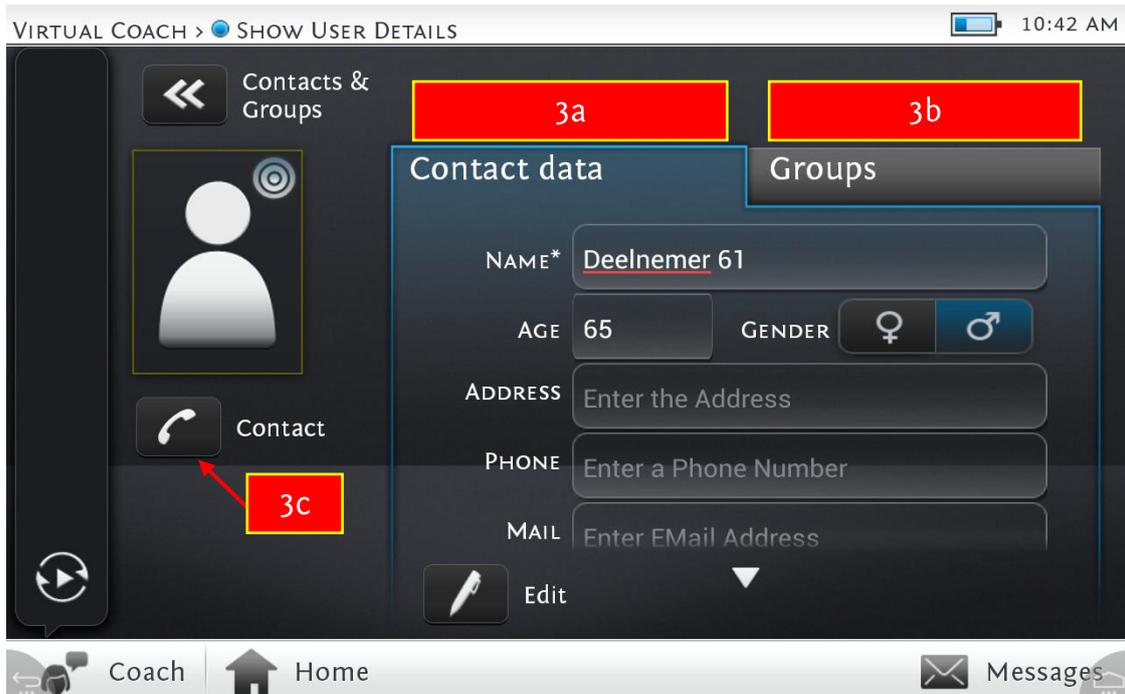


Figure 145: Contact & Groups – calling a contact (Step 3)

› **Step 3:** The button “Contact” (3c) allows you to get in touch with the currently selected person via this communication tool. In case there is more than one option (e.g., email, Skype, etc.), therefore you should tap Skype to launch a VideoCall.

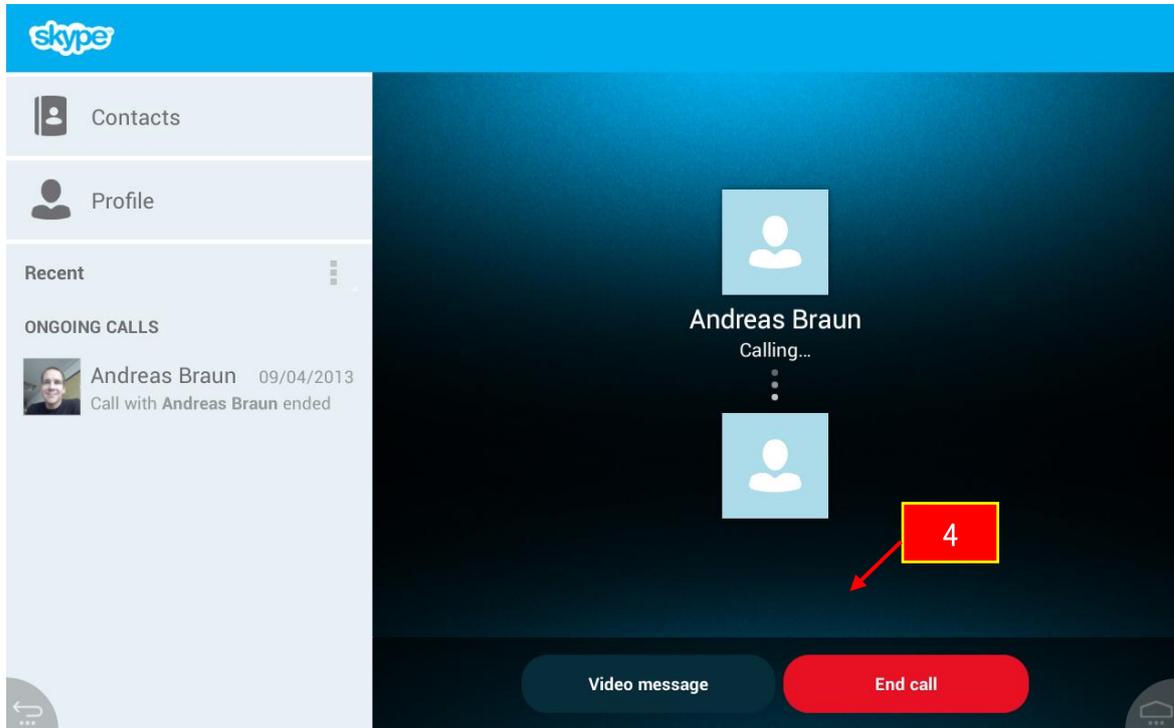


Figure 146: Skype screen during launching the call (without video)

› **Step 4:** You can tap “End call” (4) to hang up a call before it is established.

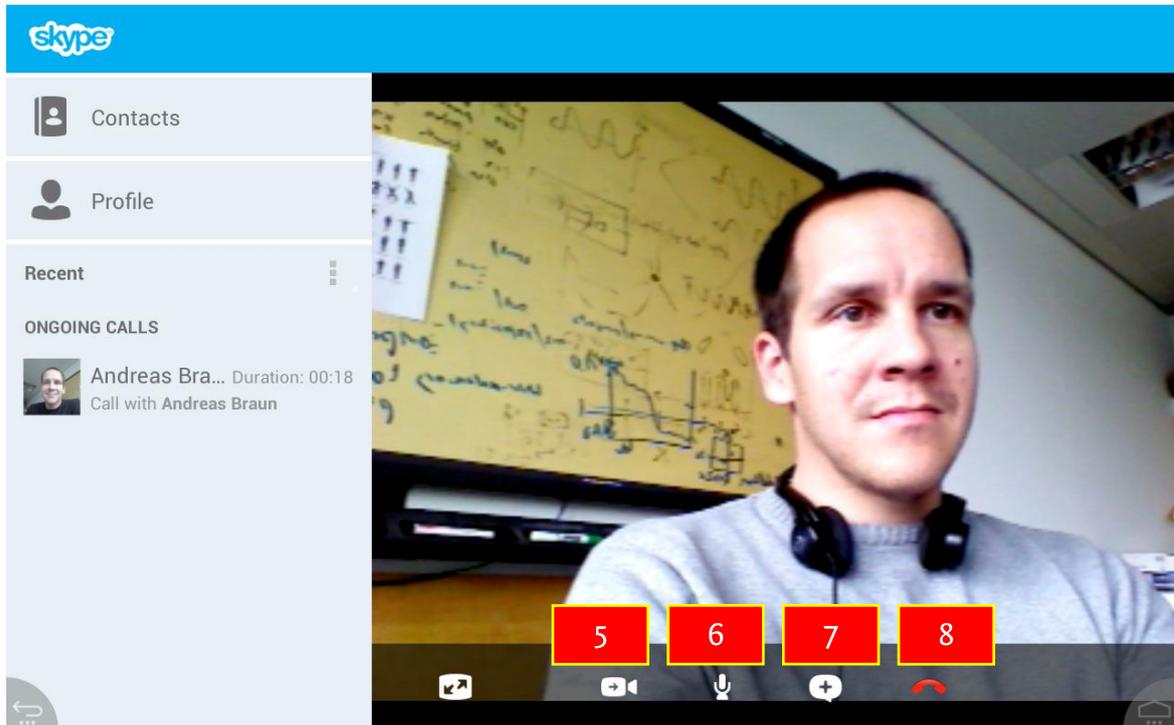


Figure 147 Skype screen during the call (video enabled)

> **Step 5:** You can switch between the front and back camera or close the video by tapping the video button  (5). Tap  (6) to switch your microphone on or off. Tap  (7) to view your instant messages. Select **Show messages** or **Show all messages** while you are on a call.

> **Step 6:** Tap  (8) to hang up a call.

Picking a call

When you are using the V2me software, it may happen that somebody wants to call you with VideoCall. An incoming call may also happen when you are not using the system. In both cases a call window occurs on the screen.

> **Step 1:** Incoming calls can either be accepted , accepted with video  or hung up/ declined .

> **Step 2:** Tap the screen during a Skype-to-Skype call to bring up the call options bar. You can switch between the front and back camera or close the video by tapping the video button  (3). Tap  to switch your microphone on or off. Tap  to turn the speakerphone function on/off, or switch to a headset. Tap  to view your instant messages. Select **Show messages** or **Show all messages** while you are on a call.

> **Step 3:** Tap  to hang up a call.

2.2.12. Social Network

The social networking functionality in V2me is available on two platforms, the mobile and web platform. The tablet device (mobile platform) is intended for older adult end users - the web platform may also be used by relatives and other affiliated persons that do not own the tablet device (see chapter 2.3 Web Platform). The social network in general provides the following functionality.

- Messaging between network users
- Interest group management

The social network functionality on the tablet will be strongly linked to the virtual coach that helps the users participating in the network. Implementation of this component will be finished until the next period. Therefore, focus is set on the web platform based on Mawell S7 eServices that acts as backend for the social network in general as well as frontend for users connecting to the network from a web browser. The specific functions of the frontend will be described in the following section. For more details about the S7 server see section 3.7 S7 Server .

User interface

The social network implementations on S7 platform consists of following use cases:

- Messaging between the elderly user and his/her relatives.
- Messaging between the elderly user and professionals /care personnel.
- Group messaging and discussion between elderly users (e.g., a hobby group).
- Diary for the elderly user.
- Visibility to elder persons calendar for relatives

Messaging consists of multiple user interfaces. The user will use the mobile platform to communicate with relatives and professionals. The relatives use the S7 portal through a web browser to communicate with the elderly user. Professionals use the S7 NetNurse UI to communicate with elderly person and relatives.

Function description

Social networking component is launched from the 'Messaging' button in tablet. When the social networking component is launched on the tablet a web browser will be opened to display the S7 interface. The S7 user interface consists of a navigation menu in the column on the left side and the content column in the centered main frame.

S7 UI for the elderly user

This chapter describes the several functions and the view of the elderly user of the social network component that can be accessed via the browser of the tablet by clicking 'Messaging' in the mobile platform's main view.

Authentication parameters are passed in URLs so the user doesn't have to enter the login credentials him/herself.

Messaging

To launch the messaging function click the envelope icon labeled 'Messaging' from the tablet navigation bar (Figure 148). Icon is showing everywhere, where the navigation bar is visible (1).



Figure 148: Launch the messaging in tablet

To write a new message select 'Write new message' from the left side menu bar (Figure 149) (2). This opens the selection for whom the message is being written to: relatives or nurse (professional).

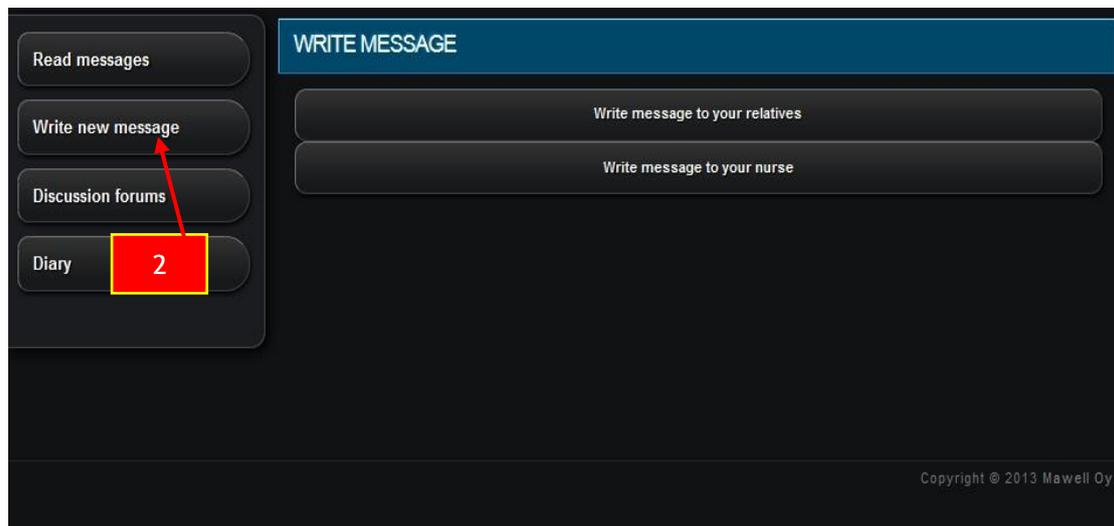


Figure 149: Select message receiver

Selecting the receiver opens the writing screen (Figure 150). A new message has a title and body (3A). After the message is ready it is sent by selecting 'Send message' (3B).

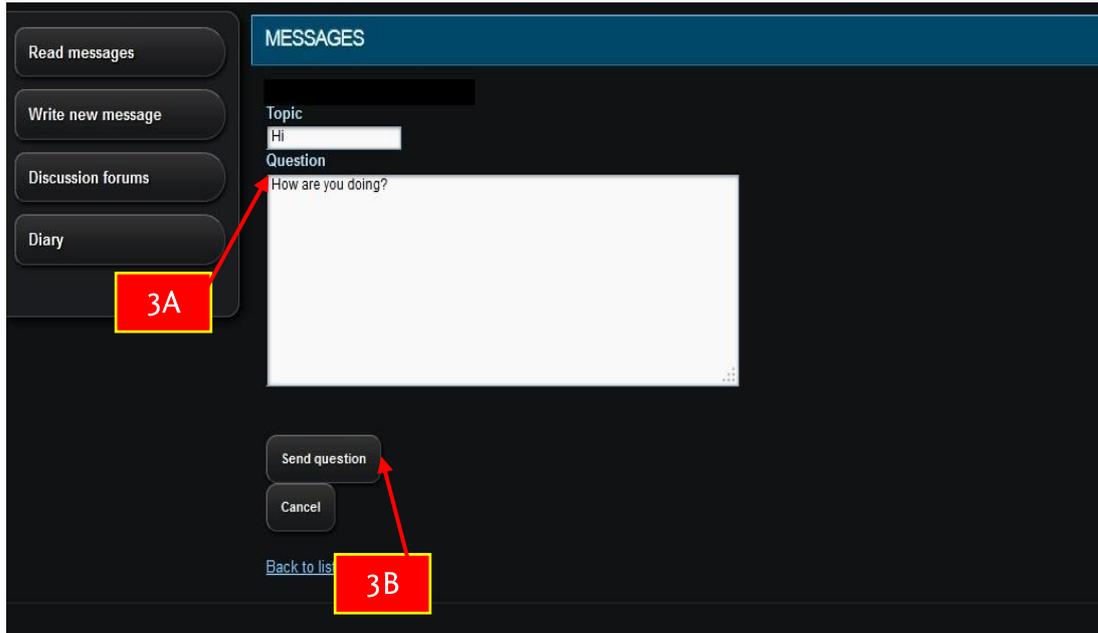


Figure 150: Write and send message

All the sent messages and responses to them can be opened by selecting 'Read messages' (4A) from the left side menu bar (Figure 151). This shows the list of messages send and received.

