RADAR Analysis documentation

MAAY study

Measures

**Interaction state**

Collects the phone interaction state from the Android system. Every phone lock (standby), unlock and shutdown is recorded from respectively the ACTION\_SCREEN\_OFF, ACTION\_USER\_PRESENT and ACTION\_SHUTDOWN intents broadcasted by the system. Also the phone startup is collected by listening for the first action since a shutdown.

This data can be used to retrieve the total time the phone was used per time period. In conjunction with the application usage, this gives a complete view of the participants phone use.

Avro schema: phone\_user\_interaction

**Application usage**

Collects opening and closing of installed phone applications. To be more specific, this module listens for the ‘move to foreground’ and ‘move to background’ events for every application. For every event, the package name of the app and event type is registered. The app category, as given by the Google Play Store, is added to the record in the Kafka backend. In addition, the package name can be removed to protect the privacy of the participant.

The application usage events give insight in the app use of the participant. Metrics like number of apps used and total app usage time per category can be derived from this data.

Avro schema: phone\_usage\_event

**References**

<https://radar-base.org/index.php/data-sensors/>

<https://github.com/RADAR-base/radar-commons-android/tree/master/plugins/radar-android-phone>

**Analyses**

**Phone usage event**

Data quality check

value.categoryName and value.categoryNameFetchTime only have NAs

How many subjects?

-unique ids

How many subjects in each intervention group?

- merge with redcap id

- group by intervention and count unique ids

Are there differences between groups?

* Age
* Education
* Initial symptoms
* Psych scales

For how long these measures were taken

* Take max – min measures of dates = number of days collecting data

How much each group used the mobile

* Take mean, median, mode of each group in number values

Explore values

* Try to separate by application type