An Evaluation of the Effectiveness of Personalization and Self-Adaptation for e-Health Apps

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RELATE App Flow

Eoin Martino Grua[a], Martina De Sanctis[b], Ivano Malavolta[a], Mark Hoogendoorn[a], Patricia Lago[a,c]

[a] *Vrije Universiteit Amsterdam, The Netherlands*
[b] *Gran Sasso Science Institute, L'Aquila, Italy*
[c] *Chalmers University of Technology, Sweden*

Appendix A - RELATE flow

Figure 1 displays the various activities that the user is able to interact with on RELATE, we are here going to describe each one.
A,B. When first installing the app, the user is presented with a check-box list of all supported physical activities. The user must choose, from the list, all of their preferred physical activities. It is also at this point in time, that any runtime permission is asked. For RELATE, the user gives permission for the use of their GPS and Bluetooth.
C. After filling in their preferences, the user is redirected to the Main Screen. On the first encounter with the Main Screen the user is informed that there are 'No activities planned', this remains until the user receives their first weekly activities. On the top right of the screen, the user can tap the settings button in order to go to the settings screen.
D. This step illustrates the type of push notifications that the user receives from RELATE. The push notification shown at the top is created by the Environment Driven Adaptation Manager. The Environment Driven Adaptation Manager either reminds the user of their current daily activity, or notifies the

Email addresses: e.m.grua@vu.nl (Eoin Martino Grua), martina.desanctis@gssi.it (Martina De Sanctis), i.malavolta@vu.nl (Ivano Malavolta), m.hoogendoorn@vu.nl (Mark Hoogendoorn), p.lago@vu.nl (Patricia Lago)

user that the current daily activity has changed due to their current environmental condition (as shown in the figure). The information for the lower push notification is received by the Back-end and processed and displayed by the User Driven Adaptation Manager. The notification displays to the user the new weekly schedule. If tapped by the user, either push notification redirects the user to the RELATE's Main Screen. **C.1.** The Main Screen displays the weekly schedule of the user's physical activities. Displayed is each day of the week, followed by the activity to be performed on that day, together with a description of the suggested manner in which the user should perform the physical activity.

E. In this screen, the user can either choose to adjust their physical activity preferences (**B.1**) or learn more about the application, by going to the About screen (**F**).

The final implementation of RELATE consists of 15587 lines of code. That includes every file that got converted into the app binary used for both Experiments. One researcher worked on the implementation of RELATE and it took that researcher about 300 man/hours. The researcher whom implemented RELATE had initially minimum experience on implementing Android apps. The amount of hours should therefore be read as an upper boundary.

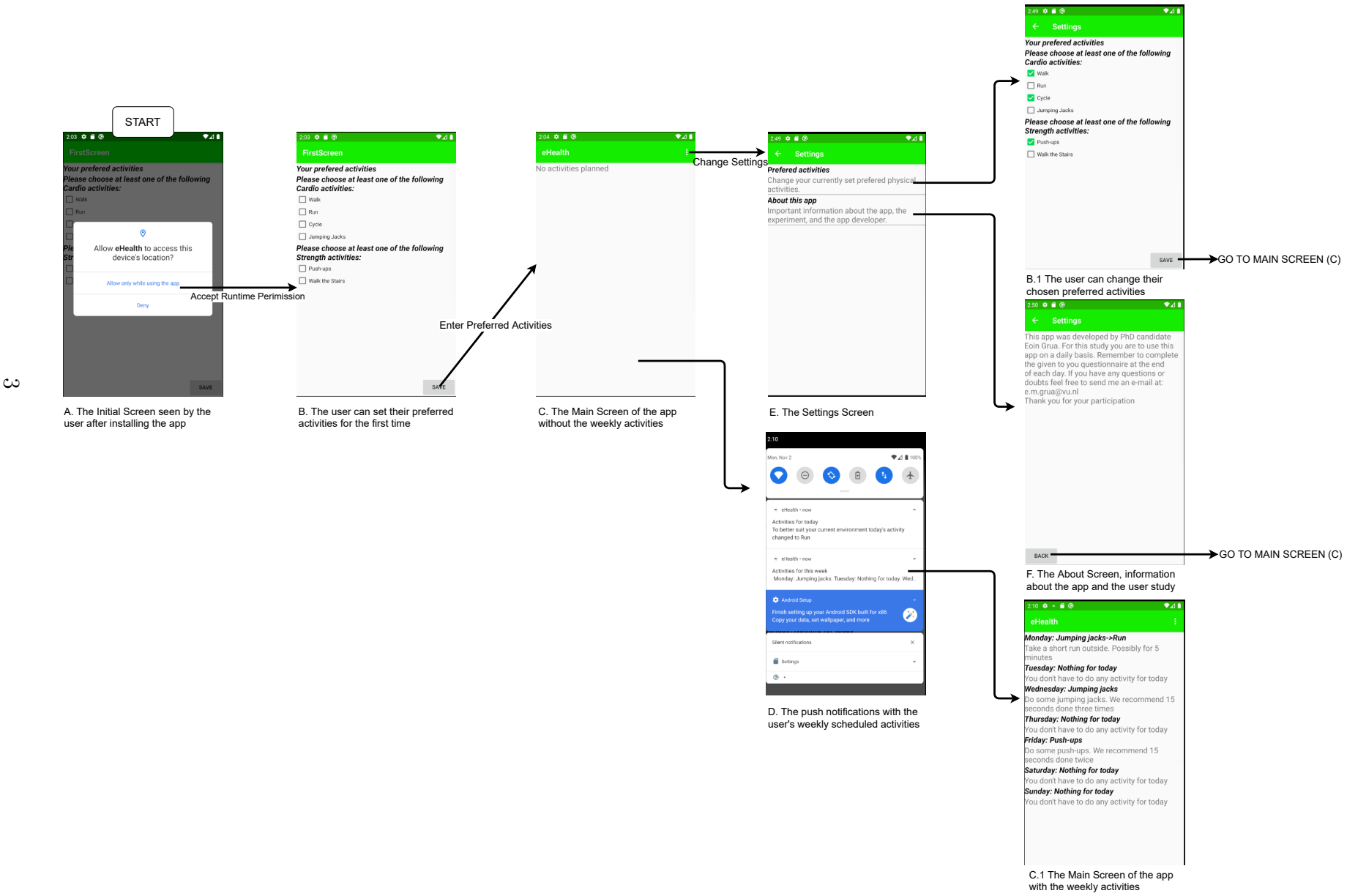

Figure 1: User flow when using RELATE