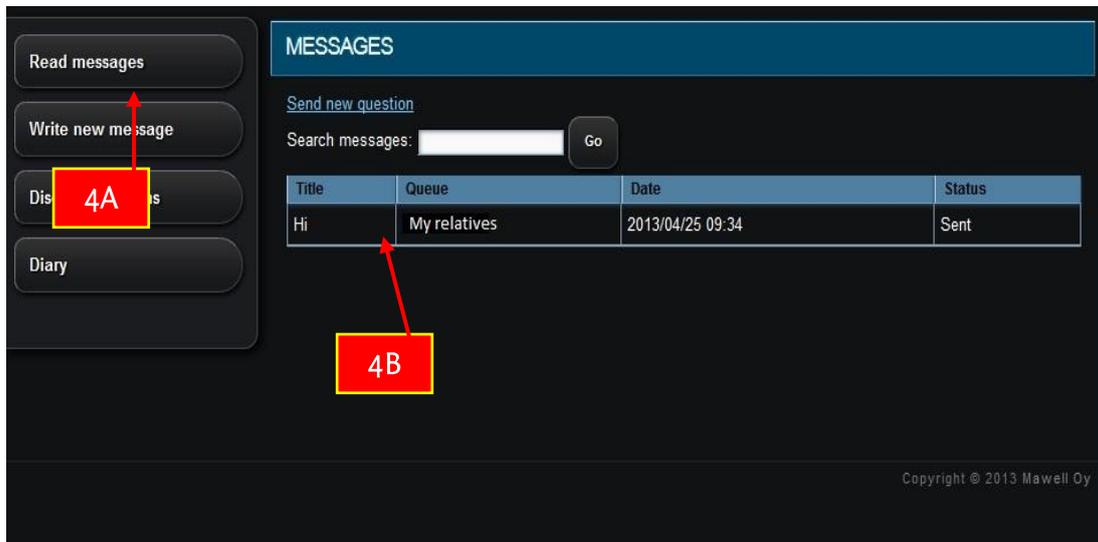


Figure 151: Read message

Messages and their responses form a message thread that both parties (elderly person and relatives or elderly person and nurse) can access to read and write new messages. The thread is viewed by clicking the message row in the table (4B).

Group discussions

Group discussions are opened by selecting 'Group discussions' from the left side menu bar (Figure 152) (5A).

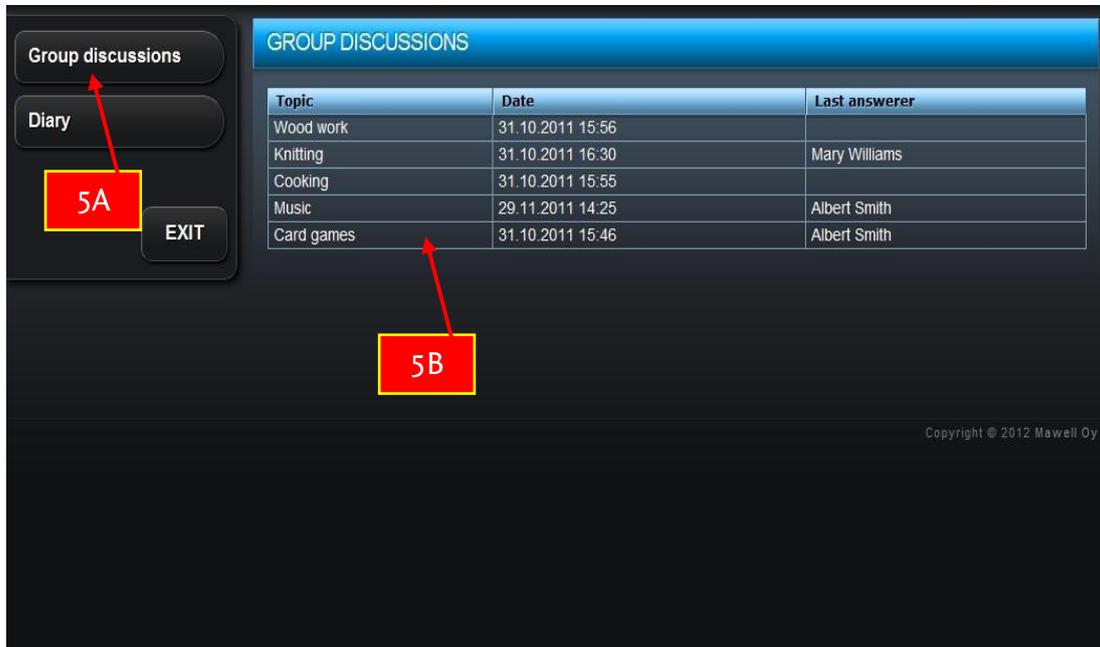


Figure 152: Main view of the group discussions

The group discussions main view shows the list of discussion groups that are divided into different topics. Clicking on a desired topic opens the group discussion thread (5B).

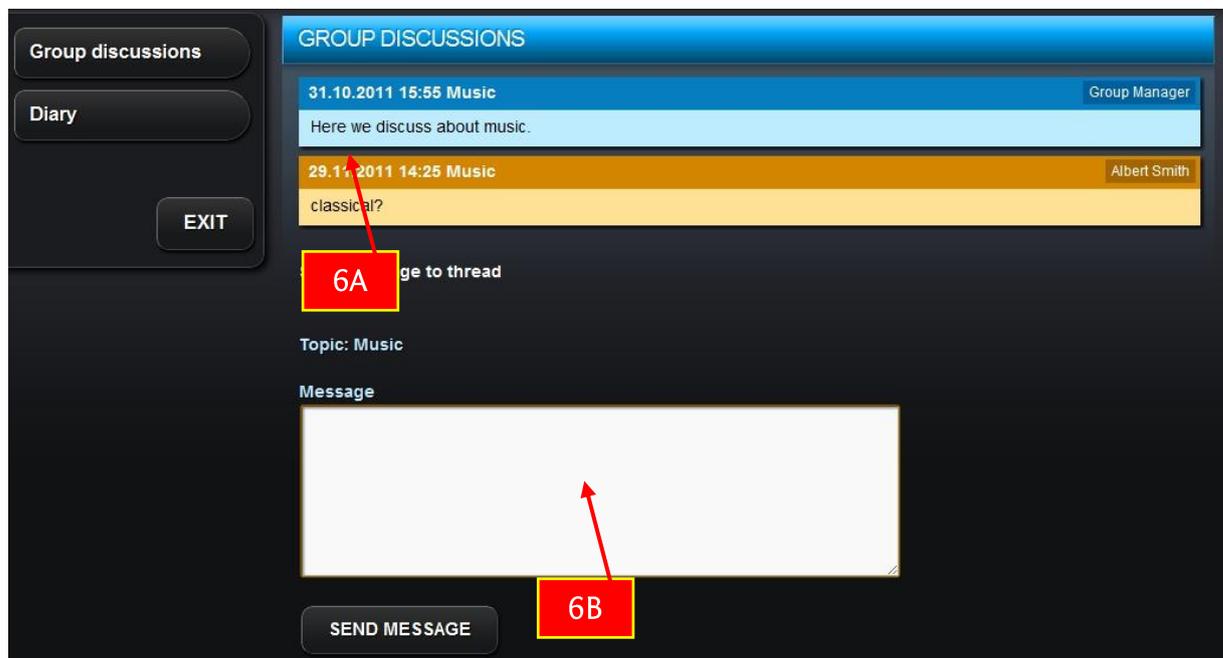


Figure 153: Thread of a group discussion

The group discussions thread view lists messages entered by the user (6A) and allows an elderly person to write and add a new message to the discussion (Figure 153) (6B).

Diary

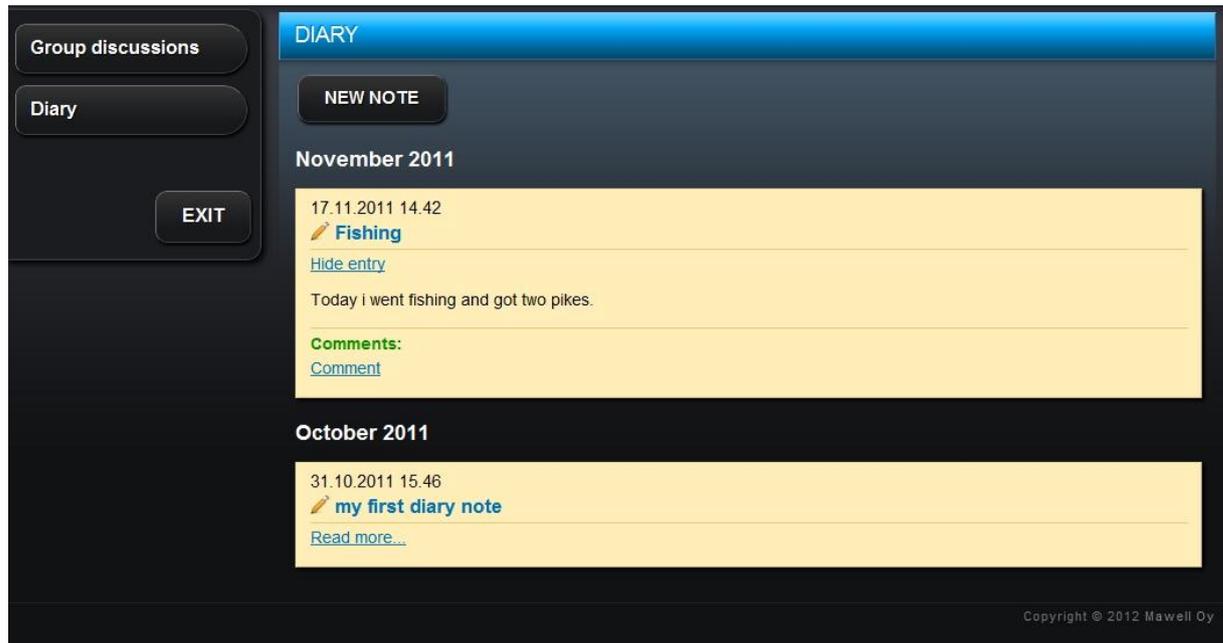


Figure 154: Diary view of the elderly user

The Diary view shows the diary entries of the elderly user as well as the comments of the relatives (Figure 154). 'New note'-button opens the view for writing a new diary entry (Figure 155).

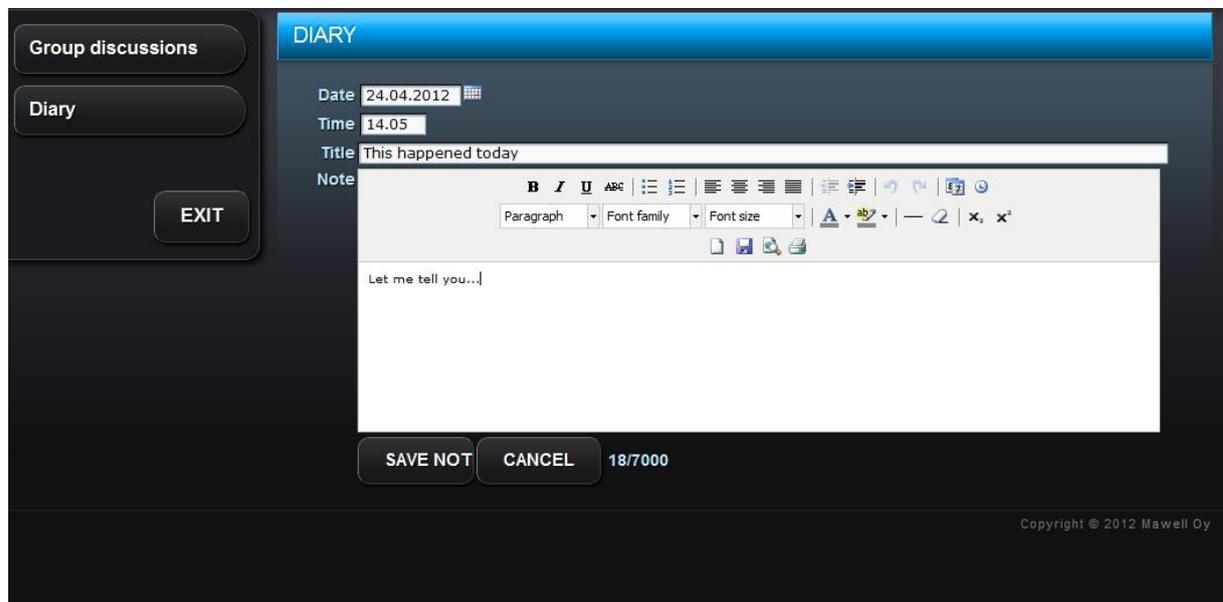


Figure 155: Adding a new diary entry

New diary note is saved by clicking 'save note'-button.

2.3. Web Platform

The main purpose of the web platform (based on the NetNurse - S7 Portal) is to connect all interest groups (human users) with each other, i.e. relatives, elderly persons and professionals.

The web platform is a web based portal engine, using the Mawell S7 platform as a framework that combines multiple web applications into a single view. Furthermore, this platform provides the Mawell S7 NetNurse module to be utilized as social networking channel. In addition, the calendar functionality is managed via the web platform V2me Portal, as well as the synchronization towards the tablet.

The next two sections provide an overview of the social network component for relatives and professionals, which is provided by the web platform and can be accessed via a browser on arbitrary devices (e.g., PC, smartphone, etc.).

2.3.1. S7 UI for relatives

This chapter describes the several functions and the view for the relatives of the elderly users in the social network. This component can be accessed via the browser on every device that provides internet access (e.g., PC, tablet, etc.).

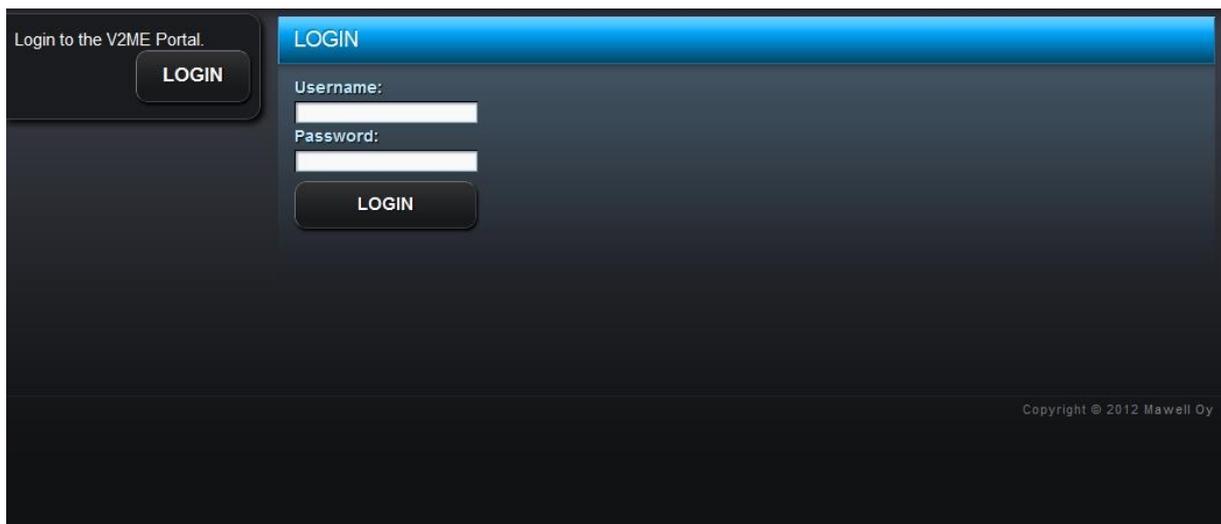


Figure 156: Login screen of the social network for the relatives

Relatives login to S7 portal using the user accounts created for them.



