Experience sampling application for Android
Kogemuse väljavõtte meetodi rakendus Androidile

This software project consists of two parts:

1. An Android application that can ask different types of questions either at random moments in a day, or at pre-set times. The application will store the data temporarily in the cellphone’s memory, and will send them once a day (or immediately after data collection) to the web server.
2. A web application that is used to set up a study (which questions, when, how often will be asked, and who can join the study) and store the data. It must be able to run several studies simultaneously.

Details from the study participant’s perspective

1. The application should be easy to install and set up. It should work on a wide range of Android phones and consume as little resources as possible.
2. The participant can join a study directly from the application, or from a web form requiring e-mail confirmation.
3. When the user has joined a study, the application should run continuously and restart when the phone is turned off and on again. The application is closed when the user chooses to quit the study, or when the study ends. The user should be able to silence the alarms, though, or choose the type of alarm that is produced (sound and/or vibration).
4. In the case of an event (“the beep”: either at random moments in a day, or at pre-set times, depending on the study set-up) the phone should produce an alarm, and the user can react in one of the following ways: (a) “ok” – answer to the questions, (b) “refuse” – the questions will not be asked this time, and (c) “postpone” – the questions will be asked but N minutes later (where N depends on the study setup; in addition, this option may be turned off in some studies).

Details from the researcher’s perspective

1. The following question types should be possible: multiple choice with textual or numeric options, free text, multiple choice with custom pictures as options (e.g., ☑☒), photo upload, free voice recording (uploaded to the server e.g. as mp3).
2. The questionnaire will start after the user has said “ok” after the beep (see above). It should be possible to determine (a) the period of the study [e.g., from 2014-09-01 to 2014-12-31], (b) length of the study for each participant [e.g., “2 weeks” or “as long as they wish”], (c) number of “beeps” per day and minimum time between the “beeps”, (d) time period when the “beeps” may occur [e.g., excluding the night period; in addition, it should be possible to allow the user set up a “no-beeps” period].
3. It should be possible to specify “custom events”. That is, the user would tap on “event” icon in the application, then choose the type of the event (e.g., “eating”, “sleeping”, “running” – depending on the study), and then press on “Start”. The start time of the event will be recorded. The text “active event” (or something alike) will appear on the notification area, allowing the user
access the “stop” button [which will cause the end time of the event to be recorded]. It should be possible to add a “control alarm” if the event has lasted for more than X time (e.g., when the participant has “started” running 5 hours ago and forgot to “end” it).

4. The Android app should be able to register GPS coordinates, if the user agrees.
5. The web application should be programmed in PHP or Python, and store data in an SQL-based database.
6. It should be possible to add different language versions to the Android app (e.g., Estonian, English, Russian).
7. The data should be sent from the Android application to the server in a secure way (encrypted?).
8. The web application should allow creating several administrator accounts (each one responsible for one or more studies).

Why do we want this?
1. Research.
2. In future, this might develop into a phone-and-web-based system of psychological or health counselling.

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