Figure 157: View on the main menu of the social network for relatives

The main menu (on the left side) contains five items (Figure 157):

- Messages from elderly person: For reading messages from elderly person and responding to them (1A).
- Messages from and to professional: For communicating with the elder’s caretaking professionals (1B).
- Calendar: For viewing the calendar of the elderly person (1C).
- Diary: For viewing the diary of the elderly person (1D).

Messaging



Figure 158: Message inbox of the relatives

Both, ‘Read message’ and ‘Write message’, show the inbox containing all previous message threads (2A) that can be open/read (Figure 158). Also a link for sending a new message is on this page (2B).

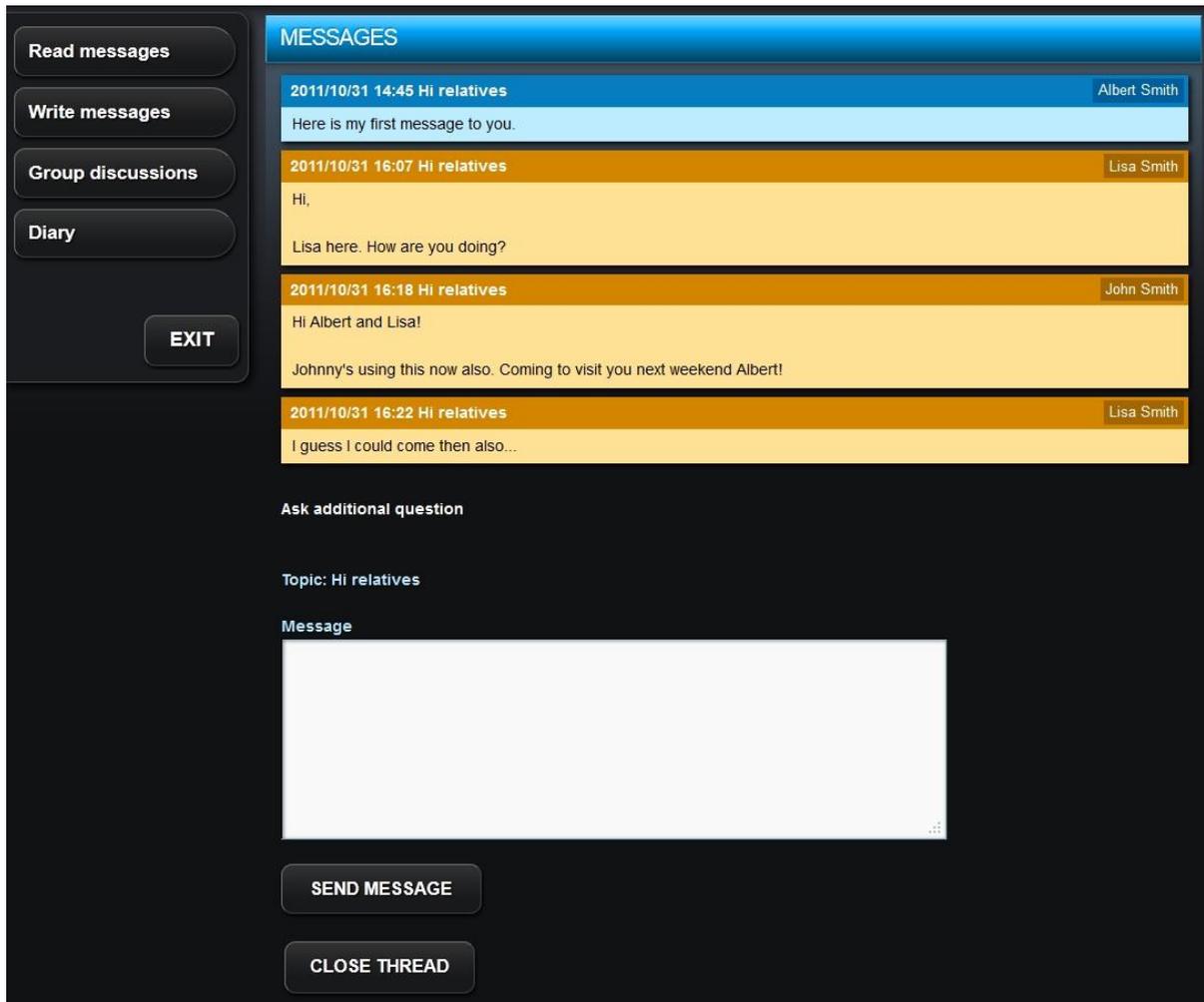


Figure 159: View on the message thread

Clicking on one message thread opens all the messages written in that thread (Figure 159).

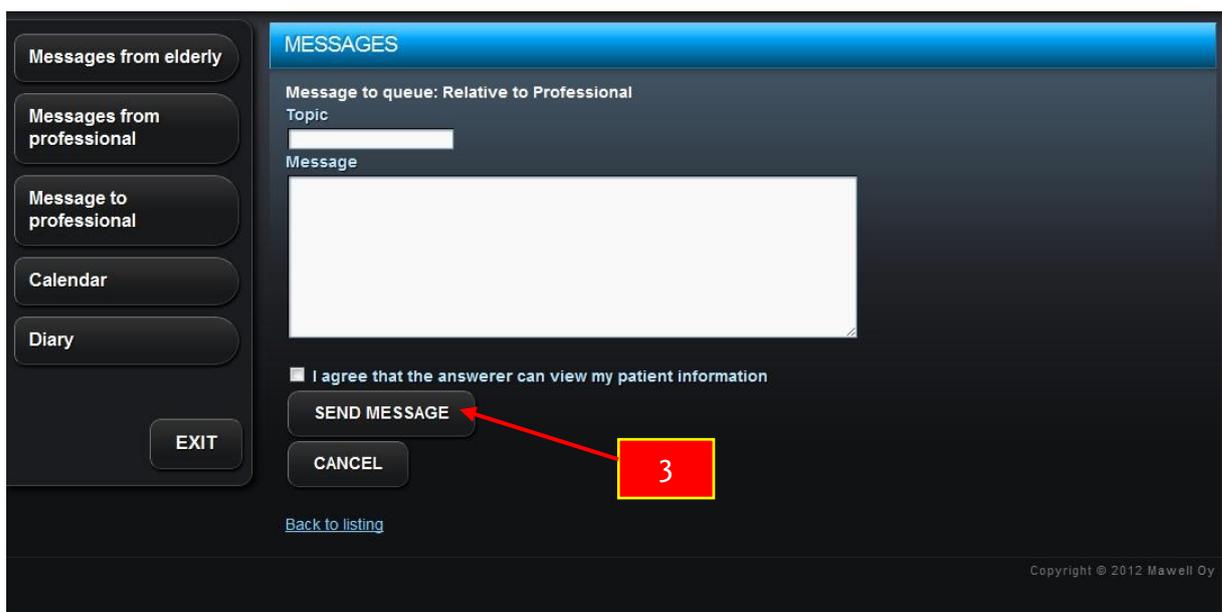


Figure 160: Sending a new message to a selected thread

Clicking on 'Send new message' (3) allows the relative to send a new message which creates a new message thread (Figure 160).

Calendar

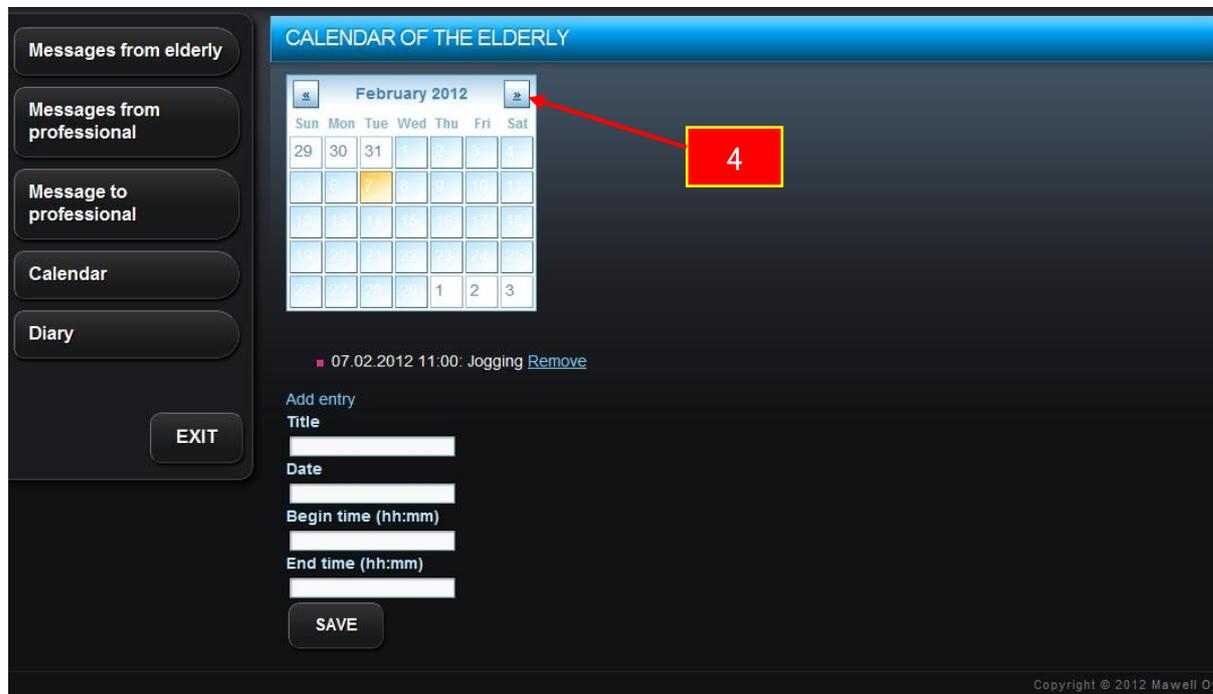


Figure 161: The relatives view on the calendar of the elderly person

The 'Calendar' menu item in the relatives view opens the elderly person's calendar (Figure 161). On this page relatives can browse (4) elderly person's calendar events.

2.3.2. S7 UI for professionals

Professionals login to S7 NetNurse using web browser on an arbitrary device (e.g., PC or tablet).



Figure 162: Login screen of a professional to the social network

The professional enters his/her user details to login into system.



Figure 163: Main view containing all unanswered messages

By default the NetNurse main view shows a list of unanswered messages from the elderly users and their relatives (Figure 163). Messages with different status can be viewed by selecting different criteria from 'Show' drop down list (1). Clicking on a message (2) opens the thread view and allows the professionals to answer them.

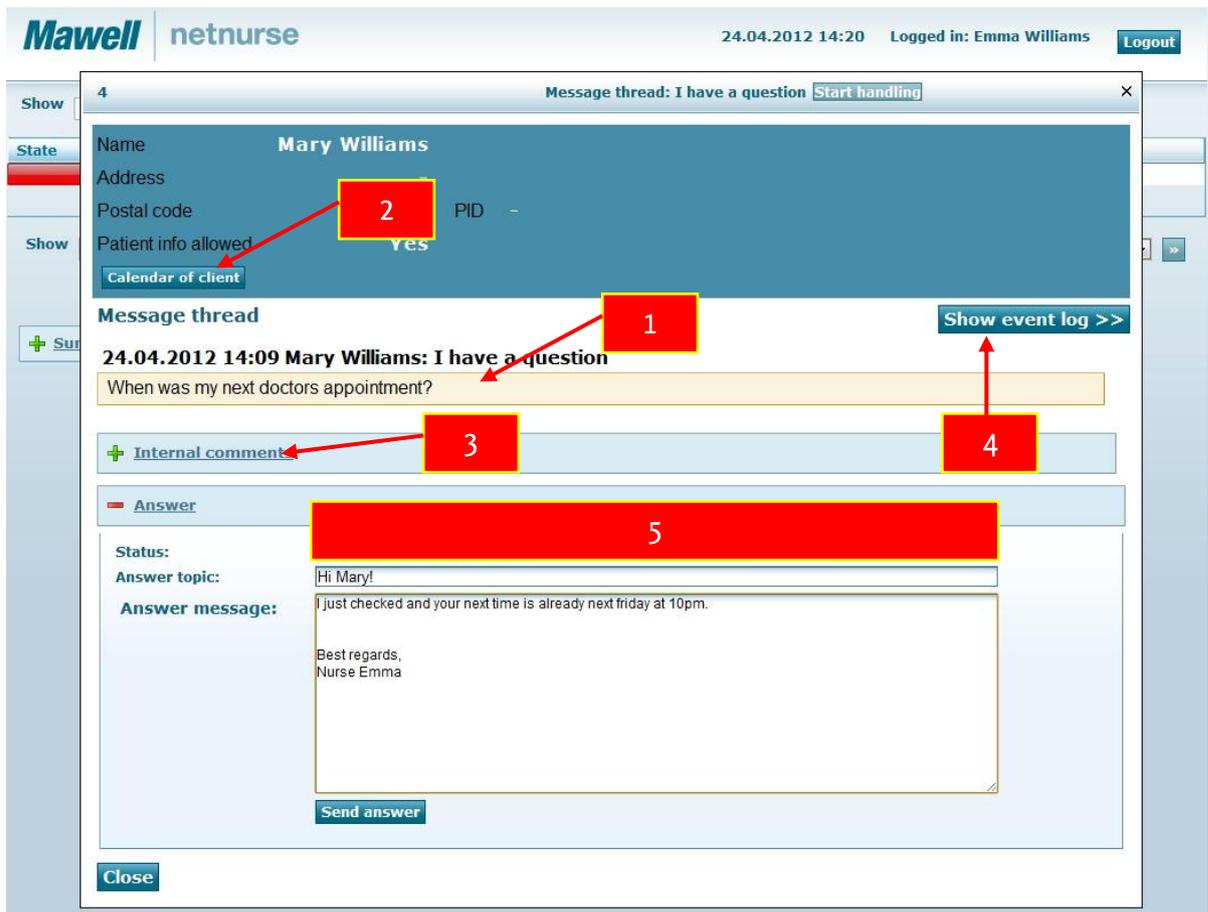


Figure 164: Thread view of the professional

The thread (Figure 164) view enables the professional to:

- Read messages in the thread **(1)**
- Check the calendar of the elderly user **(2)**
- Write internal comments that are only visible to professionals **(3)**
- View event log of the message thread **(4)**
- Write and send an answer **(5)**

2.4. Home Platform

The home platform is the system dedicated to be statically located within the elderly person's premises. It is an internet connected platform, in the first iterations a large screen all-in-one PC. It is communicating with the V2me server systems to allow synchronization with the V2me mobile platform. It provides the functionality requiring the presence of the 3D representation of the Virtual Coach.

The V2me will realize this platform on a Windows PC running a recent version of Qt and providing sufficient processing capabilities to handle the graphically intensive application.

The home platform will be augmented by the mobile platform acting as interaction device to allow the user to interact with the Virtual Coach in a more relaxed way without having to stand in front of the touchscreen for longer periods of time.

The home platform is based on the Qt framework with various other graphics libraries included to create the detailed immersive environment of the Virtual Coach. V2me will build on that foundation and create additional content for the immersive environment. The exact requirements of these additions will be defined upon the requirements based analysis of the components.

The program itself requires no user interaction. All interaction is done with the mobile platform. The mobile platform triggers animations and action of the virtual coach and the scene based on your actions.



Figure 165: Home platform – sample environment for the virtual coach

2.4.1. User Avatars

The system will provide a virtual self-representation for each user. This personal avatar may be shown to all friends in the social network to express moods and feelings of the user, as well as activities the user likes to do or is doing at the moment.

This feature is at the moment realized with the Microsoft Kinect Sensor. The user's actions are recorded and a sequence of 3D-objects is generated (see Figure 166). This sequence acts as a 3D video.



Figure 166: Example for a scanned 3D avatar (obtained from the Kinect Sensor)

The advantage of this representation is that the avatar is picturing the user. Other self-representations may be considered in the future. Options range from simplistic iconic representation to realistic avatars.



Figure 167: Behavior slot UI mockup

Note: At the moment this is a standalone feature and will not be considered in the V2me system and its manual, as it is a kind of demonstration of a possible system extension.

3. Administrator Manual

This section provides an overview of all the applications and hardware modules an administrator will have to use within the V2me system. It will give an understanding about the usage and control of each part of the system based on an administrative view on the frontend.

3.1. Tablet Initialization

In order to connect with the social network the tablet requires to be initialized at first start. This procedure is done with the user registering for the service using a valid Email address. There are additional requirements of the effectiveness assessment leading to slight changes in procedure that will also be described in this section.

3.1.1. General initialization

The user is initially created by the create user profile by entering an Email address that will be registered with the system in the background (Figure 1). The system will then register itself as initialized with tablet and server so the status can be accessed in the future.

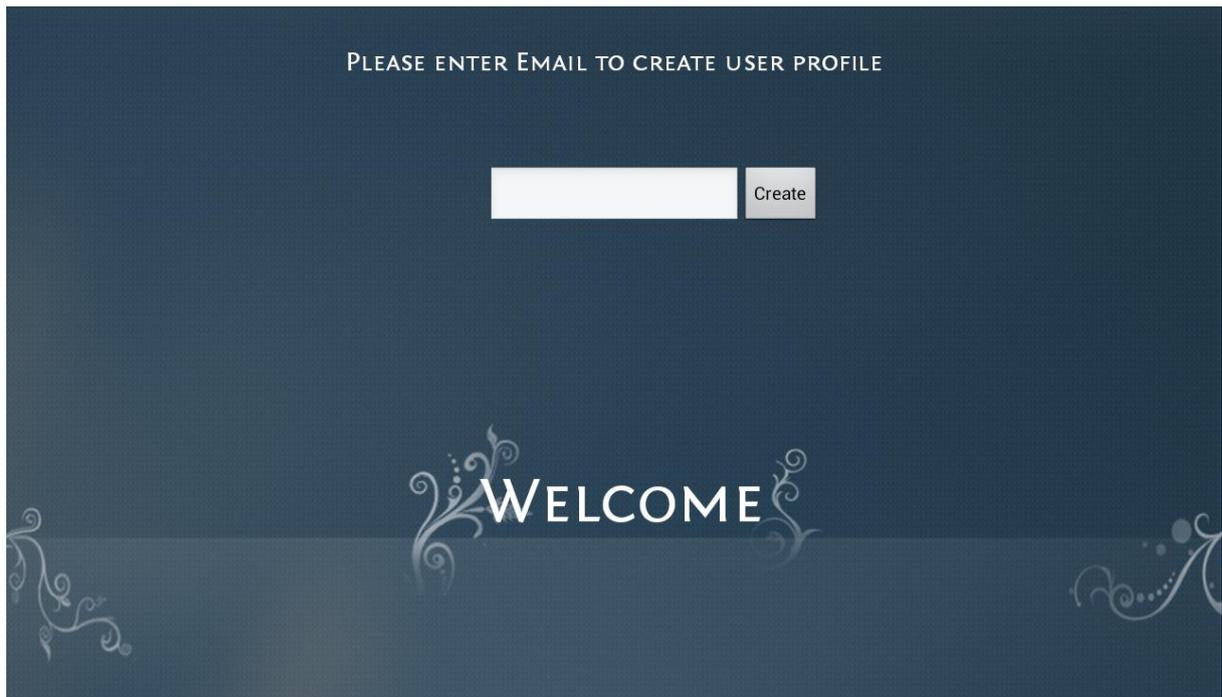


Figure 168: Initialize user profile screen at first start

In a second step the user has the option to change his contact details, including age, gender, Skype ID and other relevant information (Figure 2).

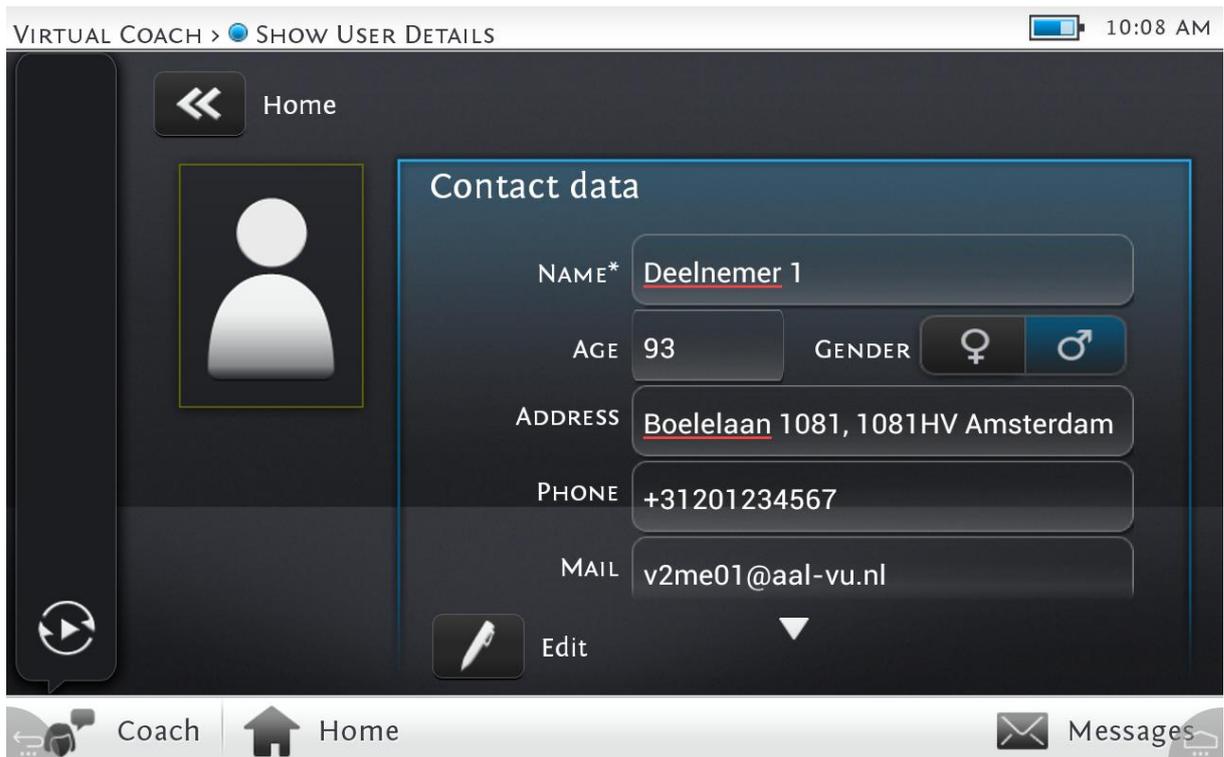


Figure 169: Modify user profile

If the user wants to view or change this profile information the screen can be accessed from the home screen at any later point in time.



Figure 170: Accessing the profile from Home screen

This procedure is altered for the effectiveness assessment, with more details being described in the next section.

3.1.2. Required additional software on tablet

For communication purposes the tablet does require just one other application to be installed. This is Skype. The user is required to create an account and enter the correct Skype ID in the V2me system. The following steps are necessary:

1. Skype is installed via the Google Play store
<https://play.google.com/store/apps/details?id=com.skype.raider>
2. A Skype account is created from within the app by clicking the link shown in Figure 4 and following the steps described

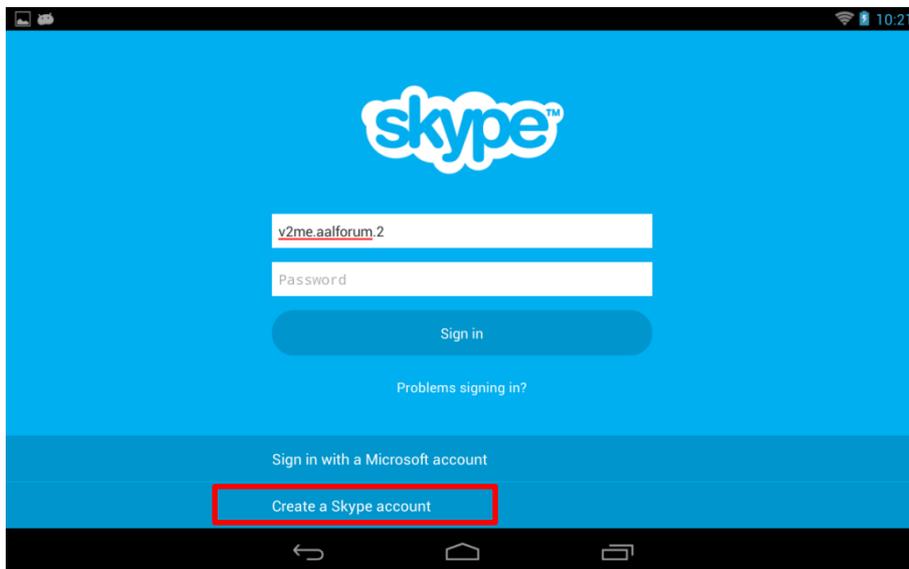


Figure 171: Skype overview screen and account creation

3. Users that are supposed to be accessed by V2me have to be added to the contact list using the link shown in Figure 5 and searching the database

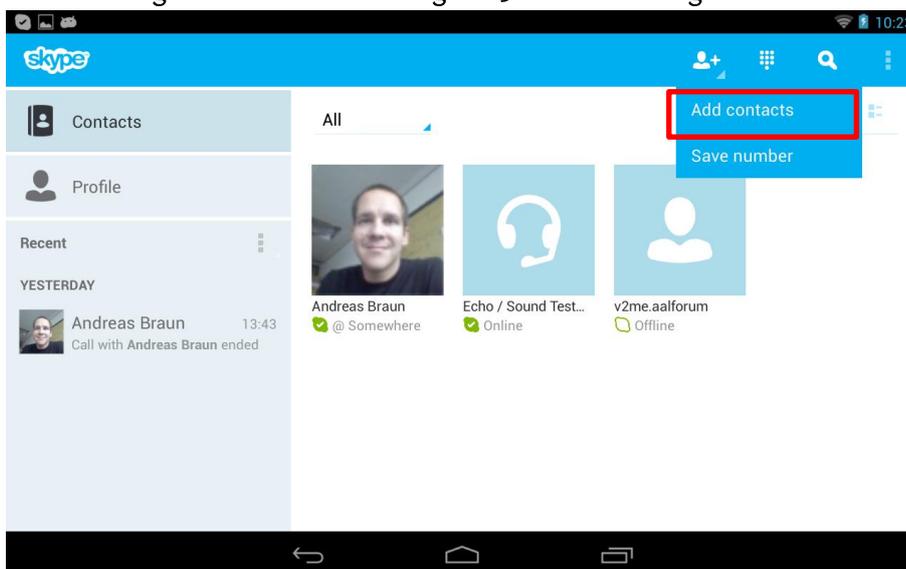


Figure 172: Adding contacts using Skype app

3.1.3. Tablet initialization for effectiveness assessment

The effectiveness assessment has some additional requirements that make it necessary to modify the initialization routine.

- Tablet initialization performed by an administrator
- Shared contacts for all study participants
- Email and Skype ID generated by administrator
- Tablets partially used in debugging
- All contacts are preset on the S7 platform by an administrator

Step 1: Wiping tablet

Any existing V2me app has to be uninstalled using the App manager of the tablet. The V2me folder on the SD card has to be cleared using an internal file manager or via PC connection.

Step 2: Installing Skype from Google Play Store

Follow the guide of the previous section.

Step 3: Installing V2me from APK

The final V2me APK file has to be copied onto the tablet and installed from there.

Step 4: Looking up user Email on the S7 platform

The following link provides access to the currently available contacts:

<https://s7-test.v2me.org/prefserver/prefServer/getAllRelationsAsString>

Access grants are given to administrators that have to make sure to select the correct Email address from the list of UNINSTALLED users as shown in Figure 6.

```
0, owner41.xml, INSTALLED, Deelnemer 13, contacts/owner41.xml, 41
0, owner42.xml, UNINSTALLED, Deelnemer 14, contacts/owner42.xml, 42
0, owner43.xml, INSTALLED, Deelnemer 15, contacts/owner43.xml, 43
0, owner44.xml, UNINSTALLED, Deelnemer 16, contacts/owner44.xml, 44
0, owner45.xml, UNINSTALLED, Deelnemer 17, contacts/owner45.xml, 45
0, owner46.xml, UNINSTALLED, Deelnemer 18, contacts/owner46.xml, 46
0, owner47.xml, UNINSTALLED, Deelnemer 19, contacts/owner47.xml, 47
0, owner48.xml, INSTALLED, Deelnemer 20, contacts/owner48.xml, 48
0, owner49.xml, INSTALLED, Deelnemer 21, contacts/owner49.xml, 49
0, owner50.xml, UNINSTALLED, Deelnemer 22, contacts/owner50.xml, 50
0, owner51.xml, INSTALLED, Deelnemer 23, contacts/owner51.xml, 51
0, owner52.xml, UNINSTALLED, Deelnemer 24, contacts/owner52.xml, 52
0, owner53.xml, INSTALLED, Deelnemer 25, contacts/owner53.xml, 53
0, owner54.xml, UNINSTALLED, Deelnemer 26, contacts/owner54.xml, 54
0, owner55.xml, UNINSTALLED, Deelnemer 27, contacts/owner55.xml, 55
0, owner56.xml, INSTALLED, Deelnemer 28, contacts/owner56.xml, 56
```

Figure 173: List of available contacts from S7

Step 5: Initialize tablet

Follow steps described in the previous section. There is no need to set the initial user profile as the data is automatically gathered from the S7 platform.

3.1.4. Installation of lessons

To install a lesson on V2me, first a lesson must be created using the lesson editor. The lesson must be given a unique id in the editor. When the lesson xml is saved on the computer it must be copied to the tablet. To do this, connect the tablet and copy the xml file into the V2me\lessons-** folder, where the ** stands for the country code. When the lesson is copied into the correct folder on the tablet the lesson will

be accessible from the friendship course screen in the left panel. Lessons are sorted there on their id number.

3.2. Web platform Initialization

The web platform and S7, including its database and application server, will be initialized and maintained by S7 specialists.

3.3. Home platform Initialization

To run the Home Platform a normal consumer PC with current hardware is sufficient. An NVidia graphics card (more recent than or as recent as an 8800 GTX) is recommended. The Home Platform itself provides all necessary libraries. The only package that is required is the Microsoft Visual C++ 2010 Redistributable Package, which is usually installed automatically in Windows 7 or more recent operating systems.

The Home Platform is started with the provided .bat file. Upon loading a file dialog is presented to load a scene file that has been created with the Scene Editor.

3.4. Scene Editor and Viewer

A system was created to build environments in which the Virtual Coach and user will interact with each other. A sample environment (flat with virtual coach) is seen in Figure 174.



Figure 174: Sample environment for the virtual coach

These scenes can be manually created by the administrative staff to provide the elderly persons with changing environments in their everyday schedule, which can be used for two different things. On the one hand they can be used to enrich the friendship lessons and daily schedules by displaying 3D content, as well as the animated virtual coach. On the other hand these environments can be used to send 3D invitations to friends.

The administrative staff is able to choose from a set of geometric assets to place in the scene. These assets are mainly taken from Trimble 3D Warehouse³ and can be easily extended. The recorded user avatars as well as the assets are all stored on a data server and are downloaded when requested.

The whole scene is represented internally with a scene graph. This fact allows to create dependencies between objects (e.g., the flower always stands on top of the drawer) very easily. So if you move the drawer, the flower will move too. However, you can still move the flower on top of the drawer without moving the drawer.

The staff is furthermore able to define animations of all objects present in the scene. These animations can be triggered by certain actions of the user (e.g., certain actions on the tablet). These animations contain:

- Animation of static objects (e.g., the flower): Arbitrary geometric assets in the scene can be animated over time. For example, the whole furniture in the flat can be reordered as an animation.
- Animations of the camera: Camera flights through the scene are possible and can be triggered by the user once defined by the staff. For example, from a close up view of the virtual coach the camera can fly to the TV to show the current television program.
- Animations of skeleton animated avatars: The virtual coach is animated using a skeleton. These animations are predefined and cannot be extended by the staff. These animations are triggered on occasion. For example, the virtual coach smiles and jumps after the user said: “I am feeling well today”.

By placing so called “Drop Targets” in the scene these environments can also be personalized for the user. On these drop targets avatars of the user’s friends are displayed during the simulation. A schematic representation of these drop targets is shown in Figure 175. The scene represents a dancing room. The colored shapes in the left picture symbolize the drop targets in which a group of avatars of friends in their recorded dancing animation are inserted.



Figure 175: Schematic representation of drop targets

³ <http://sketchup.google.com/3dwarehouse/>

3.4.1. The Editor

After start-up a screen as shown below is visible.

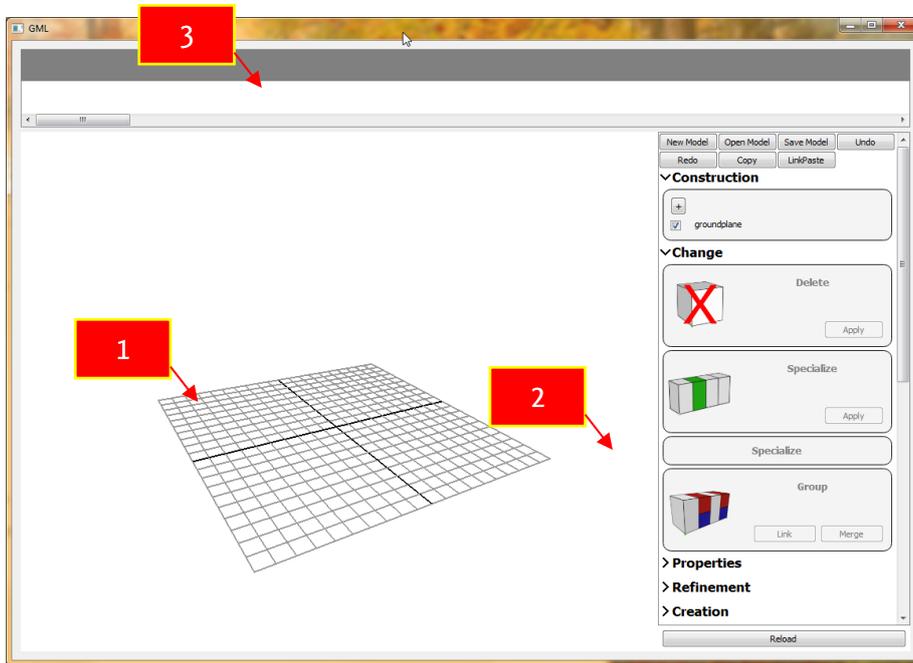


Figure 176: Main window of the Scene Editor

The left side (1) shows a 3D view in which navigation with the mouse is possible. (You'll probably need some time to get the idea how it works if you have never used a 3D viewer before). Camera rotation is achieved by dragging the mouse with the left mouse button pressed. To zoom, drag with the right mouse button pressed or use the mouse wheel. To "pan" (moving the camera sideward) drag the mouse with the middle mouse button (wheel) pressed.

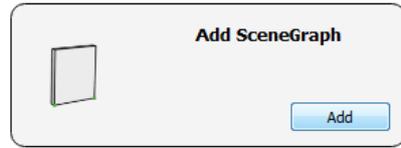
The right side (2) shows the menu. There are a lot of themed menu groups. Of particular interest are: "Change", "Properties", "Scene Graph", and "Animation". Also of interest are the buttons on the upper right corner "New Model", "Open Model", "Save Model" as well as "Undo".

The upper part (3) denotes the time line container. Created time lines are stored here. Refer to the *Animation* section for more information.

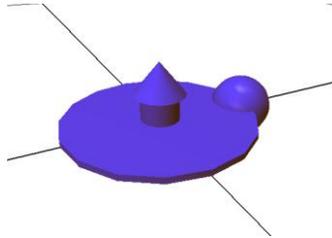
How to build a scene:

This Content Editor creates scene graphs and defines animation on it. In our system a scene graph is strictly speaking a mathematical tree. So the scene is hierarchically subdivided. Each scene graph node can have multiple children that are dependent on their parent. So if the parent moves the whole sub-tree associated with that parent moves too.

The first step is to add a scene graph. The according button is in the "Scene Graph" group in the menu.

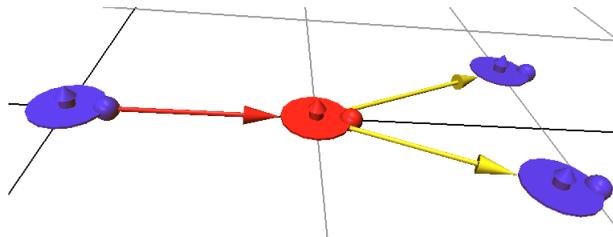


It generates a blue widget in the center of the scene. This first widget is our scene graph root.

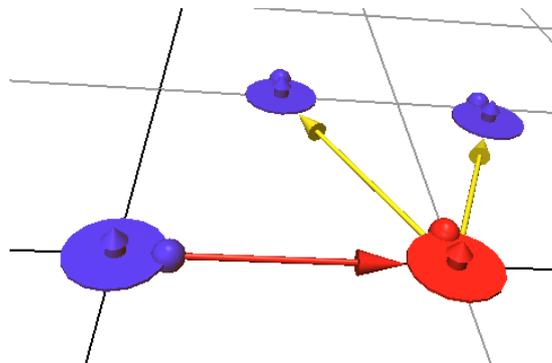


These widgets have three functions. They can be moved in the ground plane by dragging the cylinder with the left mouse. They can be translated upwards with the arrow and it can be rotated by dragging the ball. By simply clicking on the widget it becomes selected (red color). These widgets resemble Transformation Nodes (short: nodes) in the scene graph.

The operation “Add Transformation Node” (in the “Scene Graph” group) adds a child node to the selected widget.



For a selected node the parent is indicated by a red arrow (from parent to child) and the children are indicated by yellow arrows (from parent to child). If the middle node is rotated by rotating the widget the two children will also be affected.



Object Placement:

Nodes are just to mark positions of objects that are placed in the scene. If you place an object in the scene several things happen:

- The widget transforms. The base cylinder adapts to the size of the object as well as the arrow is placed on top of the widget. The functionality stays the same.
- Movement of children is adapted. Direct successors snap to the upper most plane present in the parent object. In the example the flower vases snap to the height of the surface of the drawer when you move them with the arrow.
- No further object placement is possible for the specific node. Only one object can be associated with one node.



There are several objects that can be placed:

- An avatar (“Add Avatar” button in the “Scene Graph” group)
- A camera (“Add Camera” button in the “Scene Graph” group) (for more information see the *Animation* section below)
- Several repository objects available in the “Repository” drop down menu in the “Scene Graph” group.
- Drop target (“Add Drop Target” button in the “Scene Graph” group – specifies a spot for a Kinect-Avatar)

Object Deletion:

Objects placed on nodes as well as the node itself can be removed too. Two ways of doing this are supported:

- **Remove:** This option is found in the “Scene Graph” group in the menu. This removes the object placed on the node. If the selected node is empty nothing happens.
- **Delete:** This option is found in the “Change” group in the menu. This operation deletes all children of the selected node, but does not delete the node itself. However, if the node does not have any children the node itself is deleted.

Animation:

This section is subdivided in four parts: *General Information*, *Object Animations*, *Avatar animations* and *Camera animations*.

- **General Information:**

Animations are defined in so called time lines that are present in the time line container. In the “Animation” drop down menu there is a button called “Add Time Line” to generate a time line.



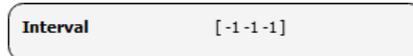
A time line consists of three parts. First is the “timer block” **(1)** which indicates the current time in the timeline. It can be dragged with the left mouse button. Second is the time line label **(2)**. It contains the name (which can be changed) and the length of the time line in seconds (by default 300 seconds). Last is the “time scope” **(3)**. This object can be further subdivided into more time scopes for which actions in the scene can be defined. A time scope is selected by clicking on it (red border).

A selected time scope can be subdivided with the “Time-Split” operator in the “Animation” group. The amount of parts can be defined with the slider there. A split in three parts will create such a status.

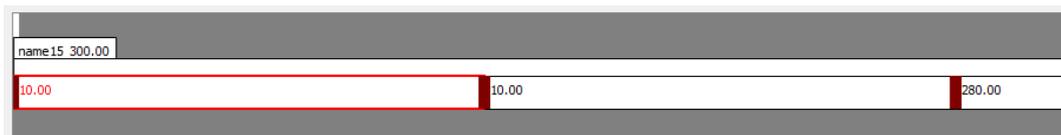


The duration of the new created time scope is seen. However, there are three time scopes with 100 seconds of length now; to resize them conveniently we open the “Properties” menu with one time scope selected.

▼ **Properties**

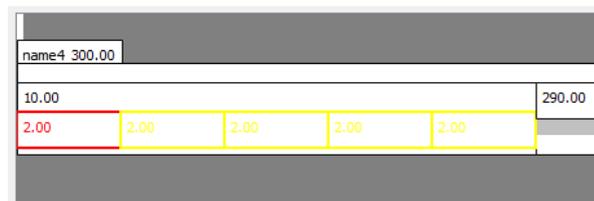


There we see the interval of the split in three parts we just conducted. The three numbers indicate the three parts of the split. A negative number means that the length is relative, so “[-1 -1 -1]” means splitting in three equal parts. “[-1 -2 -1]” means splitting in three parts where the mid part is twice as large as the other two. Positive numbers give us an absolute length so “[10 10 -1]” gives us two parts of length ten seconds and the remainder.



The red blocks in between the time scopes can be used to adapt the length manually (left click and drag).

There is also an option to subdivide a time scope in more parts that are all treated equally. So you can achieve a “repeat X times” effect. Each animation defined in one time scope will be repeated in all the others.



The selected time scope is red and all other effected time scopes are yellow bordered and are equivalent to the red one. This option is available in the “Animation” menu under “Time-Subdivide”. With one time scope selected the minimal length of the scopes can be edited via the “Properties” Menu.

The same effect can also be achieved for several manually chosen time scopes. Select more than one time scope (holding the “Shift” key and left click) and press the “Link” button in the “Change” menu group (with the “Group” heading)

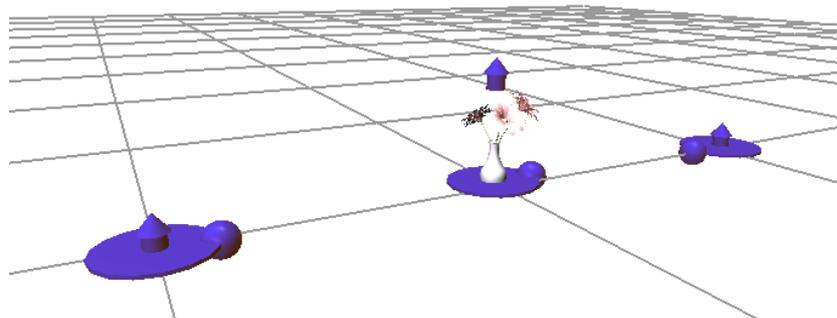
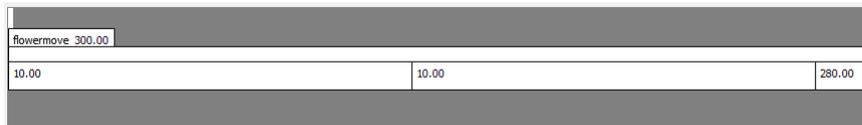
There can be as many time lines as you like and the time scopes can be split multiple times.

The need may arise that you want to stop one time line when another one is triggered. To achieve this, select the time line itself (click on the label) and look at the “Properties” menu. There is an entry “Timelines to Stop” where you can add the names of the timelines you want to stop when the selected time line is triggered.

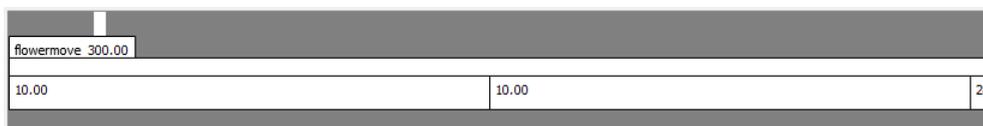


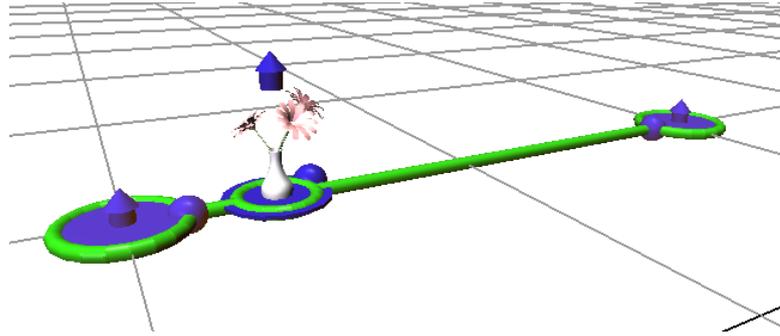
- **Object Animation:**

Nodes can be animated over time (a time scope). We want (for example) to move the flower in the first ten seconds of our time line named “flowermove” from one node to another.



Therefore we select in following order (while holding the “Shift” key and left click): time scope, node to move, start node, and end node. We then press the “Interpolate Waypoints” button in the “Animation” menu group. When you now move the time block of the time line the flower moves from the start node to the end node. Note that there is a green widget indicating the flower’s path and that the flower is rotating to interpolate between the transformations of end and start point.





These kinds of Animations can be done with all placeable objects (Avatar, Camera, etc.)

There is also a “Rotate on the Spot” operation which requires a time scope and a node selected. The node rotates in the time scope around the given angle. The angle is at the moment fixed to 360°.

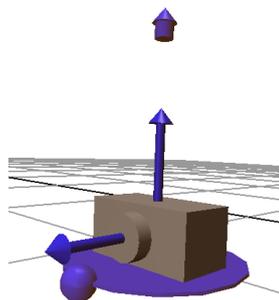
- **Avatar Animation:**

Avatar Animations are easy to achieve. Select a time scope and a node (on which an avatar (NOT KINECT AVATAR) is placed) and click on a button in the “Avatar Animations” drop down menu in the “Animation” menu group. The selected animation is active until another animation is triggered by another time scope. So it may be active over the boundaries of the time scope.

Avatar animations can also be triggered from the mobile platform. These animations are queued and played after one another. After playing all these animations the avatar returns to the animation that is currently defined by the active time scope.

- **Camera Animation:**

There are two ways to define camera animations, but first to how to operate with a camera object. A camera object looks like this:



It can be moved around using the underlying widget. The arrows indicate the “look at” and the “up” direction of the camera. You can set the look at direction of the camera by clicking on the camera lens (the cylinder). Now you see what the camera sees. So adapt the view and press “ESC” to leave the camera view and save the “look at” direction.

There are two basic camera animations. First, a “Set Active Camera” animation, which sets the view of a camera active for the duration of a time

scope, is available. The time scope and node with a camera object must be selected in that order. Second, an “Interpolate Cameras” animation, which interpolates between the views of two camera objects during a time scope. For this one time scope and two camera objects need to be selected. Both options are available in the “Animation” menu group.

3.4.2. The Player/Viewer

Scenes saved with the editor can be shown in the player. On start-up a file dialog is displayed to choose the desired scene. In the player neither widgets nor camera objects are visible. The time lines can be triggered with the buttons to the right side and with actions on the Mobile Platform.

3.5. Kinect Recorder

We provide a separate program to record user avatars with a Kinect sensor that is mounted on top of the Home Platform. The program will run on a Windows PC but may be controlled by the tablet. This screen may look like shown in Figure 177.

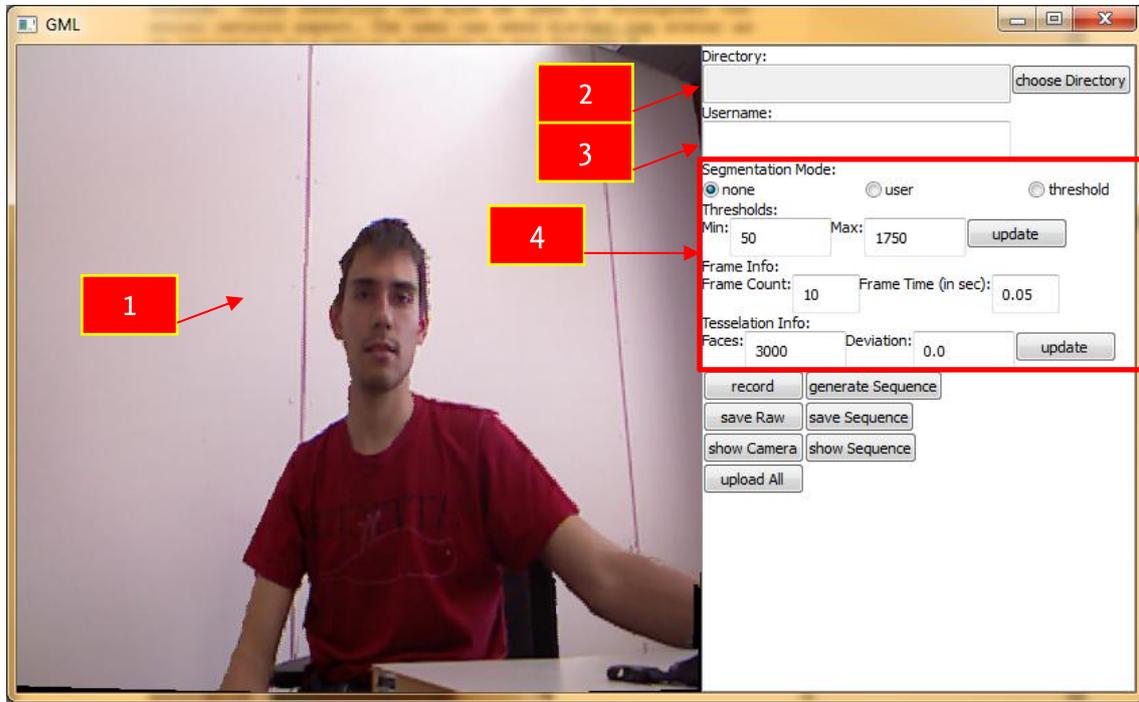


Figure 177: Sample camera feed of the Kinect Sensor in the recording software.

The GUI consists of the camera feed (1), as well as a menu on the right. In the menu you can define the save path (2), the username (3) and several options (4). The following options for recording are available:

Segmentation Mode:

- **None:** all is processed and no segmentation will be made. The whole visible scene is present in the output.
- **User:** A person is tracked with the Kinect sensor. Parts that are left out are shaded in gray. This option has some issues when only parts of a body are visible.
- **Threshold:** All objects within a given threshold are segmented. Parts that are left out are shaded in gray.

Thresholds: define the thresholds for the “Threshold” option in the segmentation mode. The range is in millimeters and goes from 50mm to 8000mm. The threshold is updated by a press on the “update” button.

Frame Info:

- **Frame Count:** Defines how many frames are recorded.
- **Frame Time:** Defines the duration of these frames.

Tessellation Info:

The tessellation info is updated by a click on the “update” button and consists out of:

- **Faces:** Defines the quality of the result. The quality is measured in the amount of faces each mesh of the sequence roughly has. (50 - 10.000)
- **Deviation:** Defines the accuracy of the result. This value denotes how much the mesh can deviate from the real depth values. (0.0 - 1.0)

To record sequences of users you first have to choose a directory in which these sequences are saved to. Additionally (to ensure a unique name of the generated file) you have to define a username. After defining all options explained above you can press record. After a five second countdown recording is started. When recording has finished you hear a "beep" sound.

After recording you have to press the "generate Sequence" button to calculate a Kinect-Avatar. With the buttons "show Camera" and "show Sequence" you can swap between the camera feed and the calculated Kinect-Avatar. When no avatar is generated ("generate Sequence" button was not pressed) the Kinect-Avatar view shows a white image.

Each saving option generates an own folder in the specified directory. The directory name is generated from the username and a timestamp to be unique. The "save Raw" button saves lossless information for the recorded sequence (in respect to segmentation) as .png and .pgm images. The "save Sequence" button saves the generated sequence as a Kinect-Avatar (.obj, .mtl and .png files). During saving a message box is displayed. When saving is finished you hear a "beep" sound.

The "upload all" button uploads all saved files (raw and sequences) in the specified directory to the Object Repository. You have to make sure that the "meta1.rdf" file is present in the specified directory (or it will not work). This may take some time.

3.6. V2me Lesson Editor

The V2me lesson editor is an instrument to enable the creation of new lessons within V2me. It allows the assignment of predefined parts from the lesson library to create new lessons or modify existing lessons that can be shared with the users of V2me. These lessons can be built up of several components, like:

- Different types of lesson events, such as image question, emotion feedback, images, connection to stories and other workflows
- Emotional expression – combination of gestures and facial expression and movements of the 3D avatar and or Virtual Coach
- Speech – the text which should be heard by the user during this event

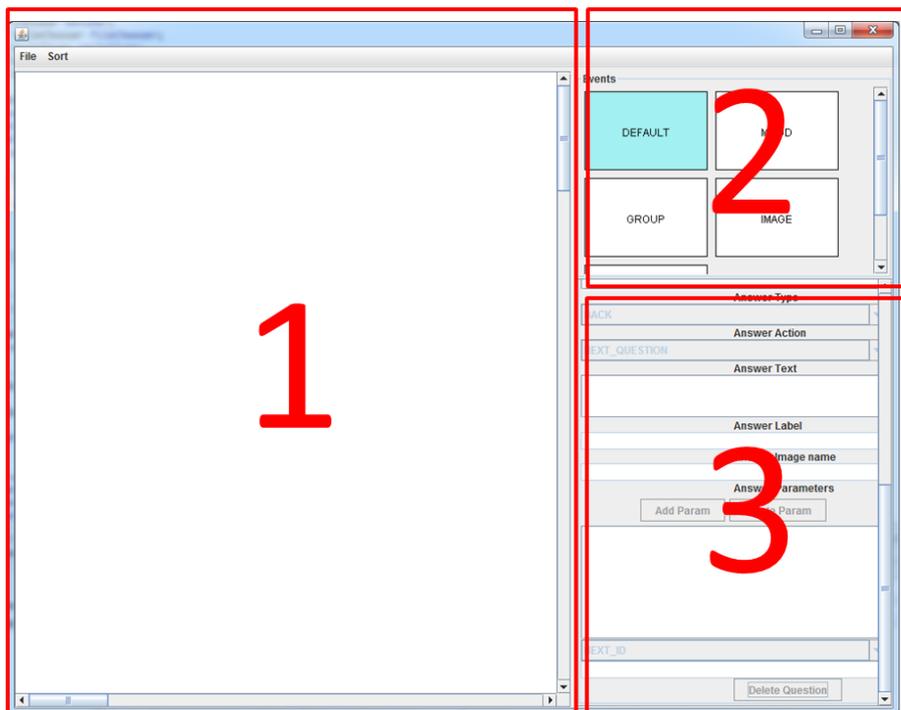


Figure 178: Overview of V2me Lesson Editor

The overview of the V2me Lesson Editor is given in Figure 178. Section 1 is the main interaction area that gives an overview of all the added events. Section 2 gives a graphical overview of all supported events. They can be added to the interaction area using drag and drop. Section 3 gives the details of any selected event and allows their modification.

The lesson editor has following main functions supported by the *File* menu:

- *New Process*
Allows the creation of a new process or lesson
- *Import from XML*
Enables loading, watching and modifying existing lessons
- *Export to XML*
Stores a created process or lesson to an XML file

Additional items that are available from the *Sort* menu are able to visually sort the events in the interaction area. These are:

- *Tree Sort*
Sorts the existing events as a tree to give the best overview of the hierarchical lesson structure
- *Compact Sort*
Is sorting the existing events in order to use less space within the interaction area. This is helpful for lessons that are a longer chain of events but do not have many different options as answers.
- *Shorten Lines*
This reduces the length of lines connecting events. This connection process will be described in detail in the following sections.

3.6.1. Lesson structure

V2me lessons are a collection of events or questions that are stored in an XML format that can be created by the lesson editor and played back by the tablet device. The format is shown in the following code listing.

```
<question id="1" type="DEFAULT" nextId="-1" timeout="0" backEnabled="true">
  <title></title>
  <text>This is an example question.</text>
  <answers>
    <answer index="0" type="SKIP" action="NEXT_QUESTION">
      <label>Answer 1</label>
      <text></text>
      <parameters>
        <answerParameter key="NEXT_ID" value="2"/>
      </parameters>
    </answer>
    <answer index="0" type="SKIP" action="SUBWORKFLOW_START ">
      <label>Answer 2</label>
      <text></text>
      <parameters>
        <answerParameter key="SUBWORKFLOW_NAME" value="SOCIALCIRCLE_ADD" />
      </parameters>
    </answer>
  </answers>
</question>
```

This example question has an associated text, is a regular question with two answers. The first answer will open another question with id 2, the second answer will start a certain subworkflow that allows adding contacts to the social circle. A complete overview of the different parameters for each item is given in the following table:

Table 2. Overview of different lesson items

Item	Parameters	Parameter description
QuestionType Denotes the different types of questions support within a lesson	DEFAULT MOOD MOOD_INVERTED GROUP IMAGE INFOPICKER	Regular question Question that can be answered with a mood slider Same as above with inverted slider <i>Group overview (deprecated)</i> Answer that includes an image <i>Answer that request some information to be picked</i>

		<i>(deprecated)</i>
AnswerType Denotes the different types of answers supported within a lesson	BACK MOOD OPTION SKIP TIMEOUT	Returns to the previous screen Used for mood sliders <i>Displaying options (deprecated)</i> Skips to next question <i>Is triggered after a certain timeout (deprecated)</i>
AnswerAction Different AnswerTypes may trigger different actions that are described here	NEXT_QUESTION PREVIOUS_QUESTION SUBWORKFLOW_START SUBWORKFLOW_RESUME SUBWORKFLOW_END PAUSE_COACH EXIT_COACH START_EXTERNAL_APP START_WORKFLOW ACTIVITY_CALLBACK	Starts next question Goes back to previous question Start subworkflow Resume subworkflow Stop subworkflow Pause the coach Stop the coach Start an external app Start a workflow <i>Start an activity callback (deprecated)</i>
AnswerParameter The AnswerActions and Subworkflows may have additional parameters that are described here	NEXT_ID SUBWORKFLOW_NAME SUBWORKFLOW_PARAMETER EXTERNAL_APP_NAME WORKFLOW_ID STORY_ID CALLBACK_PARAMETER ACTIVITY_NAME	ID of the next answer Name of the subworkflow Additional parameters of subworkflows Name of external application ID of workflow ID of story Parameter of activity callback
BehaviorType Any answer may trigger a certain behavior that will be triggered visually on the home platform	IDLE ENCOURAGEMENT_INTENSE ENCOURAGEMENT_MEDIUM ENCOURAGEMENT_LIGHT FEEL_SORRY FROWN_INTENSE FROWN_MEDIUM FROWN_SLIGHT LISTENING NEUTRAL_TALKING POINT_LOOK_LEFT POINT_LOOK_RIGHT SMILE_LAUGH SMILE_MEDIUM SMILE_SLIGHT WINK WALK	
ExternalAppType External applications on the tablet are called using this parameter	LINPHONE SKYPE	<i>Starting LinPhone (deprecated)</i> Starting Skype
Subworkflow Triggering a subworkflow may lead to leaving the current lesson and starting the denoted activity	GROUP CALENDAR RECORDAUDIO FRIENDSHIPLESSONS	<i>Group overview subworkflow (deprecated)</i> Calendar activity <i>Activity to record audio (deprecated)</i> <i>Activity to show a friendship lesson (deprecated)</i>

TELL_A_STORY	<i>Tell a story activity (deprecated)</i>
STORYTELLINGOVERVIEW	Overview of storytelling
MUSIK	<i>Start some music (deprecated)</i>
SOCIALCIRCLE	Social circle overview
SOCIALCIRCLE_ADD	Add contacts to social circle
RECORD_A_STORY	Record a story about someone
STORYTELLING_OVERVIEW	Story telling overview
STORYTELLING_LISTEN	Listening to a story
STORY_SHARE	Share a story
START_ACTIVITY	Start any activity

Given that this number of potential parameters is high it is a main task of the lesson editor to simplify creating the lessons and only showing relevant options. The above parameters can be selected using simple drop-down menus, such as shown in Figure 179.

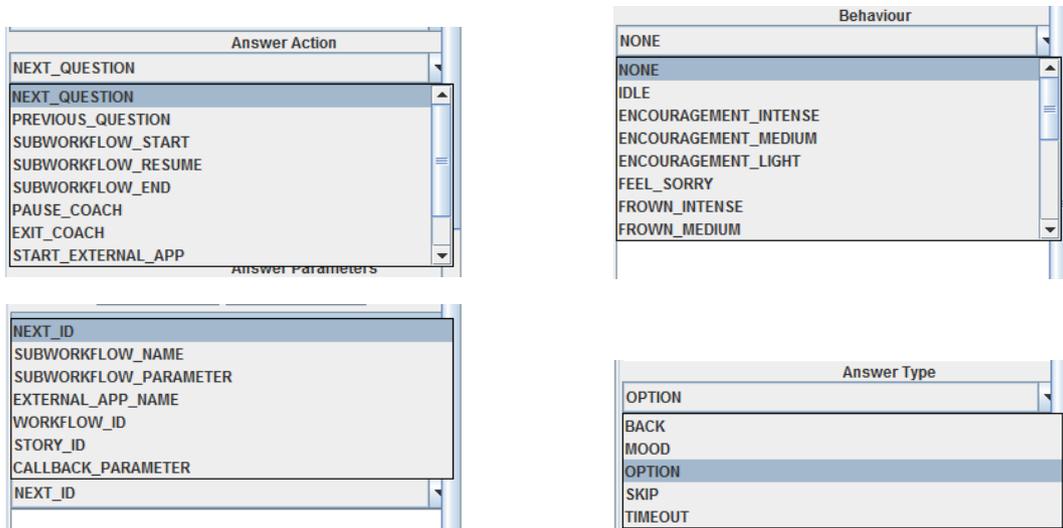


Figure 179: Drop down menus for lesson parameters

3.6.2. Creating a lesson

Creating a lesson within the editor is achieved by repeating three basic steps until the lesson structure is finished.

1. Adding a new event by dragging the desired question type from the list of different events

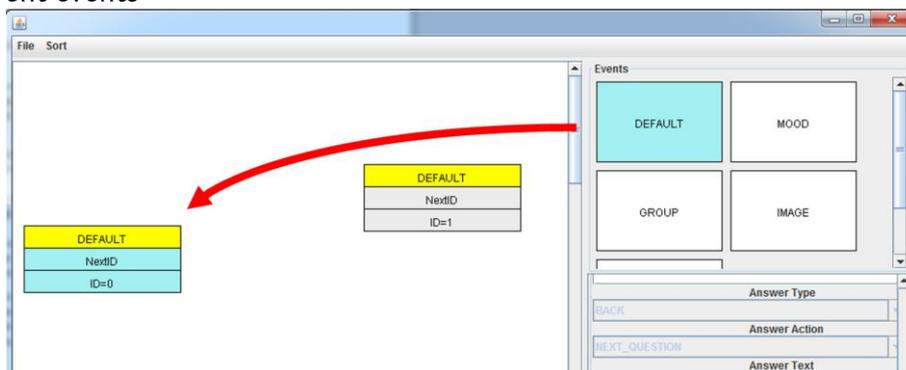


Figure 180: Drag and drop of event types

2. Modifying event details to appropriate settings. The Event Details menu is separated in three parts that are grouped into question details, answer details and answer parameters.

1. Question Details

2. Answer Details

3. Answer Parameters

Figure 181: Event details sections

3. Connecting the events to each other by drawing a line between Questions or from Answers to Questions. The first option will change the nextID of the question itself while the latter will modify the nextID of the answer.

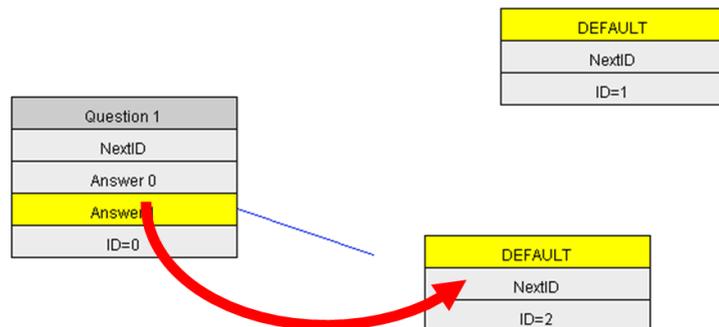


Figure 182: Connecting questions or answers and questions

These three steps have to be repeated until all desired questions are added, configured and connected.

3.6.3. Error handling

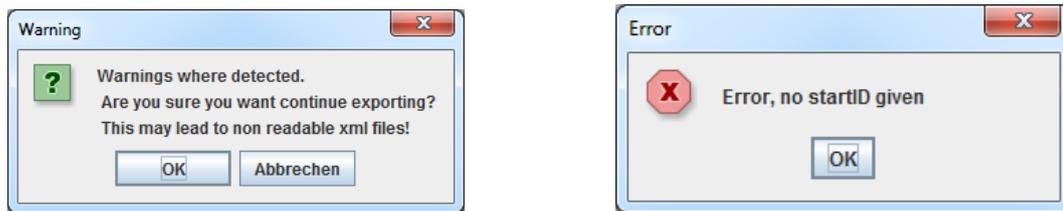


Figure 183: Warning and error messages given by the lesson idea

Additionally the lesson editor is able to perform a conformance check on the created lessons. Appropriate error and warning messages will be given in case the software has detected problems. Some examples are shown in Figure 183.

Warnings refer to issues that may hinder the correct execution of the lessons but it is not certain how they will affect the system. Thus it is possible to store those in any way. Errors will prevent the lesson from being executed and storing lessons while having errors is permitted. In most cases the program is able to give an indicator where the problem is.

3.6.4. Additional notes

This section will describe a few additional features and notes about the lesson editor that have not been covered in the previous section.

- *Deleting Questions, Answers, AnswerParameters*
Deleting any of those will remove all their connections to other items. Therefore it has to be considered carefully and the lessons will probably have to be reconfigured afterwards
- *backEnabled and isStartEvent*
These are special Question parameters. The isStartEvent has to be set at least for one question indicating the first Question to be started. backEnabled indicates that it is possible to return to the previous question from this one
- *Image name*
These are dependant of the resources available on the tablet. Therefore the administrator has to consider carefully which name to enter there as unavailable images may render the question unusable
- *Lesson templates*
There are various templates provided together with the software. It is useful to study those to get an idea how a typical lesson looks like

3.7. S7 Server

The S7 server from Mawell is one of the core components of the V2me system on the hardware side; even more for the administrators. In general, the data repository for all data that needs to be accessible from multiple components, which is provided by the central control services. With the S7 database the data is automatically synchronized when it is stored only in one location and is managed through the servlet interface which offers methods for retrieving, adding and removing data.

Data that is stored in S7 database contains:

- User data
- Social networking data (calendar, events...)
- Messaging data
- User and system preferences

A more detailed description of the interface can be found in deliverable *D5.2 ICT platform and extension manual V.2*. The latest interface description can always be found in *v2me_db_interface.txt* document in Subversion.

The S7 Admin Tool is a web based configuration tool for users with manager role and enables the configuration of the following:

- User profiles (elders, relatives and professionals, managers)
- Communication configurations (messaging queues, diaries, etc.)
- Discussion groups
- S7 portal UI customizations
- Manually add files to be available in public

The admin tool can be accessed in:

<https://s7-test.v2me.org/s7admin/com.mawell.s7.admin.Admin/V2meAdmin.html>
using username 'v2meadmin' and password 'v2meadmin12'.

Browser requirements for S7 portal and admin user interface are: Internet Explorer 7 (or later),

3.7.1. Creating users

The User management in v2me system starts in S7 Admin. Following steps instruct how to create users for each of the S7 related users groups: Elderly (i.e. tablet user), relative and professional.

Creating an elderly (tablet) user:

1. Open 'users'-tab on the Admin page (1).
2. Click 'New user'-button (2).
3. Fill (unique) username, password, name and e-mail fields (3).
4. In Identities field type: 'FINNISH-PID: <username>'. Replace <username> by exactly same string as in username field (4).
5. In Roles field type: 'PATIENT, ELDERLY, rel-group_manager, <username>'. Replace <username> by exactly same string as in username field (5).
6. Click save-button (6).

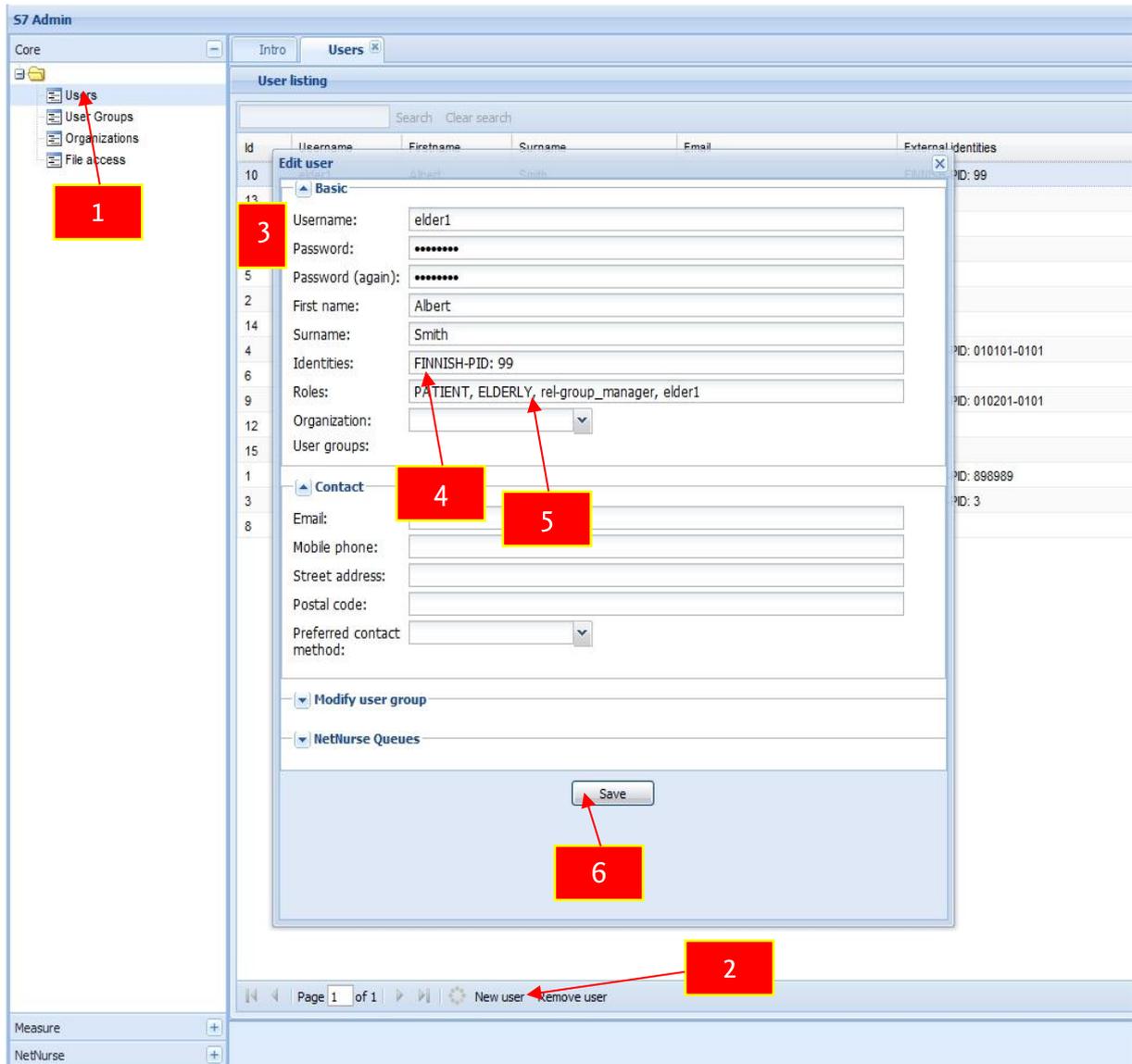


Figure 184: Creating elderly user

Creating elder user's relative user:

1. Open users-tab on the Admin page (1).
2. Click 'New user'-button (2).
3. Fill (unique) username, password and name fields (3).
4. In Identities field type: 'FINNISH-PID: <username>'. Username must be exactly the same as in username field (4).
5. In Roles field type: 'COMMENTER, PATIENT, NN-ANSWER, RELATIVE, NURSE, rel-<elder's username>, <elder's username>'. Replace both <elder's username> by elder user's actual username (5).
6. Click save-button (6).

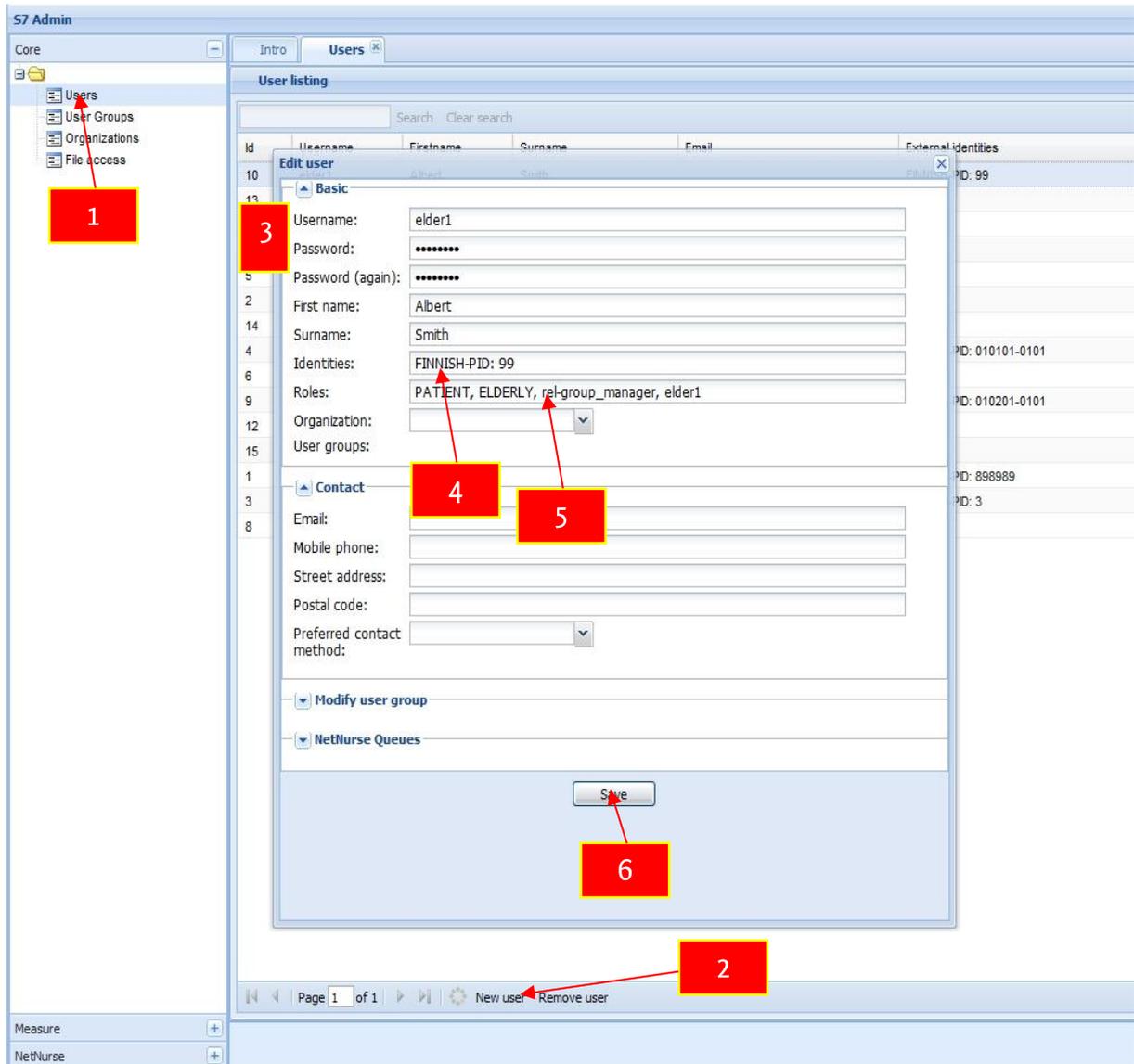


Figure 185: Creating relative user

7. Open 'User groups' -tab (7).
8. Click 'New group'-button (8).
9. In 'Group name' field type: <elder's username>_relatives. Replace the <elder's username> by elder user's actual username (9).
10. In roles field type: COMMENTER (10).
11. Click save-button (11).

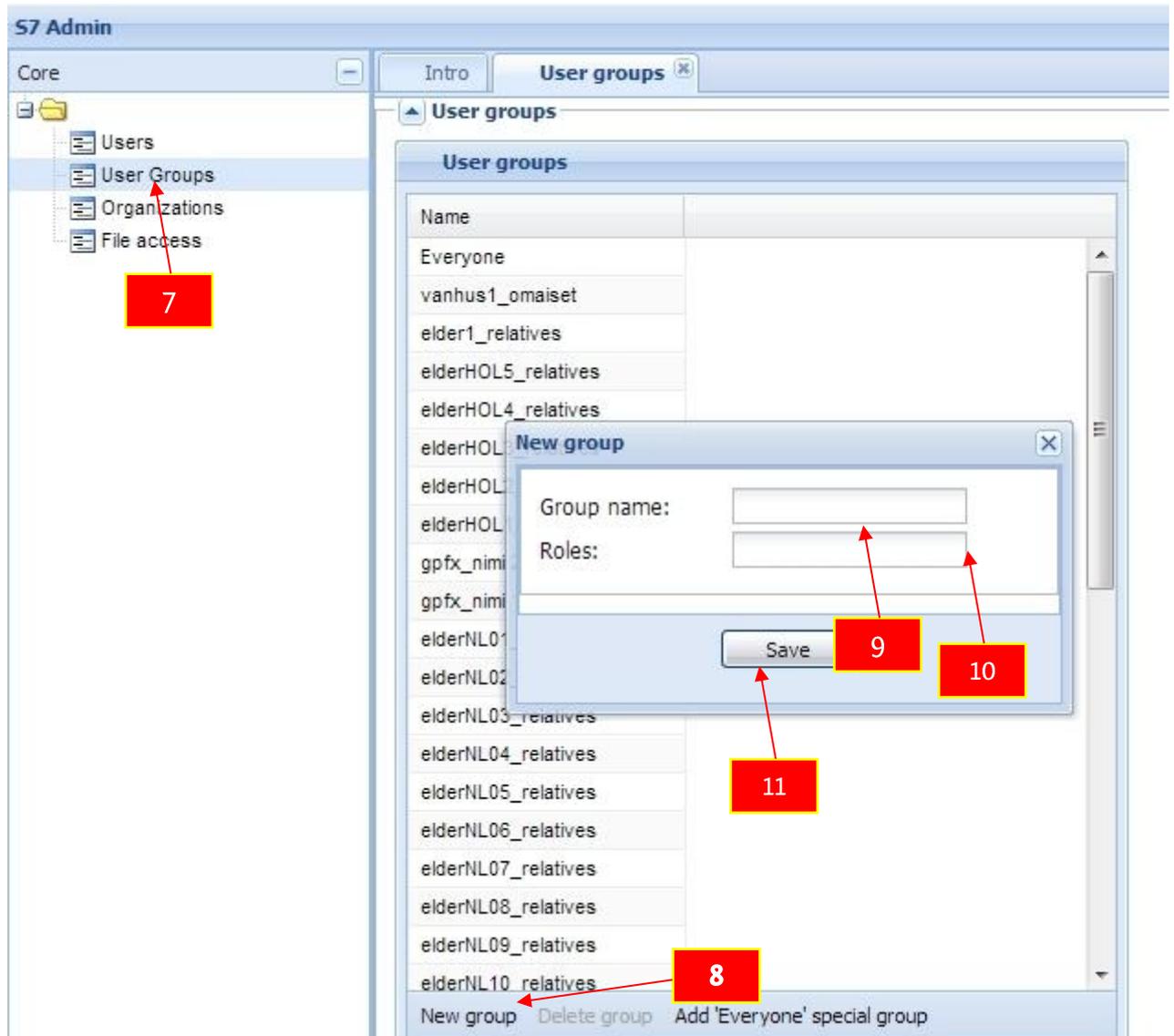


Figure 186: Creating relative user's group

Creating professional user:

1. Open 'users'-tab on the Admin page.
2. Click 'New user'-button.
3. Fill (unique) username, password and name fields.
4. In Identities field type: 'FINNISH-PID: <username>'. Replace <username> by exactly same string as in username field.
5. In Roles field type: COMMENTER, PATIENT, NN-ANSWER, NURSE, rel-group_manager, REALNURSE, <elder's username>, <elder's username>. Replace <elder's username> by elders username. Add 'rel-elder's username' role for each elder user that professional is communicating with.
6. Expand 'Modify user group' fieldset and check every elder_relative group that professional is communicating with.
7. Click save-button.

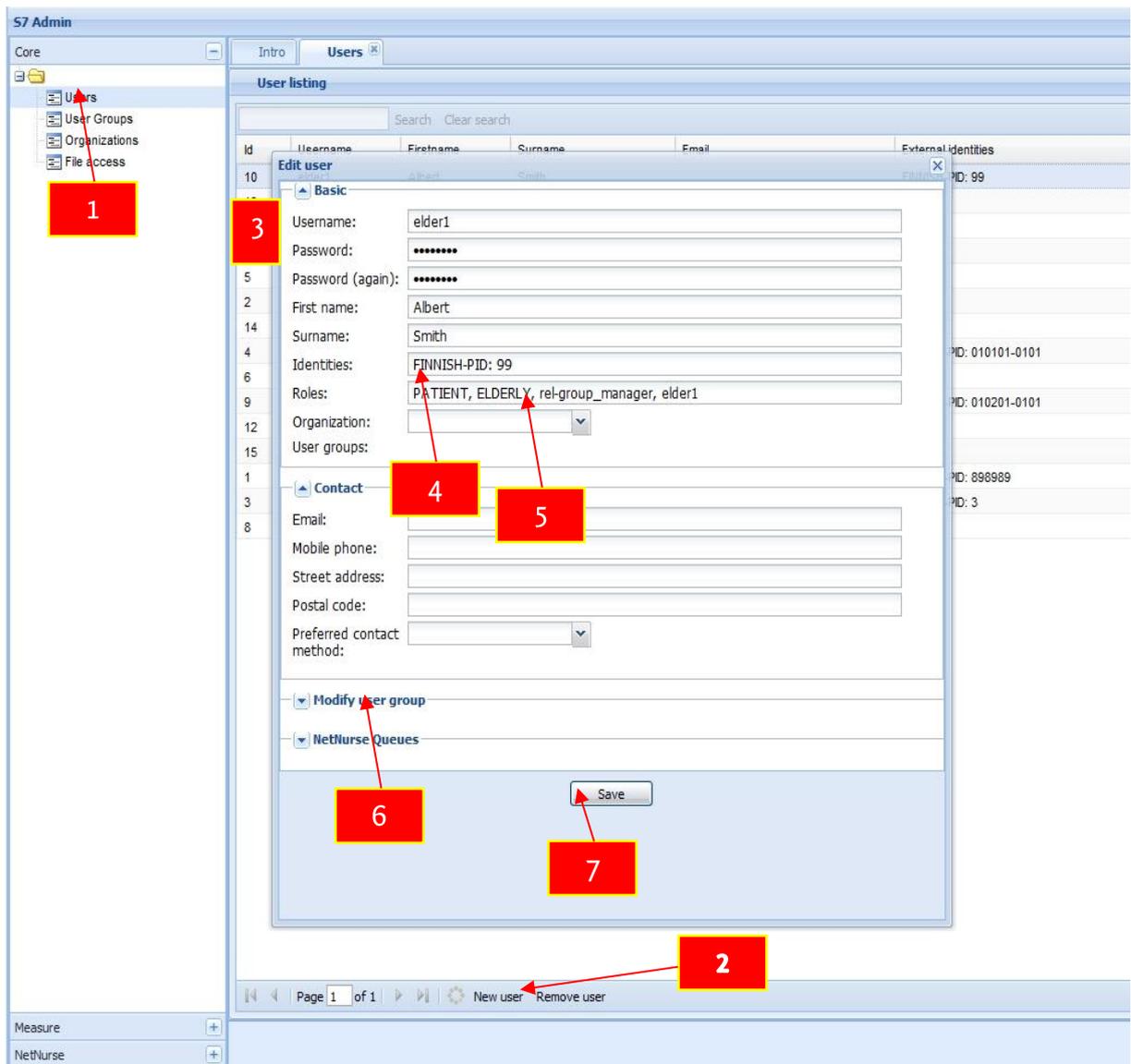


Figure 187: Creating elderly user

3.7.2. Creating discussion forum topics

New discussion forums are created by using special user group manager user account through S7 portal.

1. Login to portal (<https://s7-test.v2me.org/>) with username 'group_manager'. Password is same as the username.
2. Click 'Write new message'.
3. Click 'Create discussion group'.
4. Fill the title field. It will be the name of the new discussion group.
5. Optionally fill the body field. It will be the text of the first message in the new discussion group.
6. Click send button. Discussion group is now visible to elderly users.

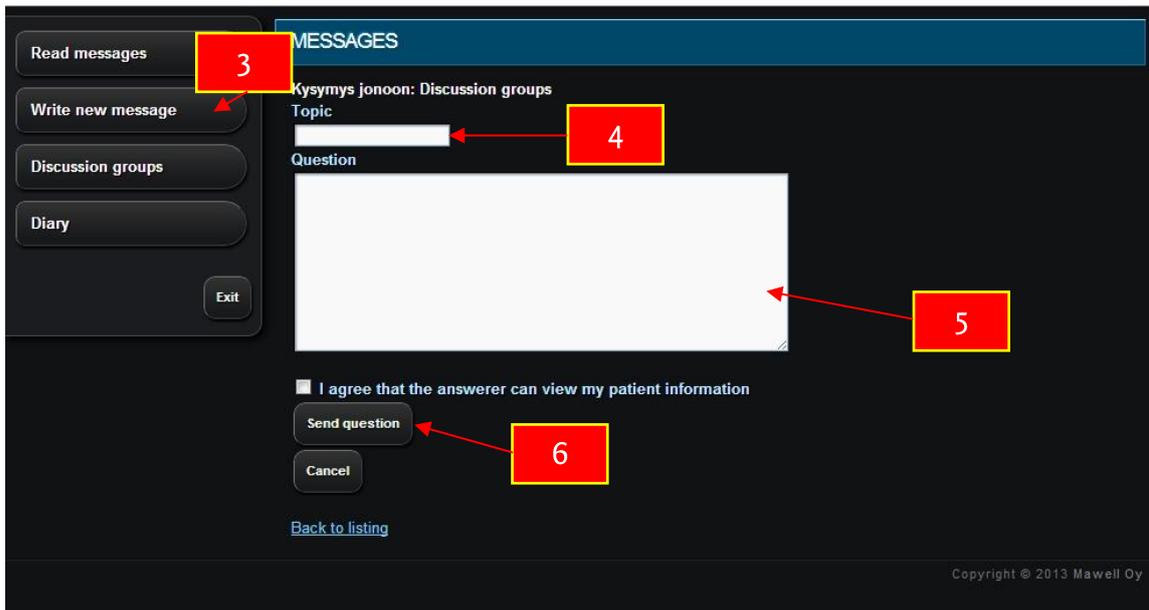


Figure 188: Creating new discussion forum

The default page of the admin tool provides help and useful hints for the configuration of S7 (Figure 189).

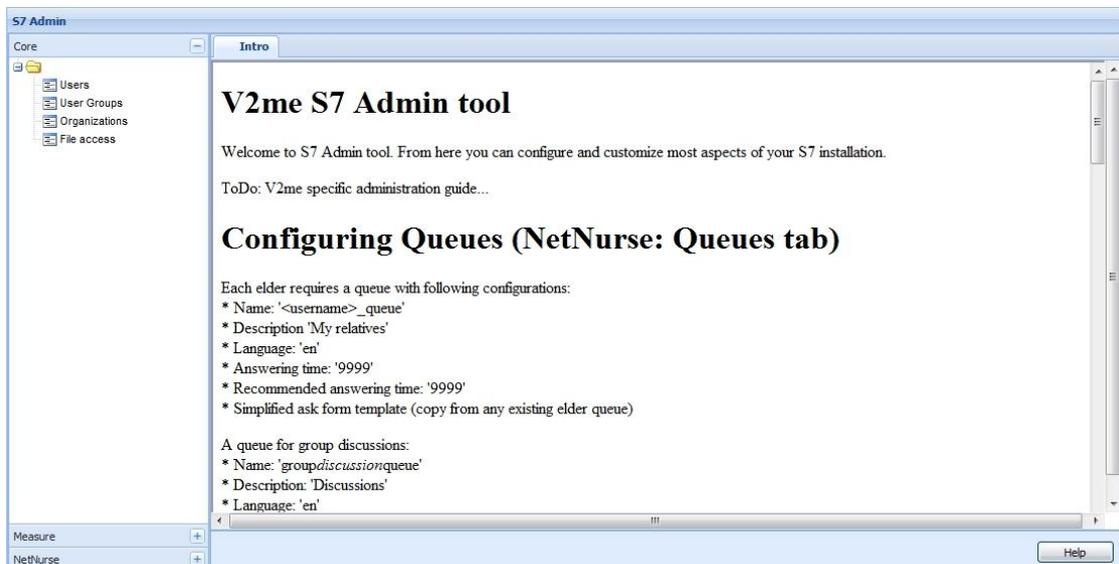


Figure 189: Default page of the admin tool

4. Glossary and Abbreviations

3G: A generation of standards for mobile phones and mobile telecommunication services

Android: Operating system for mobile devices, produced by Google

A²E²: Adaptive ambient empowerment of the elderly person, Project from the AAL Joint Programme

C2DM: Android Cloud to Device Messaging Framework

DB: database

Framework: Set of APIs giving programmer high-level access to specific functionality

Google Play: formerly known as the Android Market, is a digital application distribution platform for Android developed and maintained by Google

GUI: Graphical user interface

ICT: Information and communication technologies

Microsoft Kinect: A motion sensing input device by Microsoft for the Xbox 360 video game console and Windows PCs

PC: Personal Computer

Qt: A cross platform graphical widget toolkit for the development of GUI computer programs

Skype: Proprietary voice-over-Internet Protocol (VOIP) service and software application

S7: Device- and browser-independent Web-based platform for self-care and counseling services from Mawell Ltd.

Trimble 3D Warehouse: formerly Google 3D Warehouse, is an accompanying website where modelers can upload, download and share three dimensional models

UI: User interface

URL: Uniform resource locator

V2me: Virtual coach reaches out "To Me"

VC: Virtual Coach

WiFi: Mechanism for wirelessly connecting electronic devices to the internet

XML: Extensible Markup Language

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